

*Recommendation San Francisco
for.*

Fifty-ninth Annual Report

OF THE

California

State Board of Agriculture

For the Year 1912



#64
FRIEND WM. RICHARDSON, SUPERINTENDENT OF STATE PRINTING
SACRAMENTO, CALIFORNIA

1913

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SACRAMENTO, CALIFORNIA

1913

STATE BOARD OF AGRICULTURE, 1912.

DIRECTORS.

I. L. BORDEN	San Francisco
CHAS. J. CHENE	Sacramento
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E. W. HOWARD	San Francisco
H. A. JASTRO	Bakersfield
E. F. MITCHELL	San Francisco
CHAS. W. PALNE	Sacramento
JOHN M. PERRY	Stockton
T. H. RAMSAY	Red Bluff
B. F. RUSH	Suisun
A. L. SCOTT	San Francisco
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OFFICERS OF THE BOARD.

A. L. SCOTT	President
B. F. RUSH	Vice President
J. L. MCCARTHY	Secretary
H. E. SMITH	Assistant Secretary

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REPORT

OF THE

STATE BOARD OF AGRICULTURE.

July 1, 1913.

To His Excellency, HIRAM W. JOHNSON,

Governor of the State of California.

SIR: We have the honor to submit herewith the fifty-ninth annual report of the State Board of Agriculture for the year 1912, together with a financial statement showing the receipts and expenditures during that period.

This report includes a summary of figures and general statistical tables relating to the products and business of California. From these figures it will be noted that the State is making very gratifying progress in its agricultural development; a total output of orchard products amounting up to nearly one hundred millions of dollars, of farm products of nearly seventy-five millions of dollars, of dairy and poultry products of fifty millions of dollars, and other crops bringing the total of the State's resources, apart from manufacturing, to over five hundred millions of dollars, and, including manufactured products, to something in excess of one billion dollars.

It has been the purpose of the Annual State Fair, which is conducted under your Board, to make a display of these products, and we are pleased to say that the Fair of 1912 was an improvement on the previous exhibition, and was perhaps the most representative of our agricultural and live stock interests of any similar event held in the State. This annual fair is practically a sample room of the State, and, considering the increasing variety of products which are grown to commercial advantage in this State, this event is of great educational value and provides an annual record of our agricultural progress.

It is the intention of our board to co-operate very heartily with the State College of Agriculture, and with the United States Experimental Service and other public agencies, in order that a more scientific display may be made from year to year.

We are very highly gratified that the Legislature saw fit to authorize a bond issue of \$750,000 to more adequately house these exhibits and to provide better facilities, and we trust that the people of the State will authorize this bond issue at the proper time.

Statistics.

We transmit herewith the statistics gathered by the Board of Agriculture through the State Statistician. These statistics are mainly derived from the United States census reports on California. Inasmuch as the State only appropriates \$5,000 a year for the purpose of gathering data concerning the State, it is obvious that very little original and direct work may be undertaken. If the State should seriously attempt to gather scientific data regarding its resources, a very large force of statisticians would necessarily have to be maintained. Fortunately, the United States Government and other official and semi-public agencies provide numerous sources of accurate information, which is here gathered together, classified and compared. Inasmuch as the United States only undertakes a census once in ten years, it seems logical that the State should undertake from year to year the collection of approximately accurate statistics as to the production of the resources of the State for the current year. The Board of Agriculture will direct the work of the statistician during 1913 along lines that will produce this result as far as possible, and will co-operate with other agencies working in California to secure the same result.

In conclusion, your board is pleased to report an increasing emphasis on all sides upon agricultural development in California, and frankly recognizes many agencies, federal, state and voluntary, which are working to develop intensively the resources of California.

We trust that the State will increasingly equip the State Board of Agriculture, that it may meet the need of intelligently directing and co-operating these various forces.

Respectfully submitted.

J. L. McCARTHY, Secretary.

A. L. SCOTT, President.

FINANCIAL STATEMENT.

February 1, 1912, to June 30, 1913.

SUMMARY.

RECEIPTS.

Cash on hand and in bank	\$1,160 85
Appropriations for statistics	4,179 39
Appropriation for salaries	4,800 00
Bills payable	10,500 00
Interest	105 92
Race card sales	223 60
Program 1912	25 65
Salary account	2,300 00
Statistical fund	430 32
Poultry entry fees	510 15
Live stock entry fees	897 50
Gate receipts 1912	43,190 55
Accounts payable	1,402 25
Appropriation for aid	20,000 00
Concessions	8,230 07
Stall rent	1,957 12
Park and pavilion, 1912	1,036 00
Park and pavilion, 1913	110 00
Pavilion entry fees	38 00
Sale of box seats	682 25
Sale of butter	09
Sale of junk	59 55
I. L. Borden, treasurer	85 51
Total	\$101,924 77

DISBURSEMENTS.

Electric light account	\$1,387 42
Traveling expenses	416 65
Bills payable	2,000 00
Groom prizes	100 00
Salaries	12,413 71
Pay roll	12,740 86
Expense	8,671 40
Advertising	9,419 72
Freight, drayage, express	412 48
Stable expense	720 82
Postage	522 60
Premiums paid	17,385 95
Night horse show	511 00
Races	3,974 97
Judges' fees	761 95
State Treasurer	798 34
Revolving fund	50 00
Attractions	17,486 25
Fill, front of grand stand	1,750 73
New equipment	3,498 19
Temporary buildings	1,785 23
Fire house	597 42
New grand stand	4,519 08
Total	\$101,924 77

CALIFORNIA STATE BOARD OF AGRICULTURE

STATISTICAL SUMMARY

OF THE

Production and Resources

OF

CALIFORNIA

BY

GEORGE ROBERTSON

State Statistician.

PREFACE.

A change has been made in the annual report of the State Board of Agriculture for this year by the descriptive account of each county with the summary of farm crops and animals being omitted. These figures, however, will be found in the general county tables. Most of the statistics for the years 1850-1880 are also omitted, but the figures for these early years, and the description of each county, will be found in the report for 1911.

The duty given on imports are those imposed by the tariff act of 1909, now under revision by Congress.

In the year 1911 a statistical report for the whole State was first issued, the statistics being carried back to the year 1850, when the State was first organized. The source of the figures contained in this report are the most trustworthy that can be obtained, and have been brought down to the latest possible date.

In previous years the agricultural resources of California have alone been exploited, and no reference has been made to the vast commercial and financial resources of the State. A section on finance has been added this year, and the figures there given will be a revelation to many.

The great importance and value of statistics is now universally recognized, but it is a science which has been much neglected in California. In the reports published in all civilized countries it is usual to give the figures for 10 or 20 years, and even longer periods, in order to enable comparisons to be made, and this precedent has been followed, as being the only way in which reliable data can be secured. The Australian and New Zealand colonies, with a much smaller population, devote from \$21,000 to \$50,000 each for this purpose per annum, and even Japan and the Argentine Republic publish very complete statistical reports—and in English. Taking into consideration the small sum available, this report is a long step in the right direction, and although supplying more statistical information than any other yet issued, it falls far behind what such a work should be.

The main sources of agricultural information are the bulletins and monthly crop reports of the United States Department of Agriculture, which were first issued after the close of the Civil War in 1866, and which are probably the most complete and valuable agricultural publications in the world.

The Bureau of the Census, every ten years, adjusts these figures that could only be estimated during the previous decade, and also issues reports on special subjects every five years.

Much information of great value has been obtained from other federal publications, and acknowledgement and an expression of high appreciation are due to the United States Department of Agriculture, Bureau of Census, Department of Commerce and Labor, United States Geological Survey, Commissioner of Fisheries, Commissioner of Indian Affairs, General Land Office, National Conservation Commission, and the Reclamation Service Department.

The Report of the California Conservation Commission, recently issued, is the most valuable work relating to irrigation yet published, as it shows what land is capable of irrigation in every part of the State.

The writer desires to express his special obligations to Samuel Fortier, Chief of Irrigation Investigations; F. W. Roeding, irrigation manager; Frank Andrews, Bureau of Statistics; J. E. Pennybacker, Jr., chief of road management; Maurice O. Eldridge, assistant of road management, and Professor Alexander G. McAdie, section director of the Weather Bureau, all of the United States Department of Agriculture; to W. B. Clapp, F. F. Henshaw, on water supply, and David T. Day, on petroleum of the United States Geological Survey; Henry S. Graves, Forester, and John N. Cobb, Bureau of Fisheries, of the United States Department of Commerce and Labor, and Frank J. Snow, deputy collector, Internal Revenue Department. For the description of varieties of wine grapes and wine making acknowledgments are due to Professor F. T. Bioletti, the viticulturist of the University of California.

Among the State departments, valuable assistance has been received from the State Controller's Department, State Mineral Bureau, State Dairy Bureau, and the splendid State Library at the Capitol.

This report is compiled in compliance with the law which provides that the State Board of Agriculture shall "create and maintain a statistical department for the annual collection, compilation and distribution of statistics relating to the production and resources of the State," and another act, in 1911, which appropriated the sum of \$5,000 per annum for this purpose.

G. R.

Sacramento, California, July 1, 1913.

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NOTE.—For the section containing the description of each county with summary of the number of domestic animals and farms crops, see Report for 1911. The duty on imports given is that imposed by the Tariff Act of 1900, which is now being revised by Congress.

NOTES REGARDING CHANGES IN BOUNDARIES OF COUNTIES AND INCORPORATED PLACES.

-
- Colusa*—Part taken to form Glenn in 1891.
Del Norte—Part annexed to Siskiyou between 1880 and 1890.
Fresno—Part taken to form Madera in 1893, and part annexed to Kings in 1909.
Glenn—Organized from part of Colusa in 1891.
Humboldt—Part of Klamath annexed in 1874.
Imperial—Organized from part of San Diego in 1907.
Kings—Organized from part of Tulare in 1893, and part of Fresno annexed in 1909.
Lake—Part annexed to Napa in 1872.
Los Angeles—Part taken to form Orange in 1889.
Madera—Organized from part of Fresno in 1893.
Modoc—Organized from part of Siskiyou in 1874.
Monterey—Part taken to form San Benito in 1874.
Napa—Part of Lake annexed in 1872.
Orange—Organized from part of Los Angeles in 1889.
Riverside—Organized from parts of San Bernardino and San Diego in 1893.
San Benito—Organized from part of Monterey in 1874.
San Bernardino—Part taken to form part of Riverside in 1893.
San Diego—Part taken to form part of Riverside in 1893, part taken to form Imperial in 1907.
Santa Barbara—Part taken to form Ventura in 1871.
Siskiyou—Part taken to form Modoc in 1874; part of Klamath annexed in 1874, and part of Del Norte annexed between 1880 and 1890.
Tulare—Part taken to form Kings in 1893.
Ventura—Organized from part of Santa Barbara in 1871.
-

INCORPORATED PLACES.

-
- Bakersfield*—Part of township 3 (Kern City) annexed in 1909.
Berkeley—Part of Oakland township annexed in 1906 and 1908.
Fresno—Part of township 3 annexed in 1910.
Los Angeles—Parts of Ballona, Burbank, Cahuenga, and San Antonio townships annexed between 1890 and 1900; part of Ballona township annexed in 1906; part of Willington township (including San Pedro city) annexed in 1909, and parts of Burbank and Cahuenga townships annexed in 1910.
Oakland—Parts of Brooklyn and Oakland townships annexed in 1909.
Ontario—Part of Ontario township annexed in 1901.
Pasadena—Parts of Pasadena township annexed in 1904 and 1906.
San Leandro—Part of Brooklyn township annexed in 1909.

THE STATE OF CALIFORNIA.

(Date of organization as a State, September 9, 1850.)

Area and Population.

PART I.

AREA AND POPULATION.

Vacant Public Lands; Indian Reservations; Population by Counties; White and Colored Population; Incorporated Cities and Towns; Japanese Statistics; Population by Counties, 1850-1910; Color and Nativity of Farmers; Counties, County Seats, and Land Areas.

The State of California is about 780 miles in length, its breadth varies from 150 to 350 miles and its total area is 158,297 square miles, of which 2,205 are water surface. In size it ranks second among the states of the Union, Texas being the only one to exceed it, and it is larger than the nine states of New York, New Jersey, Rhode Island, Massachusetts, Maine, Vermont, New Hampshire, Connecticut and Ohio, combined. The coast line is more than 1,000 miles long.

California has the highest and lowest land of the United States, the greatest variety of temperature and rainfall, and of products of the soil. The spread of irrigation and of intensive cultivation, and the increase of small farms during the last thirty years, have made California what it is to-day.

Agriculture had its beginning in wheat raising on great ranches, from fifty to several hundred thousand acres in extent; then deciduous orchard fruits and semi-tropical citrus fruits, successively.

Both the Spanish and Mexican governments made large grants of land to encourage settlement. These were used as cattle ranches exclusively, up to the time of the American occupation, and the exports consisted entirely of hides and tallow. These grants covered the valleys of the State to a large extent, and later were recognized and patented by the United States Government. About 500 of these claims, covering nearly nine million acres, were found to be valid.

Of the fifty-eight counties into which the State is now divided, the first twenty-seven were organized on the 18th of February, 1850; ten years later the number had increased to forty-two. In 1872, Ventura became the fiftieth county, and Imperial, the latest addition, was formed in 1907.

According to the reports of the Geological Survey, the land area of the State is about 99,617,280 acres, a great part of which is rough, mountainous country and desert, roughly classified as follows:

Description—	Acres.
Swamp lands reclaimed and possible of reclamation.....	2,500,000
Valley lands	13,500,000
Hill and rolling lands.....	4,000,000
Total	20,000,000
Forest, grazing, and mineral lands—	
In government reserves	25,000,000
In private ownership	35,000,000
Total	60,000,000
Waste lands—	
Bare mountain, ranges and desert.....	20,000,000

The arable area, therefore, is about one fifth of the total area of the State, nearly two thirds of the valley lands, including swamp and overflowed lands, are included in the great central plains of the Sacramento and San Joaquin valleys.

General summary of arable area—	Acres.
Great central plains	10,000,000
Imperial, Coachella, and Colorado River valleys.....	500,000
Southern coast valleys, including Santa Maria Valley.....	1,000,000
Salinas, Pajaro, Santa Clara, Livermore, Sonoma, Napa, and San Francisco Bay valleys	3,000,000
Mojave, Owens, Honey Lake, Klamath valleys, and the northern region	1,500,000
Total	16,000,000
Rolling land—	
Coast Range	2,500,000
Sierra Nevada Mountains and balance of State.....	1,500,000
Total arable area.....	20,000,000

Approximately one half of the land surface of the State is under the control of the Federal Government, including 25,000,000 acres in forest reserves, and about an equal amount in public domain. In 1908 the amount of swamp and overflow land was 1,850,000 acres.

Area.

Water, square miles.	Land, square miles.	Total square miles.
2,645	155,652	158,297

Indian Reservations—1880-1912. Area—Unallotted.

1880.		1890.		1900.		1912.	
Acres.	Square miles.	Acres.	Square miles.	Acres.	Square miles.	Acres.	Square miles.
501,083	783	494,045	772	406,396	635	364,743	569

Indian Population—1880-1912.

1880.	1890.	1900.	1912.
10,669	12,108	11,431	17,317

Public and Indian Lands Entered for Cash—1902-1912.

(In acres.)

1902.....	655,966	1908.....	766,932
1903.....	957,507	1909.....	1,290,579
1904.....	986,253	1910.....	1,214,348
1905.....	1,032,758	1911.....	1,064,644
1906.....	809,811	1912.....	872,301
1907.....	579,294		

Original Homestead Entries, 1900-1912.

(In acres.)

1902.....	315,784	1908.....	235,816
1903.....	300,968	1909.....	216,699
1904.....	266,317	1910.....	278,700
1905.....	262,973	1911.....	1,062,005
1906.....	211,567	1912.....	871,381
1907.....	173,438		

Railroad Selections, 1902-1912.

(In acres.)

1902.....	9,587	1908.....	3,897
1903.....	76,089	1909.....	589,000
1904.....	347,258	1910.....	364,084
1905.....	426,951	1911.....	442,879
1906.....	318,980	1912.....	23,995
1907.....	100,971		

Vacant Public Lands—Areas Unappropriated and Unreserved.

(In acres.)

Year.	Surveyed.	Unsurveyed.	Total.	Per cent of total land area.
1890.....	38,750,564	15,172,154	53,922,718	53.98
1900.....	34,423,923	8,043,589	42,467,512	42.51
1912.....	17,671,839	5,343,499	23,015,338	23.45

Regulations for Obtaining Vacant Public Lands.

Before entry personal inspection of the lands should be made to ascertain if they are suitable, and when the applicant is satisfied on this point, entry can be made at the local land office. Information regarding vacant land in any district can be obtained on application to the register and receiver of the proper local land office, who will give full information regarding vacant land and the steps necessary to be taken in making entry. All vacant unappropriated public lands, non-mineral and non-saline in character, are subject to entry under the homestead laws. School lands have been withdrawn from sale until September 1, 1915.

Homesteads.

There is now practically no vacant land in the Sacramento and San Joaquin valleys. Any person who desires to obtain a homestead must be a citizen of the United States or have declared his intention to become such, over the age of 21 years, and not the proprietor of more

than 160 acres of land in the United States; having selected his land must file his application to enter in the United States land office for the district in which the land is situated. The application must be sworn to before the register or receiver of the land office, or before the county clerk of the county in which the land is situated, or before a United States commissioner for the district in which the land is situated.

Six months from the date of filing is allowed him to establish his bona fide residence on the homestead, which from that time to the date of his final proof must be his home to the exclusion of a home elsewhere.

Between the third and fifth year from the date of establishing residence on the land, he must submit final proof of his residence, cultivation and improvement of the homestead. After residence is established he is permitted to absent himself from the land for one continuous period of not more than five months in each year following, provided that on absenting himself for such period he has filed with the local land office notice of the beginning of such intended absence. He must also file notice with the local land office upon his return to the land, following such period of absence. Bona fide continuous residence during the remaining portions of the three-year period must be clearly shown.

He must show that he has cultivated one sixteenth of the area of the land, beginning with the second year from date of entry, and one eighth of the area the following year and until proof is submitted. A mere breaking of the soil will not meet the terms of the law, but such breaking and stirring of the soil must be accompanied by planting or the sowing of seed and tillage for crops other than native grasses. If his proof is satisfactory, and the government, after investigation, finds that he has complied with the law in good faith, his entry will be clear-listed, and in due time he will receive a patent for the land.

He may, before three years, by paying the purchase price of the land, at the rate of \$1.25 per acre if it is situate outside the limits of a railroad grant, and at the rate of \$2.50 per acre if it is within the granted limits of a railroad, offer what is known as commutation proof, which must show at least fourteen months of actual and substantially continuous residence, with bona fide cultivation and improvement of the land, immediately prior to his application to make such proof.

The United States Land Office fees and commissions for filing on 160 acres are \$16.00 if the land is outside of the limits of a railroad grant; if inside the granted limits of a railroad they would amount to \$22.00. The fees and commissions are computed upon the acreage of the tract entered.

The final proof commissions on 160 acres would be \$6.00, if the land is outside a railroad grant, and \$12.00 if inside the limits of a grant. Added to this are fees ranging from \$2.00 to \$4.00 based upon the number of words of testimony in the proof. There are no other fees or commissions required of a homesteader by the Government.

Those who commute their homesteads must pay the purchase price of the land in addition to the above fees, except the final proof commission, which are not required on commuted homesteads.

Vacant Public Lands in California.

*Statement, by land districts and counties, showing the area of land unappropriated and unreserved on July 1, 1911.

Land district and county.	Area unappropriated and unreserved.			Brief description of character of unappropriated and unreserved land.
	Surveyed.	Unsurveyed.	Total.	
Eureka:				
Del Norte -----	831	-----	831	Very rough, broken, mountainous; timber, grazing, mineral land.
Humboldt -----	98,679	18,623	112,302	Mountainous; grazing, timber land; some mineral.
Mendocino -----	20,870	-----	20,870	Mountainous; timber, grazing land.
Trinity -----	31,653	15,314	46,967	Mountainous; grazing, timber, mineral land.
Totals -----	147,033	33,937	180,970	
Independence:				
Alpine -----	10,581	-----	10,581	Mountainous, grazing.
Inyo -----	2,814,378	1,205,823	4,020,201	Agricultural, mountainous.
Kern -----	454,176	98,041	552,217	Arid, mountainous, grazing.
Mono -----	504,787	41,990	546,777	Grazing, agricultural, mineral.
San Bernardino--	1,970,858	1,198,237	3,169,095	Arid, mineral, mountainous.
Totals -----	5,754,780	2,544,091	8,298,871	
Los Angeles:				
Imperial -----	830,137	212,560	1,042,697	Level desert.
Kern -----	100,854	15,147	116,001	Arid, level desert, mountainous.
Los Angeles-----	629,302	132,592	761,894	Arid, level desert, mountainous.
Orange -----	20,298	1,906	22,204	Mountainous and hilly.
Riverside -----	1,304,966	575,241	1,880,207	Mountainous, rolling, level desert.
San Bernardino--	2,870,569	958,995	3,829,564	Mountainous, rolling, level desert.
San Diego-----	105,521	336,839	442,360	Mountainous, rolling, level desert.
Santa Barbara--	42,820	6,396	49,216	Mountainous and rolling.
Ventura -----	55,693	54,438	110,131	Mountainous and rolling.
Totals -----	5,960,160	2,294,114	8,254,274	
Redding:				
Modoc -----	9,069	21,205	30,274	Principally mountainous timber land.
Shasta -----	12,239	35,050	47,289	Farming, grazing, timber, mineral.
Siskiyou -----	167,438	116,213	283,651	Farming, grazing, timber, mineral.
Tehama -----	35,096	10,031	45,127	Mostly foothill and grazing land.
Trinity -----	50,039	9,361	59,400	Mountainous, timber, grazing, mineral.
Totals -----	273,881	191,860	465,741	

*Counties containing no unappropriated lands are omitted.

Vacant Public Lands in California—Continued.

*Statement, by land districts and counties, showing the area of land unappropriated and unreserved on July 1, 1911.

Land district and county.	Area unappropriated and unreserved.			Brief description of character of unappropriated and unreserved land.
	Surveyed.	Unsurveyed.	Total.	
Sacramento:				
Amador	15,064	-----	15,064	Grazing, timber, mineral.
Butte	56,215	-----	56,215	Mountainous land; timbered.
Calaveras	76,677	-----	76,677	Grazing, timber, mineral.
Colusa	27,009	1,280	28,289	Agricultural and grazing.
El Dorado	42,018	1,540	43,558	Timber, grazing, mineral.
Fresno	27,128	4,560	31,688	Mountain land.
Glenn	16,549	-----	16,549	Agricultural and grazing.
Lake	9,720	-----	9,720	Hilly; agricultural, grazing.
Madera	43,511	-----	43,511	Hilly; farming, grazing, mining.
Mariposa	99,040	-----	99,040	Mountainous; mining, grazing, timber.
Merced	15,106	-----	15,106	Rolling foothills; farming, grazing.
Napa	27,560	-----	27,560	Hilly; mineral, grazing.
Nevada	47,605	-----	47,605	Mineral, timber.
Placer	26,584	1,540	28,124	Mineral, timber, grazing.
Stanislaus	22,440	-----	22,440	Foothills; farming, grazing.
Tehama	24,540	720	25,260	Grazing and agricultural.
Tuolumne	55,279	1,600	56,879	Timber, grazing, mining.
Yolo	42,342	-----	42,342	Grazing and agricultural.
Yuba	26,740	-----	26,740	Agricultural, timber, mineral.
Totals	701,127	11,240	712,367	
San Francisco:				
Alameda	893	-----	893	Mountain land.
Fresno	70,101	2,560	72,661	Mountain land.
Kern	6,686	14,447	21,133	Mountain land.
Kings	1,955	-----	1,955	Mountain land.
Lake	138,441	-----	138,441	Mountain land.
Mendocino	317,791	51,927	369,718	Mountain land.
Merced	50,001	-----	50,001	Mountain land.
Monterey	898,066	8,944	902,060	Mountain land.
Napa	74,309	11,620	85,929	Mountain land.
San Benito	310,248	5,115	315,363	Mountain land.
San Joaquin	20,004	-----	20,004	Mountain land.
San Luis Obispo	598,664	-----	598,664	Mountain land.
Santa Barbara	38,046	-----	38,046	Mountain land.
Santa Clara	17,549	5,482	23,031	Mountain land.
Solano	81,812	-----	81,812	Mountain land.
Sonoma	66,692	12,228	78,920	Mountain land.
Stanislaus	24,571	5,787	30,358	Mountain land.
Tehama	51,652	900	52,652	Mountain land.
Trinity	8,360	-----	8,360	Mountain land.
Ventura	19,921	-----	19,921	Mountain land.
Totals	2,832,222	113,780	2,986,962	
Susanville:				
Lassen	1,332,710	46,006	1,385,716	Timber, desert, grazing, mineral.
Modoc	299,552	17,761	307,313	Timber, desert, grazing and farming.
Plumas	14,738	4,264	19,007	Mountainous, timber, mineral.
Sierra	40,420	-----	40,420	Timber, mountainous, mineral.
Totals	1,684,495	68,021	1,762,456	

*Counties containing no unappropriated lands are omitted.

Vacant Public Lands in California—Continued.

*Statement, by land districts and counties, showing the area of land unappropriated and unreserved on July 1, 1911.

Land district and county.	Area unappropriated and unreserved.			Brief description of character of unappropriated and unreserved land.
	Surveyed.	Unsurveyed.	Total.	
Visalia:				
Fresno	135,627	11,480	147,107	Mountainous, grazing, timber.
Kern	95,753	24,128	119,881	Arid plains, mountainous.
Kings	32,211	-----	32,211	Arid plains, mountainous.
Merced	8,361	-----	8,361	Mountainous, grazing.
Monterey	2,400	-----	2,440	Mountainous, grazing.
San Benito	9,066	-----	9,066	Mountainous, grazing.
San Luis Obispo	29,955	-----	29,955	Mountainous, grazing.
Tulare	13,828	50,868	64,696	Arid plains, mountainous; timber.
Totals	327,201	86,476	413,677	
State totals	17,671,839	5,343,499	23,015,338	

*Counties containing no unappropriated lands are omitted.

Vacant Public Lands in the United States.

State or territory.	Area unappropriated and unreserved.		
	Surveyed.	Unsurveyed.	Total.
	Acres.	Acres.	Acres.
Alabama	93,040	1,600	94,640
Alaska	-----	*368,010,643	368,010,643
Arizona	12,003,186	28,592,537	40,595,723
Arkansas	436,210	82,000	518,210
California	17,671,839	5,343,499	23,015,338
Colorado	17,684,401	1,564,797	19,249,198
Florida	240,408	155,531	396,439
Idaho	7,172,856	11,757,537	18,970,393
Kansas	91,328	-----	91,328
Louisiana	69,198	-----	69,198
Michigan	92,544	-----	92,544
Minnesota	1,525,775	-----	1,525,775
Mississippi	52,400	-----	52,400
Missouri	1,197	-----	1,197
Montana	13,697,086	15,356,909	29,053,995
Nebraska	832,750	-----	832,750
Nevada	28,844,824	26,230,679	55,075,503
New Mexico	22,241,833	11,329,650	33,571,483
North Dakota	1,354,571	-----	1,354,571
Oklahoma	39,525	-----	39,525
Oregon	13,141,921	3,346,148	16,888,069
South Dakota	4,039,892	81,920	4,121,812
Utah	12,011,921	22,037,256	34,649,177
Washington	1,106,783	761,306	1,868,089
Wisconsin	11,520	-----	11,520
Wyoming	30,905,022	2,570,720	33,475,742
Grand totals	185,362,030	497,622,732	682,984,762

*The unreserved lands in Alaska are mostly unsurveyed and unappropriated.

Indian Reservations.

The Indians were prominent in early California history, but their progress towards their present insignificance began far back in the Spanish period. It proceeded much more rapidly after the restraining influence of the Missions was removed, leaving them free to revert to savagery; and the downward progress of the race was fearfully accelerated during the mining period, when they were ambushed, depraved, and in large numbers killed. There have been no Indian wars in California's annals, but many butcheries.

The natives have declined exceedingly in number since 1834. They have always been mild-tempered, low, and unintelligent, and are today a poor and miserable race. They are called "Digger Indians," indiscriminately, although divided by a multiplicity of tongues.

The Indians of California are of at least fourteen different linguistic stocks. The Government, in dealing with the California tribes, did not follow the policy pursued with the wild Indians of the plains, and no treaties were made with them and no remuneration paid for lands acquired by white settlers. None of the California tribes knew anything of agriculture until the advent of the Spaniard, and with the exception of Mission Indians, they received their first instructions after they were taken in charge by the United States Government. Those near the coast and rivers lived principally upon fish, while in the interior the acorn and other nuts, mesquite beans, roots, and game furnished the food supply. Large numbers are located on twenty-six reservations, namely: Hupa Valley, Round Valley, Tule River, Yuma, and twenty-two Mission reservations. They are in advance of the Indians of the plains in intelligence and civilization.

Hupa Valley reservation, consisting of the reservation proper and the Lower Klamath "connecting strip," is located in Humboldt County, and comprises an area of 155 square miles. The Lower Klamath on the "connecting strip" bears no resemblance in language to the Hupa or Klamath of Oregon.

Most of the Mission Indians are located on small reservations scattered over Riverside and San Diego counties. Among them are found representatives of a number of different tribes.

Round Valley reservation, embracing an area of 59 square miles, is situated in Mendocino County, and the remnants of nine small tribes are located here, who might well be classed as civilized. Tule River reservation in Tulare County contains 76 square miles, and contains the remainder of the once powerful Tule tribe. The Yuma reservation contains an area of 71½ square miles, the Indians living on this section being the most primitive of the California tribes in manners and customs.

The Indian population was 10,669 in 1880; 12,108 in 1890; 11,431 in 1900, and 16,369 in 1910.

Summary of Farms in the Indian Reservations in 1900.

Number of farms	287
Land in farms	17,124
Lands in farms, unimproved	5,244
Value of all farm property	\$409,361 00
Value of all land	218,920 00
Value of all buildings	78,590 00
Value of all implements	25,420 00
Value of domestic animals	86,431 00
Value of land per acre	12 78

REPORT OF THE STATE STATISTICIAN.

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Area of the United States in Land and Water.

State.	Rank in gross area.	Area in square miles.		
		Gross.	Land.	Water*
Texas	1	265,896	262,398	3,498
California	2	158,297	155,652	2,645
Montana	3	146,997	146,201	796
New Mexico	4	122,634	122,503	131
Arizona	5	113,956	113,810	146
Nevada	6	110,690	109,821	869
Colorado	7	108,948	103,658	290
Wyoming	8	97,914	97,594	320
Oregon	9	96,699	95,607	1,092
Utah	10	84,990	82,184	2,806
Minnesota	11	84,682	80,858	3,824
Idaho	12	83,888	83,354	534
Kansas	13	82,158	81,774	384
South Dakota	14	77,615	76,868	747
Nebraska	15	77,520	76,808	712
North Dakota	16	70,837	70,183	654
Oklahoma	17	70,057	69,414	643
Missouri	18	69,420	68,727	693
Washington	19	69,127	66,836	2,291
Georgia	20	59,265	58,725	540
Florida	21	58,666	54,861	3,805
Michigan	22	57,980	57,480	500
Illinois	23	56,665	56,043	622
Iowa	24	56,147	55,586	561
Wisconsin	25	56,066	55,256	810
Arkansas	26	53,335	52,525	810
North Carolina	27	52,426	48,740	3,686
Alabama	28	51,998	51,279	719
New York	29	49,204	47,654	1,550
Louisiana	30	48,506	45,409	3,097
Mississippi	31	46,865	46,362	503
Pennsylvania	32	45,126	44,832	294
Virginia	33	42,627	40,262	2,365
Tennessee	34	42,022	41,637	335
Ohio	35	41,040	40,740	300
Kentucky	36	40,598	40,181	417
Indiana	37	36,354	36,045	309
Maine	38	33,040	29,895	3,145
South Carolina	39	30,989	30,495	494
West Virginia	40	24,170	24,022	148
Maryland	41	12,327	9,941	2,386
Vermont	42	9,564	9,124	440
New Hampshire	43	9,341	9,031	310
Massachusetts	44	8,266	8,039	227
New Jersey	45	8,224	7,514	710
Connecticut	46	4,965	4,820	145
Delaware	47	2,370	1,965	405
Rhode Island	48	1,248	1,067	181
District of Columbia	49	70	60	10
Continental United States		3,026,789	2,973,890	52,899

*Does not include the water surface of the oceans, the Gulf of Mexico, or the Great Lakes, lying within the jurisdiction of the United States.

POPULATION OF CALIFORNIA.

The first settlement in California was made by the Spaniards in 1769, when the Franciscan Fathers founded a mission at San Diego. In 1776 the Mission Dolores was established where San Francisco now stands. California was under Spanish rule until 1822, when, at the termination of the Mexican revolution, it declared its allegiance to Mexico. For several years prior to 1846 large numbers of immigrants from the United

States had been arriving in California, and in June of that year a revolt against Mexico was begun by the American settlers. In July and August the American flag was raised at Monterey, San Francisco, Sonoma, Sacramento, San Jose, San Diego, Santa Barbara, and Los Angeles, and other places.

The end of the war in Mexico took place January, 1847, and in February, 1848, California was ceded to the United States. From 1846 to 1849 California was under military and provisional rule by the United States. In October, 1849, a state constitution was adopted at Monterey, and on September 9, 1850, California became a state of the Union.

Population of California, 1850-1910.

Year.	Population.	Increase over preceding census.	
		Number.	Per cent.
1850	92,597		
1860	379,994	287,397	310.1
1870	560,247	180,253	47.4
1880	864,694	304,447	54.3
1890	*1,213,398	348,704	40.3
1900	1,485,053	271,655	22.4
1910	2,377,549	892,496	60.1

*Includes population of Indian reservations (5,268).

During each decade since 1850, the population of California has increased more rapidly than that of continental United States. The population of the State in 1910 was more than twenty-five times as large as in 1850, while the population of the continental United States was a little less than four times that in 1850.

Rank in Population of the Fifty States and Territories.

California ranked twenty-ninth in 1850, twenty-sixth in 1860, twenty-fourth in 1870 and 1880, twenty-second in 1890, twenty-first in 1900, and twelfth in 1910.

The Density of Population per Square Mile.

1850.	1860.	1870.	1880.	1890.	1900.	1910.
.6	2.4	3.6	5.5	7.8	9.5	15.3

The density of population in California is low, the average number of persons to the square mile in 1910 being 15.3; in 1900, 9.5, and in 1890, 7.8. The average number per square mile for continental United States in 1910 was 30.9. This compares with 508.8 in Rhode Island, 418.8 in Massachusetts, 337.7 in New Jersey, 191.2 in New York, 342.4 in the United Kingdom, and 213.3 in India. The Australian Commonwealth has only 1.30 to the square mile, New Zealand 7.8, and Canada 1.4, 589 in Belgium, 426 in Holland, 188 in France, and 270 in Germany.

Population of Cities and Places of 2,500 to 25,000.

Population of cities of 25,000 and upwards (8).		Cities of 2,500 to 6,000 (24).	
San Francisco	416,912	Richmond	6,802
Los Angeles	319,198	Petaluma	5,880
Oakland	150,174	San Luis Obispo	5,157
Sacramento	44,696	Alhambra	5,021
Berkeley	40,434	Hanford	4,829
San Diego	39,578	Grass Valley	4,520
Pasadena	30,291	Palo Alto	4,486
San Jose	28,946	Coalinga	4,199
Cities of 10,000 to 25,000 (13).		Colton	3,980
Fresno	24,892	Oroville	3,859
Alameda	23,383	Chico	3,750
Stockton	23,253	Salinas	3,736
Long Beach	17,809	Redding	3,572
Riverside	15,212	Corona	3,540
San Bernardino	12,779	Red Bluff	3,530
Bakersfield	12,727	San Leandro	3,471
Eureka	11,845	Redondo Beach	2,935
Santa Barbara	11,659	Glendale	2,746
Vallejo	11,340	Haywards	2,746
Santa Cruz	11,146	Porterville	2,696
Redlands	10,449	Anaheim	2,628
Pomona	10,207	Emeryville	2,613
		Roseville	2,606
		Oxnard	2,555

California has 236 incorporated places, 168 of which are styled cities, and 68 towns. San Francisco, the largest city, has a population of 416,912, and Los Angeles, the second city, a population of 319,198. Oakland, with 150,174 inhabitants, is the only other city in the State having over 100,000 inhabitants. The following 8 cities had over 25,000 inhabitants in 1910:

City.	Population.	Increase over preceding census.	Per cent.
Berkeley	40,434	27,220	206.0
Los Angeles	319,198	216,719	211.5
Oakland	150,174	83,214	124.3
Pasadena	30,291	21,174	232.2
Sacramento	44,696	15,414	52.6
San Diego	39,578	21,878	123.6
San Francisco	416,912	74,130	21.6
San Jose	28,946	7,446	34.6

California has 58 counties, the population ranging from 309 in Alpine to 504,131 in Los Angeles County.

Two territorial changes have taken place since 1900, the eastern portion of San Diego County was taken into Imperial County in 1907, and part of Fresno County was annexed to Kings County in 1909.

Ten counties have decreased in population during the last decade, the rates of decrease ranging from 5.8 per cent in Mono County, to 39.3 in Alpine County, and a decrease from 125 in Mono County to 2,834 in Nevada County.

San Bernardino County, with 20,157 square miles, has the largest area; San Francisco County, co-extensive with San Francisco city, with 43 square miles and 9,695.6 persons per square mile, has the smallest area and the highest density. Alpine, Inyo, and Mono counties each average less than 1 person per square mile. In 1910 the urban territory of the State, or the cities and incorporated towns of 2,500 or more, contained 61.8 per cent of the total population, while 38.2 per cent lived in rural territory.

COMPARATIVE SUMMARY.

Color, Nativity, and Parentage, 1890-1910.

The State	1890.	1900.	1910.
White	1,111,833	1,402,727	2,259,67
Negro	11,822	11,045	21.64
Indian	16,624	15,377	16.37
Ohinese	72,472	45,753	36.24
Japanese	1,147	10,151	41.351
All other*			2.251
Total	1,213,398	1,485,053	2,377,549
Total native	847,089	1,117,813	1,791,117
Total foreign born	366,309	367,240	586,432
Total native white	818,280	1,086,222	1,742,422
Native parentage	497,890	644,428	1,106,533
Foreign parentage	217,979	282,830	403,364
Mixed parentage	102,411	158,964	232,525
Foreign-born white	298,553	316,505	517,250

*Includes 1,948 Hindus, 304 Koreans, and 5 Filipinos.

TABLE I.
Population in California by Counties, 1850-1910.

Counties.	1850.	1860.	1870.	1880.	1890.	1900.	1910.
Alameda		8,927	24,237	62,976	93,864	130,197	246,181
Alpine			685	539	667	509	809
Amador		10,930	9,582	11,384	10,320	11,116	9,086
Butte	3,574	12,106	11,403	18,721	17,939	17,117	27,301
Calaveras	16,884	16,299	8,895	9,094	8,882	11,200	9,171
Colusa ¹	115	2,274	6,165	13,118	14,640	7,364	7,732
Contra Costa ²		5,828	8,461	12,525	13,515	18,046	31,674
Del Norte ³		1,993	2,022	2,584	2,592	2,408	2,417
El Dorado	20,057	20,562	10,309	10,683	9,232	8,986	7,492
Fresno ⁴		4,605	6,336	9,478	32,026	37,862	75,657
Glenn ⁵						5,150	7,172
Humboldt ⁵		2,694	6,140	15,512	23,469	27,104	33,857
Imperial ¹¹							13,591
Inyo			1,956	2,928	3,544	4,377	6,974
Kern			2,925	5,601	9,808	16,480	37,715
Kings ⁶						9,871	16,230
Klamath ⁷		1,808	1,686				
Lake			2,969	6,596	7,101	6,017	5,526
Lassen			1,327	3,340	4,239	4,511	4,802
Los Angeles ⁸	3,530	11,393	15,309	33,381	101,454	170,298	504,131
Madera ⁹						6,364	8,368
Marin	323	3,334	6,903	11,324	13,072	15,702	25,114
Mariposa	4,379	6,243	4,572	4,339	3,787	4,720	3,956
Mendocino	55	3,967	7,545	12,800	17,612	20,465	23,929
Merced		1,141	2,807	5,656	8,085	9,215	15,148
Modoc				4,399	4,986	5,076	6,191
Mono			430	7,499	2,002	2,167	2,042
Monterey	1,872	4,739	9,876	11,302	18,637	19,380	24,146
Napa	405	5,521	7,163	13,235	16,411	16,451	19,800
Nevada		16,446	19,134	20,823	17,369	17,789	14,955
Orange ³					13,589	19,696	34,436
Placer		18,270	11,357	14,232	15,101	15,786	18,237
Plumas		4,363	4,489	6,180	4,933	4,657	5,259
Riverside ⁹						17,897	34,696
Sacramento	9,067	24,142	26,830	34,390	40,339	45,915	67,306
San Benito				5,584	6,412	6,633	8,041
San Bernardino ⁹		5,551	3,988	7,736	25,497	27,929	56,706
San Diego ⁹	798	4,324	4,951	8,618	34,987	35,090	61,665
San Francisco ⁹		56,802	149,473	233,959	298,997	342,782	416,912
San Joaquin	3,647	9,435	21,050	24,349	28,629	35,452	50,731
San Luis Obispo	336	1,782	4,772	9,142	16,072	16,637	19,383
San Mateo		3,214	6,635	8,669	10,037	12,094	26,585
Santa Barbara	1,185	3,543	7,784	9,513	15,754	18,934	27,738
Santa Clara ³		11,912	26,246	35,039	43,005	60,216	83,539
Santa Cruz	643	4,944	8,743	12,802	19,270	21,512	26,140
Shasta	378	4,360	4,173	9,492	12,133	17,313	18,920
Sierra		11,387	5,619	6,623	5,051	4,017	4,088
Siskiyou ¹⁰			7,629	8,648	8,610	12,163	16,962
Solano	530	7,169	16,871	18,475	20,946	24,143	27,599
Sonoma	560	11,867	19,819	25,926	32,721	38,480	48,394
Stanislaus		2,245	6,499	8,751	10,040	9,530	22,522
Sutter	3,444	3,390	5,030	5,159	5,469	5,886	6,328
Tehama		4,044	3,587	9,301	9,916	10,996	11,401
Trinity	1,635	5,125	3,213	4,999	3,719	4,383	3,301
Tulare ⁹		4,638	4,533	11,281	24,574	18,375	35,440
Tuolumne	8,351	16,229	8,150	7,848	6,082	11,166	9,979
Ventura				5,073	10,071	14,367	18,347
Yolo	1,086	4,716	9,899	11,772	12,684	13,618	13,926
Yuba	9,673	13,668	10,351	11,284	9,636	8,620	10,042
Totals	92,597	379,994	560,247	864,694	1,208,130	1,483,053	2,377,549

¹Glenn organized from part of Colusa in 1892. ²The returns for 1850 for Contra Costa and Santa Clara were lost, and those for San Francisco were destroyed by fire. ³Part annexed to Siskiyou between 1830 and 1890. ⁴Madera organized from part of Fresno in 1893, and another part of Fresno County annexed to Kings in 1909. ⁵Part of Klamath annexed in 1874. ⁶Kings organized from part of Tulare in 1893, enlarged by annexation of part of Fresno County in 1909. ⁷Annexed to Humboldt and Siskiyou in 1874. ⁸Orange organized from part of Los Angeles in 1889. ⁹Riverside organized from part of San Bernardino and San Diego in 1893. ¹⁰Part of Klamath annexed in 1874, and part of Del Norte annexed between 1880 and 1890. ¹¹Organized from part of San Diego County in 1907.

TABLE II.

Foreign-born Population in California, 1860-1900.

Country of Birth.	1860.	1870.	1880.	1890.	1900.
Africa	12	48	86	139	168
Asia ¹	346	56	16	164	235
Atlantic islands	121	943	3,356	2,587	3,515
Australia	896	1,593	2,350	1,906	2,269
Austria	727	1,078	1,948	3,687	5,356
Belgium	299	291	1,092	663	785
Bohemia		90	239	243	504
Canada	5,437	10,660	18,889	26,028	29,818
Central America	100	124	188	309	481
China	84,935	48,790	73,548	71,066	40,262
Cuba		45	182		93
Denmark	1,328	1,837	3,748	7,764	9,040
England	12,227	17,774	24,722	35,503	35,746
Europe ²	33	56	109	194	59
Finland					2,763
France	8,482	8,068	9,550	11,855	12,256
Germany	20,919	29,701	42,532	61,472	72,449
Greece	93	97	170	259	372
Holland	439	452	694	760	1,015
Hungary		102	216	369	799
India		63	155	202	263
Ireland	83,147	54,421	62,962	63,138	44,476
Italy	2,987	4,660	7,537	15,495	22,777
Japan		32	133	1,224	10,264
Luxemburg		11	97	24	42
Mexico	9,150	9,339	8,648	7,164	8,086
Norway	715	1,000	1,765	3,702	5,060
Pacific islands ³	334	93	173	1,296	1,089
Poland	730	804	1,026	914	1,320
Portugal	1,459	2,508	4,705	9,859	12,068
Roumania					73
Russia	260	540	1,013	3,140	3,421
Scotland	3,670	4,949	6,465	9,299	9,467
South America	2,250	1,940	1,797	1,866	1,137
Spain	470	406	572	836	896
Sweden	1,405	1,944	4,209	10,923	14,549
Switzerland	1,714	2,927	5,308	9,743	10,974
Turkey	13	17	36	202	649
Wales	1,262	1,517	1,920	1,860	1,949
West Indies ⁴	304	349	528	670	372
Other countries	181	289	20	8	260
Born at sea		142	170	277	358
Totals	146,528	209,831	292,874	366,309	⁵ 367,240

¹Except China, Japan, and India. ²Not otherwise specified. ³Except Philippine Islands. ⁴Except Cuba and Porto Rico. ⁵Of this number (367,240) 123,725 were English speaking from United Kingdom, Australia, and Canada.

TABLE III.

Foreign White Stock by Nationality in 1910.

Country.*	White population of foreign birth or foreign parentage.			
	Foreign born.	Native, both parents foreign born.	One parent foreign born.	Total.
Atlantic Islands -----	2,860	2,830	973	6,663
Austria -----	17,163	5,576	2,839	25,578
British:				
England -----	48,667	28,096	40,725	115,488
Ireland -----	52,475	69,988	37,216	159,679
Scotland -----	13,694	7,443	11,021	32,158
Wales -----	2,415	1,961	2,559	6,935
Australia -----	3,296	207	2,064	5,567
Canada-French -----	3,109	1,755	3,202	8,066
Canada-other -----	41,445	11,921	35,553	88,919
Total British -----	165,101	119,371	132,340	416,812
Denmark -----	14,208	8,244	4,043	26,495
Finland -----	6,156	2,535	301	8,992
France -----	17,390	8,836	6,987	32,613
Germany -----	76,305	85,362	44,715	206,382
Greece -----	7,918	269	211	8,398
Holland -----	2,304	1,078	1,085	4,417
Hungary -----	3,301	985	366	4,652
Italy -----	63,601	32,651	6,366	102,618
Mexico -----	33,444	10,787	6,806	51,037
Norway -----	9,952	4,666	2,528	17,146
Portugal -----	22,427	21,794	7,398	51,619
Russia -----	16,607	8,946	1,633	27,186
Spain -----	4,218	1,180	1,045	6,443
Sweden -----	26,210	14,797	5,464	46,471
Switzerland -----	14,520	8,861	4,632	28,018
Turkey -----	4,521	1,679	132	6,332
All other -----	9,044	†62,917	3,306	†75,267
Totals -----	517,250	403,364	232,525	1,153,139

*Foreign country in which born, or, if native, in which parents were born.

†Exclusive of 161 whites and 5,107 Indians not distributed by state of birth.

NOTE.—The number of British born have increased in ten years from 123,725 to 416,812, an increase of 293,087.

JAPANESE STATISTICS.

In March, 1912, the Japanese owned 331 farms, containing 12,726 acres, the assessed value of the land being \$478,990, the improvements \$130,615, or a total of \$609,605.

The number of town lots held by Japanese was 218, the assessed value, \$136,955, and the improvements \$98,720, or a total of \$235,675.

The information gathered in accordance with an act of the legislature (Chapter 134, of 1909) shows that there were 2,548 business establishments, the capital invested in most cases being very small, 68.7 per cent of the total having a capital of less than \$1,000. The total aggregate capital invested, exclusive of that represented by banks, was \$4,075,226. The total annual business transacted by these establishments amounted to \$16,114,407, of which about 37.0 per cent was carried on with white persons. The total annual rent paid by these Japanese business houses was over \$900,000.

TABLE IV.

Japanese Farmers.

(Compiled from the Report of the Bureau of Labor Statistics.)

Counties.	Owners.		Total assessed value.	Number of town lots.	Total assessed value.	Farm land leases.	
	Number of farms.	Acres.				Number.	Acreage.*
Alameda	6	47	\$63,200	36	\$49,300	4	96
Alpine							
Amador							
Butte							
Calaveras							
Colusa							
Contra Costa	2	31	12,380	3	21,050	1	284
Del Norte							
El Dorado							
Fresno	31	4,776	229,020	61	75,695	11	45
Glenn				3	1,750		
Humboldt							
Imperial						7	848
Inyo							
Kern	5	100	1,170	4	2,565		
Kings	13	577	16,320	4	2,175		
Lake							
Lassen							
Los Angeles	27	459	33,800	23	3,560	60	2,418
Madera	4	100	3,600				
Marin							
Mariposa							
Mendocino							
Merced							
Modoc	14	1,049	42,095	2	1,785		
Mono							
Monterey				1	150		
Napa	2	8	1,280	18	1,050	15	1,741
Nevada	1	160	2,300			1	
Orange	1	320	820	1	1,200		
Placer	5	41	4,190			7	298
Plumas	26	732	20,335	4	1,825	23	1,007
Riverside							
Sacramento	2	18	1,375	2	600	1	40
San Benito	17	444	23,290	19	44,200	87	4,682
San Bernardino	3	60	2,050			5	280
	12	150	11,810	2	285		

TABLE IV. Japanese Farmers—Continued.

Counties.	Owners.		Total assessed value.	Number of town lots.	Total assessed value.	Farm land leases.	
	Number of farms.	Acres.				Number.	Acreage.*
San Diego						1	10
San Francisco				5	5,470		
San Joaquin	12	652	24,845	3	1,000	18	1,787
San Luis Obispo							
San Mateo	1	5	1,000	7	3,500	1	3
Santa Barbara						7	327
Santa Clara	4	90	15,365	1	4,750	35	904
Santa Cruz	3	330	9,065	4	3,635	6	220
Shasta	1	82	555				
Sierra				1	300		
Siskiyou							
Solano	11	814	23,230	2	550	5	565
Sonoma	2	66	5,900	3	3,600	1	
Stanislaus	2	40	1,625			1	180
Sutter	1	16	680			2	452
Tehama							
Trinity							
Tulare	15	1,053	47,525	2	2,150	2	60
Tuolumne							
Ventura	2	24	670	6	2,830	2	77
Yolo	5	320	8,830			11	1,278
Yuba	1	162	1,280	1	700		
Totals	331	12,726	\$609,605	218	\$235,675	282	17,596

*In 32 instances the acreage was not reported. Leases recorded from November 1, 1909, to December 1, 1912.

NOTE.—These figures show only the leases recorded in the offices of the various recorders, and do not represent all the land leased to Japanese, as most of the share leases are not recorded.

Comparative Summary.

	1909.	1912.
Owners:		
Acreage	10,791	12,726 + 1,935
Total assessed value	\$397,298	\$609,605 + \$212,307
Number of town lots		218
Total assessed value	\$174,694	\$235,675 + \$60,981
Leases:		
Number	319	282
Acreage	20,294	17,596

TABLE V.

White and Colored Population by Counties, 1900 and 1910.

Counties.	Population 1900.				
	White.	Negro.	Indian.	Chinese.	Japanese.
Alameda	125,432	1,334	71	2,211	1,149
Alpine	359	3	142	5	
Amador	10,805	28	130	153	
Butte	15,733	106	201	712	365
Calaveras	10,879	69	100	148	4
Colusa	6,840	76	121	274	53
Contra Costa	17,088	47	8	627	276
Del Norte	2,138	1	269		
El Dorado	8,513	99	138	206	30
Fresno	34,570	399	520	1,775	598
Glenn	4,867	18	24	227	14
Humboldt	25,359	12	1,728	5	
Imperial	3,355	15	940	67	
Inyo	14,974	208	344	906	48
Kern	9,171	76	51	417	156
Kings	5,492	12	428	82	3
Lake	4,099	1	381	28	2
Lassen	163,975	2,841	69	3,209	204
Los Angeles	5,664	51	401	229	19
Madera	14,999	137	25	489	52
Marin	4,410	35	173	102	
Mariposa	18,833	38	1,353	218	23
Mendocino	8,780	31	4	357	43
Merced	4,560	7	503	6	
Modoc	1,656	1	389	120	1
Mono	17,707	80	26	857	710
Monterey	15,857	29	18	541	6
Napa	17,024	70	48	632	15
Nevada	19,459	98		136	3
Orange	14,494	35	74	1,050	133
Placer	4,018	3	444	192	
Plumas	16,421	254	809	316	97
Riverside	40,917	511	24	3,254	1,209
Sacramento	6,456	57	36	69	15
San Benito	26,605	216	572	388	148
San Bernardino	32,048	406	2,197	414	25
San Diego	325,378	1,654	15	13,954	1,781
San Francisco	32,941	322	1	1,875	313
San Joaquin	16,389	77	1	154	16
San Luis Obispo	11,652	89	1	306	46
San Mateo	18,256	33	72	459	114
Santa Barbara	57,934	251	9	1,738	284
Santa Clara	20,515	81	67	614	235
Santa Cruz	16,131	203	862	102	20
Shasta	3,669	7	31	309	1
Sierra	15,646	38	480	790	8
Siskiyou	22,267	101	2	903	870
Solano	37,385	32	316	599	148
Sonoma	9,223	61	25	236	5
Stanislaus	5,451	34	20	226	155
Sutter	9,878	147	99	729	143
Tehama	3,803	9	234	336	1
Trinity	17,709	73	175	370	48
Tulare	10,804	53	149	158	2
Tuolumne	13,826	34	5	408	94
Ventura	12,662	172	28	346	410
Yolo	7,651	170	24	719	56
Yuba					
Totals	1,402,727	11,045	15,377	45,753	10,151

TABLE VI.

Population, White and Colored, by Counties, 1910.

Counties.	White.	Negro.	Indian.	Chinese.	Japanese.	Total.*
Alameda	234,520	3,634	41	4,588	3,266	246,131
Alpine	213		94	1	1	309
Amador	8,838	2	143	101	2	9,086
Butte	25,684	122	298	572	295	27,301
Calaveras	8,941	17	161	49	3	9,171
Colusa	7,155	50	169	218	140	7,732
Contra Costa	29,911	67	3	550	1,009	31,674
Del Norte	2,078	1	337	1		2,417
El Dorado	7,198	28	177	58	31	7,492
Fresno	71,215	474	313	1,377	2,233	75,657
Glenn	6,915	15	32	129	33	7,172
Humboldt	32,153	40	1,652	6	6	33,857
Imperial	12,582	65	682	32	217	13,591
Inyo	6,020	21	792	100	41	6,974
Kern	36,007	369	220	841	273	37,715
Kings	15,366	172	32	358	293	16,230
Lake	5,055	11	433	24	3	5,526
Lassen	4,372	1	410	13	6	4,802
Los Angeles	483,478	9,424	97	2,602	8,461	504,131
Madera	7,650	56	419	211	32	8,368
Marin	24,186	145	26	555	199	25,114
Mariposa	3,674	18	192	69	3	3,956
Mendocino	22,310	31	1,170	263	77	23,929
Merced	14,697	75		278	98	15,148
Modoc	5,629	4	546	11	1	6,191
Mono	1,621		386	21	14	2,042
Monterey	22,135	107	29	575	1,121	24,146
Napa	19,437	48	6	205	103	19,800
Nevada	14,558	14	52	309	22	14,955
Orange	33,589	97	21	83	641	34,436
Placer	16,572	55	102	612	862	18,237
Plumas	4,629	5	380	105	20	5,259
Riverside	31,613	518	1,590	187	765	34,696
Sacramento	61,040	631	62	2,143	3,874	67,806
San Benito	7,643	26		66	286	8,041
San Bernardino	54,153	642	573	284	946	56,706
San Diego	58,514	684	1,516	430	520	61,665
San Francisco	400,014	1,642	46	10,582	4,518	416,912
San Joaquin	46,339	307	8	1,968	1,804	50,731
San Luis Obispo	18,693	77	14	165	434	19,383
San Mateo	25,821	67	1	309	358	26,585
Santa Barbara	26,282	108	45	440	863	27,738
Santa Clara	79,849	262	16	1,064	2,299	83,539
Santa Cruz	25,159	83	15	194	689	26,140
Shasta	17,873	159	756	88	42	18,920
Sierra	3,910		54	117	17	4,098
Siskiyou	17,413	29	1,109	226	24	18,801
Solano	25,432	250	1	811	894	27,559
Sonoma	47,167	43	340	287	554	48,394
Stanislaus	22,129	89	30	161	113	22,522
Sutter	6,012	10	18	79	134	6,328
Tehama	10,809	91	94	309	98	11,401
Trinity	2,903	8	227	163		3,301
Tulare	34,159	190	204	257	615	35,440
Tuolumne	9,698	14	186	75	6	9,979
Ventura	17,132	64	3	235	872	18,347
Yolo	12,618	280	32	198	789	13,926
Yuba	8,909	203	16	493	336	10,042
Totals	2,259,672	21,645	16,371	36,248	41,356	2,377,549

*Not including 1,948 Hindus, 304 Koreans, and 5 Filipinos.

TABLE VII.

Color and Nativity of Farmers.

Counties.	Native white.	Foreign-born white.	Negro and other non-white.	Total number of farmers.
Alameda	866	1,490	66	2,422
Alpine	24	16	2	42
Amador	387	145	5	537
Butte	1,204	274	22	1,500
Calaveras	420	207	5	632
Colusa	547	112	8	667
Contra Costa	712	715	38	1,465
Del Norte	62	46	6	114
El Dorado	551	150	15	716
Fresno	3,968	2,033	244	6,245
Glenn	502	160	1	663
Humboldt	856	614	64	1,534
Imperial	1,077	143	102	1,322
Inyo	313	98	27	438
Kern	818	298	51	1,167
Kings	1,312	475	50	1,837
Lake	478	122	3	603
Lassen	412	77	13	502
Los Angeles	5,682	1,613	624	7,919
Madera	419	131	23	573
Marin	138	360		498
Mariposa	253	63	14	330
Mendocino	966	363	27	1,356
Merced	1,054	780	22	1,856
Modoc	639	80	17	736
Mono	44	42	5	91
Monterey	933	676	49	1,658
Napa	1,006	527	4	1,537
Nevada	349	184	11	544
Orange	2,362	718	85	3,165
Placer	619	263	180	1,062
Plumas	155	63	3	221
Riverside	2,044	517	127	2,688
Sacramento	885	485	231	1,601
San Benito	616	289	16	921
San Bernardino	2,365	567	17	2,949
San Diego	1,591	586	121	2,298
San Francisco	30	118	9	157
San Joaquin	2,179	977	130	3,286
San Luis Obispo	929	767	18	1,714
San Mateo	258	390	17	665
Santa Barbara	874	448	33	1,355
Santa Clara	2,725	1,860	146	4,731
Santa Cruz	851	588	27	1,466
Shasta	825	151	34	1,010
Sierra	77	32	1	110
Siskiyou	852	218	44	1,114
Solano	620	449	74	1,143
Sonoma	2,737	2,012	23	4,772
Stanislaus	1,879	801	7	2,687
Sutter	696	154	23	873
Tehama	799	188	19	1,006
Trinity	235	55	18	308
Tulare	3,253	707	61	4,021
Tuolumne	241	143	2	386
Ventura	965	307	21	1,293
Yolo	934	255	66	1,255
Yuba	338	91	7	436
Totals	58,926	26,193	3,078	88,197

Population of the United States in 1910.

State.	Total population.	Indians not taxed.	State.	Total population.	Indians not taxed.
Alabama -----	2,138,093	-----	North Dakota -----	577,056	2,653
Arkansas -----	1,574,449	-----	Ohio -----	4,767,121	-----
California -----	2,377,549	988	Oklahoma -----	1,657,155	-----
Colorado -----	799,024	452	Oregon -----	672,765	-----
Connecticut -----	1,114,756	-----	Pennsylvania -----	7,665,111	-----
Delaware -----	202,322	-----	Rhode Island -----	542,610	-----
Florida -----	752,619	-----	South Carolina -----	1,515,400	-----
Georgia -----	2,609,121	-----	South Dakota -----	583,888	8,212
Idaho -----	325,594	2,154	Tennessee -----	2,184,789	-----
Illinois -----	5,638,591	-----	Texas -----	3,896,542	-----
Indiana -----	2,700,876	-----	Utah -----	373,351	1,487
Iowa -----	2,224,771	-----	Vermont -----	355,956	-----
Kansas -----	1,690,949	-----	Virginia -----	2,061,612	-----
Kentucky -----	2,289,905	-----	Washington -----	1,141,990	1,856
Louisiana -----	1,656,388	-----	West Virginia -----	1,221,119	-----
Maine -----	742,371	-----	Wisconsin -----	2,333,860	1,007
Maryland -----	1,295,346	-----	Wyoming -----	145,965	1,307
Massachusetts -----	3,366,416	-----			
Michigan -----	2,810,173	-----	Total for 46 states	91,109,542	37,425
Minnesota -----	2,075,708	1,332	Arizona -----	204,354	24,129
Mississippi -----	1,797,114	-----	New Mexico -----	327,301	10,318
Missouri -----	3,293,335	-----			
Montana -----	376,053	9,715	Total, including		
Nebraska -----	1,192,214	-----	Arizona and New		
Nevada -----	81,875	1,582	Mexico -----	91,641,197	71,872
New Hampshire -----	430,572	-----	District of Columbia	331,069	-----
New Jersey -----	2,537,167	-----			
New York -----	9,113,614	4,680	Total for conti-		
North Carolina -----	2,206,287	-----	nental U. S. -----	91,972,266	-----

TABLE VIII.

Counties and County Seats.

(Date of creation and land area.)

County.	County seat.	Date of creation.	Land area, square miles.	Approximate land area
Alameda	Oakland	Mar. 25, 1853	732	462,544
Alpine	Markleeville	Mar. 16, 1864	776	496,644
Amador	Jackson	May 11, 1854	601	394,644
Butte	Oroville	Feb. 18, 1850	1,722	1,102,644
Calaveras	San Andreas	Feb. 18, 1850	1,027	651,264
Colusa	Colusa	Feb. 18, 1850	1,140	724,000
Contra Costa	Martinez	Feb. 18, 1850	714	454,564
Del Norte	Crescent City	Mar. 2, 1857	1,024	654,364
El Dorado	Placerville	Feb. 18, 1850	1,753	1,121,924
Fresno	Fresno	April 19, 1856	5,950	3,804,000
Glenn	Willows	Mar. 11, 1891	1,259	804,764
Humboldt	Eureka	May 12, 1853	3,634	2,324,764
Imperial	El Centro	Aug. 15, 1907	4,089	2,616,964
Inyo	Independence	Mar. 22, 1866	10,019	6,412,164
Kern	Bakersfield	April 2, 1866	8,003	5,121,924
Kings	Hanford	Mar. 22, 1893	1,159	741,764
Lake	Lakeport	May 20, 1861	1,278	817,924
Lassen	Susanville	April 1, 1864	4,531	2,899,844
Los Angeles	Los Angeles	Feb. 18, 1850	4,067	2,602,884
Madera	Madera	Mar. 11, 1893	2,112	1,351,684
Marin	San Rafael	Feb. 18, 1850	529	338,564
Mariposa	Mariposa	Feb. 18, 1850	1,463	936,324
Mendocino	Ukiah	Feb. 18, 1850	3,453	2,209,924
Merced	Merced	April 19, 1855	1,995	1,276,804
Modoc	Alturas	Feb. 17, 1874	3,823	2,446,724
Mono	Bridgeport	April 24, 1861	3,030	1,939,204
Monterey	Salinas	Feb. 18, 1850	3,330	2,131,204
Napa	Napa	Feb. 18, 1850	783	501,124
Nevada	Nevada City	April 25, 1851	974	623,364
Orange	Santa Ana	Mar. 11, 1889	795	508,804
Placer	Auburn	April 25, 1851	1,895	892,804
Plumas	Quincy	Mar. 18, 1854	2,594	1,660,164
Riverside	Riverside	Mar. 11, 1893	7,240	4,633,604
Sacramento	Sacramento	Feb. 18, 1850	983	629,124
San Benito	Hollister	Feb. 12, 1874	1,392	890,884
San Bernardino	San Bernardino	April 26, 1853	20,157	12,900,484
San Diego	San Diego	Feb. 18, 1850	4,221	2,701,444
San Francisco	San Francisco	Feb. 18, 1850	43	27,524
San Joaquin	Stockton	Feb. 18, 1850	1,448	926,724
San Luis Obispo	San Luis Obispo	Feb. 18, 1850	3,334	2,133,764
San Mateo	Redwood City	April 19, 1856	447	286,084
Santa Barbara	Santa Barbara	Feb. 18, 1850	2,740	1,753,604
Santa Clara	San Jose	Feb. 18, 1850	1,328	849,924
Santa Cruz	Santa Cruz	Feb. 18, 1850	435	278,404
Shasta	Redding	Feb. 18, 1850	3,858	2,482,124
Sierra	Downieville	April 16, 1852	923	590,724
Siskiyou	Yreka	Mar. 22, 1852	6,256	4,003,844
Solano	Fairfield	Feb. 18, 1850	822	526,084
Sonoma	Santa Rosa	Feb. 18, 1850	1,577	1,009,284
Stanislaus	Modesto	April 1, 1854	1,450	928,004
Sutter	Yuba City	Feb. 18, 1850	608	391,124
Tehama	Red Bluff	April 9, 1856	2,893	1,851,844
Trinity	Weaverville	Feb. 18, 1850	3,166	2,026,244
Tulare	Visalia	April 20, 1852	4,856	3,107,564
Tuolumne	Sonora	Feb. 18, 1850	2,190	1,401,604
Ventura	Ventura	Mar. 22, 1872	1,878	1,201,844
Yolo	Woodland	Feb. 18, 1850	1,014	648,804
Yuba	Marysville	Feb. 18, 1850	639	408,804

PART II.

AGRICULTURE.

DOMESTIC ANIMALS.

Horses, Cattle, Sheep, Swine, 1869-1912; Domestic Animals by Counties; Poultry, Butter and Cheese; Honey and Wax; Wool and Mohair.

Horses.

The first horses in what is now the United States were landed in Florida in 1527. The horses used by De Soto on his western journey and abandoned by him were undoubtedly the progenitors of the wild horses of the southwest. In 1604, French horses were introduced into Acadia in 1609, English horses were landed at Jamestown, Virginia, and in 1623, horses of Dutch origin were brought to New York.

At one time in the history of the colonies, horses became so cheap that little attention was paid to breeding, and the deterioration in size which followed became an object of such concern that regulations were made prohibiting horses below certain size to run at large and forbidding the breeding of undersized horses. The typical American horse of to-day may be said to have sprung from the stock imported into Acadia, Virginia, New York, and Massachusetts, constantly crossed by stock of the best breeds of the Old World.

The horses imported for breeding purposes were the English thoroughbreds, a cross between the Arabian and the Barb. They were brought to this country about 1750, but the total number imported prior to the Revolution did not exceed fifty horses and twenty mares.

The French-Canadian horse is the descendant of horses brought to Canada by the French. They have become reduced in size, but still retain the good qualities of their Norman ancestors, and constitute one of the best breeds of farm horses.

Roadsters, and, in less degree, coach horses are bred from trotting stock. There are English and other foreign breeds or types of coach horses, but they are not much used in this country. The American-bred roadsters may be said to comprise practically all the light harness and coach horses in the country.

Foreign draft horses of all the well-known breeds are constantly being imported into this country, but the English draft, the Clydesdale, the Shire, and the Percheron are most common. There are also French, Belgian, and German horses, and Shetland and other ponies.

The thoroughbred is probably the oldest of the breeds, and it is known as the "blood horse" on account of the length of time through which its purity of decent can be traced. The Norman horse was first imported from France and was called Norman for no apparent reason, as none came from Normandy, but the name was intended to include all French draft horses and at one time was classed with Percherons.

The Cleveland Bay is an ancestor of the Yorkshire Coach-horse which is bred in parts of Yorkshire and the north of England, were first imported into the United States in 1880. They are almost the same and registered in the same studbook.

The Shire horse, the large "Old English Black Horse;" has for centuries been cultivated in the midland and western counties of England. The Clydesdale is a Scottish breed named from the valley of the Clyde.

The Percheron is a draft breed of horse, and derives its name from an ancient province of La Perche in the north central part of France.

Standard-bred, is the name applied to a class of horses that are characterized by the pacing gait. The American Standard-bred trotting horse breed is the most potent source of pacers. The present day Hackney is a carriage horse breed.

The dividing line between the horse and pony was undefined until recent years. The Shetland, the smallest of all ponies, is in many ways the most important in America. The Welsh pony is more numerous than any other breed that comes from the British Isles.

Great Increase in the Number and Value of Horses—1900-1910.

When street cars began to be generally used, horses were increasing at the most rapid rate ever known. There was more breeding carried on then than at any other time, and between 1884 and 1895 the supply began to overtake the demand. The cable and the electric system of street railways followed, and by 1895 had practically displaced horses.

The introduction of bicycles, a few years later followed by automobiles, caused it to be predicted that horses would not be in general use much longer, and that breeding could never be made to pay in the future. Statistics, however, prove that these fears were unfounded. The census reports show that in 1910 horses and colts had a greater value than any other class of domestic animals, whereas cattle had the greater value in 1900, being then nearly twice as valuable as horses and colts.

The total value of horses and colts in 1910 was \$47,999,196 compared with \$17,845,000 in 1900, or an increase of \$29,254,203, or 163.9 per cent.

Mules and mule colts were valued at \$9,016,444, an increase of \$4,405,535, since 1900 an increase of 95 per cent.

Asses and burros in 1910 were valued at \$347,315 as against \$147,000 in 1900, an increase of \$200,618, or 136.0 per cent.

The introduction of the Norman, Percheron, English draft, and other breeds of stallions, and the crossing of these with native stock, have, since 1870, greatly improved the average effectiveness of the American horse.

About 1896 a large demand began for American horses abroad. Exportation was at first stimulated by the exceedingly low prices of horses in the United States, and later by the demand for South Africa during the Boer war of 1899-1902, during which period there was a great demand, especially for mules, as the accompanying figures show, and prices consequently went up.

The average price of mules exported rising from \$76.52 in 1899, to \$121.47 in 1903, while last year the average price was \$162.50, the highest ever touched.

Imports and Exports—1911-1912.

The number of horses imported for breeding purposes during the fiscal year ending June 30, 1912, was 3,849, valued at \$1,579,377; other horses numbered 2,758, valued at \$343,648, or a total of 6,607 horses with a value of \$1,923,025. These figures show a considerable falling off compared with the two previous years.

The number of horses exported amounted to 34,828, valued at \$4,764,815, compared with 25,145 in 1911 and 28,910 in 1910, a large increase both in numbers and value.

The number of mules exported was about the average, amounting to 4,901, valued at \$732,095.

Canada is always our best customer, taking by far the largest number of both horses and mules.

The horses imported for breeding purposes almost all come from France, Canada, United Kingdom and Belgium. Horses and other animals intended for breeding purposes have always been admitted free of duty.

Registration of Stallions.

Within the past seven years eighteen different states have passed laws requiring that all owners of stallions or jacks, before standing them for public service, shall obtain a license for each animal from the State Board created for that purpose. This board examines all pedigree certificates and veterinarians' certificates of soundness submitted, and enrolls and issues license certificates for all stallions and jacks entitled to such enrollment in accordance with the law.

The details of these laws vary somewhat in different states, but all are more or less founded on the Wisconsin act, which was the pioneer state in this matter, but all require the submission of certificates of registration in studbooks certified by the United States Department of Agriculture, as evidence of the purity of breeding of stallions licensed as purebred, except that some provide in addition that stallions shall be accepted as purebred which are registered in studbooks of any American studbook or registry association which recognizes and records stallions having five pure top crosses.

That the state stallion law marks a distinct step in advance in our horse-breeding industry is hardly to be questioned. One of the first results of the operation of these laws was to provide data which show the actual facts with regard to the stallions being used for breeding purposes. Other important beneficial results are the rapid elimination of unfit animals and greater care with regard to breeding and registration. The various breeds, and the numbers are of considerable interest. No pony-stallions have been registered. The mongrels number over one third of the total, Percherons come next with 419. There are 821 purebred, 358 grade, 10 crossbred, 2 non-standard bred, 766 mongrels, or a total of 1,957. The number of jacks is 70 purebred, and

7 grade. The following summary gives the number of each breed in detail:

Breed.	Number.
Mongrel	766
Percheron	419
Standard	165
Trotter	150
Belgian	146
Shire	94
German Coach	65
French Draft	57
Clydesdale	29
French Coach	26
Thoroughbred	11
Saddle	10
Crossbred	10
Norman	3
Non-Standard	2
Hackney	2
Suffolk	1
Cleveland Bay	1
Total	1,957
Jacks	77
Grand total	2,034

Neat Cattle.

The first neat cattle introduced into America were brought to the West Indies by Columbus in 1493. From these islands they were taken by the Spaniards into Mexico about 1525, where they spread over the territory now included in the states of California, New Mexico, Arizona, and Texas, and became the progenitors of what are now known as "Texas Cattle." The early English settlers imported large numbers of cattle, and now only the breeds introduced by the Spanish in the south, and the English in the north can be traced.

Some attention has been given to breeding cows for dairy purposes only, and with this object in view large importations have been made of the Jerseys, Guernseys, and Alderneys.

The Shorthorns, Herefords, and Polled Angus comprise practically all of the pure-blooded cattle in the United States used for breeding and for grading up native cattle for beef purposes. There are now also a number of Holstein-Friesian and Durhams.

As to breed, the native or common cow predominates among our dairy cattle in California, although a very large percentage of them give indications of more or less improved blood, Shorthorns predominating. Jersey blood is very generally evinced, with Holstein showing an increased popularity.

Shorthorns were first of all the varieties of pure-bred cattle to be introduced into California, and have always remained favorites with beef-breeders and dairymen. Herefords have become popular since 1884, when a large herd was brought to California from New Zealand, shown at the State Fair at Sacramento, and sold throughout the State.

Devons were brought here in 1860 and since that time have been bred and used by a number of active breeders. Polled Angus Galloways are little used in California as compared with the middle western states. In 1881 Guernseys were introduced here direct from the Island, and the breed of Jersey has long been popular, being first

brought into the State in 1872. A few Holsteins were shown here in 1874, but not until about 1883 were they generally introduced.

Red Polls have met with popular favor, but their use is so limited that they have made no impression on the type of California cattle.

Working Oxen.

In the early days oxen were largely employed in farming operations. In 1860, they numbered upwards of 26,000, but the number declined rapidly during the next ten years, and after 1890 they dwindled away.

During forty years the numbers varied as follows:

Years.	Number.
1850 -----	4,780
1860 -----	26,004
1870 -----	5,944
1880 -----	2,288
1890 -----	1,122

Asses and Burros.

In 1832, Henry Clay, who was a great advocate of the use of mules, brought the first pure-blooded Catalonian jack to Kentucky, and from then until the civil war quite a number of jacks were imported. With the revival of business after the war, there was a great demand for jacks, and they were imported from all the Mediterranean countries.

Until this time there had been but two breeds of asses generally recognized in this country, the Maltese and Spanish. The importations into Tennessee and Kentucky have resulted in the production of a native type that is regarded by some breeders as better than any now imported.

There are also a large number of small donkeys, or burros, descendants of the small asses brought into Mexico and New Mexico at the early settlement of that section by the Spaniards, and are used principally by the Spanish and Mexican element. They are most useful in the mountainous sections.

Sheep.

In 1565, Spanish sheep were introduced into Florida, and those in that State to-day preserve traces of their Spanish origin. In 1773 they were introduced into California, and under the care of the Missions rapidly increased until, in 1825, it was estimated that seventeen of these Missions, extending from San Diego to San Francisco, held an aggregate of 1,003,970 sheep, exclusive of flocks owned by ranchers.

It was claimed by earlier authorities that these sheep were Merinos, but more recent authorities affirm that they were the Churro, or common, sheep of Spain. The Merino is supposed to have originated in Asia Minor. The period from 1845 to 1855 marks the transition from fine wool sheep to coarse wool and mutton sheep.

The principal breeds now are Southdown, Shropshire, Leicestershire, Cotswold, Oxford Down, Hampshire Down, Dorset Horns, Spanish and French Merino, and Persian.

Goats.

The Angora goat, a native of Asia Minor, was introduced into this country in 1849, and has been bred extensively in the United States. It crosses readily with the common goat, and the cross-breed frequently

becomes the foundation of a good flock of fleece-bearing animals. The common goat has often been described as the poor man's cow. The Angora goat has been found to be of great service in clearing land of brush and low growths that sheep and cattle will not touch. The meat of the kids is said to be fully equal to the best young lamb, from which it is difficult to distinguish it.

In southern California, the goats are sheared both in the spring and fall, as is customary with sheep in the same regions. The reason for this is that if the hair is allowed to grow the goats shed it and the production is in consequence much less in amount. The double shearing results in the production of a fibre of shorter length than if the fleeces were allowed a full year's growth, and averages about 5 inches for the spring and 7 inches for the fall clips. In northern California the hair is shorn only once in the year and will average 8 to 9 inches in length. Angoras are among the most useful of domestic animals. Their fleeces, called the mohair, furnish material for the manufacture of some of the finest fabrics, their flesh is exceedingly delicate and nutritious, and their milk is richer than that of a cow.

Swine.

The swine introduced into the United States by the early colonists were of inferior stock. Between 1818 and 1830, the Chester White was evolved. The Berkshire was introduced from England about 1830, but did not come into general favor until 1870 to 1880. The Poland-China originated in Ohio between 1838 and 1840. Other breeds are Yorkshires and Hampshires. The interest in swine breeding in recent years is illustrated by the dates of first registration of the different Swine Breeders' Association, which were as follows: American Berkshire, 1875; Standard Poland-China, 1877; Central Poland-China, 1879; American Chester White, 1884; American Essex, 1887; American Duroc-Jersey, and Standard White, 1890.

As a result of this interest, swine in this country have attained a high standard, with regard to form, bone, and line of maturity.

The following statement shows at a glance the changes that have taken place in the number of domestic animals during the last sixty years:

Sheep, of which at one time there were very large flocks, have fallen off since the year 1880, when they numbered 4,152,349; in 1910 there were 2,417,477, or a decrease of 1,734,872 since the former year.

Summary of the Number of Domestic Animals, 1850-1910.

Year.	Horses and colts.	Mules and colts.	Cows and calves.	Other cattle.	Sheep and lambs.	Swine.
1850 -----	21,719	1,666	4,280	258,379	17,574	2,776
1860 -----	160,610	3,681	205,407	974,735	1,088,002	456,396
1870 -----	192,273	17,533	164,093	467,305	2,768,187	441,617
1880 -----	237,710	28,343	210,078	604,966	5,727,349	*868,419
1890 -----	*455,073	*53,627	317,201	*1,291,217	3,373,036	*594,009
1900 -----	421,293	96,190	307,245	*1,137,379	2,803,509	598,336
1910 -----	468,886	69,761	467,332	1,609,693	2,417,477	766,551

Prior to 1890, asses and burros were included with mules. *Including estimated number of range animals separately reported.

In 1863-64, there was a memorable drought in California, which extended to some of the adjoining states. No such dry season was remembered by the oldest inhabitants, and it is said that there were not more than four or five showers during the twelve months. It was estimated that 1,800,000 head of cattle perished between February, 1863, and April 1, 1864. The sheep also suffered severely. The result is clearly shown in the census returns for 1860 and 1870.

RECOGNIZED BREED AND PURE-BRED ANIMALS IMPORTED.

(Under an act of Congress, approved August 5, 1909, effective on and after February 1, 1912.)

HORSES.

Belgian Draft.	Percheron.	Thoroughbred.
Clydesdale.	Shetland Pony.	Welsh Pony and Cob.
French Draft.	Shire.	
Hackney.	Suffolk.	

CATTLE.

Aberdeen-Angus.	Guernsey.	Kerry & Dexter.
Alderney.	Hereford.	Red Polled.
Ayrshire.	Highland.	Shorthorn.
Devon.	Holstein-Friesian.	Sussex.
Galloway.	Jersey.	Welsh.

SHEEP.

Cheviot.	Kerry Hill.	Shropshire.
Ootswold.	Leicester.	Southdown.
Dorset Horn.	Leicester [Border].	Suffolk.
Hampshire Down.	Lincoln.	Wensleydale.
Kent or Romney Marsh.	Oxford Down.	

HOGS.

Berkshire.	Tamworth.	Yorkshire.
Large Black.		

Cattle not being native to America, there are no strictly American breeds, but owing to difference in climate, care and ideals of American breeders, the European breeds which have been brought to America have changed to some extent.

*Summary of All Domestic Animals and Their Value, 1910.

Kind.	On farms.		Not on farms.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.
All cattle -----	2,077,025	\$52,785,068	46,176	\$1,604,717	2,123,201	\$54,389,785
Dairy cows -----	467,332	18,597,328	29,962	1,321,897	497,294	19,919,225
Horses -----	468,886	47,099,196	132,521	15,142,841	601,407	62,242,037
Mules -----	69,761	9,016,444	10,612	1,638,381	80,373	10,654,825
Asses and burros -----	2,592	347,315	1,057	45,114	3,649	392,429
Swine -----	766,551	5,106,803	12,168	100,761	778,719	5,207,564
Sheep -----	2,417,477	8,348,997	64,631	232,572	2,482,108	8,581,569
Goats -----	138,413	320,829	7,113	32,629	145,526	353,458
Totals -----		\$123,024,652		\$18,797,015		\$141,821,667

*Most of the domestic animals not on farms are found in cities, towns, and villages.

CLASSIFIED SUMMARY OF DOMESTIC ANIMALS ON FARMS IN 1910.

Description.	Number.	Value.	Average value.
Cattle—			
Dairy cows (cows and heifers kept for milk, born before January 1, 1909).....	467,332	\$18,597,328	\$39 79
Other cows (cows and heifers not kept for milk, born before January 1, 1909).....	576,909	14,798,012	25 65
Heifers born in 1909.....	218,480	3,448,595	15 78
Calves born after January 1, 1910.....	267,799	1,883,523	7 03
Steers and bulls born in 1909.....	163,728	2,889,503	17 65
Steers and bulls born before January 1, 1909.....	321,984	9,941,169	30 87
Unclassified cattle.....	60,793	1,226,938	20 18
Totals.....	2,077,025	\$52,785,068	\$25 41
Horses and colts—			
Mares, stallions and geldings born before January 1, 1909.....	402,584	\$43,770,557	\$108 72
Colts born in 1909.....	41,927	2,389,191	56 98
Colts born after January 1, 1910.....	23,037	767,648	33 32
Unclassified horses.....	1,338	171,800	128 40
Totals.....	468,886	\$47,099,196	\$100 45
Mules and mule colts—			
Mules born before January 1, 1909.....	61,997	\$8,552,021	\$137 94
Mule colts born in 1909.....	4,913	351,667	71 58
Mule colts born after January 1, 1910.....	2,851	112,756	39 55
Totals.....	69,761	\$9,016,444	\$129 25
Asses and burros (all ages).....	2,592	347,315	133 99
Swine—			
Hogs and pigs born before January 1, 1910.....	482,810	\$4,346,824	\$9 00
Pigs born after January 1, 1910.....	283,741	759,979	2 68
Totals.....	766,551	\$5,106,803	\$6 66
Sheep and lambs—			
Ewes born before January 1, 1910.....	1,217,515	\$4,914,783	\$4 04
Rams and wethers born before January 1, 1910.....	307,773	1,326,699	4 31
Lambs born after January 1, 1910.....	892,189	2,107,515	2 36
Totals.....	2,417,477	\$8,348,997	\$3 45
Goats and kids (all ages).....	138,413	320,829	2 32
Grand total.....		\$123,024,652	

Sheep and Wool, Goats and Mohair, in 1909-1910.

According to the Census Bureau, the total number of sheep of shearing age in California on April 15, 1910, was 1,525,000, representing a decrease of 11.6 per cent as compared with the number in 1900. The approximate production of wool during 1909 was 2,563,000 fleeces, weighing 14,065,000 pounds and valued at \$2,424,000.

Although 1,714 farmers reported 138,413 goats and kids on their farms in 1910, only 367 reported the production of goat hair or mohair during 1909. These farmers reported 102,134 fleeces, weighing 282,596 pounds and valued at \$60,821. The production shows a considerable increase between 1899 and 1909, but it is believed that the figures are somewhat short of the actual production.

NUMBER AND VALUE OF FARM ANIMALS IN CALIFORNIA, 1869-1912, IMPORTS AND EXPORTS.

(Compiled from the reports of the United States Department of Agriculture.)

HORSES.

Year.	Number January 1st.	Average farm price January 1st.	Farm value January 1st.
1869	226,634	\$52 71	\$11,945,878
1870	238,000	36 50	8,687,000
1871	204,800	50 26	10,293,248
1872	202,700	43 59	8,835,693
1873	250,000	44 15	11,037,500
1874	232,500	47 48	11,039,100
1875	230,100	41 61	9,574,461
1876	209,300	45 46	9,514,778
1877	260,000	39 50	10,270,000
1878	262,000	40 94	10,750,844
1879	273,000	43 95	11,998,350
1880	273,000	46 18	12,673,500
1881	281,990	45 03	12,698,010
1882	240,087	47 30	11,356,115
1883	240,567	54 89	13,204,723
1884	252,595	61 33	15,491,651
1885	265,225	62 05	16,457,211
1886	275,834	63 00	17,377,542
1887	289,626	64 00	18,534,948
1888	307,004	71 00	21,797,255
1889	368,400	70 19	25,857,259
1890	372,084	63 60	23,664,984
1891	360,921	67 22	24,262,579
1892	415,059	62 67	26,010,045
1893	518,824	57 48	29,821,982
1894	513,636	41 98	21,562,949
1895	513,636	31 94	16,404,965
1896	482,818	27 16	13,114,254
1897	439,364	27 40	12,037,918
1898	417,396	28 96	12,085,909
1899	342,265	27 54	9,426,483
1900	321,729	38 61	12,422,429
1901	363,982	49 66	18,074,805
1902	353,063	56 28	19,869,542
1903	370,716	60 66	22,485,881
1904	367,000	65 66	24,099,139
1905	363,339	67 48	24,518,741
1906	399,673	76 32	30,505,037
1907	391,680	92 00	36,120,721
1908	396,000	94 00	37,224,000
1909	412,000	90 00	37,080,000
1910	483,000	117 00	56,511,000
1911	493,000	117 00	57,681,000
1912	503,000	109 00	54,827,000

CALIFORNIA STATE BOARD OF AGRICULTURE.

Horses Imported.

Year.	For breeding purposes.*		Other horses.		Total horses.	
	Number.	Value.	Number.	Value.	Number.	Value.
1902 -----	2,944	\$1,273,607	1,888	\$303,627	4,832	\$1,577,234
1903 -----	2,803	1,191,611	2,196	344,685	4,999	1,536,296
1904 -----	2,634	1,090,596	2,092	369,691	4,726	1,460,287
1905 -----	2,853	1,169,011	2,327	422,072	5,180	1,591,083
1906 -----	3,377	1,266,987	2,644	449,688	6,021	1,716,675
1907 -----	3,644	1,574,020	2,436	404,085	6,080	1,978,105
1908 -----	3,562	1,325,784	1,925	278,608	5,487	1,604,392
1909 -----	4,953	1,658,640	2,131	348,636	7,084	2,007,276
1910 -----	7,867	2,660,241	3,753	635,781	11,620	3,296,022
1911 -----	6,331	2,055,418	3,662	636,656	9,993	2,692,074
1912 -----	3,849	1,579,377	2,758	343,648	6,607	1,923,025

*Including teams of immigrants.

Horses Exported.

Year.	Number.	Value.
1902 -----	103,020	\$10,048,046
1903 -----	34,007	3,152,159
1904 -----	42,001	3,189,100
1905 -----	34,822	3,175,259
1906 -----	40,087	4,365,981
1907 -----	33,882	4,359,957
1908 -----	19,000	2,612,587
1909 -----	21,616	3,386,617
1910 -----	28,910	4,081,157
1911 -----	25,145	3,845,253
1912 -----	34,828	4,764,815

Horses Imported in 1911 from—

For breeding purposes (duty free).		Other horses (duty).	
Country.	Number.	Country.	Number.
France -----	2,018	Canada -----	1,821
Belgium -----	1,440	Mexico -----	1,106
Canada -----	1,156	United Kingdom -----	218
United Kingdom -----	969	Other countries -----	117
Mexico -----	732		
Germany -----	16		
Total -----	6,331	Total -----	3,262

Horses Exported in 1912 to—

Country.	Value.	Number.
Canada -----	31,910	\$3,855,411
Mexico -----	927	99,664
United Kingdom -----	517	339,775
Other countries -----	1,474	469,965
Totals -----	34,828	\$4,764,815

Duty on Imported Horses.—For breeding purposes and of pure bred and teams of immigrants, free. Of the value of \$150 or less, \$30 per head; if valued over that sum, 25 per cent ad valorem.

MULES.

Year.	Number January 1st.	Average farm price January 1st.	Farm value January 1st.
1869 -----	24,249	\$73 92	\$1,792,486
1870 -----	30,000	66 66	1,999,800
1871 -----	21,400	65 64	1,404,696
1872 -----	20,500	59 76	1,225,080
1873 -----	25,000	71 06	1,776,500
1874 -----	23,000	63 74	1,466,020
1875 -----	23,200	66 49	1,542,568
1876 -----	19,400	77 20	1,497,680
1877 -----	26,500	67 75	1,795,375
1878 -----	25,400	68 98	1,752,092
1879 -----	25,700	66 24	1,702,368
1880 -----	25,700	67 54	1,735,778
1881 -----	25,700	68 79	1,767,903
1882 -----	28,910	69 20	2,000,572
1883 -----	30,066	70 98	2,134,085
1884 -----	29,765	80 18	2,386,558
1885 -----	31,551	84 30	2,659,749
1886 -----	31,551	77 65	2,450,081
1887 -----	36,284	83 67	3,035,912
1888 -----	38,824	85 03	3,301,389
1889 -----	40,765	83 78	3,415,201
1890 -----	42,803	78 21	3,347,496
1891 -----	43,659	79 41	3,467,093
1892 -----	54,574	74 72	4,077,548
1893 -----	60,031	67 90	4,076,130
1894 -----	63,033	56 38	3,553,899
1895 -----	63,033	46 25	2,915,041
1896 -----	59,251	35 02	2,074,789
1897 -----	57,473	36 89	2,120,329
1898 -----	56,898	38 33	2,180,836
1899 -----	52,915	34 15	1,807,174
1900 -----	48,682	48 49	2,300,713
1901 -----	77,452	60 44	4,681,555
1902 -----	72,030	69 23	4,986,745
1903 -----	67,708	72 02	4,876,600
1904 -----	67,031	72 68	4,871,487
1905 -----	66,361	76 39	5,069,044
1906 -----	69,679	91 30	6,361,689
1907 -----	80,750	106 00	8,599,875
1908 -----	82,000	113 00	9,266,000
1909 -----	83,000	107 00	8,881,000
1910 -----	71,000	133 00	9,443,000
1911 -----	72,000	136 00	9,792,000
1912 -----	73,000	130 00	9,490,000

Mules Imported.

(Included in "All Other" Animals.)

Mules Exported.

Year.	Number.	Value.
1902 -----	27,586	\$2,692,298
1903 -----	4,294	521,725
1904 -----	3,658	412,971
1905 -----	5,826	645,464
1906 -----	7,167	989,639
1907 -----	6,781	850,901
1908 -----	6,609	990,667
1909 -----	3,432	472,017
1910 -----	4,512	614,094
1911 -----	6,585	1,070,051
1912 -----	4,901	732,095

Mules Exported in 1911 to—

Country.	Number.
Canada -----	2,161
Cuba -----	1,366
Australia -----	1,007
Mexico -----	477
Other countries -----	1,574
Total -----	6,585

Duty on Imported Mules.—Teams of immigrants, free; if valued at \$150 or less, \$30.00; if above that value, 25 per cent ad valorem.

The following purebred horses were imported into the United States in 1912 for breeding purposes:

Breed.	Stallions.	Mares.	Total.
Belgian Draft -----	609	347	956
Clydesdale -----	33	57	90
French Draft -----	9		9
Hackney -----	14	12	26
Percheron -----	1,104	859	1,963
Shetland Pony -----	4	27	31
Shire -----	156	91	247
Standardbred -----	1	2	3
Suffolk -----	10	15	25
Thoroughbred -----	4	8	12
Welsh Pony -----	13	92	105
Totals -----	1,957	1,510	3,467

The above includes 16 which should have been included in the return for 1911, viz.: 10 Belgians, 3 Percherons, 1 Shire, 1 Thoroughbred, and 1 Welsh Pony.

MILCH COWS.

Year.	Number January 1st.	Average farm price January 1st.	Farm value January 1st.
1869	214,318	\$50 31	\$10,782,338
1870	350,000	47 62	16,667,000
1871	186,800	46 36	8,660,048
1872	186,800	44 66	8,342,488
1873	270,000	43 44	11,728,800
1874	310,500	35 28	10,954,440
1875	340,000	32 19	10,944,600
1876	363,800	31 46	11,445,148
1877	381,900	30 64	11,701,416
1878	389,500	28 23	10,955,585
1879	459,600	25 90	11,903,640
1880	473,400	28 65	13,562,910
1881	473,400	31 67	14,992,578
1882	214,280	32 70	7,006,956
1883	214,280	36 17	7,750,508
1884	220,708	38 00	8,386,904
1885	231,743	38 50	8,922,106
1886	236,378	38 75	9,159,648
1887	243,469	33 22	8,088,040
1888	250,773	33 00	8,275,509
1889	258,296	31 38	8,105,328
1890	268,628	27 75	7,454,427
1891	282,059	29 00	8,179,711
1892	290,521	26 95	7,829,541
1893	299,237	27 25	8,154,208
1894	329,161	25 82	8,498,937
1895	339,036	23 78	8,062,276
1896	335,646	23 75	7,971,593
1897	339,002	25 57	8,668,281
1898	342,392	28 65	9,809,531
1899	318,425	28 00	8,915,900
1900	308,872	33 75	10,424,430
1901	321,227	37 10	11,917,522
1902	327,652	40 05	13,122,463
1903	337,482	40 43	13,644,397
1904	344,232	38 55	13,270,144
1905	354,559	36 57	12,966,223
1906	390,015	34 65	13,514,020
1907	405,616	35 00	14,196,560
1908	410,000	36 00	14,760,000
1909	430,000	36 00	15,480,000
1910	495,000	48 00	23,760,000
1911	505,000	53 00	26,765,000
1912	510,000	53 50	27,285,000

OTHER CATTLE.

Year.	Number January 1st.	Average farm price January 1st.	Farm value January 1st.
1869	323,112	\$27 86	\$9,001,900
1870	550,000	26 22	14,421,000
1871	490,000	26 92	13,190,800
1872	465,500	23 80	11,078,900
1873	442,200	22 71	10,042,362
1874	428,900	19 52	8,372,128
1875	660,000	18 92	12,487,200
1876	1,075,000	20 08	21,586,000
1877	1,053,500	16 52	17,403,820
1878	1,000,800	17 23	17,243,784
1879	1,010,000	18 91	19,099,100
1880	999,900	18 47	18,468,153
1881	999,900	20 35	20,347,965
1882	422,433	21 77	9,196,366
1883	575,000	27 48	15,801,000
1884	609,500	29 15	17,766,925
1885	615,595	30 38	18,701,776
1886	627,907	28 66	17,994,559
1887	659,302	20 64	13,607,595
1888	692,267	20 50	14,194,447
1889	726,880	19 37	14,080,181
1890	697,805	16 80	11,719,707
1891	558,244	17 73	9,895,321
1892	602,904	17 39	10,481,663
1893	916,414	17 12	15,690,840
1894	925,578	16 17	14,962,157
1895	916,322	15 28	14,003,785
1896	888,832	15 82	14,057,319
1897	853,279	16 93	14,448,828
1898	810,615	18 91	15,328,334
1899	664,704	18 01	11,970,981
1900	604,881	24 57	14,864,947
1901	1,048,046	22 25	23,315,670
1902	1,089,968	23 48	25,593,770
1903	1,111,767	24 51	27,244,079
1904	1,089,532	21 98	23,944,214
1905	1,122,218	19 29	21,648,258
1906	1,167,107	17 52	20,453,549
1907	1,167,107	18 00	21,474,767
1908	1,155,000	19 00	21,945,000
1909	1,155,000	17 50	20,212,000
1910	1,546,000	23 50	36,331,000
1911	1,515,000	26 70	40,450,000
1912	1,454,000	29 20	42,457,000

Cattle Imported.

Year.	For breeding purposes.*		Other cattle.		Total cattle.	
	Number.	Value.	Number.	Value.	Number.	Value.
1902	1,928	\$375,096	94,099	\$1,233,626	96,027	\$1,608,722
1903	1,481	225,875	64,694	935,673	66,175	1,161,548
1904	684	79,986	15,372	230,751	16,056	310,737
1905	2,314	93,084	25,541	365,488	27,855	458,572
1906	829	118,368	28,190	430,062	29,019	548,430
1907	835	122,230	31,567	442,892	32,402	565,122
1908	3,188	149,142	89,168	1,358,168	92,356	1,507,310
1909	3,049	140,713	136,135	1,858,709	139,184	1,999,422
1910	2,611	291,139	193,327	2,708,685	195,138	2,999,824
1911	2,441	362,220	180,482	2,590,857	182,923	2,953,077
1912	2,129	305,222	316,243	4,500,352	318,372	4,805,574

*Including teams of immigrants.

Cattle Exported.

Year.	Number.	Value.
1902 -----	392,884	\$29,902,212
1903 -----	402,178	29,848,936
1904 -----	593,409	42,256,291
1905 -----	567,806	40,598,048
1906 -----	584,239	42,081,170
1907 -----	423,051	34,577,392
1908 -----	349,210	29,339,134
1909 -----	207,542	18,046,976
1910 -----	139,430	12,200,154
1911 -----	150,100	13,163,920
1912 -----	105,506	8,870,075

Cattle Imported in 1911 from—

For breeding (free).		Other cattle (duty).	
Country.	Number.	Country.	Number.
United Kingdom -----	1,821	Mexico -----	177,735
Canada -----	354	Canada -----	2,689
Mexico -----	246	United Kingdom -----	58
Spain -----	20		
Total -----	2,441	Total -----	180,482

Cattle Exported in 1911 to—

Country.	Number.
United Kingdom -----	131,273
Canada -----	7,890
Mexico -----	6,513
Belgium -----	2,332
Other countries -----	2,092
Total -----	150,100

Duty on Imported Cattle.—For breeding purposes and if pure bred or property of immigrants, free. Cattle less than one year old, \$2.00 per head; all others not exceeding \$14.00 in value, \$3.75 per head; over \$14.00 in value, 27½ per cent ad valorem.

SHEEP.

Year.	Number January 1st.	Average farm price January 1st.	Farm value January 1st.
1869	2,200,400	\$2 53	\$5,567,012
1870	3,750,000	2 56	9,600,000
1871	3,636,000	2 59	9,417,000
1872	3,672,300	2 78	10,208,994
1873	4,002,800	2 97	11,888,316
1874	4,683,200	2 31	10,818,192
1875	4,683,200	2 53	11,848,496
1876	6,750,000	2 02	13,635,000
1877	7,290,000	1 40	10,206,000
1878	6,561,000	1 52	9,972,720
1879	6,889,000	1 61	11,091,290
1880	7,646,800	1 62	12,387,816
1881	7,493,864	1 70	12,739,569
1882	6,352,344	1 65	10,481,368
1883	5,907,680	2 02	11,933,514
1884	6,203,064	1 90	11,785,822
1885	5,892,911	1 89	11,137,602
1886	6,069,698	1 81	10,961,268
1887	6,069,698	1 77	10,728,192
1888	5,462,728	1 88	10,291,779
1889	3,956,000	1 88	7,453,104
1890	4,035,120	2 08	8,409,190
1891	3,712,310	2 20	8,157,801
1892	4,083,541	2 42	9,884,211
1893	4,124,376	2 32	9,559,479
1894	3,918,157	1 81	7,074,625
1895	3,526,341	1 65	5,817,052
1896	2,962,126	1 85	5,483,784
1897	2,577,050	1 86	4,800,787
1898	2,589,935	2 23	5,785,915
1899	2,175,545	2 64	5,742,352
1900	2,001,501	2 85	5,710,282
1901	2,342,923	3 00	7,033,221
1902	2,319,494	2 90	6,729,085
1903	2,365,884	2 92	6,915,716
1904	2,271,249	2 75	6,237,758
1905	2,180,399	2 67	5,824,718
1906	2,398,439	3 03	7,273,266
1907	2,422,423	3 30	8,006,107
1908	2,422,000	3 47	8,404,000
1909	2,325,000	2 80	6,510,000
1910	2,683,000	3 59	9,632,000
1911	2,656,000	3 60	9,562,000
1912	2,603,000	3 70	9,631,000

Sheep Imported.

Year.	For breeding purposes.		Other sheep.		Total sheep.	
	Number.	Value.	Number.	Value.	Number.	Value.
1902	2,059	\$46,663	264,894	\$910,047	266,953	\$956,710
1903	1,737	38,037	299,886	998,897	301,623	1,036,934
1904	1,253	23,298	236,841	791,991	238,094	815,289
1905	2,200	45,319	184,742	659,402	186,942	704,721
1906	2,679	53,951	238,068	966,408	240,747	1,020,359
1907	3,081	67,555	221,717	1,052,870	224,798	1,120,425
1908	5,609	104,509	219,156	978,097	224,765	1,082,606
1909	4,860	89,272	97,803	413,368	102,663	502,640
1910	6,335	135,019	119,817	561,860	126,152	696,879
1911	5,341	116,277	48,114	261,348	53,455	377,625
1912	2,208	29,106	21,380	128,151	23,588	157,257

Export of Domestic Sheep.

Year.	Number.	Value.
1902 -----	358,720	\$1,940,060
1903 -----	176,961	1,067,860
1904 -----	301,313	1,954,604
1905 -----	268,365	1,687,321
1906 -----	142,690	804,090
1907 -----	135,344	750,242
1908 -----	101,000	589,285
1909 -----	67,656	365,155
1910 -----	44,517	209,000
1911 -----	121,491	636,272
1912 -----	157,263	626,985

Sheep Imported in 1911 from—

For breeding purposes (duty free).		Other sheep.	
Country.	Number.	Country.	Number.
Europe -----	1,030	Canada -----	44,590
Europe -----	1,030	Mexico -----	3,050
		United Kingdom -----	474
Total -----	5,341	Total -----	48,114

Sheep Exported in 1911 to—

Country.	Number.
Canada -----	78,293
United Kingdom -----	37,038
Mexico -----	2,097
Bermuda -----	1,384
Belgium -----	1,065
Other countries -----	1,614
Total -----	121,491

Duty on Imported Sheep.—For breeding purposes and if pure bred or property of immigrants, free; one year old or over, \$1.50 per head; less than one year, 75 cents.

SWINE.

Year.	Number January 1st.	Average farm price January 1st.	Farm value January 1st.
1869	429,007	\$5 52	\$2,368,118
1870	750,000	4 47	3,352,500
1871	459,000	5 94	2,726,460
1872	440,600	5 05	2,225,080
1873	427,300	6 11	2,610,803
1874	448,600	6 16	2,763,376
1875	403,700	5 77	2,329,349
1876	363,300	7 17	2,604,861
1877	417,700	6 20	2,589,740
1878	438,500	6 27	2,749,395
1879	565,000	5 95	3,361,750
1880	661,000	3 97	2,624,170
1881	667,600	4 98	3,324,648
1882	585,443	6 20	3,629,747
1883	856,000	7 14	6,111,840
1884	950,160	5 66	5,377,906
1885	978,665	5 80	5,676,257
1886	1,027,598	4 15	4,266,586
1887	1,017,322	3 78	3,841,409
1888	1,047,842	4 62	4,836,000
1889	647,000	5 59	3,616,213
1890	647,000	4 91	3,175,476
1891	517,600	5 26	2,723,611
1892	512,424	5 35	2,741,675
1893	399,691	6 12	2,446,110
1894	435,663	5 57	2,427,342
1895	487,943	5 54	2,702,812
1896	507,461	4 03	2,045,677
1897	487,163	4 13	2,013,738
1898	467,676	4 08	1,906,247
1899	374,141	4 47	1,673,907
1900	329,244	6 26	2,061,068
1901	521,906	6 61	3,449,172
1902	506,249	6 79	3,439,457
1903	511,311	7 63	3,901,303
1904	526,650	6 55	3,449,558
1905	521,384	6 10	3,180,442
1906	573,522	5 45	3,125,695
1907	550,581	7 10	3,909,125
1908	551,000	7 20	3,967,000
1909	562,000	6 50	3,653,000
1910	790,000	9 50	7,505,000
1911	830,000	8 30	6,889,000
1912	822,000	9 20	9,631,000

Swine Exported.*

Year.	Number.	Value.
1902	8,368	\$88,330
1903	4,031	40,923
1904	6,345	53,780
1905	44,496	416,692
1906	59,170	630,998
1907	24,262	309,440
1908	30,818	307,202
1909	18,655	144,605
1910	4,410	46,955
1911	8,551	74,032
1912	19,038	159,370

*Swine imported are not given separately, but included under "All Other" Animals.

Duty on Imported Swine.—For breeding purposes and if pure bred or property of immigrants, free; all others \$1.50 per head.

Swine Imported.

(Included under "All Other" Animals.)

TABLE IX.
Horses and Colts by Counties, 1900.*

Counties.	Horses.	Colts.	Counties.	Horses.	Colts.
Alameda	11,037	1,400	Placer	3,442	264
Alpine	214	32	Plumas	2,055	338
Amador	2,530	302	Riverside	6,314	683
Butte	5,760	409	Sacramento	10,645	1,351
Calaveras	2,694	304	San Benito	6,417	874
Colusa	4,037	359	San Bernardino	5,168	521
Contra Costa	9,606	1,273	San Diego	8,869	862
Del Norte	476	76	San Francisco	1,135	16
El Dorado	2,512	238	San Joaquin	16,099	1,629
Fresno	16,991	1,826	San Luis Obispo	11,903	1,492
Glenn	3,427	251	San Mateo	3,029	315
Humboldt	5,500	695	Santa Barbara	8,462	1,268
Imperial			Santa Clara	13,252	1,234
Inyo	3,811	670	Santa Cruz	4,471	386
Kern	10,336	1,551	Shasta	4,079	545
Kings	6,721	845	Sierra	879	175
Lake	2,626	343	Siskiyou	7,737	1,095
Lassen	9,038	2,718	Solano	7,160	757
Los Angeles	20,150	1,944	Sonoma	12,403	1,234
Madera	3,276	520	Stanislaus	8,178	893
Marin	2,402	217	Sutter	4,846	452
Mariposa	2,025	241	Tehama	5,265	629
Mendocino	5,488	684	Trinity	992	149
Merced	8,676	1,378	Tulare	15,283	1,939
Modoc	13,115	3,966	Tuolumne	2,193	134
Mono	2,018	522	Ventura	8,546	888
Monterey	14,399	1,689	Yolo	6,747	909
Napa	5,164	605	Yuba	3,391	263
Nevada	1,856	128			
Orange	7,672	899	Totals	373,605	47,688

TABLE X.
Mules and Colts by Counties, 1900.*

Counties.	Mules.	Colts.	Counties.	Mules.	Colts.
Alameda	616	75	Placer	436	61
Alpine	7	1	Plumas	63	14
Amador	433	40	Riverside	570	104
Butte	3,631	264	Sacramento	1,128	94
Calaveras	115	8	San Benito	119	45
Colusa	4,769	554	San Bernardino	272	18
Contra Costa	653	48	San Diego	654	94
Del Norte	15		San Francisco	26	
El Dorado	104	7	San Joaquin	4,599	446
Fresno	4,008	580	San Luis Obispo	616	106
Glenn	4,365	426	San Mateo	27	4
Humboldt	416	22	Santa Barbara	437	55
Imperial			Santa Clara	237	14
Inyo	198	93	Santa Cruz	74	3
Kern	2,391	678	Shasta	364	70
Kings	1,093	236	Sierra	43	
Lake	251	66	Siskiyou	916	194
Lassen	446	334	Solano	2,211	374
Los Angeles	2,564	292	Sonoma	379	55
Madera	2,697	266	Stanislaus	7,570	839
Marin	8	10	Sutter	2,830	404
Mariposa	315	53	Tehama	2,429	596
Mendocino	559	30	Trinity	207	13
Merced	5,160	802	Tulare	2,742	431
Modoc	878	933	Tuolumne	176	32
Mono	162	166	Ventura	527	46
Monterey	304	66	Yolo	4,938	761
Napa	654	177	Yuba	933	248
Nevada	95	18			
Orange	761	110	Totals	73,269	11,504

*Not including animals in barns and enclosures.

TABLE XI.
Horses and Mules by Counties, 1910.

Counties.	Mature horses.	Yearling colts.	Spring colts.	Total.	Mature mules.	Yearling colts.	Spring colts.	Total.
Alameda	9,266	842	536	10,644	223	4		227
Alpine	376	38	12	426	18			18
Amador	2,291	218	176	2,685	212	10	17	239
Butte	6,608	645	402	7,655	1,719	151	91	1,961
Calaveras	3,143	302	203	3,648	25	13	25	63
Colusa	3,992	481	259	4,732	4,607	437	247	5,291
Contra Costa	9,494	1,095	644	11,233	564	63	24	651
Del Norte	382	45	14	441	3			3
El Dorado	2,274	180	90	2,544	93	9	10	112
Fresno	22,063	1,899	1,047	25,009	3,498	298	183	3,979
Glenn	3,319	339	262	3,946	3,033	207	122	3,362
Humboldt	5,851	421	131	6,403	189			189
Imperial	6,277	580	372	7,229	1,583	69	20	1,672
Inyo	4,074	555	403	5,032	249	55	33	337
Kern	8,670	987	530	10,347	1,099	103	46	1,248
Kings	9,417	1,174	882	11,473	855	142	72	1,069
Lake	2,172	216	104	2,492	182	45	36	263
Lassen	7,548	1,400	561	9,515	414	185	103	702
Los Angeles	20,375	1,376	673	22,424	2,459	76	35	2,570
Madera	3,498	334	238	4,070	2,928	154	59	3,141
Marin	2,338	166	54	2,558	11			11
Mariposa	1,896	218	126	2,240	201	46	49	296
Mendocino	5,300	510	184	5,994	298	10	1	309
Merced	10,308	1,453	795	12,556	3,673	198	204	4,075
Modoc	12,247	2,212	976	*15,636	565	441	126	1,132
Mono	1,655	310	132	2,097	73	46	17	136
Monterey	14,172	1,993	1,268	*17,444	546	66	30	642
Napa	5,145	528	237	5,910	345	18	9	372
Nevada	1,830	124	70	*2,074	57	11		68
Orange	9,580	760	225	10,565	2,223	38	7	2,268
Placer	3,762	294	137	4,193	459	13	26	498
Plumas	1,770	206	68	2,044	41	2	43	43
Riverside	8,969	913	403	10,315	1,303	83	43	1,429
Sacramento	8,770	773	426	9,969	703	30	10	743
San Benito	6,921	955	539	8,415	1,175	71	3	96
San Diego	6,340	422	167	6,929	257	18	3	278
San Francisco	6,340	1,340	105	7,785	257	18	3	278

	318	1	319							
San Francisco	18,256	1,597	*20,972	3,169	217	144	3,530			
San Joaquin	12,601	1,686	15,274	754	83	40	877			
San Luis Obispo	3,940	253	4,295	10	2		12			
San Mateo	10,621	1,442	13,034	362	56	25	443			
Santa Barbara	14,405	899	15,816	267	7		274			
Santa Clara	3,914	260	4,290	84	4		88			
Santa Cruz	4,516	488	5,217	224	57	13	294			
Shasta	1,199	155	1,394	20			20			
Sierra	7,690	1,037	9,150	390	76	37	503			
Siskiyou	6,993	695	8,050	2,157	84	78	2,319			
Solano	12,611	733	13,728	388	8	2	398			
Sonoma	11,818	1,120	*14,357	5,032	236	174	5,442			
Stanislaus	4,869	587	5,684	1,922	107	67	2,096			
Sutter	5,073	525	5,876	1,409	163	103	1,675			
Tehama	1,150	117	1,306	142	19	7	168			
Trinity	18,917	2,003	*22,200	3,149	288	218	3,655			
Tulare	2,053	242	2,491	76	7	8	91			
Tuolumne	9,955	906	*11,480	2,250	66	46	2,362			
Ventura	7,127	814	8,315	3,501	265	189	3,955			
Yolo	2,803	288	3,244	726	48	26	800			
Yuba										
Totals	402,584	41,927	23,037	*468,886	61,997	2,851	69,761			

*Includes animals, age or sex not specified.

TABLE XII.

Cows and Cattle by Counties, 1900.*

(All ages.)

Counties.	Cows.	Other cattle.	Counties.	Cows.	Other cattle.
Alameda -----	8,331	15,972	Placer -----	2,101	4,491
Alpine -----	395	1,875	Plumas -----	3,772	14,260
Amador -----	1,893	14,014	Riverside -----	3,563	8,642
Butte -----	2,666	16,853	Sacramento -----	8,798	13,847
Calaveras -----	1,457	12,245	San Benito -----	3,996	18,759
Colusa -----	1,717	8,822	San Bernardino -----	3,744	8,737
Contra Costa -----	6,091	14,647	San Diego -----	5,839	38,286
Del Norte -----	3,340	3,755	San Francisco -----	5,005	491
El Dorado -----	2,625	8,056	San Joaquin -----	7,943	21,438
Fresno -----	13,697	75,000	San Luis Obispo -----	10,510	36,064
Glenn -----	1,346	10,183	San Mateo -----	7,956	8,312
Humboldt -----	21,122	39,975	Santa Barbara -----	8,607	34,747
Imperial -----			Santa Clara -----	7,380	27,937
Inyo -----	1,575	11,119	Santa Cruz -----	4,636	4,753
Kern -----	2,969	89,571	Shasta -----	2,671	16,591
Kings -----	3,372	16,599	Sierra -----	1,340	5,968
Lake -----	1,930	17,931	Siskiyou -----	5,655	32,859
Lassen -----	3,187	41,719	Solano -----	5,648	11,711
Los Angeles -----	16,545	20,302	Sonoma -----	21,337	23,982
Madera -----	1,089	10,163	Stanislaus -----	4,427	17,019
Marin -----	27,345	12,167	Sutter -----	2,749	6,802
Mariposa -----	771	7,183	Tehama -----	2,110	18,830
Mendocino -----	6,007	23,769	Trinity -----	701	7,992
Merced -----	4,079	63,818	Tulare -----	6,959	42,620
Modoc -----	2,585	53,067	Tuolumne -----	1,499	8,788
Mono -----	515	20,840	Ventura -----	2,504	11,445
Monterey -----	9,579	41,720	Yolo -----	5,946	13,078
Napa -----	4,432	9,829	Yuba -----	1,470	7,268
Nevada -----	1,853	5,435			
Orange -----	5,690	14,549	Totals -----	307,245	1,137,379

*Not including animals in barns and enclosures.

TABLE XIII.
Cattle by Counties in 1910.

Counties.	Dairy cows.	Other cows.	Yearling heifers.	Calves.	Yearling steers and bulls.	Other steers and bulls.	Total.
Alameda -----	9,172	5,827	2,609	4,113	1,107	1,491	*24,319
Alpine -----	759	661	485	426	400	23	2,754
Amador -----	2,747	7,985	2,175	3,444	1,970	3,945	22,266
Butte -----	4,713	8,359	2,605	3,772	2,109	4,660	*26,584
Calaveras -----	1,824	8,407	2,432	3,355	2,057	2,902	20,977
Colusa -----	3,128	6,571	2,140	2,606	1,556	2,619	*18,750
Contra Costa -----	9,469	6,567	3,240	4,479	1,123	1,651	26,529
Del Norte -----	3,575	620	849	1,306	273	234	6,857
El Dorado -----	2,823	4,338	1,683	2,154	1,138	912	13,048
Fresno -----	22,241	42,001	13,117	12,682	15,354	22,230	127,625
Glenn -----	3,688	3,601	1,410	2,409	1,925	2,051	*16,214
Humboldt -----	21,572	7,837	5,531	8,334	3,413	6,590	*53,775
Imperial -----	9,653	2,728	2,560	2,772	1,379	1,817	*22,741
Inyo -----	2,267	8,970	2,583	2,255	2,445	1,788	20,308
Kern -----	6,917	38,101	8,441	7,372	6,459	24,271	*118,320
Kings -----	18,593	21,655	7,281	8,793	3,745	14,908	74,975
Lake -----	1,487	2,113	821	1,133	574	1,286	7,414
Lassen -----	2,890	18,444	5,975	4,906	5,456	6,161	43,832
Los Angeles -----	20,524	8,027	5,561	6,211	1,666	1,106	43,095
Madera -----	1,592	12,406	2,425	2,975	2,252	3,946	*27,905
Marin -----	24,803	3,564	2,880	6,509	567	641	*39,266
Mariposa -----	905	7,477	1,602	2,115	1,683	2,876	*16,671
Mendocino -----	6,454	9,280	3,054	3,980	2,503	4,883	30,154
Merced -----	19,678	43,250	14,858	14,625	11,036	34,767	*150,467
Modoc -----	2,903	18,502	6,937	4,608	6,517	7,449	46,916
Mono -----	450	2,270	803	666	685	427	5,301
Monterey -----	14,066	27,626	11,046	13,806	7,502	13,133	*88,889
Napa -----	6,270	3,945	1,403	2,518	758	937	*15,866
Nevada -----	2,395	2,950	832	1,069	495	865	8,606
Orange -----	6,184	4,473	2,124	2,231	1,168	2,040	18,220
Placer -----	2,421	2,283	602	1,204	428	532	*7,510
Plumas -----	3,437	1,954	1,561	1,586	1,468	1,395	11,401
Riverside -----	5,235	4,449	2,493	2,203	1,333	3,755	19,468
Sacramento -----	11,979	5,484	3,195	5,568	1,529	1,961	*31,188
San Benito -----	4,828	11,064	4,459	5,864	4,151	8,987	*39,703
San Bernardino -----	3,043	4,389	1,075	926	481	2,847	12,761
San Diego -----	10,633	15,815	7,874	8,088	6,490	9,877	58,777
San Francisco -----	1,645	10	581	174	75	25	2,510
San Joaquin -----	11,904	6,861	3,636	4,960	1,937	1,998	31,296
San Luis Obispo -----	24,193	22,903	10,345	15,635	8,948	33,180	*118,704
San Mateo -----	8,119	2,305	1,848	2,375	369	272	15,288
Santa Barbara -----	11,690	23,752	6,891	11,524	8,666	24,578	*87,576
Santa Clara -----	12,181	12,251	4,449	5,443	3,133	7,552	*46,030
Santa Cruz -----	4,210	1,811	1,113	1,779	438	749	10,100
Shasta -----	2,923	15,433	3,678	3,308	3,197	5,580	34,119
Sierra -----	1,563	2,268	850	874	831	1,401	7,787
Siskiyou -----	7,018	14,781	5,965	4,919	5,359	6,513	*45,079
Solano -----	9,279	4,257	1,933	3,720	1,187	1,408	21,784
Sonoma -----	24,961	5,835	4,804	9,517	1,805	1,705	*48,727
Stanislaus -----	20,678	9,047	5,294	7,252	2,922	3,765	*49,132
Sutter -----	6,728	3,254	1,939	2,623	1,012	823	*16,604
Tehama -----	3,462	10,691	2,646	3,520	2,590	2,400	25,309
Trinity -----	804	5,143	1,415	1,126	1,308	2,089	11,885
Tulare -----	26,765	29,478	11,911	16,092	8,784	10,429	*104,484
Tuolumne -----	1,773	8,415	2,040	2,977	1,531	1,223	*18,659
Ventura -----	2,666	5,887	2,139	2,442	2,095	10,850	*29,929
Yolo -----	7,197	3,761	2,654	2,649	1,194	1,522	18,977
Yuba -----	2,255	4,773	1,628	1,827	1,152	1,959	13,594
Totals -----	467,332	576,909	218,480	267,799	163,728	321,984	2,077,025

*Includes animals, age or sex not specified.

TABLE XIV.
Sheep and Lambs by Counties, 1900.

Counties.	Sheep.	Lambs.	Counties.	Sheep.	Lambs.
Alameda	25,051	10,666	Placer	23,454	8,978
Alpine	1,080	650	Plumas	3,059	1,639
Amador	3,448	679	Riverside	11,990	5,361
Butte	52,207	31,159	Sacramento	26,331	16,844
Calaveras	16,050	8,223	San Benito	7,421	6,829
Colusa	13,351	10,166	San Bernardino	6,163	4,922
Contra Costa	13,571	6,195	San Diego	9,531	2,515
Del Norte	1,360	273	San Francisco	1	23
El Dorado	2,666	563	San Joaquin	27,365	17,345
Fresno	136,349	63,142	San Luis Obispo	7,092	3,599
Glenn	30,069	17,685	San Mateo	794	292
Humboldt	126,037	34,318	Santa Barbara	45,821	14,587
Imperial			Santa Clara	3,280	144
Inyo	41,822	20,214	Santa Cruz	979	454
Kern	125,491	51,781	Shasta	15,212	9,078
Kings	88,438	32,795	Sierra	1,154	572
Lake	5,130	2,681	Siskiyou	11,948	6,999
Lassen	19,824	61,762	Solano	41,347	18,573
Los Angeles	48,517	17,405	Sonoma	36,013	13,113
Madera	17,167	11,980	Stanislaus	22,763	12,371
Marin	417	180	Sutter	36,548	21,434
Mariposa	6,456	550	Tehama	171,925	90,168
Mendocino	141,287	52,367	Trinity	6,531	1,727
Merced	79,630	24,464	Tulare	40,349	26,600
Modoc	35,000	24,293	Tuolumne	2,085	940
Mono	20,660	9,042	Ventura	2,203	502
Monterey	6,907	2,428	Yolo	41,590	23,844
Napa	3,406	1,232	Yuba	23,180	14,448
Nevada	2,061	1,081			
Orange	35,387	16,570	Totals	1,724,968	838,385

TABLE XV.
Swine by Counties, 1890-1910.

Counties.	1890.	1910.	Counties.	1890.	1910.
Alameda	7,219	7,844	Placer	4,110	3,146
Alpine	175	158	Plumas	1,423	1,831
Amador	9,827	5,219	Riverside		1,847
Butte	15,273	12,162	Sacramento	15,528	11,264
Calaveras	2,833	2,935	San Benito	6,902	6,090
Colusa	39,247	22,201	San Bernardino	3,923	1,176
Contra Costa	11,473	8,303	San Diego	11,774	4,438
Del Norte	1,628	1,563	San Francisco	372	942
El Dorado	3,163	3,311	San Joaquin	24,663	21,754
Fresno	18,737	30,987	San Luis Obispo	19,218	17,390
Glenn		14,772	San Mateo	4,994	3,319
Humboldt	14,179	18,458	Santa Barbara	16,749	12,741
Imperial			Santa Clara	9,739	7,670
Inyo	1,758	2,588	Santa Cruz	5,019	5,163
Kern	11,678	17,124	Shasta	14,257	26,553
Kings		21,064	Sierra	276	573
Lake	9,529	12,385	Siskiyou	7,732	9,157
Lassen	2,906	6,027	Solano	18,322	12,698
Los Angeles	20,311	13,801	Sonoma	21,797	16,812
Madera		4,352	Stanislaus	11,913	13,003
Marin	11,282	9,149	Sutter	14,086	12,753
Mariposa	7,956	5,831	Tehama	22,240	23,277
Mendocino	16,376	29,661	Trinity	1,803	8,393
Merced	12,298	12,204	Tulare	37,371	31,972
Modoc	3,359	9,134	Tuolumne	2,639	3,036
Mono	345	245	Ventura	11,158	8,883
Monterey	27,688	16,524	Yolo	19,873	18,336
Napa	8,628	8,999	Yuba	8,899	6,407
Nevada	1,795	1,656			
Orange	8,956	6,035	Totals	584,899	598,336

TABLE XVI.

Sheep, Lambs, and Swine, 1910.

Counties.	Rams, ewes and wethers.	Spring lambs.	Total.	Mature hogs.	Spring pigs.	Total.
Alameda	5,680	3,507	9,187	3,640	2,770	6,410
Alpine	9,832	6,808	16,640	309	208	517
Amador	3,919	2,726	6,645	3,623	1,673	5,296
Butte	29,137	15,940	45,077	9,317	5,016	14,333
Calaveras	10,145	5,215	15,360	2,588	1,586	4,174
Colusa	39,801	24,791	64,592	17,646	10,418	28,064
Contra Costa	14,132	5,463	19,595	3,887	3,054	6,941
Del Norte	1,341	500	1,841	1,153	617	1,770
El Dorado	1,763	1,399	3,162	1,428	973	2,401
Fresno	94,757	47,254	142,011	20,134	13,016	33,150
Glenn	70,210	41,153	111,363	12,483	5,827	18,310
Humboldt	62,423	24,650	87,073	7,688	4,945	12,633
Imperial	13,786	9,553	23,339	45,764	24,798	70,562
Inyo	17,240	26,106	43,346	1,795	1,560	3,355
Kern	19,801	10,516	30,317	13,376	7,137	20,513
Kings	40,483	21,891	62,374	22,775	17,858	40,633
Lake	7,436	3,511	10,947	5,801	2,737	8,038
Lassen	42,490	30,225	72,725	3,079	1,955	5,034
Los Angeles	22,261	8,830	31,091	18,418	10,524	28,942
Madera	6,269	3,837	10,106	4,444	2,409	6,853
Marin	1,930	1,025	2,955	8,812	7,287	16,099
Mariposa	877	304	1,181	6,160	2,722	8,882
Mendocino	88,760	41,010	129,770	14,600	7,469	22,069
Merced	28,044	11,724	39,768	19,414	10,121	29,535
Modoc	46,078	30,484	76,562	5,328	3,160	8,488
Mono	40,805	22,241	63,046	179	244	423
Monterey	17,029	11,845	28,874	12,567	7,464	20,031
Napa	5,794	5,084	10,878	5,160	3,184	8,344
Nevada	6,853	4,309	11,162	1,067	749	1,816
Orange	31,802	11,876	43,678	2,265	2,183	4,448
Placer	15,142	9,326	24,468	1,822	1,565	3,387
Plumas	845	314	1,159	665	744	1,409
Riverside	5,589	1,420	7,009	3,892	2,258	6,150
Sacramento	25,828	21,129	46,957	6,421	4,084	10,455
San Benito	10,635	4,511	15,146	5,572	2,560	8,132
San Bernardino	7	-----	7	2,562	1,187	3,749
San Diego	220	69	289	4,261	3,130	7,391
San Francisco	3	-----	3	181	100	281
San Joaquin	14,807	10,012	24,819	13,473	9,981	23,454
San Luis Obispo	54,717	32,236	86,953	11,750	6,118	17,868
San Mateo	767	562	1,329	8,692	3,990	12,682
Santa Barbara	60,205	20,328	80,533	15,113	6,960	22,073
Santa Clara	4,449	5,606	10,055	4,165	3,184	7,349
Santa Cruz	876	703	1,579	2,165	1,509	3,674
Shasta	11,449	5,574	17,023	12,832	5,968	18,800
Sierra	3,005	93	3,098	370	294	664
Siskiyou	18,013	11,909	29,922	6,116	3,396	9,512
Solano	96,921	73,232	170,153	8,836	4,732	13,568
Sonoma	44,095	21,220	65,315	10,995	7,428	18,423
Stanislaus	15,874	7,378	23,252	13,610	9,417	23,027
Sutter	51,135	38,530	89,665	9,121	6,008	15,129
Tehama	185,023	112,713	297,736	10,915	4,025	14,940
Trinity	2,732	1,081	3,813	2,594	1,457	4,051
Tulare	14,014	7,170	21,184	23,942	14,250	38,192
Tuolumne	1,795	671	2,466	2,590	1,303	3,893
Ventura	16,113	15,658	31,771	6,984	3,514	10,498
Yolo	49,807	29,639	79,446	15,483	8,714	24,197
Yuba	40,344	27,318	67,662	3,288	2,251	5,539
Totals	1,525,288	892,189	2,417,477	482,810	283,741	766,551

TABLE XVII.

Goats, Wool, Mohair, and Goat Hair.

Counties.	Number of goats, 1900.	Number of goats, 1910.	Number of wool fleeces shorn, 1910.	Mohair and goat hair fleeces shorn, 1910.	Value of wool and mohair produced, 1910.
Alameda	66	64	5,783		\$4,930
Alpine		10	6,790		9,561
Amador	1,584	1,597	7,253	449	5,882
Butte	1,562	3,215	38,261	1,749	33,591
Calaveras	1,142	3,348	15,677	517	11,551
Colusa	4,289	2,154	73,221	4,009	56,629
Contra Costa	79	17	14,715		10,888
Del Norte		465	1,238	40	2,070
El Dorado	591	3,315	3,808	933	3,594
Fresno	517	4,558	107,802	1,900	109,982
Glenn	4,571	2,813	131,612	5,177	101,749
Humboldt	920	3,747	85,212	2,540	104,430
Imperial		147	12,755	26	17,067
Inyo	8,382	2,846	17,847	505	27,761
Kern	3,364	980	24,177	355	26,540
Kings	870	507	73,393	26	58,836
Lake	10,512	9,018	10,372	6,603	12,922
Lassen	45	586	36,768	2,088	55,154
Los Angeles	13,580	8,238	31,754	230	32,366
Madera	83	278	4,905	60	2,272
Marin	25	147	2,823		2,816
Mariposa	1,026	981	355	154	376
Mendocino	3,627	3,927	149,260	2,315	158,918
Merced	1,878	5,246	46,908	8,400	39,400
Modoc	1,280	549	39,538	1,356	55,583
Mono	651	25	29,160		41,209
Monterey	3,127	3,983	24,884	3,000	26,549
Napa	632	556	9,955	153	7,196
Nevada	989	2,198	10,607	1,043	8,382
Orange	396	423	62,072		51,474
Placer	945	1,542	28,841	177	21,728
Plumas	23	10	593		767
Riverside	384	924	1,536	13	2,600
Sacramento	67	89	41,108	7	35,449
San Benito	139	489	19,457	33	18,974
San Bernardino	126	81			
San Diego	2,290	1,147	155	60	195
San Francisco	19	9	3		4
San Joaquin	132	260	20,477	37	14,114
San Luis Obispo	1,502	7,390	64,719	4,758	52,868
San Mateo	363	154	1,013	26	1,162
Santa Barbara	1,118	558	27,787	68	26,308
Santa Clara	5,143	163	4,765		3,596
Santa Cruz	1,505	1,043	799	630	1,444
Shasta	8,792	18,403	17,862	11,606	25,705
Sierra	104	73	2,333		3,940
Siskiyou	3,772	384	14,975	134	23,088
Solano	56	392	157,499	3	161,312
Sonoma	1,544	2,991	75,925	2,330	74,951
Stanislaus	159	217	22,837	50	22,700
Sutter	173	511	149,821	800	110,738
Tehama	10,667	28,473	336,373	36,119	349,689
Trinity	108	845	2,603	44	1,892
Tulare	1,190	2,979	33,150	510	35,218
Tuolumne	1,119	1,609	1,408	177	996
Ventura	1,022	621	21,465	400	14,306
Yolo	322	716	82,602	316	76,497
Yuba	298	502	63,383	208	45,777
Indian reservation	151				
Totals	109,021	138,413	2,275,389	102,134	\$2,205,928

States Leading in Number of Animals on Farms in the United States, 1910.

(According to value.)

Rank.	All live stock.	All cattle.	Dairy cows.	Horses, mules, and asses and burros.	Swine.	Sheep and goats.
1	Iowa	Texas	New York	Texas	Iowa	Wyoming
2	Texas	Iowa	Wisconsin	Illinois	Illinois	Montana
3	Illinois	Kansas	Iowa	Iowa	Missouri	Ohio
4	Missouri	Nebraska	Minnesota	Missouri	Indiana	New Mexico
5	Kansas	Wisconsin	Illinois	Kansas	Nebraska	Idaho
5	Nebraska	Missouri	Texas	Nebraska	Ohio	Texas
7	Ohio	Illinois	Pennsylvania	Oklahoma	Kansas	Oregon
8	New York	New York	Ohio	Ohio	Texas	California
9	Indiana	Minnesota	Missouri	Indiana	Oklahoma	Michigan
10	Minnesota	California	Michigan	Minnesota	Wisconsin	Missouri

Number of Domestic Animals in the United States, 1910.

Description.	Number.	Value.
Horses -----	19,833,113	\$2,083,588,195
Mules -----	4,209,769	525,391,863
Asses and burros -----	105,698	13,200,112
Totals -----	24,148,580	\$2,622,180,170
Cattle -----	61,803,866	1,499,523,607
Sheep -----	52,447,861	232,841,585
Swine -----	58,185,676	399,338,308
Goats -----	2,915,125	6,176,423
Totals -----	199,501,108	\$4,760,060,093

TABLE XVIII

Counties.	Domestic animals on farms and				
	Horses and colts.	Cattle.	Mules and colts.	Asses and burros.	Swine, all ages.
Alameda	10,644	24,319	227	3	6,410
Alpine	426	2,754	18	14	517
Amador	2,685	22,266	239	23	5,296
Butte	7,655	*26,584	1,961	18	14,333
Calaveras	3,648	20,977	63	27	4,174
Colusa	4,732	*18,750	5,291	65	28,064
Contra Costa	11,233	26,529	651	6	6,941
Del Norte	441	6,857	3	-----	1,770
El Dorado	2,544	13,048	112	17	2,401
Fresno	25,009	127,625	3,979	101	33,150
Glenn	*3,946	*16,214	3,362	29	18,310
Humboldt	6,403	*53,775	189	11	12,633
Imperial	7,229	*22,741	1,672	56	70,562
Inyo	5,032	20,308	337	309	3,355
Kern	*10,347	*118,320	1,248	130	20,513
Kings	11,473	74,975	1,069	23	40,633
Lake	2,492	7,414	263	10	8,038
Lassen	9,515	43,832	702	119	5,034
Los Angeles	22,424	43,095	2,570	84	28,942
Madera	4,070	*27,905	3,141	49	6,853
Marin	2,558	*39,266	11	-----	16,099
Mariposa	2,240	*16,671	296	83	8,882
Mendocino	5,994	30,154	309	29	22,069
Merced	12,556	*150,467	4,075	107	29,535
Modoc	*15,636	46,916	1,132	98	8,488
Mono	2,097	5,301	136	62	423
Monterey	*17,444	*88,889	642	26	20,031
Napa	5,910	*15,866	372	10	8,344
Nevada	*2,074	8,606	68	10	1,816
Orange	10,565	18,220	2,268	25	4,448
Placer	4,193	*7,510	498	66	3,387
Plumas	2,044	11,401	43	5	1,409
Riverside	10,315	19,468	1,429	88	6,150
Sacramento	9,969	*31,188	743	19	10,455
San Benito	8,475	*39,703	96	29	8,132
San Bernardino	6,878	12,761	778	88	3,749
San Diego	11,498	58,777	766	181	7,391
San Francisco	319	2,510	-----	-----	281
San Joaquin	*20,972	31,296	3,530	62	23,454
San Luis Obispo	15,274	*118,704	877	19	17,868
San Mateo	4,295	15,288	12	2	12,682
Santa Barbara	13,034	*87,576	443	24	22,073
Santa Clara	15,816	*46,030	274	11	7,349
Santa Cruz	4,290	10,100	88	6	3,674
Shasta	5,217	34,119	294	23	18,800
Sierra	1,394	7,787	20	4	664
Siskiyou	9,150	*45,079	503	22	9,512
Solano	8,050	21,784	2,319	23	13,568
Sonoma	13,728	*48,727	398	28	18,423
Stanislaus	*14,357	*49,132	5,442	31	23,027
Sutter	5,684	*16,604	2,096	20	15,129
Tehama	5,876	25,309	1,675	23	14,949
Trinity	1,306	11,885	168	8	4,051
Tulare	*22,200	*104,484	3,655	103	38,132
Tuolumne	2,491	*18,659	91	26	3,896
Ventura	*11,480	*29,929	2,362	60	10,438
Yolo	8,315	18,977	3,955	46	24,197
Yuba	3,244	13,594	800	31	5,538
Totals	*468,886	*2,077,025	69,761	2,592	766,531

*Including animals, age or sex not specified.

SUMMARY.

Ranges, 1910.		Domestic animals in inclosures (not on farms), 1910.				
Sheep, rams, ewes, wethers and lambs.	Goats.	Cattle.	Horses.	Mules, asses and burros.	Swine.	Sheep and goats.
9,187	64	2,938	11,439	289	429	3,065
16,640	10	7	16	2	5	22
6,645	1,597	303	492	34	56	-----
45,077	3,215	686	1,835	16	201	23
15,360	3,348	1,056	746	22	107	32
64,592	2,154	479	726	291	172	131
19,595	17	726	1,378	48	103	92
1,841	465	75	114	1	1	-----
3,162	3,315	709	473	20	137	-----
142,011	4,558	1,428	4,525	674	341	58
111,363	2,813	313	694	115	43	5
87,073	3,747	1,363	1,549	20	1,132	165
23,339	147	244	1,278	559	878	435
43,346	2,846	315	902	761	140	16,111
30,317	930	820	3,565	1,482	108	7,597
62,374	507	243	1,005	24	124	5
10,947	9,018	365	395	24	193	34
72,725	586	7,528	25,297	3,425	807	3,025
31,091	8,238	313	743	26	87	18,064
10,106	278	155	436	76	30	1
2,955	147	361	1,227	81	1	26
1,181	931	42	256	75	-----	-----
129,770	3,927	806	1,280	27	348	4
39,768	5,246	130	520	30	69	11,028
76,562	549	433	811	21	156	-----
63,016	25	65	170	16	-----	-----
28,874	3,983	505	1,535	112	53	7
10,878	556	251	899	14	38	91
11,162	2,198	799	946	36	350	89
43,678	423	885	1,923	179	90	649
24,468	1,542	1,076	1,442	162	252	78
1,159	10	162	451	14	79	6
7,009	924	1,163	2,815	249	131	2,833
46,957	89	646	3,917	74	164	80
15,146	489	148	407	4	20	-----
7	81	1,671	2,977	757	409	1,324
289	1,147	1,210	3,303	434	15	118
3	9	2,280	21,184	320	1,243	2,924
24,819	260	840	2,405	67	150	84
86,953	7,390	1,144	1,301	18	52	18
1,329	154	913	1,424	23	964	114
80,533	558	1,010	2,801	73	40	61
10,055	163	1,105	5,156	66	125	116
1,579	1,043	536	1,543	66	65	79
17,023	18,403	948	1,274	60	486	529
3,098	73	180	312	55	35	42
29,922	384	745	1,393	130	229	28
170,153	392	579	1,108	19	24	31
65,315	2,991	959	2,166	23	164	27
23,252	217	653	1,454	99	157	3
89,665	511	387	386	19	83	1,903
297,736	28,473	273	568	6	35	12
3,813	845	508	277	48	106	-----
21,184	2,979	831	1,765	137	100	16
2,466	1,609	740	923	108	319	473
31,771	621	576	1,374	93	280	41
79,446	716	371	834	30	195	43
67,662	502	179	386	15	47	2
2,417,477	138,413	46,176	132,521	11,669	12,168	71,744

POULTRY.

With the exception of the turkey, all the different species of poultry now kept on American farms are of European or Asiatic origin. The fowl, or chicken, is unquestionably of Asiatic origin.

VARIETIES.

The chickens of United States may be divided into ten classes:

The American class includes the—

Plymouth Rock.
Wyandotte.
Java.
American Dominique
Jersey Blue.

The Asiatic class—

Brahma.
Cochin.
Langshans.

The Mediterranean class—

Leghorn.
Minorca.
Andalusian.
Spanish.

The Polish class—

White Crested.
Black.
Golden.
Silver.
White and Bearded Golden.
Bearded White.
Bearded Silver.
Buff Laced.

The Dutch or Hamburg class—

Hamburgs.
Red Caps.
Campines.

French class—

Houdans.
Creve Cœurs.
La Flèche.

Game and Game Bantam class—

Black-breasted Red.
Brown Red.
Golden and Silver Duckwing.
Red Pyle.
White, Black, Birchen, Cornish, and
Indian Games.
Malays.

Bantams other than Game—

Bebrights.
Rose Combed.
Booted.
White.
Cochin.
Japanese.
Polish.

English class—

Dorkings.
Orpingtons.

Miscellaneous class—

Russian.
Sumatra.
Silky.
Sultan.
Frizzles.
Rumples.
Yokohama.
Naked Neck.

Classified according to their prominent characteristics, they may be divided into four classes. The egg breeds, which are the greatest egg producers, are the Leghorns, Spanish, Minorcas, and Hamburgs.

The meat breeds, whose chief value is as meat producers: Brahma, Cochin, and Langshan. The general utility fowls furnish fair quantities of eggs and meat. The Plymouth Rock and Wyandotte belong to this class.

The fancy breeds are reared chiefly on account of their appearance; the Polish, Games, Bantams, and some miscellaneous breeds are the chief representatives of this class.

For general purposes the Plymouth Rock and Wyandotte are the most popular of all fowls, the Plymouth Rock in particular being in great favor.

The turkey is an American bird. The wild turkey was once found all along the Atlantic coast, throughout Mexico, Central America, and the great interior plains of North America. The recognized varieties of the domestic turkey are the Bronze, Narragansett, White, Holland, Buff, Slate, and Black.

DUCKS.

The six leading varieties are the White Pekin, White Aylesbury, Colored Rouen, Black Cayuga, Colored Muscovy, and White Muscovy.

The most prominent breeds of geese are the Toulouse, African, Embden, Chinese, Wild, and Egyptian.

The raising of poultry in California is carried on successfully and on a large scale, the center of this industry being at Petaluma, in Sonoma County.

INCREASE 1900-1910.

The number of fowls on California farms increased from 4,196,000 in 1900 to 6,087,000 in 1910 or 45.1 per cent while the value shows an increase from \$1,902,000 to \$3,845,000, or 102.1 per cent. The increase in the number of fowls was confined almost entirely to chickens, there being a decrease in each of the other classes except ostriches. There were nine ostrich farms, returning 974 ostriches valued at \$224,000. There were also reported peafowls valued at \$1,431, pheasants valued at \$342, and India Jungle fowls valued at \$150. The number of farms reporting poultry increased 10,772 since 1900. The number of poultry raised was 8,430,968. Valued at \$4,420,515.

THE OSTRICH INDUSTRY.

In January, 1910, there were at least 6,100 breeding or feather-producing ostriches in this country, of which Arizona had 80 per cent, California 17 per cent, Arkansas 2 per cent, the small remainder being in Texas and Florida.

The question of the nature of the country most favorable for ostriches is largely affected by the kind of vegetation peculiarly suited to the soil, which in turn is undoubtedly affected by the amount of rainfall. Alfalfa pasture makes an ideal run for the birds, furnishing a large percentage of their food; hence a soil which is or can be made suitable for alfalfa is one of the essentials to success in ostrich farming. A dry, sandy soil, made suitable by drainage and irrigation for raising alfalfa, has proved best adapted to successful ostrich farming. Such a soil is generally peculiarly adapted for raising large crops of alfalfa, and makes an ideal soil for an alfalfa pasture. Under such conditions it is essential to have some shade.

The demand for ostrich feathers in this country is constantly increasing, while the quantity produced here scarcely affects importations, which are steadily increasing. The demand for information concerning ostriches indicates that the number of individuals who are interested in ostrich farming is rapidly increasing.

The profit to be derived from the business will depend on the management, on the success secured in the raising of the young birds, and on the production of feathers of good quality. The average yearly yield of feathers from an ostrich is 1½ pounds. Birds produce from 12 to 20 ounces of feathers at each plucking, with an average of 16 ounces. The total weight of an average yield is divided about as follows: "Wings," 48 per cent; "short stuff," 25 per cent; and "tails," 27 per cent. The amount received from the feathers of each bird varies from \$20 to \$30, depending upon the yield and the price of the product.

The average return during the year 1909 was \$25.93 per bird. While both ostrich eggs and flesh may be used for human consumption, the amount to be derived from these products is hardly worth considering. As each pair of breeding birds is worth about \$800, and chicks 6 months old are valued at \$100, any deaths from accidents or any inability to raise chicks greatly lessens the profit to be derived from the business. Allowing for some loss in these ways, and charging a fair interest on the investment, the business can be operated to return a fair profit.

There were nine ostrich farms, returning 974 ostriches valued at \$224,000. There were also reported peafowls valued at \$1,431, pheasants valued at \$342, and India Jungle fowls valued at \$150. The number of farms reporting poultry increased 10,772 since 1900.

Poultry in California—1880-1910.

	1880.	1890.	1900.	1910.	Value 1910.
Chickens -----	1,425,991	3,504,251	3,947,200	5,665,964	\$3,237,049
Turkeys -----		287,799	158,356	116,602	258,033
Ducks -----		157,514	62,293	40,061	28,325
Geese -----		37,659	28,419	14,195	18,609
Guinea fowls -----			1	2,920	1,993
Pigeons -----			2	246,065	69,254
Ostriches -----			198	1,082	229,340
All other fowls -----	184,176	482,972	249,068	378	1,923
Totals -----	1,610,167	4,470,195	4,196,466	6,087,267	\$3,844,526

¹Included with chickens. ²Not reported.

Eggs.*

The production of eggs in California in 1909 was 41,022,000 dozen, valued at \$10,263,000.

Number of eggs—	Dozens.	Value.
In 1899 -----	24,443,540	\$3,864,679
In 1909 -----	41,022,395	10,263,694
Increase 1889 to 1909 -----	16,578,855	6,398,015
Per cent of increase -----	67.8	165.6

*The center of the poultry industry in California is at Petaluma, in Sonoma County.

TABLE XIX.
Poultry by Counties, 1900.

Counties.	Chickens.	Turkeys.	Geese.	Ducks.
Alameda	191,863	3,013	1,368	4,165
Alpine	1,619	70	23	34
Amador	30,701	1,453	509	263
Butte	73,072	9,935	260	638
Calaveras	21,344	1,142	82	52
Colusa	46,791	4,735	385	373
Contra Costa	120,067	3,052	1,115	1,357
Del Norte	4,611	35	107	44
El Dorado	27,745	919	304	190
Fresno	152,301	6,051	536	3,335
Glenn	40,572	5,951	686	276
Humboldt	44,434	1,819	655	691
Imperial				
Inyo	17,418	671	47	25
Kern	50,791	1,825	258	632
Kings	62,479	2,123	532	1,337
Lake	30,533	4,347	268	453
Lassen	19,332	1,250	16	132
Los Angeles	244,966	7,369	1,141	6,204
Madera	19,573	873	85	156
Marin	111,173	1,279	779	1,116
Mariposa	15,554	1,407	136	205
Mendocino	53,714	5,211	930	419
Merced	63,523	3,634	375	1,457
Modoc	22,450	828	200	572
Mono	2,192	97	37	45
Monterey	90,990	1,960	772	676
Napa	92,470	3,183	782	1,224
Nevada	23,227	613	64	180
Orange	118,354	3,672	705	2,933
Placer	43,761	2,282	477	678
Plumas	9,005	92	74	47
Riverside	54,754	3,765	157	605
Sacramento	130,538	5,533	753	2,355
San Benito	59,524	1,871	490	257
San Bernardino	52,287	1,905	364	411
San Diego	100,174	3,031	445	841
San Francisco	11,335	24	774	8,285
San Joaquin	129,799	4,536	880	2,698
San Luis Obispo	117,679	2,631	395	478
San Mateo	36,532	683	249	880
Santa Barbara	64,899	976	1,329	561
Santa Clara	142,108	2,625	917	2,481
Santa Cruz	77,459	515	371	761
Shasta	37,637	2,414	416	705
Sierra	4,108	100	17	
Siskiyou	43,819	2,783	223	352
Solano	82,736	2,529	1,369	1,291
Sonoma	481,425	6,909	1,820	2,342
Stanislaus	65,892	5,372	194	908
Sutter	54,944	1,977	176	323
Tehama	40,365	5,831	202	400
Trinity	5,139	71	51	47
Tulare	122,544	11,615	1,079	2,925
Tuolumne	19,761	570	30	128
Ventura	56,223	2,374	233	867
Yolo	78,063	4,375	1,144	1,020
Yuba	26,804	2,193	579	422
Totals*	3,947,200	158,356	28,419	62,293

*Not including Indian reservations.

TABLE XX.

Poultry and Eggs—1909-1910.

Counties.	Number of poultry raised in 1909.	Number of poultry in 1910.	Dozens of eggs pro- duced in 1909.
Alameda	230,417	240,914	1,391,728
Alpine	2,547	2,159	8,904
Amador	23,628	23,630	142,824
Butte	94,183	74,982	377,598
Calaveras	31,410	23,242	107,387
Colusa	73,034	61,113	249,229
Contra Costa	154,332	118,944	664,951
Del Norte	3,357	3,911	13,767
El Dorado	28,499	24,308	132,910
Fresno	266,221	213,108	1,267,840
Glenn	67,529	50,336	252,286
Humboldt	67,310	54,834	332,115
Imperial	84,062	72,252	264,826
Inyo	50,007	30,132	146,952
Kern	89,520	75,900	394,130
Kings	153,839	102,747	687,052
Lake	37,976	27,435	135,001
Lassen	28,907	19,297	106,897
Los Angeles	586,566	513,965	2,332,397
Madera	28,137	23,246	67,932
Marin	141,629	203,277	1,465,911
Mariposa	19,583	12,217	49,728
Mendocino	64,935	56,807	337,781
Merced	186,305	83,998	454,115
Modoc	38,112	23,789	134,731
Mono	2,559	2,515	4,541
Monterey	123,743	128,325	751,177
Napa	105,428	108,777	662,159
Nevada	35,776	23,482	150,596
Orange	239,536	186,746	1,198,290
Placer	62,151	43,619	235,606
Plumas	15,163	9,649	48,511
Riverside	95,767	84,226	438,099
Sacramento	144,704	116,556	666,906
San Benito	79,550	95,289	696,264
San Bernardino	105,606	91,098	579,685
San Diego	174,778	130,158	921,117
San Francisco	196,020	42,649	110,057
San Joaquin	212,434	175,456	955,501
San Luis Obispo	109,871	119,822	840,405
San Mateo	43,946	47,625	236,642
Santa Barbara	91,159	89,995	407,163
Santa Clara	233,729	209,093	1,166,782
Santa Cruz	79,015	85,705	577,989
Shasta	52,607	35,873	199,858
Sierra	6,998	4,458	24,877
Siskiyou	57,444	43,413	254,107
Solano	66,403	74,683	426,261
Sonoma	1,512,601	1,362,399	9,470,880
Stanislaus	121,677	128,905	648,248
Sutter	101,908	68,861	420,198
Tehama	96,134	59,852	306,452
Trinity	10,800	7,712	31,776
Tulare	204,167	191,965	1,033,110
Tuolumne	22,710	15,989	94,507
Ventura	61,703	60,921	372,111
Yolo	84,010	76,972	347,209
Yuba	44,202	27,986	111,892
Totals	7,096,339	6,087,267	35,907,973

DAIRY PRODUCTS.

Dairy products in general are somewhat less accurately reported than the principal crops. This is particularly the case as regards the quantity of milk produced. Less than one third of the milk produced was sold as such. Large quantities of milk and cream were sold on the butter fat basis. The butter made on farms in 1909, was valued at \$4,086,000.

(From report of Census Bureau.)

Dairy cows and products.	Number.	Value.
Dairy cows on farms April, 1910.....	467,332 head	-----
On farms reporting dairy products in 1909....	408,812 head	-----
On farms reporting milk produced in 1909....	315,385 head	-----
Specified dairy products, 1909:		
Milk	154,901,956 gals.	
Butter	15,301,871 lbs.	\$4,085,992
Cheese	2,777,873 lbs.	383,494
Milk sold	45,333,432 gals.	7,346,176
Cream sold	3,397,061 gals.	2,861,921
Butter fat sold.....	19,176,719 lbs.	5,766,394
Butter sold	10,285,583 lbs.	2,763,392
Cheese sold	2,513,815 lbs.	345,414
Total receipts from sales, 1909.....	-----	\$19,083,297
Total value of milk, cream, and butter fat sold, and butter and cheese made.....	-----	20,443,977

CHEESE AND BUTTER.

The production of cheese and butter as given by counties by the Census Bureau, is that made on farms only, the production by creameries in 1909 was 37,283,450, and full cream cheese 1,567,640 pounds. The decrease from 1904, when it amounted to 3,601,051, is, no doubt, due in part to the increasing practice of separating the cream on the farm, as it is now more profitable to sell the separated cream to the butter factories. The figures issued by the State Dairy Bureau are also given. The cheese produced is, with a few exceptions, only that made by the ordinary Cheddar process. There is a considerable amount of fancy and handmade cheese which has not been reported. That the production of cheese in the State is far below the demand, is proved by the fact that 11,758,680 pounds of cheese, more than double the amount manufactured in this State, is received in the San Francisco market alone. We have the finest land for pasture and conditions favorable for the production of this article. All we need is more good cheese factories and 500 or 1,000 families to produce the milk.

The amount of the output of cheese reported is much below the actual production in the State, and it is impossible to estimate it, as the owners of factories constantly change from making cheese to the production of cream. It has never been attempted to get a report on other than that made by the ordinary Cheddar process.

TABLE XXI.

Butter and Cheese Produced on Farms.* 1910.
(Compiled from the returns of the Bureau of the Census.)
(Pounds.)

Counties.	1890.		1900.		1910.	
	Butter.	Cheese.	Butter.	Cheese.	Butter.	Cheese.
Alameda	509,614	62,132	526,978	6,716	252,603	675
Alpine	25,075	110	12,495		28,613	540
Amador	168,436	4,395	91,584	5,184	68,812	32,517
Butte	178,329	1,143	149,200	40	124,437	
Calaveras	35,546	550	66,946	1,155	51,841	2,787
Colusa	177,100	100	107,222		75,829	272
Contra Costa	315,181	27,802	449,511	21,046	226,976	9,790
Del Norte	455,960		300,990		461,303	
El Dorado	216,790	9,125	162,072	9,206	176,354	3,734
Fresno	382,744	11,370	609,676	122,058	514,946	41,210
Glenn					86,762	
Humboldt	1,922,282	9,712	791,850	81	475,773	
Imperial					71,581	1,400
Inyo	55,316	3,373	47,813	185	116,364	5,426
Kern	104,633	88,850	142,392	12,403	73,839	30,051
Kings			145,704	2,575	78,295	139,000
Lake	119,349	350	121,186	102	92,723	200
Lassen	200,691	5,650	235,258	69,763	279,685	160
Los Angeles	676,575	250,890	509,757	5,243	323,374	1,643
Madera					48,459	
Marin	3,928,009	3,000	3,234,320	4,870	2,289,217	101,743
Mariposa	21,158	695	35,760	196	12,753	
Mendocino	375,445	22,000	349,840	3,924	355,048	1,357
Merced	153,467	4,420	138,243	98,595	94,602	200,840
Modoc	142,057	10,150	127,930		153,175	3,680
Mono	55,693	870	29,832	1,325	30,202	
Monterey	1,743,162	101,600	712,845	559,923	286,450	59,680
Napa	405,587	43,070	395,494	51,260	381,920	35,826
Nevada	147,042	100	119,236		158,271	1,970
Orange	295,146	3,480	220,218	938	333,283	50
Placer	195,507	520	217,508		108,876	30,545
Plumas	531,549	15,378	474,599	30,170	237,330	2,500
Riverside			298,345	208	312,248	650
Sacramento	725,404	230,455	551,020	543,356	164,427	497,064
San Benito	215,545	572,262	223,333	124,351	74,131	137,685
San Bernardino	303,420	1,460	249,439		207,745	362
San Diego	408,915	4,472	448,076	7,204	575,662	2,895
San Francisco	7,805	200	104,150	10	144	
San Joaquin	326,880	1,755	351,312	3,713	341,820	93,630
San Luis Obispo	3,322,918	417,791	1,286,289	135,023	1,369,563	169,350
San Mateo	655,008	521,936	349,421	509,714	91,997	64,751
Santa Barbara	1,055,380	94,235	821,804	57,773	244,632	25,665
Santa Clara	351,248	491,876	484,856	514,563	320,236	577,350
Santa Cruz	425,071	383,165	405,504	372,749	224,392	227,905
Shasta	111,484	6,000	122,610	148	137,723	
Sierra	123,598	170	114,546		135,938	1,318
Siskiyou	312,814	27,000	279,776	35,065	254,999	39,470
Solano	579,422	650	505,128	2,364	381,903	873
Sonoma	2,971,664	234,000	2,093,892	121,695	1,192,532	211,319
Stanislaus	143,231	25,160	153,026	228,363	154,998	2,125
Sutter	160,612	45,300	151,809	249,638	183,527	
Tehama	125,425	430	160,711	7,599	182,953	
Trinity	15,509		34,433		46,277	
Tulare	354,368	35,738	329,018	1,407	201,880	16,850
Tuolumne	27,716	525	60,150	60	35,522	155
Ventura	226,792	84,840	270,109	624	267,905	
Yolo	195,879		233,345	326,706	88,338	
Yuba	93,153	11,320	83,695		40,673	900
Totals	26,776,704	3,871,575	20,853,360	4,249,588	15,301,871	2,777,873

*This does not include the amount made in creameries or factories, which is very much larger.

SUMMARY OF BUTTER AND CHEESE PRODUCED ON FARMS.

(Compiled from the returns of the Bureau of the Census.)

Butter.

Year.	Made on farm (pounds).	Made in factories (pounds).	Total (pounds).
1850 -----	705	-----	705
1860 -----	3,095,035	-----	3,095,035
1870 -----	7,969,744	-----	7,969,744
1880 -----	14,084,405	2,074,344	16,158,749
1890 -----	26,776,704	271,767	27,048,471
1900 -----	20,853,360	13,147,137	34,000,497
1910 -----	15,301,871	37,283,450	52,585,321

Cheese.

Year.	Made on farm (pounds).	Made in factories (pounds).	Total (pounds).
1850 -----	150	-----	150
1860 -----	1,343,689	-----	1,343,689
1870 -----	3,395,074	-----	3,395,074
1880 -----	2,566,618	1,154,121	3,720,739
1890 -----	3,871,575	1,091,222	4,962,797
1900 -----	4,249,588	2,676,543	6,926,131
1910 -----	2,777,873	1,567,640	4,345,513

TABLE XXII.

Production of Butter and Cheese in California, 1910-1912.

(Compiled from the returns of the State Dairy Bureau. For year ending September 30.)
(Pounds.)

Counties.	Butter.			Cheese.		
	1910.	1911.	1912.	1910.	1911.	1912.
Alameda	1,870,636	233,136	689,774			
Alpine	37,000	38,000	40,000			
Amador	140,000	150,000	145,000			
Butte	353,540	847,645	772,629			
Calaveras		37,125	80,875			
Colusa	494,367	493,326	490,000			
Contra Costa	561,963	630,025	445,121			
Del Norte	665,000	699,434	740,664			
El Dorado	224,501	200,000	146,548	4,000	100	
Fresno	3,290,825	3,803,644	4,144,404	46,000	54,904	129,615
Glenn	213,967	285,105	284,028			
Humboldt	4,273,649	5,238,382	5,095,014		12,500	199,157
Imperial	1,948,710	2,885,941	4,110,736		60,000	66,580
Inyo	130,000	174,404	179,742	4,508	7,378	8,175
Kern	565,316	693,413	732,059			
Kings	3,218,036	3,552,542	3,069,880	264,490	66,850	139,375
Lake	61,200	70,770	51,760	14,000	55,250	
Lassen	331,728	201,020	225,000	84,235	96,890	115,535
Los Angeles	570,402	482,000	295,018			
Madera	73,000	87,860	163,784			
Marin	1,300,000	1,835,983	1,709,603	45,952	664,500	678,825
Mariposa						
Mendocino	854,609	662,334	549,429			
Merced	2,510,269	3,102,222	3,351,049	179,785	215,000	342,720
Modoc	33,160	30,300	54,400	14,920		6,000
Mono	7,260	9,948	4,200		2,500	18,800
Monterey	620,940	706,208	664,930	630,108	609,417	697,671
Napa	499,955	498,039	602,756	22,000	18,853	23,000
Nevada	100,000	106,375	90,290			
Orange	172,000	158,851	104,965			
Placer	200,000	205,000	186,500	21,900	20,000	
Plumas	280,000	199,299	240,940			
Riverside	45,872	105,933	92,676			
Sacramento	1,102,012	1,405,054	1,900,417	293,970	349,000	266,900
San Benito	376,097	350,595	317,250	365,745	342,770	419,959
San Bernardino	118,046	53,661	89,613			
San Diego	626,036	621,785	593,236			
San Francisco			10,000			
San Joaquin	1,425,543	941,430	1,336,344	61,978	93,176	84,970
San Luis Obispo	2,000,000	2,350,820	2,070,619	328,970	233,353	254,403
San Mateo	27,765	135,727	224,570	671,547	190,510	142,740
Santa Barbara	649,776	510,527	568,795	10,364		
Santa Clara	461,965	131,792	336,839	548,513	475,248	426,864
Santa Cruz	378,193	224,146	182,500	225,741	140,954	173,518
Shasta	18,000	118,000	123,400			
Sierra	273,920	212,719	140,550	1,288	300	
Siskiyou	437,000	500,000	506,929	18,715	12,704	10,852
Solano	2,000,000	1,144,681	1,031,137			
Sonoma	1,081,234	2,106,349	2,881,889	216,500	389,000	163,000
Stanislaus	4,363,296	5,166,515	6,894,225	91,250		30,000
Sutter	464,323	579,068	822,046	480,869	464,336	268,370
Tehama	102,718	132,665	144,284			
Trinity						
Tulare	3,072,198	3,955,583	3,947,284			
Tuolumne						
Ventura	100,000	60,295	48,286			
Yolo	1,103,114	1,096,718	1,104,509	1,000	1,147	45,588
Yuba	160,000	106,342	112,390		63,875	73,000
Totals	45,989,141	50,380,736	54,940,886	4,648,348	4,640,495	4,785,617

Summary of Butter, Cheese, and Condensed Milk Production, 1897-1912.
(Compiled from the reports of the State Dairy Bureau.)

Year.	Butter, pounds.	Cheese, pounds.	Condensed milk, cases.
1897	28,678,439	6,399,625	
1898	28,691,028	5,148,372	
1899	24,868,084	5,294,938	52,558
1900	28,782,859	4,989,960	66,302
1901	29,730,882	5,681,366	100,140
1902	31,528,762	6,503,441	146,860
1903	34,786,289	7,218,639	126,874
1904	35,636,969	6,133,898	186,905
1905	41,961,047	6,020,672	244,878
1906	44,044,578	6,418,480	113,025
1907	44,599,211	5,928,942	134,907
1908	48,469,585	6,262,194	100,069
1909	43,899,018	4,431,194	83,476
1910	45,989,141	4,648,348	172,916
1911	50,380,736	4,580,495	116,384
1912	54,940,886	4,785,617	172,300

Receipts of Butter in San Francisco.

	Pounds.
1901	15,222,951
1902	14,823,048
1903	15,511,214
1904	15,713,992
1905	17,936,782
1906	*
1907	15,384,137
1908	14,610,522
1909	14,328,000
1910	13,934,200
1911	19,033,600
1912	23,548,850

*Not available.

Annual Value of Dairy Products.

1911.	Value.
Butter, 50,380,736 pounds	\$14,106,606
Cheese, 4,640,495 pounds	672,872
Evaporated and powdered milk, 8,820,310 pounds	793,828
Market milk, table cream, and ice cream	10,000,000
Calves produced	2,000,000
Skim milk and butter milk	1,500,000
Casein	125,478
Total	\$29,198,784
1912.	
Butter, 54,940,886 pounds	\$16,905,310
Cheese, 4,785,617 pounds	739,856
Condensed, evaporated, and powdered milk, 9,770,784 pounds	961,662
Casein, 1,065,000 pounds	53,250
Market milk and cream	10,000,000
Calves produced on dairies	2,000,000
Skim milk and butter milk	1,500,000
Total	\$32,160,078

Imports and Exports.

About 40,000,000 pounds of cheese is imported, and 3,000,000 of domestic cheese exported. The duty on imported cheese and butter is 6 cents per pound.

BEES, HONEY, AND WAX.

In the earlier years the parent stock of the honey bee in this country was the common brown or black bee of Germany. In 1860 the Department of Agriculture introduced the Italian bee, about twenty years later the Cyprian, and still later the Carniolan.

Summary of Honey and Wax.

(From census reports.)

Year.	Honey, pounds.	Wax, pounds.
1860 -----	12,276	584
1870 -----	294,326	4,908
1880 -----	574,029	14,672
1890 -----	3,929,889	60,237
1900 -----	3,667,738	115,330
1912 -----	10,264,715	126,445

The number of farms reporting bees decreased from 6,915 in 1900 to 6,870 in 1910, while the colonies of bees increased from 129,444 to 201,023, or 55.3 per cent, and the value increased from \$363,885 to \$729,793, or 100.6 per cent.

The average production of honey is 70 pounds to the colony, and the average value 6 cents per pound. The price varies according to color and quality, the extracted honey from 4 to 7½ cents, and comb honey from 10 to 18 cents per pound. In many portions of the State great loss is caused by American foul brood, and European foul brood, commonly called black brood, the percentage of damage having steadily risen from 7 per cent in 1909 to 20 per cent in 1912.

TABLE XXIII.

Bees, Beeswax, and Honey by Counties, 1900 and 1910.

Counties.	1900.		1910.		
	Beeswax.	Honey.	Colonies.	Honey.	Beeswax.
Alameda	470	6,780	610	9,848	179
Alpine	25	2,300	49	220	-----
Amador	60	8,100	170	2,402	100
Butte	200	9,010	1,384	9,702	170
Calaveras	170	11,490	362	8,413	118
Colusa	60	10,610	1,406	67,689	798
Contra Costa	450	29,050	698	15,950	284
Del Norte	170	2,870	78	1,395	-----
El Dorado	240	10,180	464	8,105	75
Fresno	13,300	567,800	9,242	616,609	7,261
Glenn	140	5,320	420	10,982	250
Humboldt	370	28,980	1,803	23,481	367
Imperial	-----	-----	4,740	514,125	4,453
Inyo	2,970	146,320	5,868	312,620	2,131
Kern	3,460	211,326	4,501	204,920	2,832
Kings	7,580	221,060	4,690	238,791	3,148
Lake	1,030	8,190	276	5,105	43
Lassen	260	40,930	298	5,642	5
Los Angeles	7,630	150,620	25,930	1,289,820	15,501
Madera	60	7,442	375	16,439	370
Marin	-----	740	20	205	55
Mariposa	30	1,080	34	300	25
Mendocino	110	4,980	441	6,090	34
Merced	3,050	148,000	4,072	204,098	3,150
Modoc	610	23,560	839	19,796	232
Mono	430	4,850	438	20,355	425
Monterey	2,220	85,850	3,669	177,279	2,619
Napa	120	4,900	524	8,939	204
Nevada	210	3,730	260	5,452	42
Orange	12,990	45,130	5,159	325,656	2,764
Placer	150	6,190	657	7,338	80
Plumas	60	4,530	121	2,280	5
Riverside	13,230	92,100	18,900	902,106	12,915
Sacramento	1,040	48,600	1,835	55,272	160
San Benito	320	10,370	1,777	68,253	773
San Bernardino	7,910	123,450	8,073	363,025	5,983
San Diego	11,400	466,290	30,566	1,559,607	18,589
San Francisco	-----	-----	6	-----	-----
San Joaquin	1,750	80,000	3,014	104,645	3,459
San Luis Obispo	1,710	76,780	3,936	177,342	1,983
San Mateo	140	5,150	289	5,458	193
Santa Barbara	3,910	162,390	4,072	288,875	4,060
Santa Clara	1,340	41,890	2,542	77,252	842
Santa Cruz	50	4,370	693	11,032	98
Shasta	470	20,780	689	8,466	185
Sierra	20	1,980	49	2,081	10
Siskiyou	700	75,000	2,775	85,322	324
Solano	530	9,470	256	2,873	-----
Sonoma	300	21,460	824	7,014	44
Stanislaus	660	20,700	2,554	61,592	1,371
Sutter	1,070	112,740	2,055	76,812	745
Tehama	190	4,910	786	15,779	115
Trinity	120	1,340	98	1,605	15
Tulare	5,530	258,060	9,568	290,435	4,743
Tuolumne	460	11,100	363	12,310	65
Ventura	3,430	152,660	23,714	1,839,986	20,918
Yolo	330	48,780	2,442	106,982	1,125
Yuba	75	4,200	149	545	10
Totals	115,330	3,667,738	201,023	10,264,715	126,445

CALIFORNIA HONEY CROP, AND IMPORTS AND EXPORTS.
(Duty on imported honey, 20 cents per gallon.)

Year.	California crop, pounds.	Exports of domestic honey, value.	Imports, gallons.	Value.
1885		\$224,212	151,786	\$67,527
1886		44,735	126,724	45,551
1887	3,200,000	67,154	147,216	47,679
1888	3,500,000	7,579	157,818	46,210
1889	2,200,000	93,888	80,748	26,024
1890	5,000,000	113,101	63,119	27,191
1891	4,000,000	83,325	47,740	20,808
1892	1,240,000	78,048	70,103	31,418
1893	2,680,000	15,115	176,147	79,306
1894	4,275,000	127,282	152,643	56,154
1895	4,000,000	118,873	67,444	22,993
1896	5,350,000	90,969	79,985	30,600
1897	7,878,000	22,368	66,432	27,599
1898	1,820,000	98,504	96,604	38,158
1899	2,822,000	55,900	126,217	51,509
1900	2,208,000	30,191	146,860	70,857
1901	8,112,000	55,574	182,196	83,500
1902	5,125,000	106,112	167,301	56,303
1903	8,400,000	64,220	287,696	115,400
1904	1,040,000	69,317	206,292	69,053
1905	9,500,000	63,367	198,617	76,719
1906	5,250,000	111,945	138,221	50,651
1907	6,500,000	93,690	175,672	70,854
1908	5,250,000	78,102	211,992	98,425
1909	10,500,000	85,578	145,691	60,894
1910	4,500,000	159,401	103,640	52,968
1911	9,500,000	81,649	112,553	62,942
1912	4,800,000	212,652	115,040	62,684

BEESWAX.
(Duty free.)

Year.	Exported domestic.		Imported.	
	Pounds.	Value.	Pounds.	Value.
1882				
1883				
1884	124,227	\$32,325		\$5,312
1885	59,455	17,604	168,879	41,681
1886	51,748	16,042	48,123	9,323
1887	30,877	9,758	91,754	21,211
1888	136,179	36,626	26,546	5,713
1889	90,350	24,997	10,843	2,371
1890	78,070	20,554	51,702	9,411
1891	99,917	23,918	75,951	11,773
1892	171,391	19,727	126,319	20,233
1893	120,548	30,027	379,135	80,485
1894	127,470	31,898	271,068	65,467
1895	77,434	22,048	248,000	62,081
1896	469,463	118,093	318,660	80,081
1897	309,212	90,875	288,001	78,778
1898	222,612	65,844	273,464	75,979
1899	195,048	56,462	174,017	43,339
1900	151,094	41,827	272,097	72,473
1901	152,494	41,916	452,016	109,957
1902	319,379	91,913	213,813	51,536
1903	140,276	39,464	213,773	55,981
1904	125,283	36,541	408,706	115,937
1905	70,811	21,337	488,576	127,229
1906	55,631	16,545	425,168	116,879
1907	85,406	24,968	373,569	101,121
1908	101,726	29,894	587,617	168,014
1909	117,169	36,392	917,088	264,637
1910	90,506	28,659	671,526	194,709
1911	77,547	23,293	764,937	231,539
	89,890	27,740	972,145	282,955
	101,735	31,404	902,904	270,112

WOOL.

The following figures are taken from the Annual Report of the National Association of Wool Manufacturers:

	1910.	1911.	1912.
Sheep of shearing age on April 1st.....	1,900,000	1,700,000	1,700,000
Average weight of fleece, pounds.....	7	7	7
Per cent of shrinkage.....	66	67	67
Wool, washed and unwashed, pounds.....	13,300,000	11,900,000	11,900,000
Wool scoured, pounds.....	4,522,000	3,927,000	3,927,000
Average value per scoured pound October 1st.....	\$0 46	\$0 42	\$0 56
Total value October 1st.....	\$2,060,120	\$1,649,340	\$2,199,120

The comparative price of California wool at Boston has been as follows on the scoured basis per pound:

Year.	Cents.		Year.	Cents.	
	Spring.	Fall.		Spring.	Fall.
1898.....	44	41	1906.....	70	60
1899.....	49	44	1907.....	68	58
1900.....	49	41	1908.....	50	40
1901.....	43½	38½	1909.....	70	53
1902.....	50	43	1910.....	55	45
1903.....	52	42½	1911.....	48	40
1904.....	62	53	1912.....	54	45
1905.....	74	62			

CALIFORNIA WOOL PRODUCTION.

(Commercial estimates.) (Duty—various rates.)

Year.	Pounds.	Year.	Pounds.
1851-1853.....		1883.....	40,484,690
1854.....	175,000	1884.....	37,415,330
1855.....	300,000	1885.....	36,561,390
1856.....	600,000	1886.....	38,509,160
1857.....	1,100,000	1887.....	31,564,231
1858.....	1,428,000	1888.....	32,567,972
1859.....	2,378,000	1889.....	34,008,770
1860.....	3,055,325	1890.....	34,917,320
1861.....	3,721,998	1891.....	33,183,475
1862.....	5,990,300	1892.....	35,802,990
1863.....	6,268,480	1893.....	33,169,375
1864.....	7,923,670	1894.....	36,968,400
1865.....	8,949,931	1895.....	35,856,690
1866.....	8,532,047	1896.....	27,195,550
1867.....	10,288,600	1897.....	32,534,230
1868.....	14,232,657	1898.....	28,063,240
1869.....	15,413,970	1899.....	22,000,000
1870.....	20,072,660	1900.....	21,360,000
1871.....	22,187,188	1901.....	22,040,500
1872.....	24,255,468	1902.....	25,835,700
1873.....	32,455,169	1903.....	22,500,000
1874.....	39,356,781	1904.....	21,500,000
1875.....	43,532,223	1905.....	22,000,000
1876.....	56,550,970	1906.....	24,000,000
1877.....	53,110,742	1907.....	15,750,000
1878.....	40,862,061	1908.....	14,560,000
1879.....	46,903,360	1909.....	15,000,000
1880.....	46,074,154	1910.....	13,500,000
1881.....	42,204,769	1911.....	12,000,000
1882.....	32,448,349	1912.....	11,900,000

The imports of wool are given under so many classifications of camel, goat, alpaca, etc., unmanufactured and manufactured, that space will not allow the details to be given here.

TABLE XXIV.

Wool Produced by Counties, 1860-1900.
(Compiled from reports of the Census Bureau.)
(Pounds.)

Counties.	1860.	1870.	1880.	1890.	1900.
Alameda	284,735	138,975	205,955	156,065	148,810
Alpine		281,700	90	2,015	6,490
Amador	20,650	73,010	64,808	53,879	30,335
Butte	92,400	351,023	323,483	307,739	551,590
Calaveras	10,335	129,025	161,351	130,761	120,090
Colusa	66,900	1,086,599	661,782	603,822	113,040
Contra Costa	74,108	58,800	27,298	92,415	20,900
Del Norte		3,471	6,462	7,524	3,520
El Dorado	1,130	50,096	73,233	2,251	980
Fresno		191,594	1,477,000	1,802,043	425,862
Glenn					328,020
Humboldt		51,867	647,492	997,649	948,970
Imperial					
Inyo			35,382	139,252	264,290
Kern		281,100	666,427	1,163,056	792,700
Kings		72			678,630
Lake		58,046	185,418	139,584	41,940
Lassen		75	92,748	152,232	269,180
Los Angeles	209,869	962,603	1,499,895	544,660	244,380
Madera					279,810
Marin	17,820	6,692	2,080	153	2,947
Mariposa		87,816	163,896	225,895	15,290
Mendocino	18,794	178,493	990,264	1,048,020	1,089,490
Merced	28,500	231,072	631,725	984,505	712,310
Modoc			71,378	86,499	310,725
Mono		7,000	350	15,888	176,520
Monterey	485,167	1,054,310	523,612	267,247	56,100
Napa	31,390	20,789	157,085	156,368	17,810
Nevada			8,002	6,816	15,750
Orange				1,110,112	293,620
Placer	31,330	169,033	233,901	439,723	145,810
Plumas		13,023	23,608	5,833	27,290
Riverside					76,650
Sacramento	67,005	515,213	509,834	254,263	227,900
San Benito			323,285	128,247	59,740
San Bernardino	4,000	71,075	250,338	176,100	38,574
San Diego	5,150	9,250	811,308	130,180	91,040
San Francisco					
San Joaquin	36,477	86,700	466,960	111,585	176,160
San Luis Obispo	260,100	903,863	643,853	146,740	77,800
San Mateo	7,535	12,625	2,819	4,040	4,510
Santa Barbara	150,200	996,200	692,415	71,600	509,250
Santa Clara	19,000	179,465	73,024	1,103	15,920
Santa Cruz	24,875	3,100	3,640	3,760	4,410
Shasta		15,820	88,142	68,164	126,900
Sierra			3,625		8,310
Siskiyou	1,150	43,858	135,164	62,024	85,920
Solano	240,937	306,817	290,996	208,385	412,140
Sonoma	78,223	230,394	664,721	547,120	335,010
Stanislaus	38,249	749,263	787,516	176,807	216,990
Sutter	83,062	126,657	152,367	181,489	305,150
Tehama	32,675	445,456	484,763	1,408,818	1,648,750
Trinity			80,115	64,189	62,290
Tulare	16,900	660,645	460,080	1,112,091	355,142
Tuolumne	150	48,525	58,535	39,170	9,980
Ventura			728,932	281,504	10,000
Yolo	146,806	437,048	276,721	280,977	456,370
Yuba	97,487	63,425	194,163	258,155	232,960
Totals	2,683,109	11,391,743	16,798,036	16,358,547	13,680,486

¹Exclusive of wool obtained from range sheep.

²In a summary issued in 1900, the total wool produced is stated at 24,092,954.

NOTE.—For the production of wool by counties in 1910, see Table XVII, page 52.

PART III.

AGRICULTURE.

(CONTINUED).

FARMS AND FARM CROPS.

CALIFORNIA FARM CROPS FOR FORTY-FIVE YEARS, 1868-1912. PRINCIPAL CROPS BY COUNTIES, 1850-1912.

Cereals, Hay and Forage, Beet Sugar, Hops, Cotton, Rice, Tobacco.

California ranks second in land area and twelfth in population among the states of continental United States. The soils vary from heavy clay like "adobe" soils to sandy and gravelly loams.

Over one fourth (28 per cent) of the land area of the State is in farms. The average value of farm land per acre for the State as a whole, is \$47.16. Between 1900 and 1910 there was an increase of 21.6 per cent in the number of farms as compared with an increase of 60.1 per cent in the population.

During the same period, farm property, which includes land, buildings, implements and machinery, and live stock (domestic animals, poultry and bees), increased in value \$818,167,000, or 102.7 per cent.

The average value of a fully equipped farm is \$18,308, an increase of \$7,328 as compared with the average in 1900. The average value per acre of land alone rose from \$21.87 in 1900, to \$47.16 in 1910.

There are 58,926 native white farmers in the State; 26,193 foreign born white, and 3,078 negro and other nonwhites, or a total of 88,197.

In addition to 11,389,894 acres of improved land in farms, there is 4,541,767 acres of woodland, and 11,999,783 acres of other unimproved lands in farms, or a total of 27,931,444 acres.

Number, Area and Value of Farms in 1900 and 1910.

	1900.	1910.	Increased per cent.
Population	1,485,053	2,377,549	60.1
Number of all farms.....	72,542	88,197	21.6
Land area of State, acres.....	99,898,880	*99,617,280	-----
Land in farms, acres.....	28,828,951	27,931,444	†3.1
Improved land in farms, acres.....	11,958,837	11,389,894	†4.8
Average acre per farm.....	397.4	316.7	†20.3
Total value of farm property.....	\$796,527,955	\$1,614,694,584	102.7
Land	630,444,960	1,317,195,448	108.9
Buildings	77,468,000	133,406,040	72.2
Implements and machinery.....	21,311,670	36,493,158	71.2
Domestic animals, poultry and bees	67,303,325	127,599,938	89.6
Average value of all property per farm	\$10,980.00	\$18,308.00	66.7
Average value of land per acre.....	21.87	47.16	115.6

*Due to the formation of the Salton Sea.

†Decreased. This apparent falling off is due in part to errors in the tabulation in the census of 1900, when certain tracts included in forest reserves in 1910 were included in farm land in 1900.

Summary of Populations and Farms, 1850-1910.

Year	Population.	Number of farms.	Land on farms.		Per cent of land area in farms.
			All land.	Improved.	
1850	92,597	872	3,893,985	32,454	3.9
1860	379,994	18,716	8,730,034	2,468,034	8.8
1870	560,247	23,724	11,427,105	6,218,133	11.5
1880	864,694	35,934	16,593,742	10,669,698	16.7
1890	1,213,398	52,894	21,427,293	12,222,839	21.5
1900	1,485,053	72,542	28,828,951	11,958,837	28.9
1910	2,377,549	88,197	27,931,444	11,389,894	28.0

The tracts included in forest reserves, probably used for grazing purposes, but included under farm lands in 1900, has increased during the decade from about 9,000,000 to 28,000,000 acres. There was also an enormous decrease in the acreage of wheat amounting to 2,205,188 or 82.2 per cent, which would account for the falling off in the improved acreage. Many farmers reported such land in 1900 as "unimproved."

Value of Farm Property.

The total wealth in the form of farm property is \$1,614,695,000 of which 89.8 per cent is contributed by land and buildings, 70.9 per cent by live stock, and 2.3 per cent by implements and machinery. The value of land and buildings is \$1,450,601,000, being a little more than double that for 1900. In 1850 the value was only \$3,874,000.

The value of the different classes of farm property in 1910 was as follows:

	Value.
Land	\$1,317,195,448
Buildings	133,406,040
Implements and machinery	36,493,158
Domestic animals	123,024,652
Poultry	3,844,526
Bees	729,738
Total	\$1,614,694,584

Summary of Values, 1850-1910.

Year.	Total value.	Land and buildings.	Implements and machinery.	Domestic animals, poultry, and bees.
1850	\$7,328,582	\$3,874,041	\$103,483	\$3,351,058
1860	86,870,327	48,726,804	2,558,506	35,585,017
1870	184,521,470	141,240,028	5,316,690	37,964,752
1880	*311,997,443	262,051,282	8,447,744	*41,498,417
1890	*777,381,767	697,116,630	14,689,710	*65,575,427
1900	796,527,955	707,912,960	21,311,670	67,303,325
1910	1,614,694,584	1,450,601,488	36,493,158	127,599,938

*Includes estimated value of range animals.

Size of Farms.

In California there is a great area of semiarid land utilized for grazing purposes only or left unutilized. Upon such lands are located many very large farms or ranches, and these explain the high average

acreage per farm. Farms other than those used almost exclusively for grazing are not on the average unusually large, as compared with the average in other states. The average size of the California farm is 316.7 acres, compared with 4,465.6 in 1850; 466.4 acres in 1860; 481.7 in 1870, since which time it has decreased continually.

Summary of Farms by Acreage in California.

	1850.	1860.	1870.	1880.
Under 3 acres.....				143
3 acres and under 10.....		829	2,187	1,064
10 acres and under 20.....		1,102	1,086	1,430
20 acres and under 50.....		2,344	3,064	3,475
50 acres and under 100.....		2,428	3,224	3,969
100 acres and under 500.....		6,541	12,248	20,214
500 acres and under 1,000.....		538	1,202	3,106
1,000 acres and over.....		262	713	2,531
Total number of farms.....	872	18,716	23,724	35,934
Average acres per farm.....	4,465.6	466.4	481.7	461.8

	1890.	1900.	1910.
Under 3 acres.....	401	1,492	1,269
3 acres and under 10.....	2,827	5,354	9,324
10 acres and under 20.....	4,010	8,236	11,932
20 acres and under 50.....	7,691	13,110	20,614
50 acres and under 100.....	5,796	8,067	10,801
100 acres and under 500.....	24,531	26,201	24,566
500 acres and under 1,000.....	4,367	5,329	5,119
1,000 acres and over.....	3,672	4,753	4,693
Total number of farms.....	53,295	72,542	88,197
Average acres per farm.....	405.0	397.4	316.7

Size of Farms, Improved and Unimproved, and Value.

	1850.	1860.	1870.	1880.
Total number of acres in farms.....	3,893,985	8,730,034	11,427,105	16,593,742
Acres of improved land.....	32,454	2,468,034	6,218,133	10,669,696
Acres of unimproved land.....	3,861,531	6,262,000	5,208,972	5,924,044
Per cent of farm land improved.....	0.8	28.3	54.4	64.3

	1890.	1900.	1910.
Total number of acres in farms.....	21,427,293	28,828,951	27,931,444
Acres of improved land.....	12,222,839	11,958,837	11,389,894
Acres of unimproved land.....	9,204,454	16,870,114	16,541,550
Per cent of farm land improved.....	57.0	41.5	40.8

TABLE
Number and Size of Farms

Counties.	Under 3 acres.	3 to 10 acres.	10 to 20 acres.	20 to 50 acres.	50 to 100 acres.
Alameda	148	589	405	424	294
Alpine	2	13	19	41	52
Amador	2	116	186	321	143
Butte		25	14	48	45
Calaveras	1	31	35	85	42
Colusa	18	118	127	221	155
Contra Costa		2	6	9	13
Del Norte		26	21	60	88
El Dorado	6	267	598	3,240	951
Fresno		40	33	106	65
Glenn	10	78	107	280	245
Humboldt	51	46	56	182	227
Imperial	2	28	28	55	75
Inyo	11	46	57	320	173
Kern	7	69	159	643	377
Kings	1	10	38	85	80
Lake		9	4	12	32
Lassen	438	2,125	1,820	1,709	698
Los Angeles		13	21	76	23
Madera	6	35	54	36	30
Marin		1	4	4	21
Mariposa		42	61	166	151
Mendocino	1	86	213	694	295
Merced	5	18	13	21	44
Modoc		3	1	1	4
Mono	11	69	71	182	185
Monterey	14	136	223	355	226
Napa	7	61	36	77	69
Nevada	28	531	802	1,043	351
Orange	2	52	109	289	206
Placer		6	5	9	12
Plumas	42	462	596	614	262
Riverside	12	167	237	321	170
Sacramento	7	87	83	118	93
San Benito	76	567	918	703	278
San Bernardino	20	236	345	414	269
San Diego	69	50	11	15	7
San Francisco	9	204	531	797	397
San Joaquin	7	65	80	179	187
San Luis Obispo	46	81	55	112	61
San Mateo	17	130	140	212	164
Santa Barbara	68	773	1,186	1,317	562
Santa Clara	18	226	198	384	236
Santa Cruz	6	16	29	103	111
Shasta	1	6	3	4	5
Sierra	1	21	36	88	98
Siskiyou	1	45	60	198	170
Solano	6	916	890	1,040	522
Sonoma	13	153	319	1,046	439
Stanislaus		57	101	142	91
Sutter	7	34	119	198	102
Tehama	6	9	9	24	23
Trinity	9	171	390	1,247	647
Tulare	1	4	15	28	27
Tuolumne	13	87	120	199	214
Ventura	4	53	115	283	166
Yolo		13	20	33	34
Yuba					
Totals	1,269	9,324	11,932	20,614	10,639

XXV.

In 1910, by Counties.

100 to 175 acres.	175 to 260 acres.	260 to 500 acres.	500 to 1,000 acres.	1,000 acres and over.	Total number of farms.	Cost of fertilizers.	
						1900.	1910.
238	116	163	91	44	2,422	\$15,180	\$17,723
4	9	14	3	8	42		
145	64	105	58	38	537	2,140	208
220	127	171	116	98	1,500	21,150	24,935
171	60	127	80	62	632	840	694
90	30	129	104	120	667	8,640	266
256	147	206	140	74	1,465	10,990	1,879
31	11	23	10	9	114		77
212	100	122	52	35	716	2,010	467
609	142	202	119	111	6,245	39,870	34,491
79	31	101	89	119	663	60	906
334	118	147	84	131	1,534	8,750	1,680
400	98	201	51	10	1,322		681
113	41	54	22	20	438	90	221
222	55	116	82	85	1,167	4,420	1,430
287	77	133	42	43	1,837	920	790
144	60	84	53	48	603	170	40
117	51	130	84	63	502	8,700	63
531	192	207	114	85	7,919	200,310	669,152
151	27	66	59	137	573	300	608
35	40	72	111	79	498	4,000	35
97	15	101	51	36	330	420	60
334	131	193	124	154	1,356	5,330	866
165	46	89	100	167	1,856	4,730	3,609
229	68	171	92	75	736	4,280	5
27	12	16	10	17	91	500	
263	127	282	225	243	1,658	2,920	1,252
223	92	112	84	72	1,537	12,690	1,290
88	53	84	41	28	544	5,430	932
175	60	86	52	37	3,165	16,520	71,118
174	69	75	50	36	1,062	13,680	7,786
45	19	37	46	42	221	70	260
262	99	166	104	81	2,688	203,010	323,568
223	96	173	111	91	1,601	2,190	15,274
107	56	144	109	117	921	8,620	191
209	70	75	35	18	2,949	151,320	708,516
337	146	246	156	129	2,298	22,980	42,429
4	1				157	5,600	6,031
395	217	371	221	144	3,286	20,750	10,657
267	123	304	288	214	1,714	2,200	1,027
90	52	67	60	41	665	2,070	13,450
185	105	138	93	171	1,355	8,870	8,133
376	141	147	75	86	4,731	25,490	16,703
188	60	52	25	22	1,466	1,450	3,537
300	96	190	93	66	1,010	990	1,086
25	4	19	18	25	110	1,310	140
388	84	199	124	75	1,114	3,890	571
167	89	156	144	108	1,143	17,700	4,142
508	233	299	202	122	4,772	12,030	12,585
192	83	125	142	175	2,687	1,570	23,180
123	84	123	78	74	873	1,000	80
151	51	119	86	139	1,006	15,720	685
148	23	41	15	10	308	170	170
597	198	364	197	201	4,021	8,900	41,765
105	35	88	43	40	386	2,220	1,347
207	142	155	90	66	1,293	8,780	57,432
170	83	189	107	85	1,255	16,110	5,050
82	30	93	64	67	436	1,700	2,765
12,015	4,689	7,862	5,119	4,693	88,197	\$937,050	\$2,143,993

Of all the farms in California 23.4 per cent are from 20 to 49 acres in size, 13.6 per cent from 100 to 174 acres, 13.5 per cent from 10 to 19 acres, and 12.1 per cent from 50 to 99 acres. Thus over three fifths of all the farms are from 10 to 174 acres in size. About one fourth are 175 acres or more. The increase in the relative number of the smaller farms in conjunction with the decline in aggregate farm acreage during the last ten years indicates a tendency to subdivide the large farms into smaller ones.

The following table shows the increase or decrease in the size of farms in 1910, as compared with 1900:

Size.	Number of farms.		Increase or decrease.	
	1900.	1910.	Number.	Per cent.
Under 3 acres -----	1,492	1,269	-223	-14.9
3 to 9 acres -----	5,354	9,324	+3,970	+74.2
10 to 19 acres -----	8,236	11,932	+3,696	+44.9
20 to 49 acres -----	13,110	20,614	+7,504	+57.2
50 to 99 acres -----	8,067	10,680	+2,613	+32.4
100 to 174 acres -----	13,196	12,015	-1,181	-8.9
175 to 259 acres -----	4,635	4,689	+54	+1.2
260 to 499 acres -----	8,370	7,862	-508	-6.1
500 to 999 acres -----	5,329	5,119	-210	-3.9
1,000 acres and over -----	4,753	4,693	-60	-1.3
Totals -----	72,542	88,197	+15,655	+21.6

Farm Tenure.

The number of all farmers is 88,197. Of these 66,632 are classed as owners, 3,417 as managers, and 18,148 as tenants.

Of the 66,632 owners, 56,500 operate land owned exclusively by them, while 10,132 operate land which they rent in addition to that which they own. The owners hold 75.5 per cent of all farms, tenants 20.6 per cent, and 3.9 per cent is operated by managers. The percentage of tenants for the State (20.6) is above the average for the Pacific States (17.2) but low in comparison with the percentage for the United States as a whole (37).

Farm Mortgages.

The number of mortgaged farms in 1910 amounted to 40.5 per cent of the total number of 66,632 owned by farmers who own all their land, exclusive of those for which no mortgage report was obtained. The percentage is considerably higher than it was in 1890 and 1900.

Owned Farms.

	Number.
Free from mortgage -----	39,368
Mortgaged -----	26,749
Unknown -----	515
Total -----	66,632

TABLE XXVI.

Mortgage Debt on Farms Operated by Owners in 1910.*

Counties.	Number free from mortgage	Number with mortgage	Number with no mortgage	Farms consisting of owned land only.			
				Number reporting debt.	Value of their land and buildings.	Amount of mortgage	Per cent of value of land and buildings
Alameda	1,204	467	19	384	\$3,691,870	\$958,687	26.0
Alpine	22	10		8	87,050	30,800	35.4
Amador	364	72	1	62	347,628	86,515	24.9
Butte	745	470	15	385	3,325,191	807,233	24.3
Calaveras	456	95	5	71	357,205	95,080	26.6
Colusa	251	196	2	123	1,443,045	444,355	30.8
Contra Costa	642	243	5	184	2,122,140	574,965	27.1
Del Norte	59	20		16	137,300	44,900	32.7
El Dorado	492	145	5	127	567,100	161,873	28.5
Fresno	2,072	3,128	27	2,734	24,983,327	6,388,563	25.6
Glenn	291	220	1	170	1,703,360	403,568	23.7
Humboldt	687	293	11	230	2,436,615	611,134	25.1
Imperial	584	236	4	194	2,867,600	697,384	24.3
Inyo	254	106	1	96	1,184,200	277,142	19.2
Kern	530	311	5	256	2,764,650	751,974	27.2
Kings	642	747	2	587	5,888,820	1,541,990	26.2
Lake	346	132	6	107	847,400	213,200	25.2
Lassen	290	122	2	108	1,464,400	272,163	18.6
Los Angeles	3,176	2,321	102	1,889	31,540,310	6,465,025	20.5
Madera	294	114	11	77	1,182,365	190,817	16.1
Marin	118	73	5	65	664,175	259,074	39.0
Mariposa	242	39	11	35	250,720	52,275	20.8
Mendocino	796	266	7	225	1,832,841	453,647	24.8
Merced	613	782	10	584	6,570,345	1,409,143	21.4
Modoc	432	159	3	130	1,786,230	354,669	19.9
Mono	63	12		10	230,900	52,350	22.7
Monterey	749	295	19	222	3,002,171	755,391	25.2
Napa	750	411	5	358	2,905,375	745,253	25.7
Nevada	398	76	2	63	260,165	56,270	21.6
Orange	1,294	1,228	9	957	12,557,760	2,984,955	23.4
Placer	478	269	1	217	1,614,735	371,680	23.0
Plumas	131	51	1	43	566,940	113,354	20.0
Riverside	1,279	996	16	816	11,969,410	2,953,463	24.7
Sacramento	673	326	12	273	3,894,145	840,241	21.6
San Benito	385	262	6	210	2,354,830	767,233	32.6
San Bernardino	1,344	1,178	10	961	17,434,500	3,958,213	22.7
San Diego	1,339	501	5	342	3,235,500	732,270	22.6
San Francisco	57	14	11	9	126,600	30,250	23.9
San Joaquin	1,181	1,172	17	887	8,729,605	2,272,853	26.0
San Luis Obispo	710	341	5	193	1,779,070	489,925	27.5
San Mateo	249	47	6	39	610,350	103,505	17.0
Santa Barbara	533	227	4	134	2,790,140	706,315	25.3
Santa Clara	2,092	1,500	30	1,186	11,700,415	3,391,948	29.0
Santa Cruz	671	410	7	357	3,667,630	815,705	22.2
Shasta	658	177	4	147	919,980	211,200	23.0
Sierra	72	21		17	160,500	48,350	30.1
Siskiyou	688	251	9	210	2,760,855	683,580	24.8
Solano	441	328	4	237	3,732,565	992,293	26.6
Sonoma	2,254	1,498	19	1,399	11,018,235	3,009,142	27.3
Stanislaus	890	1,301	9	972	9,721,155	2,394,773	24.6
Sutter	362	307	5	225	3,076,708	785,106	25.5
Tehama	518	288	4	241	2,061,515	548,342	26.4
Trinity	233	40	1	36	221,425	51,498	23.3
Tulare	1,778	1,511	18	1,197	15,911,023	3,263,701	20.5
Tuolumne	269	71	2	63	378,650	98,677	26.1
Ventura	497	393	5	229	6,013,275	1,098,618	18.3
Yolo	482	397	8	283	4,329,746	1,154,656	26.7
Yuba	248	83	1	50	417,430	114,374	27.4
Totals	39,368	26,749	515	21,430	\$250,199,190	\$60,036,660	24.0

Irrigation.¹

Of the 88,197 farms in the State 39,352, or rather more than two fifths (44.6 per cent), are irrigated. The total acreage irrigated is 2,664,104 acres, or 23.4 per cent of the improved land in farms. The enterprises existing in 1910 were capable of supplying water to 3,619,378 acres, and the total acreage included in irrigation projects, completed or under way, was 5,490,360 acres.

The following table shows the number of farms irrigated in comparison with the total number of farms in the State, the total land area, the total land in farms, and the total acreage of improved land in farms, together with the areas not yet irrigated for which water was available, and the acreage included in projects completed or under way:

Land and farms.	1900.	1910.	Increase or decrease.	
			Amount.	Per cent.
Number of all farms.....	72,542	88,197	15,655	21.6
Approximate and area of state....	99,617,280	99,617,280		
Land in farms	28,828,951	27,931,444	-897,507	-3.1
Improved land in farms.....	11,958,837	11,389,894	-568,943	-4.8
Number of farms irrigated.....	25,675	39,352	13,677	53.3
Acreage irrigated	1,446,114	2,664,104	1,217,990	84.2
Acreage enterprises capable of irrigating	*	3,619,378		
Acreage included in projects.....	*	5,490,360		
Percentage irrigated of number of all farms	35.4	44.6	9.2	
Approximate land area of state....	1.5	2.7	1.2	
Land in farms	5.0	9.5	4.5	
Improved land in farms.....	12.1	23.4	11.3	
Excess of acreage enterprises were capable of irrigating over acreage irrigated in 1910.....		955,274		
Excess of acreage included in projects over acreage irrigated in 1910		2,826,256		

¹For complete details see Part VI.

*No record.

TABLE XXVII.

Number of Farms, Improved and Unimproved Acreage in Farms, 1890 and 1900.

Counties.	1890.			1900.		
	Number of farms.	Acres improved.	Acres unimproved.	Number of farms.	Acres improved.	Acres unimproved.
Alameda	1,822	222,885	75,961	2,787	226,118	172,171
Alpine	31	4,450	5,330	37	4,391	11,290
Amador	700	71,173	136,999	560	48,936	165,088
Butte	1,186	360,273	144,265	1,179	302,029	375,051
Calaveras	483	70,118	78,442	575	41,402	171,428
Colusa	1,028	772,355	175,227	582	358,227	191,785
Contra Costa	1,069	260,236	35,857	1,511	262,617	143,946
Del Norte	112	15,085	18,406	131	9,787	23,328
El Dorado	744	51,602	125,700	759	45,481	163,839
Fresno	2,350	951,490	421,849	3,290	786,337	498,399
Glenn				529	355,781	221,582
Humboldt	1,232	380,644	167,148	1,500	77,238	571,273
Inyo	225	46,242	22,014	424	43,740	97,319
Kern	730	139,659	572,471	1,098	324,031	1,247,075
Kings				932	262,148	125,357
Lake	664	105,468	97,594	723	41,414	170,762
Lassen	507	100,948	141,413	555	133,266	247,843
Los Angeles	3,828	436,792	323,141	6,577	518,744	376,919
Madera				523	277,721	206,938
Marin	422	191,285	66,432	462	47,533	274,841
Mariposa	384	37,024	107,865	381	14,003	146,153
Mendocino	932	159,310	413,565	1,452	73,907	669,017
Merced	798	626,596	252,362	999	613,376	1,089,591
Modoc	613	157,330	94,579	638	122,647	120,825
Mono	108	50,972	28,551	112	65,238	120,225
Monterey	1,678	479,350	565,862	1,850	373,605	713,427
Napa	1,204	147,311	141,436	1,336	111,966	207,361
Nevada	601	33,067	84,810	522	24,898	96,835
Orange	1,406	192,559	72,681	2,388	236,847	362,589
Placer	1,023	140,023	138,683	1,076	121,063	319,303
Plumas	210	104,811	21,146	267	57,351	127,098
Riverside				2,340	216,033	211,064
Sacramento	1,285	341,601	97,849	1,392	327,159	341,267
San Benito	740	270,274	214,087	907	168,698	344,021
San Bernardino	1,924	126,479	181,366	2,350	96,920	122,212
San Diego	2,474	238,942	648,854	2,698	229,791	597,628
San Francisco	145	3,103	366	304	3,829	4,390
San Joaquin	1,380	559,784	11,487	1,966	652,923	98,142
San Luis Obispo	1,788	273,179	811,219	1,813	412,356	622,124
San Mateo	602	117,581	50,452	551	72,429	77,515
Santa Barbara	853	237,178	284,092	1,149	202,982	719,629
Santa Clara	2,177	281,351	164,184	8,995	290,285	420,401
Santa Cruz	916	76,125	49,896	1,274	62,849	99,589
Shasta	950	88,547	192,823	1,221	86,540	260,580
Sierra	107	22,044	22,551	141	26,687	47,922
Siskiyou	517	90,976	138,017	931	181,029	271,830
Solano	1,213	366,419	65,491	1,151	344,058	136,493
Sonoma	2,886	308,080	398,973	3,676	221,374	563,690
Stanislaus	713	654,041	87,427	951	622,700	207,992
Sutter	642	225,997	31,959	728	206,877	86,410
Tehama	781	395,661	469,005	1,055	269,693	681,070
Trinity	220	12,622	55,135	272	14,144	51,894
Tulare	2,193	588,118	340,559	2,212	546,289	513,438
Tuolumne	219	23,491	44,637	457	36,461	168,297
Ventura	764	137,349	187,180	1,269	174,419	377,940
Yolo	866	308,923	66,741	1,214	351,213	200,852
Yuba	459	165,916	60,315	483	154,013	158,308
Totals	52,894	12,222,839	9,204,454	72,542	11,958,837	16,870,114

TABLE XXVIII.

Improved and Unimproved Farm Land by Counties, 1910.

Counties.	Number of farms.	Average acreage of farms.	Improved land.	Wood land in farms.	Other unimproved land.	Total land in farms.
Alameda	2,422	128.5	177,314	51,484	82,529	311,327
Alpine	42	762.0	7,579	7,597	16,828	32,004
Amador	537	543.3	46,969	114,960	129,801	291,730
Butte	1,500	327.2	247,097	119,126	124,554	490,777
Calaveras	632	429.4	59,104	149,642	62,655	271,401
Colusa	667	783.2	336,509	38,252	147,615	522,376
Contra Costa	1,465	277.4	262,152	28,766	115,515	406,433
Del Norte	114	315.3	12,439	10,574	12,934	35,947
El Dorado	716	294.5	41,682	137,057	32,142	210,881
Fresno	6,245	177.2	590,205	93,194	423,217	1,106,616
Glenn	663	740.9	309,765	67,665	113,768	491,198
Humboldt	1,534	418.9	105,248	174,354	362,934	642,536
Imperial	1,322	169.1	176,069	1,138	46,395	223,602
Inyo	438	251.5	38,698	1,631	69,813	110,142
Kern	1,167	1,202.5	315,387	235,014	852,949	1,403,350
Kings	1,837	203.5	196,569	6,724	170,530	373,823
Lake	603	360.6	42,768	71,388	103,308	217,464
Lassen	502	589.1	122,057	27,688	145,983	295,728
Los Angeles	7,919	95.7	418,998	18,051	320,936	757,985
Madera	573	1,083.2	391,086	41,612	187,965	620,663
Marin	498	529.0	93,115	49,978	120,349	263,442
Mariposa	330	624.4	37,017	85,150	83,892	206,059
Mendocino	1,356	532.0	82,578	247,758	390,989	721,325
Merced	1,856	626.2	607,742	49,818	504,607	1,162,167
Modoc	736	557.2	164,784	75,668	169,682	410,134
Mono	91	1,271.1	43,382	8,308	63,987	115,672
Monterey	1,658	692.0	371,509	140,377	635,530	1,147,416
Napa	1,537	234.6	101,114	193,578	65,888	360,580
Nevada	544	322.4	24,542	48,449	102,407	175,396
Orange	3,165	117.4	189,463	4,476	177,753	371,692
Placer	1,062	233.6	98,608	32,194	117,278	248,080
Plumas	221	607.5	54,281	27,238	52,740	134,259
Riverside	2,688	193.8	278,151	30,231	212,424	520,806
Sacramento	1,601	295.5	275,682	20,964	176,398	473,044
San Benito	921	591.0	186,573	52,466	305,262	544,301
San Bernardino	2,949	70.7	136,625	23,137	48,634	208,396
San Diego	2,298	363.1	234,045	71,020	529,361	834,426
San Francisco	157	13.3	1,562	289	240	2,091
San Joaquin	3,286	232.2	611,762	35,387	115,899	763,048
San Luis Obispo	1,714	926.9	326,928	174,891	1,086,841	1,588,660
San Mateo	665	241.6	100,800	27,334	32,521	160,655
Santa Barbara	1,355	826.9	215,552	276,071	628,852	1,120,475
Santa Clara	4,731	155.3	237,170	153,835	343,814	734,819
Santa Cruz	1,466	107.3	66,875	44,157	46,276	157,308
Shasta	1,010	385.4	96,217	151,113	141,888	389,218
Sierra	110	765.6	30,794	18,168	35,258	84,220
Siskiyou	1,114	409.2	186,147	82,544	187,185	455,876
Solano	1,143	415.5	310,452	44,534	119,880	474,866
Sonoma	4,772	156.0	248,271	278,507	217,866	744,644
Stanislaus	2,687	241.7	512,189	18,756	118,447	649,392
Sutter	873	441.5	199,510	13,956	171,996	385,462
Tehama	1,006	909.8	186,642	206,234	522,351	915,227
Trinity	308	296.5	13,300	31,882	46,128	91,310
Tulare	4,021	259.9	507,024	161,360	376,847	1,045,231
Tuolumne	386	500.2	36,407	62,215	94,450	193,072
Ventura	1,293	425.5	213,868	56,061	280,270	550,199
Yolo	1,255	369.2	317,268	77,576	68,539	463,383
Yuba	436	571.3	94,250	70,175	84,683	249,108
Totals	88,197	316.7	11,389,894	4,541,767	11,999,783	27,931,444

FARM CROPS.

In comparing one year with another it should be borne in mind that acreage is on the whole a better index of the general change or tendencies of agriculture than either the quantity or the value of the crops, since variations in quantity may be due largely to temporarily favorable or unfavorable climatic conditions, and variations in the value of the crops are largely affected by changes in prices. The acreage in fruit and nuts can not be given, as the extent of the industry has always been calculated by the number of trees only.

Crops.	Acreage 1909.	Value.
Cereals	1,970,492	\$28,039,826
Other grains and seeds	163,776	6,517,453
Hay and forage	2,533,347	42,187,215
Tobacco*	4	479
Cotton (including cotton seed)	324	12,776
Hemp	300	39,000
Hops	8,391	1,731,110
Broom corn	1,023	32,509
Sugar crops	79,604	4,335,358
Sundry minor crops	7	840
Potatoes and sweet potatoes and yams	72,799	5,235,073
Other vegetables	79,163	6,886,885
Flowers, plants, and nursery products	5,816	3,601,301
Small fruits	9,687	1,789,214
Totals	4,924,733	\$100,409,039
Seeds		\$800,758
Fruits and nuts		48,917,655
Forest products of farm		2,949,732
Miscellaneous		33,829
Totals		\$52,701,974

*This is an error; the production in 1909 was almost 9,000 pounds.

The total value of crops in 1909 was \$153,111,000, 60.6 per cent greater than in 1899, this increase being no doubt due in part to higher prices. The general character of California agriculture is indicated by the fact that somewhat less than one fifth (18.3 per cent) of the total value of crops in 1909 was contributed by the cereals, somewhat less than one third (31.9 per cent) by fruits and nuts, and more than one fourth (27.6 per cent) by hay and forage. The remainder, representing 22.2 per cent of the total, consisted mostly of potatoes and other vegetables, grains and seeds, other than cereals, sugar crops, and flowers and plants and nursery products. The combined acreage of the cereals is hardly four fifths that of hay and forage. Barley is the leading cereal, both its acreage and value, being almost three fifths those of all cereals combined. Wheat ranks second, with oats, corn and Kaffir corn and Milo maize ranking in the order named in both acreage and value. Of the hay and forage crops, by far the most important is "grains cut green." Dry edible beans, potatoes, and hops are among the principal crops when value is considered.

Summary of California Crops Harvested in 1909.

(Compiled from reports of the Bureau of the Census.)

Crop cereals.	Number of farms reporting.	Acres.	Amount, bushels.	Value.
Corn -----	5,728	51,935	1,273,901	\$1,077,411
Oats -----	2,477	192,158	4,143,688	2,637,047
Wheat, total -----		478,217	6,203,206	6,323,983
Common winter -----	3,628	413,687	5,168,210	5,311,387
Common spring -----	1,075	64,070	1,029,907	1,006,819
Durum or macaroni -----	7	460	5,089	5,777
Emmer and spelt -----	19	840	19,755	13,758
Barley -----	7,597	1,195,158	26,441,954	17,184,508
Buckwheat -----	26	849	14,681	11,569
Rye -----	193	7,027	70,683	65,846
Kaffir corn and Milo maize -----	2,521	44,308	938,049	725,704
Total cereals -----		1,970,492	39,105,917	\$28,039,826
Hay and forage—			Tons.	
Timothy alone -----	370	13,725	20,001	\$185,579
Timothy and clover mixed -----	958	46,661	73,183	629,575
Clover alone -----	703	8,519	20,380	213,289
Alfalfa -----	19,904	484,134	1,639,707	13,088,530
Millet or Hungarian grasses -----	101	2,142	2,638	27,483
Other tame or cultivated grasses -----	2,274	90,414	119,415	1,253,428
Wild, salt or prairie grasses -----	3,679	253,127	281,033	2,028,494
Grains cut green -----	39,397	1,604,745	2,019,526	24,056,727
Coarse forage -----	2,175	25,868	60,611	438,095
Root forage -----	1,021	4,012	90,586	266,015
Totals -----	53,760	2,533,347	4,327,130	\$42,187,215
Sundry crops—			Bushels.	
Potatoes -----	12,533	67,888	9,824,005	\$4,879,449
Sweet potatoes and yams -----	1,133	5,111	572,814	355,624
Tobacco -----	12	4	¹ 4,502	479
Cotton -----	18	324	² 183	11,744
Cotton seed (estimated), 92 tons -----				1,032
Hops -----	273	8,391	¹ 11,994,953	1,731,110
Hemp -----	2	300	¹ 600,000	39,000
Broom corn -----	24	1,023	¹ 614,250	32,509
Sundry minor crops -----		7		840
Other grains and seeds:			Bushels.	
Dry edible beans -----	3,054	157,987	3,328,218	\$6,295,457
Horse beans -----	67	150	5,534	5,659
Dry peas -----	262	2,959	57,468	101,016
Peanuts -----	42	99	2,991	2,889
Flaxseed -----	8	240	1,882	3,224
Mustard seed -----	66	1,964	63,365	100,731
Sorghum cane seed -----	14	103	1,147	1,997
Sunflower seed -----	21	257	6,855	6,264
Timothy seed -----	4		357	1,065
Clover seed -----	10		310	2,823
Alfalfa seed -----	347		23,791	200,823
Other tame grass seed -----	5		1,077	1,323
Flower and garden seeds -----	109			594,724
Totals -----		163,776	3,467,885	\$6,517,453

¹Pounds. ²Bales.

Sugar Crops, 1899 and 1909.

(Sugar beets and sorghum cane.)

Product.	Number of farms.	Acres.	Production.		
			Amount.	Unit.	Value.
Sugar beets—					
1899 -----	863	41,242	356,535	tons	\$1,550,346
1909* -----	1,113	78,957	845,191	tons	4,320,532
Sorghum cane—					
Total cane, 1899 -----					3,788
In 1899 cane grown -----	54	140	1,085	tons	
In 1899 cane sold as such -----			6	tons	10
In 1899 syrup made -----			8,671	gallons	3,778
Total cane, 1909 -----					14,826
In 1909 cane grown -----	48	647	3,021	tons	
In 1909 syrup made -----	8		4,330	gallons	2,340

Includes beets and cane used as forage.

The cultivation of the beet greatly improves the land. According to a Leipzig University professor, the following was the average increase in ten years on one estate:

	Yield before beet culture (bushels per acre).	Yield after beet culture (bushels per acre).	Per cent increase because of beet culture.
Wheat -----	24.5	41.3	68.6
Rye -----	28.4	40.8	43.7
Oats -----	61.8	75.3	21.8
Barley -----	23.2	43.5	87.5
Potatoes -----	218.6	238.0	8.97
Rape -----	23.2	48.8	110.0

Size of Crops.

The acreage sown to wheat and other cereal crops in California has greatly decreased in recent years, the land being devoted to orchards and vineyards, which yield a much higher profit. California, however, has held the first place in the production of barley for a number of years, as far back as the year 1852. The area in barley has been upwards of 1,000,000 acres since 1901, the largest area being in 1910, with 1,195,000 acres. The yield per acre varied from 16.7 in 1900 to 31.0 in 1910, when the production was 46,500,000 bushels, or the largest on record.

Buckwheat has never been grown to any extent in California, therefore, the production being so small, regular records have not been kept. The area under cultivation is but a few hundred acres, and the production from 10,000 to 15,000 bushels.

The production of corn has also fallen off; the acreage was between 100,000 and 161,000 in former years, the highest production being in 1891, when it amounted to upwards of 5,570,000 bushels. In 1910 it only amounted to 1,273,000 bushels.

In oats the acreage has increased from 153,000 acres in 1900 to 192,000 in 1910.

Rye has always been a small crop in California, and the area and production have fallen off greatly in recent years, the acreage being 62,925 in 1900 and 7,027 in 1910 and the production 524,451 and 70,682 bushels, respectively.

Broom Corn.

This crop has never been grown to any extent in California. The production from 1880 to 1910 has been: In 1880, 191,600 pounds; 1890, 815 acres and 611,975 pounds; 1900, 1669 acres, 1,146,000 pounds, and 1910, 1023 acres and 614,250 pounds.

Certain varieties have been cultivated for different purposes in India, China, and parts of Africa for some centuries, but the United States, Italy, France, and Germany are the only countries which produce it solely for broom straw.

Illinois has long been the leading state in production, the amount in California being comparatively small.

In wheat, the production has decreased heavily between 1900 and 1910, while potatoes, hay, and hops all show an increase.

Remarkable Changes in Last Decade.

The reports of the Census Bureau show the following variations in crops between 1900 and 1910: The leading crops of California for 1909, ranked in the order of valuation, were: Hay and forage, \$42,187,000; barley, \$17,185,000; wheat, \$6,323,983; dry edible beans, \$6,292,955; potatoes, \$4,879,449; oats, \$2,637,047; hops, \$1,731,110, and corn, \$1,077,411.

Increase in Hay and Forage.

For the decade ending 1909, hay and forage showed an increase of 293,710 acres, or 13.1 per cent. Starting with 758,024 acres in 1879, hay and forage rose to 1,431,574 acres in 1889 to 2,239,601 in 1899, and finally to 2,533,311 in 1909. Hence, during the thirty-year period, hay, and forage has increased more than two and one third times. The aggregate yield in 1909 was 4,327,130 tons; the average yield per acre, 1.7 tons; the average value per acre, \$16.65.

During the last ten years barley increased 165,511 acres, or 16.1 per cent. From 586,350 acres in 1879, barley rose to 815,995 by 1889, to 1,029,647 by 1899, and again to 1,195,158 by 1909. Hence, during the last thirty years, barley has more than doubled. The total yield in 1909 was 26,441,954 bushels; average yield per acre, 22 bushels; the average value per acre, \$14.40.

Tremendous Decrease in Wheat.

In the decade between 1899 and 1909 wheat decreased 2,205,188 acres, or 82.2 per cent. From 1879, when 1,832,429 acres were harvested, wheat rose in 1889 to 2,840,807, but fell in 1899 to 2,683,405, and again in 1909 to 478,217. The aggregate yield in 1909 was 6,203,206 bushels; the average yield per acre, 13 bushels; the average value per acre, \$13.20.

Dry Edible Beans More than Triple.

From 45,861 acres in 1899, dry edible beans rose to 157,825 in 1909, an increase of 111,964 acres, or 244.1 per cent. Previous to 1899 no acreage for dry edible beans was reported. The total production in

1909 was 3,323,608 bushels; the average yield per acre, 21 bushels; the average value per acre, \$39.85.

Increase in Potatoes.

From 1899 to 1909, potatoes increased 25,590 acres, or 60.8 per cent. From 38,178 acres in 1889, potatoes rose by 1889 to 42,098, and again by 1909 to 67,688. The total yield in 1909 was 9,824,005 bushels; the average yield per acre, 145 bushels; the average value per acre, \$72.10.

Gain in Oats.

In the decade ending 1909, oats increased 38,424 acres, or 25 per cent. Starting with 49,947 acres in 1879, oats rose to 57,569 in 1889, to 153,734 in 1899, and finally 192,158 in 1909. The aggregate yield in 1909 was 4,143,688 bushels; the average yield per acre, 22 bushels; the average value per acre, \$13.70.

Advance in Hops.

During the decade from 1899 to 1909, hops increased 1,501 acres, or 21.8 per cent. From 1,119 acres in 1879, hops advanced to 3,974 by 1889, to 6,890 by 1899, and to 8,391 by 1909. The total yield in 1909 was 11,994,953 pounds; the average yield per acre, 1,430 pounds; the average value per acre, \$206.30.

Slight Decrease in Corn.

Corn showed a decrease for the decade ending 1909 of 1,995 acres, or 3.7 per cent. From 1879, when 71,781 acres were harvested, corn dropped to 70,303 in 1889, to 53,930 in 1899, and to 51,935 in 1909, a constant and consistent decrease. The total yield in 1909 was 1,273,901 bushels; the average yield per acre, 25 bushels; the average value per acre, \$20.75.

Crop Comparisons.

The cereals had an acreage of 1,970,492 acres in 1909, as compared to 4,004,254 in 1899, a decrease of 2,033,762 acres, or 50.8 per cent.

Wheat showed the largest decrease. Corn showed the highest average value per acre, rye the lowest. Of the hay and forage crops, "grains cut green" ranked first, constituting about three fifths of the total acreage.

Increase or Decrease in Counties.

Of the different counties of the State, more than one half show increases in the acreage of hay and forage. With three exceptions, all the counties reporting decreases in such acreage are located in the northern half of the State. The largest absolute increase is found in San Joaquin County and the largest absolute decrease in Los Angeles County. Although an increase in the acreage of barley is reported for the State as a whole, more than one half of the counties show decreases. As in the case of hay and forage the decreases are found principally in the northern half of the State. The greatest absolute increase is reported from Riverside County, and the greatest absolute decrease from Santa Clara County. More than one half of the total acreage of the State is reported from San Joaquin County.

In the acreage of wheat only five counties show increases. Two of these, Alpine and Mono, are located near the middle of the eastern

boundary line; two, Modoc and Lassen, are in the extreme northeast corner; and the remaining one, Ventura, is on the southwest coast, northwest of Los Angeles. The greatest decrease in the acreage of wheat reported for any county was 272,116 acres for Stanislaus County. Slightly more than one half of the total acreage of dry edible beans is reported from Santa Barbara and Ventura counties on the southwest coast. All the counties reporting increases in the acreage of oats belong to one of four distinct groups, the first consisting of four counties, Modoc, Lassen, Trinity, and Shasta, in the northern part of the State; the second, of two counties, Glenn and Sutter, just north of the center; the third, of ten counties in the central and east central parts of the State; and the fourth, of six counties in the extreme southern part of the State. The largest absolute increase is recorded for Stanislaus County, and the largest absolute decrease for Sonoma County. Hops are reported from less than one third of the counties, and two of these, Sonoma and Mendocino, situated on the northwest coast, together report more than one half of the total acreage. Nearly one fifth of the corn acreage is reported from Los Angeles County, about one half of the potato acreage from Contra Costa and San Joaquin counties, and about one fourth of the acreage of kaffir corn and milo maize is reported from Tulare County.

Value of Farm Crops by Counties.

The leading counties in the production of various crops classed according to value, are as follows:

Cereals.

(Value of \$1,000,000 and upward.)

San Joaquin	\$3,238,000	Solano	\$1,292,000
Monterey	1,695,000	Madera	1,220,000
Merced	1,691,000	Yolo	1,032,000
Colusa	1,578,000	Tulare	1,442,000
Stanislaus	1,315,000		

Hay and Forage.

(Value of \$1,000,000 and upward.)

Los Angeles	\$3,430,000	Stanislaus	\$1,424,000
San Joaquin	1,763,000	Tulare	1,362,000
Fresno	1,702,000	Merced	1,355,000
Riverside	1,624,000	Kings	1,171,000
Contra Costa	1,617,000	Sonoma	1,170,000
Santa Clara	1,587,000	Monterey	1,125,000
Alameda	1,547,000	San Diego	1,110,000

Vegetables.

San Joaquin	\$2,149,000
Los Angeles	1,255,000
Contra Costa	1,125,000

The following statement shows at a glance the changes that have taken place in the cultivation of the principal farm crops during the last sixty years:

SUMMARY OF FARM CROPS, 1850-1910.*

(Compiled from the reports of the Bureau of the Census.)

Year.	Barley.		Buckwheat.		Corn.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
1850		9,712				12,236
1860		4,415,426		76,887		510,708
1870		8,783,490		21,928		1,221,222
1880	586,350	12,463,561	1,012	22,307	71,781	1,993,325
1890	815,995	17,548,386	664	10,388	70,303	2,381,270
1900	1,029,647	25,149,335	395	7,835	53,930	1,477,093
1910	1,195,158	26,441,954	849	14,681	51,935	1,273,901

Year.	Oats.		Rye.		Wheat.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
1850						17,328
1860		1,043,006		52,140		5,928,470
1870		1,757,507		26,275		16,676,702
1880	49,947	1,341,271	20,281	181,681	1,832,429	29,017,707
1890	57,569	1,463,068	27,413	248,871	2,840,807	40,869,337
1900	153,734	4,972,356	62,925	524,451	2,683,405	36,534,407
1910	192,158	4,143,688	7,027	70,683	478,217	6,203,206

Year.	Potatoes.		Hay.		Hops.	
	Acres.	Bushels.	Acres.	Tons.	Acres.	Pounds.
1850		9,292		2,038		
1860		1,789,463		305,655		80
1870		2,049,227		551,773		625,064
1880		4,550,565	758,024	1,045,119		1,444,077
1890	38,178	3,664,920	1,431,574	2,218,285	3,974	6,547,338
1900	42,098	5,242,596	2,339,601	3,035,266	6,890	10,124,600
1910	67,688	9,824,005	2,533,347	4,327,130	8,391	11,994,953

*When blank, the acreage or production, if any, was not reported.

Summary of the Principal Crops in California—1911-1912.

(Compiled from reports of United States Department of Agriculture.)

Crop.	Acreage.	Average yield, United States, per acre.	Average yield per acre, California, bushels.	Production, bushels.	Price per bushel, December 1.	Farm value on basis of price, December 1.
Barley	1,450,000	21.0	28.0	40,600,000	\$0 85	\$34,510,000
Buckwheat		21.1				
Corn	51,000	23.9	36.0	1,836,000	90	1,652,000
Oats	210,000	24.4	34.0	7,140,000	59	4,213,000
Rye		15.6				
Wheat	480,000	12.5	18.0	8,640,000	88	7,603,000
Potatoes	72,000	90.9	135	9,720,000	90	8,748,000
Hay	2,500,000	*1.14	*1.75	4,375,000	*10 90	47,688,000
1912.						
Barley	1,392,000	29.7	30.0	41,760,000	0 70	29,232,000
Buckwheat						
Corn	52,000	29.2	37.0	1,924,000	85	1,635,000
Oats	200,000	37.0	39.0	7,800,000	55	4,290,000
Rye	8,000	16.8	17.6	141,000	90	127,000
Wheat	370,000	15.9	17.0	6,290,000	93	5,850,000
Potatoes	78,000	113.4	130	10,140,000	65	6,591,000
Hay	2,500,000	*1.47	*1.53	3,825,000	*13 70	52,402,000

*Tons.

It is a remarkable fact, and worthy of notice, that the average yield per acre for each of the above crops is much above the average for the whole of the United States.

BEET-SUGAR.

The first experiment in beet-sugar in the United States was made in 1830, but until 1879 the industry was a failure.

California is recognized as the principal beet-sugar producing state in the Union. All the coast valleys of California are favorably situated in respect to temperature, for the production of sugar beets, and the same may be said of certain lands in other parts of the State. The first factory successfully operated in this country was established at Alvarado in 1879. In that year, four factories were in operation, two in California, one in Maine, and one in Delaware, but with the exception of the Alvarado factory, all were failures. With the building of a factory at Watsonville by Claus Spreckels, and others by the Oxnard Bros., the industry rapidly developed. The bounty paid under the provisions of the tariff act of 1890, amounting to two cents a pound, proved a powerful stimulus to investments in beet-sugar manufacture. Since the repeal of this act, protective tariff has favored the domestic manufacture of sugar. In California there is a larger acreage that is well adapted to the growing of sugar beets than is found in any other state in the Union.

The following table gives a complete list of beet-sugar plants in California, with their names and location of the factories. It also shows the daily slicing capacity, expressed in tons of beets, for each factory.

Beet-sugar Companies and Factories of California.

Manufacturing companies in California.	Factory locations.	Daily slicing capacity, tons of beets.
Alameda Sugar Company-----	Alvarado, Alameda County-----	800
Los Alamitos Sugar Company-----	Los Alamitos, Orange County---	700
Spreckels Sugar Company-----	Spreckels, Monterey County-----	3,000
Union Sugar Company-----	Betteravia, Santa Barbara Co....	600
American Beet Sugar Company----	Chino, San Bernardino County--	900
	Oxnard, Ventura County-----	2,000
The Southwestern Sugar Company.	Corcoran, Kings County-----	600
Sacramento Valley Sugar Company	Hamilton City, Glenn County---	700
Holly Sugar Company-----	Huntington Beach, Orange Co....	750
Anaheim Sugar Company-----	Anaheim, Orange County-----	900
Santa Ana Co-operative Sugar Company -----	Santa Ana, Orange County-----	600
San Joaquin Valley Sugar Company -----	Visalia, Tulare County-----	400
Southern California Sugar Company -----	Santa Ana, Orange County-----	*
Total-----		10,850

*Did not run.

In 1912 there were twelve factories working which use 1,037,283 tons of beets, producing 161,300 tons of sugar, the percentage of sucrose being 18.95 per cent, or higher than in any other state. The acreage harvested amounted to 99,545. In the Sacramento Valley the acreage was 7,800, from which 74,500 tons were harvested. The lowest price paid for beets in 1912 was \$4.00 per ton, and the highest, \$5.80. In 1911 the prices were \$4.57 to \$6.05. The reason for the lower price in 1912 was due to the rains of September and October, which affected the sugar contents of the beets.

In Southern California the acreage in sugar beets in 1912 was between 45,000 and 50,000; and the production of sugar about 1,500,000 bags of 100 pounds each. The quantity of beets raised was 475,000 tons, and the price of beets from \$4.50 to \$9.90 per ton.

Beet-sugar.

(Duty on sugar beets, 10 per cent ad valorem; other beets, 25 per cent ad valorem.)

Year.	California production.	Imported raw beet sugar.	
	Pounds.	Pounds.	Value.
1885	1,343,150		
1886	1,688,260		
1887	3,750,000		
1888	4,280,500	61,949,752	\$1,594,776
1889	5,170,350	243,473,321	6,957,883
1890	9,250,200	601,119,476	18,348,417
1891	8,175,450	658,994,380	18,232,277
1892	8,624,890	293,134,261	8,081,170
1893	21,801,330	436,333,843	12,846,509
1894	40,204,100	510,350,276	15,793,041
1895	49,232,700	347,376,732	6,993,282
1896	64,510,000	604,686,985	14,048,914
1897	70,740,000	1,865,577,495	33,689,158
1898	36,180,000	140,641,485	2,717,955
1899	64,890,000	723,336,352	15,269,397
1900	60,638,000	701,539,452	14,800,609
1901	137,400,000	908,683,078	20,028,575
1902	147,535,000	255,030,219	4,202,044
1903	131,080,000	87,130,805	1,223,023
1904	118,394,000	2,414,454	50,525
1905	122,500,000	223,944,976	4,797,278
1906	178,000,000	48,548,919	1,032,040
1907	154,800,000	397,745,046	8,203,309
1908	195,000,000	221,036,900	5,401,378
1909	245,000,000	98,625,908	2,521,798
1910	289,493,000	1,148	43
1911	325,076,000	24,669,287	593,037
1912	317,363,000	6,504,260	239,484

Beet-sugar Produced in the United States, 1852-1910.

Period.	Beet sugar, pounds.	Period.	Beet sugar, pounds.	Period.	Beet sugar, pounds.
1852-60		1895-96	65,452,800	1904-5	484,226,430
1861-70	896,000	1896-97	84,080,640	1905-6	625,841,228
1871-80	851,200	1897-98	90,491,520	1906-7	967,224,000
1881-90	2,353,568	1898-99	72,735,040	1907-8	927,256,430
1890-91	7,748,160	1899-00	163,453,075	1908-9	851,768,000
1891-92	11,997,440	1900-1	172,164,160	1909-10	1,024,938,000
1892-93	26,920,320	1901-2	369,211,733	1910-11	1,020,344,000
1893-94	44,688,000	1902-3	436,811,685	1911-12	1,199,000,000
1894-95	45,006,080	1903-4	481,209,087		

TABLE XXX.
Sugar Beets In 1899 and 1909, by Counties.

Counties.	1900.		1910.	
	Acres.	Tons.	Acres.	Tons.
Alameda	3,680	44,974	2,516	29,201
Alpine				
Amador				
Butte			711	6,977
Calaveras			1	1
Colusa	566	5,320	211	1,824
Contra Costa	524	3,688	40	250
Del Norte				
El Dorado				
Fresno			228	1,136
Glenn			1,264	9,766
Humboldt				
Imperial				
Inyo				4
Kern				
Kings				
Lake			504	1,304
Lassen				
Los Angeles			2	10
Madera	697	4,856	14,191	162,059
Marin				
Mariposa				
Mendocino				
Merced				
Modoc			2	24
Mono			9	137
Monterey				
Napa	10,333	112,367	9,900	126,397
Nevada				
Orange			39	78
Placer	1,143	7,853	10,275	133,612
Plumas				
Riverside				
Sacramento			4	33
San Benito	101	502	7	105
San Bernardino	1,080	6,587	283	3,826
San Diego	1,132	4,077	4,121	42,928
San Francisco			21	87
San Joaquin				
San Luis Obispo	423	2,537	132	1,429
San Mateo	285	1,384	284	5,938
Santa Barbara				
Santa Clara	2,426	11,388	11,320	90,849
Santa Cruz	4,214	12,373	1,135	8,186
Shasta	2,759	41,553	312	3,511
Sierra				
Siskiyou				
Solano			128	245
Sonoma	400	4,000	4	16
Stanislaus	580	5,600		
Sutter				
Tehama			27	280
Trinity				
Tulare				
Tuolumne			1,239	9,447
Ventura				
Yolo	10,899	87,476	14,333	149,713
Yuba			5,714	55,788
Totals	41,242	356,535	78,957	845,196

Sorghum Syrup.

Sorghum was first introduced into the United States in 1853; in 1857, about 16 varieties of African sorghum were introduced and grown in Georgia and South Carolina. It was at first thought that the crop would supply a large part of the nation's sugar, on account of its wider distribution than sugar cane or sugar beets, its large yield per acre, and ease and cultivation. It was found, however, to contain a large percentage of gummy material which prevented crystallization.

Tennessee, Missouri, and Kentucky are the largest producers, but since 1880 the total sorghum syrup in the United States has greatly fallen off and the quantity is comparatively small.

Year.	Gallons.
1860 -----	552
1870 -----	333
1880 -----	2,459
1890 -----	1,670
1900 -----	8,671
1910 -----	4,330

HOPS.

The United States is one of the three leading hop-producing countries of the world, the others being the United Kingdom and Germany. The leading states in the production of hops are California, Oregon, Washington, and New York.

Previous to 1840, the great bulk of the crop was produced in the New England states. Between 1840 and 1890, New York was the leading state, furnishing in some years 85 per cent of the total crop of the United States. As in other crops, there are many varieties; the seedless variety is grown mostly in Austria and Germany, while in the United States and England the seed hop is cultivated almost exclusively.

The total area devoted to the production of hops in California in 1909 was 8,391 acres, producing about 11,994,953 pounds of hops, valued at \$1,731,110. The climatic conditions and soil of California are more perfectly adapted to this crop than any other state in the Union, and its average production per acre is greater. The average production per acre in other hop-producing countries of the world has been estimated as follows: England, 905 pounds; Germany, 510 pounds; in the United States, 885 pounds, and in California, 1,469 pounds per acre.

The cultivation of hops in California has increased rapidly, as shown by the following figures:

California Hop Crop.

Year.	Acres.	Pounds.
1860 -----		80
1870 -----		625,064
1880 -----	1,119	1,444,077
1890 -----	3,974	6,547,338
1900 -----	6,890	10,124,660
1910 -----	8,391	11,994,953

NOTE.—The acreage was not reported prior to 1880.

For thirty years Sacramento held the first place in the production of hops, a place since taken by Sonoma County. The production of the four leading counties has been as follows (in pounds):

1890.		1900.	
Sacramento	2,134,606	Sonoma	3,118,200
Mendocino	824,721	Sacramento	2,384,600
Napa	51,151	Mendocino	1,418,500
Sonoma	1,263,610	Yuba	1,066,200

The highest and lowest prices per pound paid to growers during the last five years have been as follows:

Year.	Highest. Cents.	Lowest. Cents.
1908	14	7
1909	25	12
1910	30	15
1911	45	25
1912	22	13

HOPS.

(Duty, 16 cents per pound.)

Year.	California crop.		Exports.		Imports.	
	Bales*.	Pounds.	Pounds.	Value.	Pounds.	Value.
1885	26,000	4,810,000	7,055,289	\$1,391,854	1,642,086	\$433,706
1886	28,000	5,180,000	13,665,661	1,714,488	2,672,762	444,989
1887	32,600	5,936,000	260,721	54,970	18,538,049	3,404,669
1888	35,000	6,860,000	6,793,818	1,203,060	5,585,033	1,017,495
1889	35,400	6,938,000	12,589,262	2,823,832	4,176,158	1,155,472
1890	28,400	5,566,000	7,540,854	1,110,571	6,539,516	1,053,616
1891	36,150	7,085,400	8,736,080	2,327,474	4,019,603	1,797,406
1892	39,800	7,800,000	12,604,686	2,420,502	2,506,224	883,701
1893	51,400	10,074,400	11,367,030	2,695,867	2,691,244	1,085,407
1894	67,500	13,230,000	17,472,975	3,844,232	828,022	484,415
1895	52,000	10,192,000	17,523,388	1,872,597	3,133,664	599,744
1896	35,000	6,860,000	16,765,254	1,478,919	2,772,045	600,419
1897	45,000	8,820,000	11,426,241	1,304,183	3,017,821	629,987
1898	44,500	8,722,000	17,161,669	2,642,779	2,375,922	648,155
1899	59,000	11,564,000	21,145,512	3,626,144	1,319,319	591,755
1900	36,000	7,056,000	12,639,474	1,707,660	2,589,725	713,701
1901	48,000	9,360,000	14,963,676	2,466,515	2,606,708	851,008
1902	53,000	10,176,000	10,715,151	1,550,657	2,805,293	833,702
1903	56,000	10,752,000	7,794,705	1,909,951	6,012,510	1,808,491
1904	63,000	12,222,000	10,985,988	2,116,180	21,758,163	1,374,327
1905	67,500	13,095,000	14,858,612	4,480,666	4,339,379	1,980,804
1906	80,000	15,520,000	13,026,904	3,125,843	10,113,989	2,326,983
1907	82,000	16,072,000	16,809,534	3,531,972	6,211,983	1,974,900
1908	68,000	13,260,000	22,920,480	2,963,167	8,493,265	1,989,261
1909	69,000	12,765,000	10,446,884	1,271,629	7,386,574	1,337,099
1910	71,000	13,135,000	10,589,254	2,062,140	3,200,560	1,499,354
1911	87,000	16,095,000	13,104,774	2,130,972	8,557,531	2,706,600
1912	117,000	21,645,000	12,190,663	4,648,505	2,991,125	2,231,348

*A bale averages from 185 to 190 pounds net, the variation depending upon the quality and the compression of the hops.

Breweries.

In 1912 there were 78 breweries in California, and the consumption of beer was 1,129,370 barrels.

The import of hops is small, in 1912 being only 2,991,125 pounds, value \$2,231,348, nearly all from Germany and Austria-Hungary. The exports of domestic hops in 1912 amounted to 12,190,663 pounds, value \$4,648,505, of which the bulk, or 10,463,164 pounds, value \$3,991,664, was taken by the United Kingdom, and 1,325,506 pounds by Canada.

TABLE XXXI.
Hops. (Pounds.) By counties.

Counties.	1890.	1900.*	Counties.	1890.	1900.*
Alameda -----	39,000	507,000	Placer -----		
Alpine -----			Plumas -----		
Amador -----			Riverside -----		15,500
Butte -----			Sacramento -----	2,134,606	2,384,600
Calaveras -----	3,000		San Benito -----		40,000
Colusa -----			San Bernardino -----		
Contra Costa -----			San Diego -----		
Del Norte -----			San Francisco -----		
El Dorado -----	1,250		San Joaquin -----	188,000	
Fresno -----			San Luis Obispo -----		
Glenn -----			San Mateo -----		
Humboldt -----			Santa Barbara -----		
Imperial -----			Santa Clara -----		
Inyo -----			Santa Cruz -----	223,000	474,340
Kern -----			Shasta -----	20,000	38,400
Kings -----		1,500	Sierra -----		
Lake -----	61,681	195,100	Siskiyou -----		2,400
Lassen -----			Solano -----		
Los Angeles -----	14,000		Sonoma -----	1,263,610	3,118,200
Madera -----			Stanislaus -----		
Marin -----	11,349		Sutter -----	187,000	111,920
Mariposa -----			Tehama -----		
Mendocino -----	824,721	1,418,500	Trinity -----		
Merced -----	27,000		Tulare -----		4,000
Modoc -----	500	200	Tuolumne -----		
Mono -----			Ventura -----		
Monterey -----			Yolo -----	959,000	693,800
Napa -----	51,151	53,000	Yuba -----	538,470	1,066,200
Nevada -----					
Orange -----			Totals -----	6,547,338	10,124,660

COTTON.

Cotton is one of the most important crops grown in the United States, but it is only in the last three or four years that it became a recognized crop in California.

The first cotton grown in the United States was in Virginia, about 1721. The production of cotton, which was 4,000 bales of 500 pounds net in 1790, had increased in 1905 to 10,339,807 bales.

The acreage in the United States in 1912 was 34,766,000, the three leading states being: Texas, 11,390,000 acres; Georgia, 5,390,000 acres; Alabama and Mississippi nearly equal, with upwards of 3,000,000 acres each.

At the fair held by the State Agricultural Society in 1863, Jackson & Johnson of Sacramento County exhibited samples of cotton from a field of 25 acres. The only county growing cotton on a commercial scale within the last three years is Imperial County.

The first cotton produced in Imperial County was in 1909-10, and amounted to 300 bales. In 1910, the acreage reported was 10,000, and 12,000 acres in 1911. In 1910-1911 the production was 6,450 bales of 500 pounds and 5,258,000 pounds of lint. In 1911-1912 the production was 9,420 bales and 4,302,000 pounds of lint. In the season of 1912-1913 the acreage was 8,450 and the production 7,250 bales. The yield per acre was 390 pounds in 1911 and 430 pounds in 1912. This is the highest average in the United States, the next being Missouri in 1911 with 360 pounds, and North Carolina in 1912 with 271 pounds.

Ever since Imperial Valley was first settled, ten years ago, cotton has been raised experimentally. These experiments had been carried on with all varieties of seed, Upland, Long Staple, Bottom Land, and Egyptian. Finally, in 1909, the farmers incorporated and formed a ginning company. The results were most profitable to the planters, and the fact that cotton could be raised profitably in Imperial Valley was proven without a shadow of a doubt.

Durango cotton, which is long-staple Upland variety, was first grown in the Imperial Valley in 1911 by Mr. W. E. Wilsie on 3 acres of land near El Centro. In 1912 about 200 acres were planted by six growers from seed grown by Mr. Wilsie. Following the favorable results obtained in 1911 and 1912, it appears that between 6,000 and 7,000 acres will be planted to Durango Cotton in 1913. All the available supplies of Durango seed in Texas were purchased. A much larger acreage would be planted if more seed could be obtained. It is also estimated that about 20,000 acres more will be planted to short-staple cotton, chiefly of the Mebane (or Triumph) variety. This total estimate of 26,000 or more acres includes acreages to be planted in lower California adjoining the Imperial Valley, which are operated chiefly by residents of the valley and from which the crops are marketed through Imperial Valley points. The cotton industry of the Imperial Valley will be best served if proper means are taken during the season 1913 to insure a supply of select, pure Durango seed for planting in 1914.

The highest price paid for cotton during 1911-1912 was 11 cents and the lowest 8.20 cents. In 1910-1911 the highest was 14 cents and the lowest 11.50 cents. These prices are for "middling" cotton; the price for higher and lower grades varied accordingly to grade.

Preparation for the crop begins in February or March; planting is done mostly in March and April, and in a few cases up to June 15th. Picking may be begun in August, but not on a large scale before September 1st, and is usually finished by March 15th. Ginning is done at six gins, each with a capacity of forty bales per day, located at Brawley, Imperial, El Centro, Heber, and Calexico, built at a cost of \$60,000.

By far the greatest amount of cotton raised is of the Upland variety, being of $\frac{7}{8}$ inch to 1-1/16 inches staple. Grades are generally good in character, good middling to middling fair being obtained in considerable quantities through the season.

There is a cotton oil mill at El Centro, with a capacity of seventy-five tons of seed per day, built at a cost of \$100,000.

The average production per acre has steadily increased, being for the past season very close to a bale to the acre. The reason for the

decline in acreage for the past season under the season before is that during the season of 1911-1912 cotton declined greatly in price; moreover feed was extremely high in Imperial Valley, so many who intended to raise cotton planted corn and alfalfa.

This fluctuation in cotton acreage is not so likely to occur in the future, as many experienced planters from Texas and other points in the South are settling in the valley. These men are used to the ups and downs of the cotton market and realize that cotton may be raised in Imperial Valley under practically ideal conditions, and there is no reason why a bale to the acre at least can not be obtained this season. The acreage for this season, 1913-1914, will be greatly increased and will probably be in the vicinity of 25,000 acres. About one half of this will be in that part of Mexico adjoining Calexico and coming under the same irrigation system as this valley.

During the past season there was quite a little staple cotton raised in Imperial Valley, the bulk of it being of a Peeler type of seed called Durango. The production of this class of cotton was about 150 bales. It would average in staple about $1\frac{3}{16}$ to $1\frac{1}{4}$ inches and grades generally of good character. It cost but very little more to produce than the short staple cotton and commanded a premium in the past season, when it was even running, of 5 cents per pound. About one third of the acreage this season will be of this character of cotton.

There were also about 100 bales raised during the previous season from an acclimated Egyptian seed. This cotton brought an even better price than the Durango, but on account of the increased cost of picking will probably not be raised to any extent on this side of the line.

SILK.

The production of silk in California is named in the Census of 1870, when 3,587 pounds of silk cocoons were reported.

RICE.

If its importance as a food product is to be measured by the number of persons who consume it, rice must, without a doubt, be considered the greatest cereal, as it is more widely and generally used as a food material than any other. It was introduced for cultivation into the United States in 1647, when Sir Wm. Berkeley, then Governor of Virginia, received half a bushel of the grain from England. Up to 1860, the Carolinas and Georgia produced the entire commercial crop. Half a century ago, experiments were made in the cultivation of rice in California, but they were not successful. In 1860, small quantities were raised in Alameda, Tehama, San Mateo, Santa Cruz, and Sonoma, but the total amount produced was only 2,140 pounds. According to the reports of the United States Department of Agriculture, the acreage in the United States in 1911 was 696,300, the leading states being: Louisiana, 371,200 acres; Texas, 238,300 acres, and Arkansas, 71,600 acres. According to the reports of the United States Department of Agriculture, California had 100 acres in 1910 and 150 acres in 1911, the yield per acre being 33.0 bushels in 1910 and 40.0 bushels in 1911.

Experiments in California have been conducted on three types of soil, covering a large area in the Sacramento Valley. Three years' results

indicate the possibility of growing rice in this region on a commercial scale, the important thing now being to determine the varieties best adapted to the region. In the spring of 1909 the office of Grain Investigations of the Bureau of Plant Industry inaugurated tests to determine the adaptability of rice to the climate and soil of the Sacramento Valley on the east side of Butte Creek, 9 miles west of Biggs. Some of these tests yielded as much as 122, 131, and 154 bushels to the acre. In the Sacramento Valley rice requires a longer time to mature and produces smaller plants than when grown on the plains of the Gulf coast but it exhibits a greater capacity for tilling, with resultant larger yields.

The results from a two-year test of 300 varieties of rices on black adobe soil near Biggs, Cal., indicate the possibility of rice culture in the Sacramento Valley. The successful introduction of this crop is dependent upon an abundant supply of water, which must always be available during the growing season. The soil area adapted to rice in this valley is sufficiently large to produce many times the 55,000,000 pounds of cleaned rice which are consumed each year on the Pacific coast. How much of this area has sufficient available water for proper irrigation is uncertain, though for a good portion of it there is apparently an abundant supply. Increase in the rice acreage should therefore be made with care.*

The first crop was produced four years ago on the Balfour-Guthrie ranch, west of Biggs, Butte County, by Wm. Grant, the manager. Each year since then more acreage has been devoted to it, and it has been found that it can be successfully grown and made to produce more per acre than any other grain.

Its culture has opened up a new industry for lands which have hitherto been deemed unfit for anything but wheat, on account of the adobe conditions of the soil. The time of harvest varies, according to the variety, from August to November. The yield per acre varies a great deal according to the variety sown; in 1910, from 2,000 pounds to 6,700 pounds per acre were produced, and but for blackbirds the yield would have been heavier.

In 1911, from four acres of the Jap variety, 361 sacks, or over 90 sacks to the acre, was harvested; each sack contained 110 pounds. This rice was sold for seed, netting a return of over \$300 per acre. In 1911, about 180,000 pounds were grown on 55 acres of black adobe land in Butte County. There is no question but that rice growing will be profitable on the shallower clay soils of the State, where the water supply is sufficient for the requirements of the crop.

In 1912, the area planted in the Biggs section was increased to 900 acres, which produced 2,500,000 pounds of rice, which brought 2 cents a pound.

TOBACCO.

The first tobacco cultivated in the United States was at Jamestown, Va., in 1612. In those early days it was the medium of exchange and standard of value. The Virginians who settled Kentucky and Tennessee grew tobacco as early as 1810; since then the cultivation has spread enormously, twenty-four states now producing tobacco, some with only a few hundred acres, others with thousands. In 1912, the total acreage

*Report on Rice Growing, Circular No. 97, U. S. Department of Agriculture.

in the United States was 1,225,800, producing 962,855,000 pounds. In 1870, California first appears to have experimented with tobacco, Monterey raising 59,120 pounds, Colusa 1,000 pounds, and Fresno 40 pounds. Ten counties produced only 63,809 pounds. In 1880, San Benito headed the list with 64 acres and 59,100 pounds, Los Angeles 10 acres with 8,200 pounds, and nine other counties, the total amounting to 84 acres, with 73,317 pounds. In 1890, there were only 27 acres, which produced 12,907 pounds, San Benito again taking the lead, with 10,000 pounds.

The growing of tobacco in California during the last two years has developed considerably, and is now fully established as one of the products of the State, and (dependent upon the farmer) may become one of the largest crops in the San Joaquin Valley. There appears to be no reason why this section should not eventually produce tobacco on a scale comparative to other states and on a basis of at least corresponding profits.

For over four years extensive and exhaustive experiments in the production of tobacco from Turkish seed have been carried on at the Exeter Tobacco Ranch in Tulare County. There have been a number of types of tobacco experimented with, but the types that have been attended with the greatest success are such types as are suitable for cigarette manufacture. The tobacco raised during the last four years has been produced about equally by Fresno and Tulare counties, the total quantity being 7,500 pounds in 1909; 15,000 in 1910; 45,000 in 1911, and 150,000 in 1912. The 1912 crop sold at from 30 cents to 60 cents per pound; most of it averaged $47\frac{1}{2}$ cents. Some tobacco is also from Los Angeles County and the southern part of the State.

VEGETABLES.

The potato is the most important vegetable raised; the acreage in 1912 was 78,000, and the production 10,140,000 bushels, valued at \$6,591,000, an average of 130 bushels to the acre.

TABLE XXXII.

Potatoes and Sweet Potatoes.
Acreage.

Counties.	Potatoes.			Sweet potatoes.		
	1890.	1900.	1910.	1890.	1900.	1910.
Alameda	2,071	1,854	1,655	1	1	
Alpine	34	14	22			2
Amador	374	108	125	5		
Butte	194	152	171	12		1
Calaveras	19	65	147		2	21
Colusa	142	98	439	6	10	
Contra Costa	3,989	1,583	12,687		9	6
Del Norte	108	97	69		1	
El Dorado	90	71	113			
Fresno	230	253	218	23	27	
Glenn		36	24		4	57
Humboldt	1,581	1,173	1,108	1	1	1
Imperial			60			
Inyo	100	167	326	1	1	9
Kern	93	672	339	10	22	31
Kings		46	194		9	
Lake	174	141	182		7	19
Lassen	221	286	259	1		
Los Angeles	4,272	2,799	4,140	255	218	342
Madera		12	75		1	2
Marin	1,641	724	435			
Mariposa	94	76	76			
Mendocino	601	586	616	1	3	
Merced	223	364	246	29	780	2,114
Modoc	236	245	346			
Mono	118	94	97	1		
Monterey	2,157	2,374	5,393		1	
Napa	166	149	530	2	2	
Nevada	100	123	106			1
Orange	983	1,318	1,770	67	75	484
Placer	47	28	72	10	1	
Plumas	134	114	100			
Riverside		688	309		20	57
Sacramento	3,014	5,036	1,406	254	117	
San Benito	183	147	205			
San Bernardino	420	406	444	10	25	55
San Diego	786	355	374	63	22	27
San Francisco	422	336	87			2
San Joaquin	1,735	9,895	21,313	27	88	19
San Luis Obispo	545	406	955	3	6	3
San Mateo	799	500	971		5	
Santa Barbara	430	826	1,524	14	7	28
Santa Clara	773	988	1,085	3		
Santa Cruz	708	1,007	1,080	1	1	1
Shasta	289	305	243	3	17	16
Sierra	57	55	46			
Siskiyou	315	478	655		2	
Solano	163	114	311	5		
Sonoma	5,271	3,260	2,279	22	2	1,647
Stanislaus	62	30	207	6	31	41
Sutter	134	222	218	31	48	30
Tehama	164	150	112	16	6	
Trinity	92	146	143			46
Tulare	557	253	677	21	15	2
Tuolumne	38	107	114			10
Ventura	544	220	264	8	5	31
Yolo	216	206	402	1	12	6
Yuba	269	100	124	18	1	
Totals	38,178	42,098	67,688	931	1,607	5,111

Next to the Irish potato, the sweet potato is the most extensively grown vegetable in the United States. In California it is not cultivated on a large scale. In 1909, the acreage amounted to 5,111, with a production of 572,814 bushels.

Beans and Peas Produced, 1850-1910.*

Year.	Beans. bushels.	Peas. bushels.
1850 -----	2,292	-----
1860 -----	165,574	-----
1870 -----	380,010	-----
1880 -----	378,971	40,806
1890 -----	713,480	32,364
1900 -----	658,515	57,299
1910 -----	3,323,608	57,468

*Beans and peas were reported as one product in 1850, 1860, and 1870.

The acreage in beans in 1910 was 157,825, producing beans of the value of \$6,292,955; the acreage in dry peas was 2,959, valued at \$101,016.

Lima Beans.

Lima beans are only grown in any quantity in five counties, and have come into great favor in recent years. They were first cultivated in Carpinteria Valley about forty years ago, and after 1884 the growing extended. The bulk of the crop is raised in Santa Barbara and Ventura counties, Orange, Los Angeles, and San Diego counties being next in order. The average yield is 14 sacks of 80 pounds, or 1,120 pounds to the acre, but in the best sections 25 sacks, or 2,000 pounds, to the acre are considered good.

The quantity of Lima beans harvested in 1910 was approximately 1,175,000 bags; in 1911, 1,300,000 bags, and in 1912, 1,050,000 bags.

Beans have become one of the most important vegetable crops in the State, and the production for 1911 was larger than ever before.

Celery.

Celery is an important crop and is grown on a large scale in Orange County, upwards of 1400 carloads being shipped in 1912. The price per dozen bunches varied from 15 to 60 cents from the beginning to the close of the season. There are usually about three grades with a difference in price of between two and five cents. The Celery Growers' Association of Orange County shipped 925 cars, and paid their members a sum of \$407,157.

According to the figures of the California Vegetable Union, Los Angeles County leads in the production of cauliflower, cabbage, lettuce, tomatoes and mixed vegetables; San Joaquin in potatoes and onions; San Mateo in artichokes, and Sacramento in asparagus.

The annual average shipments are approximately as follows:

Vegetables.	Number of cars.	Average price paid to growers.
Artichokes -----	150	25 cents to \$1.00 per dozen.
Asparagus -----	350	3 cents to 4 cents per pound.
Celery -----	2,500	15 cents to 40 cents per dozen.
Cauliflower -----	1,000	15 cents to 60 cents per dozen.
Cabbage -----	1,000	\$8.00 to \$40.00 per ton.
Potatoes -----	10,000	50 cents to \$2.00 per cwt.
Lettuce -----	300	8 cents to 25 cents per dozen.
Tomatoes -----	300	\$15.00 to \$30.00 per ton.
Onions -----	2,000	50 cents to \$2.00 per cwt.
Mixed vegetables -----	1,000	-----

California Beans, 1907-1912.
(Sacks.)

Variety.	1907.	1908.	1909.	1910.	1911.	1912.
Limas -----	850,000	1,100,000	1,150,000	1,175,000	1,200,000	1,050,000
Blackeyes -----	100,000	120,000	80,000	100,000	225,000	204,000
Large whites -----	250,000	350,000	300,000	150,000	75,000	63,000
Small whites -----	125,000	100,000	225,000	250,000	215,000	215,000
Bayos -----	80,000	110,000	100,000	75,000	150,000	65,000
Pinks -----	275,000	400,000	325,000	250,000	710,000	298,000
Various -----	100,000	125,000	100,000	100,000	150,000	118,000
Totals -----	1,780,000	2,805,000	2,280,000	2,100,000	2,725,000	2,013,000

Beans.

(Duty—beans, 45 cents per bushel of 60 pounds; dried peas, 25 cents per bushel; split peas, 45 cents per bushel.)

Year.	California bean crop, bags.	Exported.*		Imported.	
		Bushels.	Value.	Bushels.	Value.
1900 -----	947,200	617,355	\$983,401	967,031	\$1,049,443
1901 -----	1,221,000	468,670	862,088	1,099,640	1,306,405
1902 -----	975,200	324,481	636,345	881,966	1,152,177
1903 -----	1,160,000	232,841	530,875	1,088,665	1,420,334
1904 -----	1,337,000	248,805	546,479	978,187	1,223,300
1905 -----	1,921,400	330,321	730,922	472,572	628,775
1906 -----	1,779,000	447,474	960,710	458,041	667,214
1907 -----	1,000,000	435,490	932,264	406,679	656,838
1908 -----	1,929,000	306,939	708,201	1,657,401	2,406,935
1909 -----	2,340,000	298,209	702,819	3,355,405	4,926,199
1910 -----	1,950,000	365,721	973,231	1,015,157	1,621,207
1911 -----	2,825,000	288,638	814,663	1,037,371	1,733,697
1912 -----	2,013,000	341,268	1,011,466	1,004,930	1,857,220

*In the exports dried peas are included in the total with beans. The imports of dried peas in 1912 was 806,762; value, \$1,515,516.

TABLE XXXIII

Dry Edible Beans and Peas. (By counties in 1910.)

Counties.	Dry beans.		Dry peas.	
	Acres.	Bushels.	Acres.	Bushels.
Alameda	86	2,933	215	5,794
Alpine		3		
Amador	3	31		
Butte	27	150		
Calaveras	8	238	2	16
Colusa	1,083	20,087	14	180
Contra Costa	2,298	65,748		
Del Norte		10	4	60
El Dorado	1	30		
Fresno	9	155	6	172
Glenn				
Humboldt	18	392	517	9,056
Imperial				
Inyo	70	1,055	1	10
Kern	26	648		
Kings	21	576	15	75
Lake				
Lassen				
Los Angeles	3,874	105,011	14	311
Madera	15	333		
Marin	1	8		
Mariposa	62	409		
Mendocino	5	44	17	345
Merced	523	5,839		
Modoc	88	1,567		4
Mono	5	133	11	63
Monterey	1,504	29,532	154	5,218
Napa	6	61		
Nevada	1	18		
Orange	21,186	402,951	55	605
Placer				
Plumas				
Riverside	50	192		
Sacramento	7,801	166,852	90	1,703
San Benito	59	677		
San Bernardino				
San Diego	3,492	45,661	12	17
San Francisco				
San Joaquin	13,954	352,157	362	10,050
San Luis Obispo	11,169	207,674	85	1,209
San Mateo	466	14,435	186	4,085
Santa Barbara	22,355	367,385	12	67
Santa Clara	706	8,810		2
Santa Cruz	577	12,645	2	15
Shasta	49	685	3	15
Sierra				
Siskiyou	10	272	1	10
Solano	2,553	65,755		
Sonoma	7	83		
Stanislaus	373	4,395	415	5,175
Sutter	2,766	76,201		
Tehama	14	302		
Trinity	4	275		
Tulare	21	267	10	60
Tuolumne	3	61		
Ventura	58,744	1,313,156	756	13,151
Yolo	1,835	51,204		
Yuba	59	1,112		
Totals	157,987	3,328,218	2,959	57,468

CANNED VEGETABLES.

California ranks first among the states in the production of canned asparagus, and sixth in that of canned tomatoes. The case which is used as the unit of measure consists of 24 standard-size cans No. 2

(also called 2-pound cans) for beans, peas, and No. 3 (also called 3-pound cans) for all other vegetables. Where the output has been reported in other forms by the canneries, the quantities have been reduced to standard cases.

The value of the vegetables canned increased throughout during the decade of 1899-1909; the rate of increase from 1904 to 1909 being much higher than that during the preceding five-year period. The value of canned asparagus formed over half of the value of all canned vegetables in 1909.

(Compiled from the Reports of the Census Bureau.)

Product.	1899.		1904.		1909.	
	Cases.	Value.	Cases.	Value.	Cases.	Value.
Asparagus -----					198,123	\$1,794,246
Beans -----	34,209	\$56,797	65,641	\$133,494	47,525	87,059
Peas -----	72,760	145,987	68,142	144,033	123,349	250,624
Pumpkins -----	1,033	1,860	18,852	30,156	11,694	15,165
Tomatoes -----	794,566	2,068,997	541,776	845,805	545,131	1,120,632
All other -----	148	396	286,172	1,213,173	65,812	202,795
Total -----		\$2,274,037		\$2,366,661		\$3,470,621

Duty on Imported Preserved Vegetables.

All kinds 45 per cent ad valorem.

Preserved in tins or otherwise 30 per cent ad valorem.

Beans, peas, mushrooms in tins or bottles, 2½ cents per pound, all other 40 per cent ad valorem.

Canned Vegetables.

Year.	California pack.	Exported value.*	Year.	California pack.	Exported value.*
1899 -----	753,431	555,691	1906 -----	1,747,595	658,739
1900 -----	803,617	603,288	1907 -----	1,941,755	598,628
1901 -----	1,076,058	528,914	1908 -----	1,501,885	621,987
1902 -----	1,151,268	560,612	1909 -----	1,242,720	728,111
1903 -----	1,343,574	597,759	1910 -----	2,250,645	782,973
1904 -----	961,783	719,580	1911 -----	2,293,000	1,061,259
1905 -----	1,192,455	580,048	1912 -----	2,271,700	1,822,357

*In addition to the total of canned vegetables in this column, there are other preserved vegetables including pickles and sauces of the value of \$1,483,704 in 1910; \$1,909,502 in 1911, and \$1,988,866 in 1912. The other vegetables exported consist principally of beans, peas, onions and potatoes.

The imports of preserved vegetables in 1912 amounted in value to \$5,043,549, in which are included 7,406,927 pounds of French mushrooms valued at \$1,013,082, and also pickles and sauces valued at \$1,086,851. The total value of all vegetables imported was \$18,544,873, and the total value of domestic vegetables exported \$6,544,118.

Canned vegetables, 1912.	Cases.	Canned vegetables, 1912.	Cases.
Peas -----	250,000	Turnips -----	500
Tomatoes -----	1,300,000	Lima beans -----	3,500
String beans -----	8,000	Sweet potatoes -----	2,500
Parsnips -----	1,000	Irish potatoes -----	1,000
Beets -----	1,000	Asparagus -----	650,000
Cabbage -----	12,000	Celery -----	200
Carrots -----	2,000		
Spinach -----	20,000		
Squash -----	20,000	Total -----	2,271,700

Vegetables, Flowers and Plants and Nursery Products.

Crop.	Number of farms.	Acres.		Value of products.	
		1899.	1909.	1899.	1909.
Vegetables other than potatoes and sweet potatoes -----	*33,755	32,401	79,163	\$2,858,832	\$6,886,885
Farms reporting a product of \$500 or over -----	2,075	-----	53,369	-----	4,836,001
All other farms -----	31,680	-----	25,794	-----	2,050,884
Flowers and plants, total -----	442	672	1,013	580,646	1,388,513
Farms reporting a product of \$250 or over -----	347	-----	-----	-----	1,373,577
All other farms -----	95	-----	-----	-----	14,936
Nursery products, total -----	566	2,914	4,803	558,329	2,212,788
Farms reporting a product of \$250 or over -----	296	-----	-----	-----	2,134,713
All other farms -----	270	-----	-----	-----	78,075

*Not including 9,393 farms that had vegetable gardens, but gave no information as to their products.

In 1909 the total acreage of potatoes and other vegetables was 151,962 and their value \$12,121,958. Excluding potatoes and sweet potatoes the acreage of vegetables was 79,163 and their value \$6,887,000, both being more than twice as great as in 1899. The above table distinguishes between farms which make the raising of vegetables a business of some importance, and others on most of which vegetables are raised mainly for home consumption.

FLOWERS, PLANTS, AND NURSERY PRODUCTS.

Floriculture in the United States as a commercial enterprise originated in Philadelphia, and began to be of some importance as early as 1825.

The choice of crops by the florist is largely influenced by changes in popular taste, the camellia, which was the most popular flower years ago, having been superseded in recent years by the rose, carnation, violet, chrysanthemum, and lilies of the valley. There is also a growing demand for orchids.

The raising of flowers and plants and of nursery products is also of considerable importance in California, 5,816 acres being devoted to them in 1909, and the output being valued at \$3,601,301. Most of the product was raised on farms where these branches of agriculture were carried on as an important business.

In 1909, a total of 96,230,420 square feet, or over 2,200 acres, of land under glass was reported in the United States.

In California, 430 farms reported as florists' establishments, with 1,572,480 square feet under glass.

There is comparatively little land under glass in California, compared with the eastern states, as the climate does not require it.

Nursery Products.

It has only been within the last thirty or forty years that the nursery industry has developed into a position of importance. Nursery stock was first grown as an adjunct to the general crops of the farm. It is difficult to determine when and by whom the first commercial nursery was established, but William Prince of Flushing, Long Island, is named as pioneer in the industry, who commenced this business about the middle of the last century.

TABLE XXXIV.
Value of All Crops.
(From Census Reports in 1909.)

Counties.	Cereals.	Other grains and seeds.	Hay and forage.	Vegetables.	Fruits and nuts.	All other crops.	Total.
Alameda	\$394,907 00	\$31,257 00	\$1,547,119 00	\$810,628 00	\$860,977 00	\$686,079 00	\$4,276,967 00
Alpine	25,833 00	8 00	49,147 00	3,291 00	1,444 00	3,483 00	83,206 00
Amador	55,405 00	90 00	229,982 00	41,583 00	59,599 00	65,651 00	452,270 00
Butte	556,107 00	767 00	806,735 00	55,314 00	797,893 00	147,699 00	2,364,515 00
Calaveras	7,881 00	755 00	217,191 00	58,093 00	53,368 00	71,880 00	409,168 00
Colusa	1,578,543 00	36,023 00	340,462 00	30,453 00	129,389 00	49,424 00	2,164,299 00
Contra Costa	604,035 00	104,487 00	1,617,610 00	1,125,668 00	499,436 00	80,818 00	4,032,054 00
Del Norte	8,877 00	164 00	85,763 00	10,605 00	2,878 00	3,665 00	111,952 00
El Dorado	15,189 00	120 00	196,638 00	41,950 00	143,924 00	73,693 00	471,514 00
Fresno	510,053 00	13,685 00	1,702,818 00	108,690 00	5,279,794 00	376,147 00	7,991,187 00
Glenn	909,796 00	700 00	327,008 00	13,644 00	35,661 00	64,101 00	1,350,910 00
Humboldt	117,802 00	19,249 00	893,913 00	175,817 00	141,493 00	90,151 00	1,438,425 00
Imperial	755,239 00		893,913 00	175,817 00	141,493 00	90,151 00	1,438,425 00
Inyo	156,416 00	3,496 00	252,610 00	57,314 00	44,047 00	18,760 00	532,643 00
Kern	500,973 00	13,580 00	953,044 00	96,968 00	159,698 00	78,992 00	1,803,255 00
Kings	550,869 00	20,704 00	1,171,101 00	140,137 00	1,219,568 00	77,735 00	3,180,114 00
Lake	129,857 00	17,641 00	196,995 00	44,701 00	90,001 00	38,601 00	517,796 00
Lassen	214,275 00	20,267 00	582,371 00	51,047 00	16,304 00	13,685 00	897,949 00
Los Angeles	806,507 00	218,428 00	3,430,698 00	1,255,093 00	6,731,532 00	2,278,626 00	14,720,884 00
Madera	1,220,003 00	900 00	290,258 00	27,995 00	126,124 00	21,138 00	1,686,418 00
Marin	19,766 00	15 00	425,987 00	42,916 00	31,816 00	13,883 00	534,383 00
Mariposa	18,515 00	1,430 00	109,699 00	28,024 00	43,025 00	29,939 00	230,632 00
Mendocino	175,678 00	927 00	526,680 00	121,941 00	166,534 00	540,218 00	1,531,986 00
Merced	1,691,556 00	11,251 00	1,355,098 00	187,563 00	147,964 00	30,142 00	3,423,574 00
Modoc	329,318 00	59,506 00	621,177 00	98,574 00	49,894 00	17,569 00	1,176,038 00
Mono	5,023 00	552 00	85,083 00	13,396 00	3,038 00	665 00	107,757 00
Monterey	1,695,220 00	57,676 00	1,125,740 00	330,296 00	438,763 00	677,840 00	4,325,535 00
Napa	168,471 00	6,224 00	465,362 00	126,348 00	766,745 00	104,292 00	1,637,442 00
Nevada	3,101 00	58 00	159,879 00	54,554 00	89,771 00	78,963 00	386,326 00
Orange	562,563 00	653,763 00	976,896 00	540,864 00	2,497,734 00	944,517 00	6,176,337 00
Placer	104,677 00		194,464 00	52,253 00	1,318,731 00	143,294 00	1,813,419 00
Plumas	74,736 00		299,817 00	21,772 00	3,872 00	32,722 00	432,919 00
Riverside	895,051 00	10,180 00	1,624,675 00	133,199 00	2,393,371 00	77,100 00	5,133,576 00
Sacramento	232,584 00	405,143 00	786,239 00	509,231 00	2,265,690 00	521,123 00	4,720,010 00
San Benito	268,068 00	138,590 00	963,249 00	34,425 00	281,891 00	54,932 00	1,741,155 00
San Bernardino	98,464 00	1,097 00	932,249 00	107,283 00	5,357,098 00	327,042 00	6,878,233 00

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Diego	458,836 00	91,268 00	1,110,127 00	174,869 00	941,767 00	84,269 00	2,861,136 00
San Francisco	3,238,767 00	3,310 00	1,460 00	190,965 00	920 00	127,271 00	323,926 00
San Joaquin	869,268 00	533,977 00	1,763,286 00	2,149,300 00	1,307,448 00	89,462 00	9,082,240 00
San Luis Obispo	260,218 00	517,452 00	681,886 00	141,685 00	155,094 00	116,427 00	2,481,812 00
San Mateo	585,079 00	36,742 00	361,266 00	459,470 00	73,272 00	204,403 00	1,395,371 00
Santa Barbara	170,190 00	869,908 00	771,922 00	244,205 00	538,465 00	558,671 00	3,568,250 00
Santa Clara	94,360 00	265,665 00	1,587,494 00	450,065 00	4,234,874 00	260,150 00	6,968,438 00
Santa Cruz	74,831 00	24,514 00	327,572 00	164,518 00	1,656,212 00	141,259 00	2,408,435 00
Shasta	25,769 00	1,719 00	410,532 00	85,381 00	248,442 00	118,890 00	939,795 00
Sierra	325,312 00	6,972 00	180,874 00	12,369 00	7,618 00	7,524 00	234,154 00
Siskiyou	1,292,481 00	103,660 00	851,817 00	130,817 00	41,170 00	70,306 00	1,426,394 00
Solano	50,993 00	809 00	572,822 00	94,337 00	1,495,713 00	20,953 00	3,569,966 00
Sonoma	1,315,180 00	17,411 00	1,170,906 00	185,749 00	2,034,805 00	1,008,116 00	4,451,378 00
Stanislaus	588,103 00	150,486 00	1,424,229 00	181,282 00	207,503 00	53,050 00	3,198,660 00
Sutter	249,157 00	756 00	419,331 00	57,368 00	470,985 00	63,149 00	1,749,422 00
Tehama	12,394 00	604 00	376,843 00	46,108 00	428,108 00	127,278 00	1,228,250 00
Trinity	1,442,685 00	17,311 00	167,713 00	58,211 00	11,874 00	18,549 00	269,345 00
Tulare	14,453 00	183 00	1,362,609 00	192,030 00	2,053,596 00	285,763 00	5,353,994 00
Tulounne	347,954 00	2,711,809 00	167,810 00	39,885 00	31,044 00	44,121 00	297,496 00
Ventura	1,032,710 00	112,847 00	931,688 00	61,878 00	1,795,606 00	902,824 00	6,751,759 00
Yolo	134,728 00	2,075 00	984,115 00	126,359 00	677,099 00	341,320 00	3,274,450 00
Yuba			214,158 00	38,083 00	73,358 00	237,734 00	700,136 00
Totals	\$28,039,826 00	\$7,318,211 00	\$42,187,215 00	\$12,121,958 00	\$50,706,869 00	\$12,736,934 00	\$153,111,013 00

CALIFORNIA FARM CROPS FOR FORTY-FIVE YEARS. 1868-1912.**Barley, Buckwheat, Corn, Oats, Rye, Wheat, Potatoes, Hay.**

(Compiled from the Reports of the United States Department of Agriculture.)

California Barley Crops, 1868-1912.

Year.	Acreage.	Average yield per acre. bushels.	Production, bushels.	Average farm price, December 1.	Farm value, December 1.
1868	375,000	28.0	10,500,000	\$1 08	\$10,815,000
1869	348,016	35.3	12,285,000	65	7,985,250
1870	274,275	26.9	7,378,000	98	7,230,440
1871	364,350	20.0	7,287,000	1 08	7,869,960
1872	603,196	12.2	7,359,000	85	6,255,150
1873	385,433	26.5	10,213,991	85	8,681,892
1874	551,550	20.0	11,031,000	78	8,604,180
1875	502,777	18.0	9,050,000	91	8,235,500
1876	536,363	22.0	11,800,000	69	8,142,000
1877	487,500	16.0	7,800,000	90	7,020,000
1878	650,000	23.0	14,950,000	65	9,717,500
1879	630,500	23.0	14,501,500	56	8,120,840
1880	520,150	28.3	14,720,245	61	8,979,349
1881	537,000	18.9	10,146,000	77	7,812,420
1882	558,480	16.4	9,131,400	67	6,118,088
1883	625,498	18.2	10,135,854	63	6,385,588
1884	688,048	23.6	16,217,000	52	8,432,840
1885	701,809	18.1	12,703,000	79	10,035,167
1886	722,450	22.2	16,038,000	65	10,424,700
1887	794,695	20.5	16,291,000	52	8,471,320
1888	786,748	20.0	15,735,000	58	9,126,277
1889	815,995	21.5	17,548,386	45	7,896,774
1890	677,276	22.3	15,103,255	75	11,327,441
1891	812,731	23.7	19,261,725	61	11,749,652
1892	845,240	24.0	20,285,760	47	9,534,307
1893	760,716	22.5	17,116,110	42	7,188,766
1894	737,895	15.2	11,216,004	45	5,047,202
1895	937,127	20.3	19,023,678	40	7,609,471
1896	913,384	21.6	19,837,094	48	9,521,805
1897	881,649	23.0	20,277,927	54	10,950,081
1898	872,833	10.5	9,164,746	65	5,957,085
1899	855,376	26.0	22,239,776	50	11,119,888
1900	889,591	16.7	14,856,170	43	6,388,153
1901	1,089,785	26.0	28,334,410	41	11,617,108
1902	1,144,274	26.0	29,751,124	63	18,743,208
1903	1,201,488	25.7	30,878,242	61	18,835,728
1904	1,237,533	22.7	28,091,999	60	16,855,199
1905	1,237,533	21.5	26,606,960	59	15,698,106
1906	1,425,000	27.2	38,760,000	54	20,930,400
1907	1,040,000	28.9	30,056,000	78	23,444,000
1908	1,082,000	23.5	25,427,000	74	18,816,000
1909	1,180,000	26.5	31,270,000	74	23,140,000
1910	1,500,000	31.0	46,500,000	55	25,575,000
1911	1,450,000	28.0	40,600,000	85	34,510,000
1912	1,392,000	30.0	41,760,000	70	29,232,000

Exports of domestic barley in 1912, 1,585,242 bushels; value, \$1,267,999.

Duty on Imported Cereals, Potatoes, and Hay.

Barley.....	30c per bushel of 48 pounds	Oats.....	15c per bushel
Wheat.....	25c per bushel	Rye.....	10c per bushel
Buckwheat.....	15c per bushel of 48 pounds	Potatoes.....	25c per bushel of 60 pounds
Corn.....	15c per bushel of 56 pounds	Hay.....	\$4.00 per ton
Wheat flour.....	25c per cent ad valorem		

NOTE.—The imports of breadstuffs are very small. In 1912 the quantities were: Corn, 53,425 bushels; oats, 2,622,357 bushels; wheat, 2,699,130 bushels, and wheat flour, 158,777 barrels.

California Corn Crops, 1868-1912.

Year.	Acreage.	Average yield per acre, bushels.	Production, bushels.	Average farm price, December 1.	Farm value, December 1.
1868	27,111	45.0	1,220,000	\$1 00	\$1,220,000
1869	31,521	41.4	1,305,000	90	1,174,500
1870	30,870	35.6	1,099,000	1 20	1,318,800
1871	24,578	36.0	934,000	1 16	1,083,440
1872	40,000	35.0	1,400,000	1 00	1,400,000
1873	37,561	41.0	1,540,000	73	1,124,200
1874	44,668	36.2	1,617,000	98	1,584,660
1875	41,322	36.3	1,500,000	1 07	1,605,000
1876	48,484	33.0	1,600,000	1 07	1,712,000
1877	51,667	30.0	1,550,000	95	1,472,500
1878	100,500	34.5	3,467,250	60	2,080,350
1879	100,500	28.0	2,814,000	79	2,223,060
1880	80,650	32.0	2,580,800	76	1,961,408
1881	96,700	27.2	2,633,000	78	2,053,740
1882	98,634	28.3	2,790,900	85	2,372,265
1883	100,607	24.5	2,464,800	85	2,095,080
1884	160,000	30.0	4,800,000	60	2,880,000
1885	155,200	24.7	3,840,000	68	2,611,200
1886	156,752	27.2	4,262,000	62	2,642,440
1887	156,752	30.0	4,703,000	61	2,868,830
1888	155,184	27.8	4,314,000	70	3,019,800
1889	158,288	28.2	4,464,000	57	2,544,322
1890	159,871	27.5	4,396,000	65	2,857,694
1891	161,470	34.5	5,571,000	71	3,955,208
1892	72,500	30.3	2,197,000	55	1,208,213
1893	71,775	37.1	2,275,268	50	1,137,634
1894	66,751	19.3	1,288,294	57	734,328
1895	65,416	34.5	2,256,852	53	1,196,132
1896	59,529	37.0	2,202,573	53	1,167,364
1897	60,720	31.5	1,912,680	56	1,071,101
1898	45,540	26.0	1,184,040	62	734,105
1899	56,925	27.0	1,536,975	60	922,185
1900	54,079	25.0	1,351,975	61	824,705
1901	59,703	31.0	1,850,793	68	1,258,539
1902	60,300	30.5	1,839,150	77	1,416,146
1903	57,888	30.7	1,777,162	74	1,315,100
1904	54,415	28.0	1,556,269	78	1,213,890
1905	56,592	32.0	1,810,944	76	1,376,317
1906	57,158	34.9	1,994,814	67	1,336,525
1907	54,000	34.0	1,836,000	85	1,561,000
1908	50,000	32.0	1,600,000	88	1,408,000
1909	50,000	34.8	1,740,000	91	1,583,000
1910	50,000	37.5	1,875,000	80	1,500,000
1911	51,000	36.0	1,836,000	90	1,652,000
1912	52,000	37.0	1,924,000	85	1,635,000

Exports of domestic corn in 1912, 40,038,795 bushels; value, \$28,957,450. Of this 10,616,000 bushels were taken by the United Kingdom, 9,568,000 by Canada, 6,800,000 bushels by Germany, 5,657,000 bushels by the Netherlands, 2,177,000 bushels by Cuba, and the balance in smaller quantities by other countries

California Buckwheat Crops, 1868-1896.

Year.	Acreage.	Average yield per acre, bushels.	Production, bushels.	Average farm price, December 1.	Farm value, December 1.
1868	777	18.0	14,000	\$1 00	\$14,000
1869	882	17.0	15,000	80	12,000
1870	692	32.5	22,500	1 07	24,075
1871	819	26.0	21,300	1 30	27,690
1872	942	21.0	19,800	1 11	21,978
1873	851	23.5	20,000	1 20	24,000
1874	869	23.0	20,000	1 20	24,000
1875	1,400	25.0	35,000	1 50	52,500
1876	Not reported.				
1877	Not reported.				
1878	Not reported.				
1879	Not reported.				
1880	1,040	17.0	17,680	75	13,260
1881	340	17.9	6,100	1 00	6,100
1882	1,150	22.0	25,300	80	20,240
1883	1,161	22.2	25,806	90	23,225
1884	1,219	23.0	28,000	60	16,800
1885	1,243	20.1	25,000	68	16,905
1886	Not reported.				
1887	Not reported.				
1888	Not reported.				
1889	664	15.6	10,388	52	5,381
1890	677	14.5	9,816	73	7,166
1891	683	15.3	10,450	58	8,051
1892	697	16.5	11,500	53	6,141
1893	691	21.5	14,857	71	10,548
1894	691	18.0	12,438	45	5,597
1895	726	30.0	21,780	64	13,939
1896	690	18.7	12,903	39	5,032

NOTE.—The production of buckwheat is so small that it is seldom recorded, the area being only a few hundred acres. The crop is only raised in any quantity in twenty-four states. Very little is exported. In 1912 the quantity was 180 bushels; value, \$147.

California Rye Crops, 1868-1912.

Year.	Acreage.	Average yield per acre, bushels.	Production, bushels.	Average farm price, December 1.	Farm value, December 1.
1868	1,428	14.0	20,000	\$1 40	\$28,000
1869	673	31.5	21,200	1 22	25,864
1870	655	38.0	24,900	1 19	29,631
1871	922	27.0	24,900	1 40	34,860
1872	3,000	12.0	36,000	1 02	36,720
1873	2,300	20.0	46,000	90	41,400
1874	2,555	18.0	46,000	1 03	47,380
1875	4,285	17.5	75,000	92	69,000
1876	5,131	15.2	78,000	95	74,100
1877					
1878	13,000	15.0	195,000	75	146,250
1879	13,000	17.7	230,100	1 17	269,217
1880	19,169	16.0	306,764	83	254,564
1881	18,800	11.1	209,000	1 00	209,000
1882	21,295	8.8	187,131	85	159,061
1883	29,813	7.0	209,587	95	199,108
1884	30,409	10.3	314,000	68	213,520
1885	30,105	10.3	310,000	76	235,662
1886	30,409	12.0	365,000	76	277,400
1887	30,409	9.5	289,000	80	231,200
1888	29,801	11.2	334,000	67	223,627
1889	27,413	8.9	243,871	56	136,568
1890	27,413	14.0	383,782	70	268,647
1891	27,961	16.5	461,357	90	415,221
1892	28,800	11.5	331,200	67	221,904
1893	28,800	17.5	504,000	60	302,400
1894	29,376	13.2	387,763	60	232,658
1895	36,720	11.6	425,952	58	247,052
1896	38,556	14.5	559,062	60	335,437
1897	40,484	12.2	493,905	65	321,038
1898	40,079	9.0	360,711	70	252,498
1899	36,472	15.0	547,080	78	426,722
1900	38,660	13.0	502,580	58	291,496
1901	66,087	12.8	845,914	57	482,171
1902	67,409	12.0	808,908	75	606,681
1903	68,083	12.3	837,421	77	644,814
1904	67,402	7.6	512,255	78	399,559
1905	67,402	13.0	876,226	77	674,694
1906	62,684	12.8	802,355	71	569,672
1907	65,800	19.0	1,251,000	85	1,063,000
1908	66,000	12.0	792,000	88	697,000
1909	61,000	13.8	842,000	1 04	876,000
1910	7,000	17.0	119,000	86	102,000
1911	8,000	17.0	136,000	85	116,000
1912	8,000	17.6	141,000	90	127,000

The exports of domestic rye are small, in 1912 the quantity being 5,548 bushels; value \$4,844.

California Oat Crop, 1868-1912.

Year.	Acreage.	Average yield per acre, bushels.	Production, bushels.	Average farm price, December 1.	Farm value, December 1.
1868	63,333	30.0	1,900,000	\$0 70	\$1,330,000
1869	47,846	41.8	2,000,000	62	1,240,000
1870	44,535	35.5	1,581,000	59	932,790
1871	37,925	40.0	1,517,000	70	1,061,900
1872	90,000	25.0	2,250,000	74	1,665,000
1873	72,733	30.0	2,182,000	84	1,832,880
1874	65,810	35.8	2,356,000	69	1,625,640
1875	65,625	32.0	2,100,000	72	1,512,000
1876	70,000	35.0	2,450,000	74	1,813,000
1877	70,000	25.0	1,750,000	73	1,277,500
1878	145,000	30.0	4,350,000	69	3,001,500
1879	153,700	33.0	5,072,100	67	3,398,307
1880	49,900	29.0	1,447,100	65	940,615
1881	67,100	23.1	1,548,000	60	928,800
1882	64,416	24.0	1,548,000	58	897,840
1883	70,858	25.8	1,826,600	58	1,059,428
1884	79,600	27.0	2,149,000	38	816,620
1885	78,008	27.0	2,106,000	48	1,010,880
1886	80,348	28.8	2,317,000	44	1,019,480
1887	81,955	26.8	2,196,000	58	1,273,680
1888	73,760	25.3	1,866,000	60	1,119,600
1889	75,973	25.0	1,899,000	45	854,696
1890	70,655	27.5	1,943,000	56	1,088,687
1891	84,786	28.5	2,416,000	60	1,449,841
1892	67,829	29.3	1,987,000	40	794,956
1893	59,011	25.5	1,504,781	38	571,817
1894	57,831	35.6	2,058,784	44	905,865
1895	60,144	28.1	1,690,046	39	659,118
1896	58,941	31.0	1,827,171	44	803,955
1897	57,173	18.0	1,029,114	49	504,266
1898	58,888	33.0	1,943,304	50	971,652
1899	59,477	31.0	1,843,787	47	866,580
1900	60,072	24.6	1,477,771	46	679,775
1901	160,768	30.4	4,887,347	44	2,150,433
1902	168,806	30.5	5,148,583	51	2,625,777
1903	165,430	34.8	5,756,964	54	3,108,761
1904	167,084	34.1	5,697,564	57	3,247,611
1905	168,755	28.0	4,725,140	51	2,409,821
1906	163,692	31.5	5,156,298	52	2,681,275
1907	136,000	33.5	4,556,000	71	3,235,000
1908	200,000	33.5	6,700,000	67	4,489,000
1909	200,000	31.4	6,280,000	66	4,145,000
1910	200,000	37.0	7,400,000	50	3,700,000
1911	210,000	34.0	7,140,000	59	4,213,000
1912	200,000	39.0	7,800,000	55	4,290,000

The exports of domestic oats in 1912 amounted to 2,171,503 bushels; value, \$1,135,635.

California Wheat Crops, 1868-1912.

Year.	Acreage.	Average yield per acre. bushels.	Production, bushels.	Average farm price, December 1.	Farm value, December 1
	1,050,000	20.0	21,000,000	\$1 03	\$21,030,000
1868	1,098,901	18.2	20,000,000	93	18,600,000
1869	746,052	19.0	14,175,000	1 10	15,592,000
1870	1,523,363	11.0	16,757,000	1 41	23,627,370
1871	2,098,360	12.2	25,600,000	1 11	26,416,000
1872	1,592,889	13.5	21,504,000	1 32	28,385,280
1873	2,150,000	13.2	28,380,000	99	28,096,200
1874	2,163,636	11.0	23,800,000	1 18	28,084,000
1875	2,307,692	13.0	30,000,000	1 14	34,200,000
1876	2,315,789	9.5	22,000,000	1 30	28,600,000
1877	2,470,000	17.0	41,900,000	1 03	43,249,700
1878	2,500,000	14.0	35,000,000	1 23	43,050,000
1879	2,117,350	16.0	33,877,600	96	32,522,496
1880	2,367,200	12.0	31,406,000	1 03	32,348,180
1881	2,767,000	13.0	36,046,600	90	32,441,940
1882	2,794,000	13.0	36,322,000	1 00	36,322,000
1883	3,360,000	13.2	44,320,000	72	31,910,400
1884	2,822,400	9.4	26,592,000	67	17,816,640
1885	3,104,640	11.6	36,165,000	73	26,400,450
1886	2,766,235	11.0	30,429,000	74	22,517,460
1887	2,351,300	12.1	28,451,000	85	24,183,350
1888	3,291,820	13.3	43,781,000	70	30,646,644
1889	2,426,730	12.0	29,121,000	76	22,131,778
1890	2,815,007	13.0	36,595,000	95	34,765,336
1891	3,012,057	13.0	39,157,000	68	26,626,584
1892	2,620,490	13.3	34,852,517	53	18,471,834
1893	2,688,204	11.3	30,576,705	57	17,314,722
1894	3,084,446	13.0	40,097,798	60	24,058,679
1895	3,088,849	14.6	45,097,195	83	37,430,672
1896	3,239,402	10.0	32,394,020	83	26,887,037
1897	1,343,341	9.1	12,224,405	72	8,801,570
1898	2,393,185	14.1	33,743,909	62	20,921,223
1899	2,771,226	10.3	28,543,628	58	16,555,304
1900	2,672,547	13.0	34,743,111	60	20,845,847
1901	2,052,679	10.9	22,374,201	80	17,899,361
1902	1,868,410	11.2	20,926,192	87	18,205,787
1903	1,618,043	10.8	17,474,864	88	15,377,880
1904	1,886,238	9.3	17,542,013	82	14,384,451
1905	1,572,144	17.1	26,883,662	75	20,162,746
1906	1,368,000	15.0	20,520,000	98	20,110,000
1907	800,000	14.6	11,680,000	1 02	11,914,000
1908	825,000	14.0	11,550,000	1 11	12,820,000
1909	550,000	18.0	9,900,000	94	9,306,000
1910	480,000	18.0	8,640,000	88	7,603,000
1911	370,000	17.0	6,290,000	93	5,850,000
1912					

NOTE.—All winter wheat; no spring wheat grown in California.

The exports of domestic wheat and wheat flour are large, amounting in 1912 to 30,160,212 bushels, value \$28,477,584; and of flour to 11,006,487 barrels, value \$50,999,797. The five foreign countries which take over one million bushels are:

	Bushels.	Value.
United Kingdom	15,765,404	\$14,342,814
Belgium	4,054,171	3,971,061
Netherlands	3,388,444	3,220,987
Germany	1,586,666	1,533,686
Mexico	1,491,156	1,520,003

Other countries take the balance in smaller quantities. The five foreign countries taking the largest quantity of flour in 1912 are:

United Kingdom	2,372,797	\$11,775,864
Hongkong	1,491,073	5,840,299
West Indian Islands and Bermuda	1,009,316	4,912,253
Cuba	842,168	3,953,385
China	741,192	2,895,286

California Potato Crops, 1868-1912.

Year.	Acreage.	Average yield per acre, bushels.	Production, bushels.	Average farm price, December 1.	Farm value December 1.
1868	23,800	90	2,142,000	\$0 56	\$1,199,520
1869	19,200	125	2,400,000	79	1,896,000
1870	12,317	148	1,823,000	1 35	2,461,050
1871	11,032	152	1,677,000	91	1,526,070
1872	32,203	59	1,900,000	1 13	2,147,000
1873	25,454	110	2,800,000	85	2,380,000
1874	22,400	120	2,688,000	1 11	2,983,680
1875	29,166	120	3,500,000	94	3,290,000
1876	32,000	125	4,000,000	83	3,320,000
1877	32,000	100	3,200,000	75	2,400,000
1878	38,400	114	4,377,600	98	4,290,048
1879	39,700	107	4,247,900	65	2,761,135
1880	39,300	140	5,502,000	79	4,346,580
1881	52,697	85	4,479,245	80	3,583,349
1882	53,751	82	4,434,453	60	2,660,672
1883	54,826	81	4,440,906	60	2,664,544
1884	58,664	95	5,573,000	60	3,343,800
1885	57,491	85	4,887,000	63	3,073,613
1886	60,940	78	4,753,000	66	3,136,980
1887	63,378	80	5,070,000	57	2,889,900
1888	60,843	73	4,442,000	61	2,709,339
1889	38,500	91	3,619,000	45	1,628,550
1890	39,655	95	3,767,225	68	2,561,713
1891	41,241	95	3,918,465	54	2,115,971
1892	38,354	75	2,876,550	59	1,697,164
1893	37,203	96	3,571,488	50	1,785,744
1894	26,786	52	1,392,872	49	682,507
1895	25,179	75	1,888,425	48	906,444
1896	22,158	80	1,772,640	53	939,499
1897	21,493	105	2,256,765	49	1,105,815
1898	20,418	95	1,939,710	55	1,066,840
1899	26,543	119	3,158,617	63	1,989,929
1900	26,808	104	2,788,032	53	1,477,657
1901	45,259	101	4,571,159	77	3,519,792
1902	47,975	118	5,661,050	58	3,283,409
1903	46,536	130	6,049,680	66	3,992,789
1904	47,001	129	6,063,129	67	4,062,296
1905	50,291	165	8,298,015	67	5,559,670
1906	50,291	125	6,286,375	74	4,651,918
1907	48,000	145	6,900,000	90	6,264,000
1908	49,000	107	5,243,000	77	4,037,000
1909	60,000	130	7,800,000	77	6,006,000
1910	70,000	130	9,100,000	85	7,735,000
1911	72,000	135	9,720,000	90	8,748,000
1912	78,000	130	10,140,000	65	6,591,000

The imports of potatoes generally average less than half a million bushels, but in 1912 the quantity was 13,734,000 bushels; value \$7,168,627. The export of domestic potatoes is small, the quantity for 1912 being 1,237,276 bushels; value \$1,414,297.

California Hay Crops, 1868-1912.

Year.	Acreage.	Average yield per acre, tons.	Production, tons.	Average farm price, December 1.	Farm value, December 1.
1868	338,345	1.33	450,000	\$15 00	\$6,750,000
1869	303,225	1.55	470,000	12 70	5,969,000
1870	416,891	1.48	617,000	16 70	10,303,900
1871	415,503	1.29	536,000	21 85	11,711,600
1872	413,333	1.50	620,000	15 60	9,672,000
1873	520,438	1.37	713,000	16 50	11,764,500
1874	458,357	1.40	641,700	15 09	9,683,253
1875	492,857	1.40	690,000	16 59	11,447,100
1876	629,629	1.35	850,000	11 61	9,868,500
1877	622,222	.90	560,000	15 00	8,400,000
1878	620,000	2.05	1,271,000	12 61	16,027,310
1879	756,380	1.63	1,232,900	9 98	12,242,697
1880	698,643	1.80	1,257,556	12 72	15,996,138
1881	798,830	1.35	1,078,421	12 20	13,156,736
1882	806,818	1.39	1,121,558	13 00	14,580,254
1883	871,363	1.50	1,307,045	12 50	16,338,063
1884	930,000	1.50	1,395,000	10 31	14,382,450
1885	939,300	1.20	1,127,160	11 50	12,962,340
1886	967,479	1.34	1,296,234	8 15	10,564,307
1887	1,160,975	1.30	1,509,268	11 50	17,356,582
1888	1,184,195	1.30	1,539,454	12 03	18,519,632
1889	1,431,574	1.55	2,218,285	9 25	20,519,136
1890	1,412,676	1.40	1,977,746	10 50	20,766,333
1891	1,497,437	1.40	2,096,412	11 00	23,060,532
1892	1,617,232	1.50	2,425,848	8 76	21,250,428
1893	1,681,921	1.69	2,842,446	7 87	22,370,050
1894	1,665,102	1.98	3,213,647	9 50	30,529,647
1895	1,681,753	1.66	2,791,710	7 06	19,709,473
1896	1,732,206	1.65	2,858,140	6 35	18,149,189
1897	1,697,562	1.60	2,716,099	9 00	24,444,891
1898	1,459,903	1.60	2,335,845	14 25	33,285,791
1899	1,708,087	1.63	2,784,182	8 00	22,273,456
1900	793,491	1.51	1,708,171	8 15	22,071,594
1901	550,325	1.82	1,001,592	7 92	7,932,609
1902	555,828	1.81	1,006,049	9 41	9,466,921
1903	550,270	2.08	1,144,562	11 66	13,345,593
1904	583,266	2.03	1,184,071	10 41	12,326,179
1905	589,119	2.40	1,413,886	10 05	14,209,554
1906	612,684	1.85	1,133,465	11 25	12,751,481
1907	637,000	1.75	1,115,000	12 50	13,938,000
1908	605,000	1.35	817,000	13 25	10,825,000
1909	650,000	1.70	1,105,000	11 50	12,708,000
1910	2,400,000	1.83	4,392,000	9 60	*42,163,000
1911	2,500,000	1.75	4,375,000	10 90	*47,688,000
1912	2,500,000	1.53	3,825,000	13 70	*52,402,000

The imports and exports of hay are not very large; in 1912 the imports amounted to 699,004 tons, valued at \$6,473,230, and the domestic exports 59,734 tons; value, \$1,039,040.

*Including forage.

FARM CROPS BY COUNTIES.

Barley, Buckwheat, Corn, Oats, Rye, Wheat, Potatoes, Hay and Hops.

TABLE XXXV.

Barley. (Bushels.)

Counties.	1890.	1900.	Counties.	1890.	1900.
Alameda	703,213	1,198,010	Placer	109,889	99,390
Alpine	160	600	Plumas	9,450	10,430
Amador	137,273	114,340	Riverside		25,400
Butte	491,199	585,290	Sacramento	484,110	559,530
Calaveras	40,044	23,180	San Benito	176,099	297,180
Colusa	1,244,467	1,759,430	San Bernardino	305,916	970
Contra Costa	416,662	794,550	San Diego	542,273	64,250
Del Norte	4,390	4,370	San Francisco	300	870
El Dorado	36,188	1,060	San Joaquin	1,546,527	3,467,520
Fresno	799,587	722,300	San Luis Obispo	312,875	1,609,510
Glenn		589,270	San Mateo	51,809	166,700
Humboldt	62,706	75,704	Santa Barbara	363,786	1,066,710
Imperial			Santa Clara	589,303	1,392,430
Inyo	9,530	7,630	Santa Cruz	49,024	110,070
Kern	146,266	149,740	Shasta	53,572	46,460
Kings		76,560	Sierra	19,488	9,630
Lake	95,871	100,850	Siskiyou	20,669	97,840
Lassen	31,663	31,690	Solano	733,820	1,750,550
Los Angeles	1,927,191	543,770	Sonoma	139,887	136,990
Madera		379,090	Stanislaus	612,286	595,130
Marin	7,063	2,940	Sutter	429,894	784,010
Mariposa	38,660	54,030	Tehama	359,668	426,630
Mendocino	53,375	54,280	Trinity	570	1,160
Merced	739,714	944,440	Tulare	506,381	125,390
Modoc	33,116	74,560	Tuolumne	24,960	6,410
Mono	3,903		Ventura	1,048,661	667,650
Monterey	1,166,149	1,563,450	Yolo	407,454	1,257,990
Napa	113,143	181,860	Yuba	236,169	174,270
Nevada	2,340	3,000			
Orange	109,673	160,960	Totals	17,548,386	25,149,335

TABLE XXXVI.
Buckwheat. (Bushels.)

Counties.	1890.	1900.	Counties.	1890.	1900.
Alameda		510	Placer		
Alpine			Plumas		
Amador		2,400	Riverside		600
Butte			Sacramento	1,733	
Calaveras			San Benito		
Colusa	800		San Bernardino		50
Contra Costa	8		San Diego	60	
Del Norte			San Francisco		
El Dorado			San Joaquin		
Fresno			San Luis Obispo	30	
Glenn			San Mateo		150
Humboldt			Santa Barbara	250	
Imperial	10		Santa Clara		
Inyo			Santa Cruz	1,376	
Kern			Shasta		
Kings			Sierra		
Lake			Siskiyou		
Lassen			Solano	560	
Los Angeles			Sonoma	60	
Madera			Stanislaus		4,075
Marin			Sutter	1,590	
Mariposa			Tehama		
Mendocino			Trinity		
Merced			Tulare		
Modoc			Tuolumne		
Mono			Ventura		
Monterey			Yolo		
Napa	3,911		Yuba		
Nevada					
Orange			Totals	10,388	7,800

TABLE XXXVII.

Corn. (Bushels.)

Counties.	1890.	1900.	Counties.	1890.	1900.
Alameda	13,530	34,002	Placer	100	678
Alpine	410	---	Plumas	30	100
Amador	19,021	21,107	Riverside	---	1,227
Butte	13,016	14,172	Sacramento	47,642	57,535
Calaveras	2,290	1,894	San Benito	1,654	2,662
Colusa*	42,581	36,451	San Bernardino	21,855	738
Contra Costa	7,878	11,786	San Diego	70,344	23,043
Del Norte	448	1,320	San Francisco	---	720
El Dorado	520	859	San Joaquin	10,799	31,789
Fresno	2,810	66,281	San Luis Obispo	13,985	27,903
Glenn	---	9,676	San Mateo	1,913	1,938
Humboldt	19,928	19,053	Santa Barbara	143,520	48,608
Imperial	---	---	Santa Clara	9,570	15,826
Inyo	26,759	53,076	Santa Cruz	72,546	111,737
Kern	342,770	56,308	Shasta*	4,375	10,107
Kings	---	76,722	Sierra	20	577
Lake	22,340	16,568	Siskiyou	4,900	2,343
Lassen	740	483	Solano	3,302	7,585
Los Angeles	430,571	78,614	Sonoma	142,323	182,140
Madera	---	577	Stanislaus	12,496	16,998
Marin	---	510	Sutter	27,337	15,822
Mariposa	845	250	Tehama	4,205	1,342
Mendocino	8,290	16,296	Tuolumne	60	429
Merced	32,583	126,594	Trinity*	1,435	1,910
Modoc	125	490	Tulare	40,507	36,982
Mono	209	160	Ventura	301,046	25,548
Monterey	24,137	32,967	Yolo	1,050	5,062
Napa	74,835	89,978	Yuba	14,855	7,539
Nevada	280	2,568			
Orange	339,785	67,612	Totals	2,381,270	1,477,093

*Shasta and Trinity included in Colusa.

TABLE XXXVIII.

Oats. (Bushels.)

Counties.	1890.	1900.	Counties.	1890.	1900.
Alameda	9,055	209,100	Placer	50,480	113,884
Alpine	8,650	3,180	Plumas	68,870	74,535
Amador	3,783	18,000	Riverside	---	3,200
Butte	6,930	34,579	Sacramento	31,494	346,728
Calaveras	200	4,705	San Benito	7,541	23,731
Colusa	900	27,690	San Bernardino	20,000	3,000
Contra Costa	18,980	345,414	San Diego	7,957	45,056
Del Norte	17,431	17,370	San Francisco	---	1,150
El Dorado	11,050	25,445	San Joaquin	6,888	11,991
Fresno	6,770	4,400	San Luis Obispo	31,978	100,318
Glenn	---	20,601	San Mateo	40,584	508,271
Humboldt	247,715	304,255	Santa Barbara	13,928	112,724
Imperial	---	---	Santa Clara	2,000	51,048
Inyo	24,716	51,900	Santa Cruz	77,568	266,434
Kern	175	4,000	Shasta	16,149	5,370
Kings	---	750	Sierra	38,296	8,040
Lake	21,335	40,820	Siskiyou	65,613	140,658
Lassen	27,007	16,450	Solano	3,430	61,305
Los Angeles	9,800	8,454	Sonoma	154,724	732,620
Madera	---	4,020	Stanislaus	38,472	8,538
Marin	28,900	85,538	Sutter	6,327	27,700
Mariposa	232	342	Tehama	46,425	38,881
Mendocino	54,246	170,671	Trinity	4,167	1,902
Merced	600	10,544	Tulare	6,650	4,415
Modoc	10,373	4,950	Tuolumne	700	2,620
Mono	530	130	Ventura	2,020	6,906
Monterey	123,580	462,384	Yolo	---	19,560
Napa	58,649	242,079	Yuba	28,000	105,079
Nevada	1,200	7,132			
Orange	---	13,739	Totals	1,463,068	4,972,356

TABLE XXXIX.

Rye. (Bushels.)

Counties.	1890.	1900.	Counties.	1890.	1900.
Alameda		389	Placer	1,072	
Alpine	66		Plumas	2,906	1,820
Amador		300	Riverside		3,090
Butte	3,068		Sacramento		
Calaveras		180	San Benito		60
Colusa		400	San Bernardino	930	1,120
Contra Costa		1,736	San Diego	4,352	190
Del Norte			San Francisco		240
El Dorado	1,112	1,414	San Joaquin	33,124	243,913
Fresno	272	1,651	San Luis Obispo	1,308	3,674
Glenn			San Mateo		990
Humboldt	142	1,207	Santa Barbara	500	37
Imperial			Santa Clara	3,000	
Inyo		250	Santa Cruz	95	
Kern	25	257	Shasta	784	
Kings			Sierra	744	80
Lake	110	200	Siskiyou	425	587
Lassen	18,306	12,580	Solano		2,330
Los Angeles	14,925	4,020	Sonoma	126	1,852
Madera			Stanislaus		411
Marin			Sutter		72,700
Mariposa	424	159	Tehama		370
Mendocino	30	10	Trinity	1,232	10
Merced	152,884	157,113	Tulare		148
Modoc	1,264	1,600	Tuolumne	55	850
Mono	85		Ventura		
Monterey	330	3,908	Yolo		1,074
Napa	10		Yuba		
Nevada	150	1,411			
Orange	15	130	Totals	243,871	524,451

TABLE XL.

Wheat. (Bushels.)

Counties.	1890.	1900.	Counties.	1890.	1900.
Alameda	253,086	199,197	Placer	323,110	482,798
Alpine	2,770	9,847	Plumas	16,874	17,457
Amador	52,577	49,903	Riverside		104,187
Butte	2,963,597	1,893,807	Sacramento	1,211,991	1,132,927
Calaveras	20,540	35,037	San Benito	432,980	157,590
Colusa*	6,272,494	3,291,570	San Bernardino	36,019	2,050
Contra Costa	894,672	918,937	San Diego	159,739	82,193
Del Norte	375	1,110	San Francisco		610
El Dorado	43,229	24,973	San Joaquin	3,836,786	4,192,727
Fresno	2,751,450	2,327,353	San Luis Obispo	474,293	1,302,497
Glenn		2,512,383	San Mateo	22,239	19,887
Humboldt	29,566	15,660	Santa Barbara	229,825	233,533
Imperial			Santa Clara	282,536	175,230
Inyo	36,548	63,293	Santa Cruz	102,111	21,947
Kern	80,685	103,223	Shasta*	98,157	94,687
Kings		289,843	Sierra	9,358	4,753
Lake	83,940	139,020	Siskiyou	101,677	323,167
Lassen	86,088	130,260	Solano	1,756,837	1,990,690
Los Angeles	785,787	69,923	Sonoma	251,254	241,417
Madera		1,268,593	Stanislaus	3,566,454	3,295,330
Marin	12,765	8,733	Sutter	1,475,944	1,272,433
Mariposa	12,303	11,500	Tehama	1,298,225	904,017
Mendocino	70,750	173,223	Trinity*	12,176	7,337
Merced	2,824,480	1,252,457	Tulare	2,691,352	1,351,177
Modoc	21,416	118,200	Tuolumne	28,235	10,417
Mono	1,569	2,240	Ventura	51,779	35,968
Monterey	1,856,000	762,143	Yolo	2,570,065	2,540,943
Napa	279,429	320,540	Yuba	390,957	460,688
Nevada	813	3,990			
Orange	835	63,937	Totals	40,869,337	36,534,407

*Shasta and Trinity included in Colusa.

TABLE XLI.
Potatoes. (Bushels.)

Counties.	1890.	1900.	Counties.	1890.	1900.
Alameda -----	209,384	147,711	Placer -----	3,044	1,962
Alpine -----	4,030	2,122	Plumas -----	14,834	17,924
Amador -----	32,157	13,150	Riverside -----		65,768
Butte -----	14,889	13,431	Sacramento -----	601,644	1,082,571
Calaveras -----	1,910	7,336	San Benito -----	14,539	20,576
Colusa -----	14,838	8,413	San Bernardino --	40,550	54,858
Contra Costa -----	220,862	220,621	San Diego -----	46,193	27,064
Del Norte -----	10,203	13,672	San Francisco ---	61,045	56,764
El Dorado -----	7,492	8,198	San Joaquin -----	278,583	1,228,435
Fresno -----	12,580	10,798	San Luis Obispo --	50,240	41,277
Glenn -----		4,269	San Mateo -----	69,461	52,215
Humboldt -----	175,507	151,677	Santa Barbara ---	39,466	60,656
Imperial -----			Santa Clara -----	88,071	98,463
Inyo -----	9,214	18,598	Santa Cruz -----	93,621	99,933
Kern -----	9,280	53,771	Shasta -----	25,938	31,383
Kings -----		4,093	Sierra -----	6,505	7,770
Lake -----	13,182	13,543	Siskiyou -----	27,511	49,944
Lassen -----	30,541	33,537	Solano -----	11,883	14,381
Los Angeles -----	393,624	393,229	Sonoma -----	319,890	233,807
Madera -----		828	Stanislaus -----	4,092	4,817
Marin -----	82,042	43,638	Sutter -----	15,271	20,828
Mariposa -----	7,765	6,614	Tehama -----	15,398	16,231
Mendocino -----	26,855	61,461	Trinity -----	8,143	19,473
Merced -----	19,604	42,671	Tulare -----	60,769	26,794
Modoc -----	19,891	25,594	Tuolumne -----	3,190	9,618
Mono -----	10,703	8,390	Ventura -----	53,329	21,417
Monterey -----	232,629	343,843	Yolo -----	29,569	23,294
Napa -----	13,198	19,642	Yuba -----	19,021	9,063
Nevada -----	15,967	15,698			
Orange -----	74,768	156,326	Totals -----	3,664,920	5,242,596

TABLE XLII.
Hay. (Tons.)

Counties.	1890.	1900.	Counties.	1890.	1900.
Alameda -----	75,765	112,886	Placer -----	31,855	20,640
Alpine -----	3,150	3,452	Plumas -----	30,268	30,648
Amador -----	25,971	21,347	Riverside -----		56,844
Butte -----	73,460	58,701	Sacramento -----	69,695	89,830
Calaveras -----	9,802	20,639	San Benito -----	31,443	55,341
Colusa -----	66,174	35,246	San Bernardino --	49,885	34,755
Contra Costa -----	73,449	117,816	San Diego -----	48,085	50,384
Del Norte -----	5,341	5,687	San Francisco ---	343	1,138
El Dorado -----	15,034	16,715	San Joaquin -----	61,067	96,396
Fresno -----	93,374	160,952	San Luis Obispo --	50,464	50,995
Glenn -----		30,328	San Mateo -----	21,605	29,425
Humboldt -----	41,353	52,240	Santa Barbara ---	30,371	48,029
Imperial -----			Santa Clara -----	95,296	132,844
Inyo -----	24,574	37,708	Santa Cruz -----	26,013	40,420
Kern -----	82,115	77,189	Shasta -----	30,982	35,999
Kings -----		77,897	Sierra -----	16,198	14,818
Lake -----	24,522	21,560	Siskiyou -----	44,873	85,500
Lassen -----	56,411	71,158	Solano -----	38,993	52,234
Los Angeles -----	116,101	215,657	Sonoma -----	82,568	111,583
Madera -----		18,719	Stanislaus -----	19,495	48,784
Marin -----	27,890	40,176	Sutter -----	29,980	39,725
Mariposa -----	8,939	8,087	Tehama -----	52,444	34,799
Mendocino -----	28,231	45,701	Trinity -----	6,849	7,931
Merced -----	82,496	54,604	Tulare -----	102,354	100,474
Modoc -----	54,533	95,814	Tuolumne -----	6,455	11,766
Mono -----	16,096	23,619	Ventura -----	21,575	38,512
Monterey -----	53,386	67,707	Yolo -----	53,075	76,477
Napa -----	31,362	41,909	Yuba -----	31,599	28,675
Nevada -----	18,090	12,938			
Orange -----	26,836	61,420	Totals -----	2,218,285	3,035,266

PART IV.

HORTICULTURE.

ORCHARDS AND VINEYARDS.

Orchard Fruits, Tropical Fruits, Olives and Olive Oil, Citrus Fruits, Raisins and Currants, Almeria Grapes, Almonds and Walnuts. Number of Trees and Vines by Counties. California Fruit and Nut Crops 1886-1912.

CALIFORNIA ORCHARDS.

No statistics are extant recording the number of trees or the amount of fruit produced in the early days of fruit growing by the Missions at the period of their greatest prosperity. Inventories of the Mission properties were made at the time of their secularization in 1834. That of the San Ynez Mission recorded 987 fruit trees, valued at \$1.00 each. San Fernando returned 1,600 fruit trees, valued at \$1.50 each; San Gabriel 2,333 fruit trees upon which no valuation was placed, and San Diego returned 517 olive trees.

Outside of the Missions there were few attempts made at horticulture, and after they were broken up the early fruit industry began to decline. When General Frémont visited California in 1846, he wrote that "Little remains of the orchards that were kept in high cultivation at the Missions. Fertile valleys are overgrown with wild mustard; vineyards and olive orchards are decayed and neglected."

Some of the early settlers secured some of the Mission orchards, but the early plantings in the north were generally in the vicinity of the mines; but little care was bestowed upon them, as fruit growing was not the science into which it has since developed.

Some of the Leading California Fruits.

In the value of production among the orchard fruits, the peach ranks second. It has a wider range for possible growth than the apple. The nectarine is so similar to the peach as to be botanically classed as a variety of that fruit. It is even more difficult to grow than the apricot, and is produced almost entirely in California. The first large orchard of prunes was established in 1870 at San Jose.

There are two distinct branches of the apple industry in California; one is the growing of early varieties, like the Astrachan and Gravenstein, which are grown mostly in the Sacramento Valley and foothills, the other, the production of winter apples. The greatest apple district of the State is the Pajaro Valley, including parts of Monterey and Santa Cruz counties, centering at Watsonville.

California has a monopoly of apricot growing, and in canned and dried forms is one of the leading fruits exported.

The cherry is one of the lesser orchard fruits of California, but the peach is the greatest orchard fruit of the deciduous class produced in the State. Magnificent nectarines are grown, but in comparatively small quantities compared with the peach.

The production of pears declined for many years owing to the ravages of the pear blight, but is now recovering from the set-back the industry received. The varieties grown are comparatively few, and the Bartlett is the chief.

Prunes and plums are largely grown in certain counties, and the production of French prunes has developed into one of the largest fruit industries in the State.

The olive is another of the old Mission fruits which has come to the front again within the last three or four years. It thrives on a great variety of soils.

Tropical and Subtropical Fruits.

The semitropical fruits and nuts of the United States comprise almonds, bananas, citrons, cocoanuts, dates, figs, guavas, kaki (or persimmons), lemons, limes, English or Persian walnut (or Medeira nut), olives, oranges, pineapples, pomelos, pomegranates, and pecans. The two leading states producing subtropical fruits are California and Florida.

Figs—Professor Wickson well describes the fig as perhaps the grandest fruit tree of California. Probably the most interesting tree is that on the Rancho Chico, near the residence of General Bidwell. It was planted in 1856 and has attained a marvelous growth, the widespread branches forming a wonderful enclosure over 150 feet in diameter. California is the only State that produces figs in commercial quantities, and Fresno County takes the lead in the production of this fruit. The large and universal demand for figs is proved by the quantity of Smyrna figs produced in Asia Minor, which amounts to about 40,320,000 pounds annually. In 1912 the Smyrna Fig Packers' Association was organized at Smyrna, with a paid-up capital of \$1,054,814. Before the company was constituted, packing was carried out in 53 establishments, now concentrated in 8, and the turnover the past year was over \$2,500,000.

The white Adriatic fig was extensively planted from 1884 to 1890, and in 1887 the Smyrna fig was introduced by George C. Roeding, of Fresno, and since this time the fig industry has kept increasing until it has become one of the most important fruit products of the State.

Dates—Until last year or two, dates have been grown only in an experimental way, but the success of some of the tests has encouraged larger cultivation. While date trees can be grown wherever the orange is grown, they will not properly mature in any except the hottest and driest portions of the State. Perhaps a small quantity of very early soft dates may be matured in the hottest parts of the San Joaquin and Sacramento valleys. According to Dr. J. Eliot Coit, pomologist, California Experiment Stations, the requisite conditions may be found in many places throughout the Imperial, Coachella, and Colorado valleys, and the country around Palo Verde and Blythe, Riverside County. At other places in the State, such as the vicinity of Riverside, Redlands, Fresno, and Oroville, early dates might be grown in a small way for home consumption, or be sold in the fresh, uncured condition.

While of many varieties, dates may practically be classed as of three sorts—soft, dry, and semi-dry. The Deglet Noor is probably the best of the latter class. They are grown principally in Imperial County

at Indio, in the Coachella Valley.* There are about 1,200 palms shortly coming into bearing, and several thousand small ones, and a great number are now being planted. The quantity of edible dates sold last year was about 1,200 pounds. In 1912, 25,208,248 pounds of dates were imported, valued at \$536,983, the duty being one cent a pound.

Orchard Fruits, Grapes, Tropical Fruits, Small Fruits, and Nuts—1909-1910.

The acreage in fruits has never been ascertained. In comparing one year with another the number of trees or vines of bearing age is on the whole a better index of the general changes or tendencies than the quantity of product, which may vary very largely owing to favorable or unfavorable climatic conditions.

The total quantity of orchard fruits produced in 1909 was 31,502,000 bushels, valued at \$18,359,000. Plums and prunes, peaches and nectarines, apples and apricots are the most important of the orchard fruits.

The total value of the tropical fruits produced in 1909 was \$16,752,000, the value of oranges representing more than three fourths of the total, and the value of lemons being next in importance.

The production of grapes in 1909 amounted to 1,979,687,000 pounds, valued at \$10,847,000, and the production of nuts was 28,378,000 pounds, valued at \$2,960,000. Most of the nuts were Persian or English walnuts and almonds.

Small Fruits—1899-1909.

Strawberries are by far the most important of the small fruits raised in California, with raspberries and loganberries, and blackberries and dewberries ranking second and third respectively.

The total acreage of small fruits in 1909 was 9,687 and in 1899, 6,281, an increase of 54.2 per cent. The production in 1909 was 26,824,000 quarts, as compared with 14,582,000 quarts in 1899, and the value was \$1,789,000 in 1909, as compared with \$911,000 in 1899.

The Production of Fruit in Other States.

Definite conclusions as to the relative importance of different states can not always be drawn from the number of trees of bearing age, since the trees in some states are much more prolific than in others, nor does the production of any given year furnish an altogether satisfactory index, since weather conditions may be favorable in one part of the country and unfavorable in another.

The leading states in the value of fruit produced are California and New York. The three states containing the largest number of orchard trees, are:

State.	Bearing trees.	Non-bearing trees.	Total.
California -----	22,485,195	8,410,062	30,895,257
Missouri -----	23,128,107	5,748,150	28,876,256
New York -----	17,625,093	7,363,614	24,988,707

*For details regarding the production of dates in California, see an article by Paul B. Popenoe, in Monthly Bulletin, No. 9, Vol. I, of the State Commission of Horticulture, Sacramento.

The leading states containing the largest number of trees of the principal fruits are:

Apples.

State.	Bearing trees.	Non-bearing trees.	Total.
Missouri	14,359,673	3,624,833	17,984,506
New York	11,248,203	2,828,515	14,076,718
Illinois	9,900,627	2,548,301	12,448,928

Peaches and Nectarines.

Texas	9,737,827	2,958,813	12,696,640
California	7,829,011	4,409,562	12,238,573
Georgia	10,609,119	1,531,367	12,140,486

Pears.

New York	2,141,596	1,502,661	3,644,257
California	1,410,905	398,093	1,808,998
Michigan	1,136,151	623,931	1,760,082

Plums and Prunes.

California	7,168,705	1,599,939	8,768,644
Oregon	1,764,896	427,609	2,192,505
Iowa	1,155,041	245,281	1,400,322

Cherries.

Ohio	1,144,271	342,328	1,486,599
Pennsylvania	1,075,081	280,251	1,355,282
Iowa	908,764	229,352	1,138,116

Apricots.

California	2,992,453	531,524	3,573,977
Oklahoma	173,515	62,980	236,445
Kansas	187,381	28,134	215,515

Grapes (number of vines).

California	144,097,670	39,526,319	183,623,989
New York	31,802,097	3,801,800	35,603,897
Michigan	11,013,576	1,869,648	12,883,224

TROPICAL AND SUB-TROPICAL FRUITS.**Oranges.**

State.	Bearing trees.	Non-bearing trees.	Total.
California	6,615,805	2,003,410	8,709,215
Florida	2,766,618	1,097,896	3,864,514
Louisiana	266,116	155,016	421,132

Lemons.

California	941,293	379,676	1,320,969
Florida	11,740	7,329	19,069

Pomelos (grape fruit).

State.	Bearing trees.	Non-bearing trees.	Total.
Florida	656,213	600,049	1,256,262
California	43,424	25,589	69,013

Tangerines and Mandarins.*

Florida	23,234	3,839	27,073
California	3,637	34	3,671

Figs.

Texas	230,171	585,396	815,567
California	269,001	214,527	483,528
Louisiana	71,464	102,043	173,507

Nearly two thirds of the total fig crop is produced by California, having more trees in bearing.

Olives.

State.	Bearing trees.	Non-bearing trees.	Total.
California	836,347	121,659	958,006
Arizona	9,353	1,773	11,126

Guavas.

Florida	8,293	3,364	11,657
California	7,031	443	7,474

Persimmons (Japanese).

California	3,274	8,801	12,075
Florida	4,987	3,895	8,882
Texas	4,449	2,718	7,167

Loquats.

California	3,711	1,011	4,722

Pomegranates.

Alabama	1,672	3,552	5,224
California	1,771	2,745	4,516
Nevada	2,887	541	3,428

*Of 9,150 mandarin trees in the United States, 8,775 are reported in Louisiana.

NUTS.

Almonds.

State.	Bearing trees.	Non-bearing trees.	Total.
California	1,166,730	365,961	1,532,691
Arizona	6,639	845	7,484

Persian or English Walnuts.

California	853,237	546,804	1,400,041
Oregon	9,526	177,004	186,530
Mississippi	2,705	5,513	8,218

Pecans.

Texas	1,087,619	621,550	1,709,169
Georgia	75,519	325,779	401,298
Oklahoma	96,766	53,796	150,562

Although fruits are grown with few exceptions in every county in the State, certain counties take the lead in producing the principal fruits. The following is a brief summary of some of them:

PRINCIPAL ORCHARD FRUITS BY COUNTIES.

Best Location for the Leading Fruit Crops.

The following summary is both interesting and valuable, as the figures show which districts are the best for raising the different varieties of fruit. In the earlier years many failures were experienced by growers, owing to the soil or climate not being suitable for the trees they had planted.

According to the number of trees in bearing, the following six counties rank in the order named in the production of various fruits:

Apples.

County.	Number of bearing trees.	County.	Number of bearing trees.
Santa Cruz	647,136	Santa Clara	102,841
Sonoma	386,740	Los Angeles	101,433
Monterey	290,404	Humboldt	73,010

Apricots.

Santa Clara	783,585	Ventura	219,836
Solano	310,262	Fresno	186,823
Alameda	270,461	Yolo	117,228

Cherries.

Santa Clara	173,002	Sonoma	43,927
Alameda	89,284	Placer	31,209
Solano	53,923	San Joaquin	21,590

Peaches and Nectarines.

Fresno	2,277,314	Placer	683,824
Kings	777,697	Santa Clara	437,677
Tulare	714,494	Solano	341,266

Pears.*

Solano	182,194	Santa Clara	142,550
Sacramento	161,094	Sonoma	109,965
Placer	142,999	Alameda	70,382

Prunes and Plums.

Santa Clara	3,387,455	Placer	279,766
Sonoma	569,232	Tulare	264,337
Napa	299,613	Sacramento	206,553

*Owing to the ravages of the pear blight, the number of bearing trees decreased from 2,512,890 in 1900 to 1,410,905 in 1910.

Total Number of Bearing Orchard Trees.

The following twelve counties have the largest number of orchard fruit trees in bearing, in the order named:

County.	Number of bearing trees.	County.	Number of bearing trees.
Santa Clara	5,043,766	Kings	1,048,506
Fresno	2,579,859	Santa Cruz	875,642
Sonoma	1,364,105	Alameda	627,824
Solano	1,357,911	Sacramento	506,961
Placer	1,190,074	Napa	497,361
Tulare	1,059,830	Butte	452,302

TROPICAL FRUITS.

Figs.

County.	Number of bearing trees.	County.	Number of bearing trees.
Fresno	120,124	Yolo	10,476
Stanislaus	37,676	Merced	9,837
Tulare	15,750	Butte	9,518

Olives.

San Diego	109,871	Butte	73,453
Los Angeles	84,934	Fresno	72,788
Riverside	80,572	Orange	67,046

Lemons.

Los Angeles	219,149	Riverside	115,000
San Diego	195,318	Ventura	95,000
San Bernardino	157,731	Orange	46,964

Oranges.

San Bernardino	1,951,254	Tulare	801,151
Los Angeles	1,674,695	Orange	478,273
Riverside	1,021,957	Butte	147,412

Pomeloos.

San Bernardino	13,134	San Diego	5,700
Tulare	8,114	Riverside	4,477
Los Angeles	6,853	Yolo	1,355

Total Number of Bearing Trees of Tropical Fruit.

County.	Number of bearing trees.	County.	Number of bearing trees.
San Bernardino -----	2,153,501	Ventura -----	253,754
Riverside -----	1,224,217	Butte -----	235,442
Los Angeles -----	1,194,402	Santa Barbara -----	99,023
Tulare -----	872,657	Sacramento -----	84,863
San Diego -----	425,260	Kern -----	82,888
Fresno -----	291,754	Placer -----	59,906

GRAPE VINES.

County.	Number of bearing vines.	County.	Number of bearing vines.
Fresno -----	*†40,687,207	Santa Barbara -----	†5,987,127
Sonoma -----	†17,939,972	Santa Clara -----	†5,584,480
San Joaquin -----	†13,371,794	Los Angeles -----	*†4,923,877
Napa -----	†8,595,338	Kings -----	*†4,538,732
Sacramento -----	†7,627,510	Contra Costa -----	†2,972,130
Tulare -----	*†7,227,491	Yolo -----	*†2,568,019

*Raisin grapes. †Wine grapes.
All produce table grapes.

NUTS.

Almonds.

County.	Number of bearing trees.	County.	Number of bearing trees.
Contra Costa -----	209,056	Butte -----	84,069
Yolo -----	149,019	Los Angeles -----	76,949
Solano -----	98,276	Sacramento -----	66,372
San Joaquin -----	97,024	Sutter -----	61,572

Walnuts.

Los Angeles -----	281,837	Santa Barbara -----	96,776
Orange -----	276,842	Santa Clara -----	19,070
Ventura -----	98,622	Sonoma -----	11,955

Pecans.

San Diego -----	1,080	Los Angeles -----	313
Napa -----	996	Ventura -----	301
Kern -----	563	Santa Clara -----	136

Total Nut Trees in Bearing.

Los Angeles -----	359,349	Solano -----	160,239
Orange -----	278,879	San Joaquin -----	99,499
Contra Costa -----	215,249	Santa Barbara -----	97,091
Yolo -----	150,822	Sacramento -----	67,156
Ventura -----	110,984	Sutter -----	62,289

SMALL FRUITS.

Strawberries.

County.	Number of acres.	County.	Number of acres.
Los Angeles	1,380	Placer	
Santa Cruz	489	Monterey	
Santa Clara	460	Fresno	
Sacramento	450	Sonoma	
			422
			282
			148
			103

Blackberries.

Sonoma	930	Fresno	
Los Angeles	280	Tulare	
Santa Clara	228	San Bernardino	
Santa Cruz	116	Placer	
			91
			70
			68
			62

Total Small Fruits.

Los Angeles	1,975	Monterey	
Sonoma	1,471	Alameda	
Santa Clara	1,011	Fresno	
Santa Cruz	744	Orange	
Placer	582	Stanislaus	
Sacramento	554	Butte	
			407
			401
			310
			205
			161
			148

Acreage and Production of Small Fruits, 1899-1909.

	Number of farms 1909.	Acres.		Quarts. 1909.	Value. 1909.
		1899.	1909.		
Strawberries	2,282	2,418	4,585	15,694,326	\$1,149,475
Blackberries and dewberries	3,190	1,960	2,576	4,898,524	282,383
Raspberries and loganberries	2,524	987	1,992	5,222,117	304,169
Currants	364	724	407	852,378	43,506
Gooseberries	343	133	74	145,119	9,086
Cranberries	12		53	10,656	443
Other berries	1	59	*	1,000	150
Totals		6,281	9,687	26,824,120	\$1,789,214

*Less than 1 acre.

Of the small fruits, strawberries lead both in acreage and production, California being the largest producer in the West, the greatest production being in Los Angeles County. Currants are only grown in about eight states, California being one of them; gooseberries are not much grown anywhere in the United States, Indiana being the largest producer.

Cranberries only acquired commercial importance fifty or sixty years ago. They are principally grown in Massachusetts, New Jersey, and Wisconsin, and are not a success in California. There is a wild cranberry or huckleberry grown in the redwood regions of the State, but not like the hog cranberry of the East. One year 2,000 boxes were picked on the hills of west Sonoma County, and used for canning and pies; they are said to be juicy and delicious.

FRESH DECIDUOUS FRUITS, 1903-1912.

Statement Showing Number of Cars of Each Variety Shipped, 1903-1912.

	Apricots.	Cherries.	Grapes.	Peaches.	Pears.	Plums.	Apples.	Miscellaneous.	Totals.
1903 -----	241	211	1,804	1,857	1,720	1,145	671	22	7,671
1904 -----	97	209	1,451	559	2,186	1,053	43	28	5,626
1905 -----	279	79	1,602	1,946	1,013	1,391	1,913	16	8,239
1906 -----	16	150	2,052	584	1,513	1,220	748	22	6,305
1907 -----	71	133	3,460	699	1,039	1,039	1,067	18	7,526
1908 -----	232	208	3,819	1,980	2,702	1,763	2,201	15	12,920
1909 -----	210	250	5,880	2,599	2,638	1,526	2,158	19	15,280
1910 -----	290	250	4,948	2,518	2,361	1,552	2,136	17	14,072
1911 -----	215	216	6,374	2,027	2,325	1,366	-----	16	12,539
1912 -----	196	244	6,357	1,621	3,135	1,776	-----	15	13,344

In no case do the above figures cover the entire shipment of apples, as they continue to be shipped long after the deciduous fruit season is closed.

Number of Trees and Vines in 1910.

Crop.	Bearing trees in 1910.	Non-bearing trees in 1910.	Total.	Quantity, bushels, 1909.	Value, 1909.
<i>Orchard Fruits.</i>					
Peaches and nectarines.....	7,829,011	4,409,562	12,238,573	9,267,118	\$4,573,775
Plums and prunes.....	7,168,705	1,599,989	8,768,644	9,317,979	5,473,539
Apricots	2,992,453	581,524	3,573,977	4,066,823	2,768,921
Apples	2,482,762	1,054,107	3,536,869	6,335,073	2,901,662
Pears	1,410,905	398,093	1,808,998	1,928,097	1,660,963
Cherries	522,304	300,063	822,367	501,013	951,624
Quinces	76,979	65,471	142,450	32,638	26,266
Mulberries	2,076	1,303	3,380	52,766	2,147
Unclassified	-----	-----	-----	-----	-----
Totals	22,485,195	8,410,062	30,895,257	31,501,507	\$18,358,897
<i>Tropical Fruits.</i>					
Oranges	6,615,805	2,093,410	8,709,215	¹ 14,436,180	\$12,951,505
Lemons	941,293	379,676	1,320,969	² 2,756,221	2,976,571
Pomeloos (grapefruit) ..	43,424	25,589	69,013	¹ 122,515	143,180
Mandarines	351	23	374	¹ 555	607
Tangerines	3,637	34	3,671	¹ 3,581	4,188
Total citrus fruits...	7,604,510	2,498,732	10,103,242	¹15,319,052	\$16,076,051
Olives	836,347	121,659	958,006	¹ 16,132,412	\$401,277
Figs	269,001	214,527	483,528	² 22,990,353	260,153
Guavas	7,031	443	7,474	³ 95,053	4,018
Loquats	3,711	1,011	4,722	¹ 4,516	5,830
Pomegranates	1,771	2,745	4,516	² 30,075	968
Japanese persimmon....	3,274	8,801	12,075	² 2,696	3,344
Dates	325	19,552	19,877	² 3,332	418
Unclassified	35	200	-----	-----	-----
Totals	*8,726,005	*2,867,670	11,593,675	-----	*\$16,752,101

¹Boxes. ²Pounds. ³Bushels. ⁴Includes limes, bananas, and citron.

Grapes.

	Bearing.	Non-bearing.	Total.	Quantity, pounds.	Value.
Grapes	144,097,670	39,526,819	183,623,989	1,979,686,525	\$10,846,812

Nuts.

	Bearing trees in 1910.	Non-bearing trees in 1910.	Total.	Quantity, pounds, 1909.	Value, 1909.
Almonds	1,166,730	365,961	1,532,691	6,692,513	\$716,774
Persian or English walnuts	853,237	546,804	1,400,041	21,432,266	2,247,146
Black walnuts	6,582	7,905	14,487	159,374	2,370
Pecans	4,226	2,793	7,019	44,955	4,652
Chestnuts	1,763	2,948	4,711	37,153	3,474
Franquette	408	617	1,025	4,550	511
Unclassified	1,356				
Totals	*2,034,302	*931,933	2,966,235	*28,378,115	\$2,459,645

*Including Oou-shue, Chili nuts, Brazil nuts, Japanese chestnuts, beechnuts, hazelnuts, French nuts, Japanese walnuts, pistachio, butternuts, mazette, hickory nuts, filberts, and other nuts.

Summary.

	Bearing trees.	Non-bearing trees.	Total.
Orchard fruits	22,485,195	8,410,062	30,895,257
Tropical fruits—			
Citrus fruits	7,604,510	2,498,732	10,103,242
Other tropical fruits	1,121,495	368,938	1,490,433
Total tropical fruits	8,726,005	2,867,670	11,593,675
Nuts	2,034,302	931,933	2,966,235
Total trees	33,245,502	12,209,665	45,455,167
Grape vines	144,097,670	39,526,319	183,623,989

The following table shows the quantities of the more advanced products manufactured by farmers from orchard and tropical fruits and grapes:

Product.	Number of farms.	Unit.	Quantity, 1899.	Produced, 1909.
Older	481	gallons	75,443	118,455
Vinegar	978	gallons	199,678	244,683
Wine and grape juice	2,163	gallons	5,492,216	16,005,539
Olive oil	78	gallons	8,445	95,633
Raisins and dried grapes	4,551	pounds		169,210,639
Other dried fruit	8,373	pounds	117,935,727	189,495,765

NOTE.—These figures do not include wine, grape juice, and vinegar made in regular wineries, nor olive oil made in regular factories.

Leading Counties in Fruit and Nuts.
(Value of one million and upwards.)

	Value.		Value.
Los Angeles	\$6,731,000	Sonoma	\$2,084,000
San Bernardino	5,357,000	Ventura	1,793,000
Fresno	5,279,000	Santa Cruz	1,656,000
Santa Clara	4,234,000	Solano	1,495,000
Riverside	2,393,000	Placer	1,318,000
Orange	2,497,000	San Joaquin	1,307,000
Sacramento	2,265,000	Kings	1,219,000
Tulare	2,053,000		

Total Value of All Crops, by Counties.
(Value of four million dollars and upwards.)

	Value.		Value.
Los Angeles -----	\$14,720,000	Tulare -----	\$5,353,000
San Joaquin -----	9,082,000	Riverside -----	5,133,000
Fresno -----	7,991,000	Sacramento -----	4,720,000
Santa Clara -----	6,968,000	Sonoma -----	4,451,000
San Bernardino -----	6,818,000	Monterey -----	4,325,000
Ventura -----	6,751,000	Alameda -----	4,276,000
Orange -----	6,176,000	Contra Costa -----	4,032,000

NOTE.—These figures are for the value of crops only, and do not include wine and other products.

OLIVES AND OLIVE OIL.

The olive is a native of Syria, and lives to a great age. It seldom bears well two years in succession, and a bumper harvest in many instances only occurs every sixth or seventh year. The culture of the olive for commercial purposes forms an industry that should be regarded as one of the safest in the State, and under favorable conditions one of the most profitable of all branches of horticulture. Commercial conditions under the pure food law have made it almost imperative that with few exceptions the manufacture of olive oil, as with dairy products, be conducted by central plants on a considerable scale, rather than by numerous small outfits, connected with the orchards themselves.

As a result, especially if the industry be coupled with that of pickling olives, the manufacturer, on account of the larger output and the possibility of handling at a greater profit his highest grade of olives in the form of pickles, can afford to pay the grower a price for his crop that will return a fair profit, a condition which can not generally be said to exist where operations are conducted on a small scale. In the face of competition of so cheap an oil as cottonseed, its chief competitor as an edible oil, and the high cost of producing strictly pure, high-grade olive oil, the manufacturer must use the most modern machinery, which is beyond the means of the ordinary grower. That there is a ready market in this country for olive oil is proved by the quantity and value of foreign oil and olives imported.

Olive Production in Europe.

Olive growing has been greatly neglected in France; while the olive oil industry was flourishing in the other Mediterranean countries, it has steadily lost ground, and the annual value of the crop is worth about \$8,000,000 less than fifty years ago. The keen competition of seed oils is given as one of the reasons. Numerous orchards were destroyed and converted into vineyards. France and Italy are the largest buyers of Grecian olive oil. The olive oil shipped to Russia is used in the churches and private dwellings to be burned before the ikons.

France and Italy import olive oil to mix with cottonseed oil, and are, therefore, able to cater to the large demand for mixed oil. After the almost universal passage of pure food laws, the mixed oils, commonly sold as olive oil, had little sale as such, and the increased demand for pure olive oil caused the price to advance until it was out of the reach

of many, and mixed oils, sold as such, found a market which has been steadily increasing abroad.

The European olive crop is a very large and important one. France has approximately 328,648 acres and the normal output of olive oil is 6,604,000 gallons. By a special act of April 4, 1910, olive growers will receive a bounty for trees over fifteen years old every year until 1921 amounting to \$386,000, which represents about 10 per cent of the average value of the crop. One result of the law will be the securing of accurate statistical information regarding the industry. In 1912 Spain had 3,546,515 acres in olives, the crop being estimated at 3,835,816,500 pounds of olives. Italy has about 2,688,738 acres. Greece has 642,400 acres and the production in 1912 of olive oil was estimated at 20,292,000 to 21,983,000 gallons. Portugal has 543,600 acres. The estimated production of olive oil in Italy in 1912 is about 38,745,000 gallons, (the average being 58,117,000 gallons).

In the United States the production is confined largely to California. Although introduced into the Southern Colonies as early as 1634, its cultivation did not prove successful. Trees from seed planted in 1769 at San Diego, California, are still producing fruit.

There were very few new orchards planted in new olive trees during the years 1905-9, consequently the production of olive oil during the last few years has changed but slightly. The few orchards that are coming into bearing are mostly varieties that are used for pickling purposes, and the production of pickling olives is increasing considerably from year to year. Since 1909 a large area has been planted. The production of olives during the last few years has increased by improved methods of irrigation and fertilization, and the industry is growing in importance, and new planting is on a considerable scale. The production is about equally divided between southern California and the territory north of the Tehachapi.

Not more than 35 gallons of oil are produced from a ton of olives, although some manufacturers, who have heavy presses, claim to obtain 40 gallons of oil to the ton. It takes six pounds of olives to make one gallon of pickles.

The leading varieties cultivated in California are the Mission, Ascolano, Sevillano (or Queen olive), Nevadillo, Rubra, Manzanillo, Columella, Oblitza, Oblonga, Uveria, Pendulina, Lucques, and Picholine d'Aix.

Olive oil was first made in California in Santa Barbara in 1872. In 1900, six counties in the San Joaquin and Sacramento valleys produced nearly 75 per cent of the crop in the whole State.

It is estimated that at the present time there is a total of 18,000 acres in olives, producing in 1911 about 8,000 tons of oil olives, and 4,000 tons for pickling. Four years ago the average net income was only \$17 an acre, in 1912 the average had increased to \$36.88 an acre. In 1908 the olive industry represented capital invested amounting to \$4,500,000, increased in 1912 to \$7,500,000. Formerly the by-products were more or less wasted, now oil, described as "Mechanical Oil" is extracted from the pomace, and used to a large extent by soap and other factories. The average yield per acre in California is about 1½ tons and the average price received by the growers for the three years 1909-1912, for oil olives on the tree was \$22 per ton. Forty per cent of the olives produced are pickling olives, and 60 per cent oil olives.

The average price received by growers 1909 to 1912 for pickling olives on trees was \$62 per ton. The net average receipts by growers for pickling olives was \$53.50 per ton, and the net average receipts for both oil and pickling olives \$36.88 per acre. The amount paid to growers in 1911, for approximately 12,000 tons was \$442,000; of this tonnage 4,000 were pickles, representing 1,200,000 gallons, and 8,000 tons of olive oil, representing 280,000 gallons of oil.

Compared with 1911, the output of olive oil in 1912 was very small, being about one third of that for the previous year, and the pickled olives about one half to one third, and in one or two counties even less. The price for oil olives during the last two years increased greatly, and in the southern part of the State has ranged from \$45 to \$50, and sometimes a few dollars higher per ton, while in pickling olives the price has ranged from \$125 to \$175 per ton, the higher prices being for the very best quality and the largest size. The price for oil olives on the trees in 1912 was from \$25 to \$35 per ton, pickling olives \$50 to \$60 on the trees, and upwards, depending on the quality of the fruit. Very fancy fruit commands prices of \$80, \$90 and \$100 on the trees.

The largest factory for producing olive oil and pickled olives is in Los Angeles County. The leading counties in the production of olives are: San Diego, Los Angeles, Riverside, and Orange in the south, and Butte and Fresno in central California.

THE CITRUS FRUIT INDUSTRY.

The orange was first cultivated in the United States in Florida and Louisiana, and subsequently in California. The varieties are very numerous, but by far the most popular and widely-known variety is the Washington Navel. It was first brought into this country from Bahia, Brazil, in 1870, by William Saunders of the United States Department of Agriculture, and was named by him "Bahia."

Twelve trees only were imported, two of which were obtained by Mrs. L. C. Tibbetts of Riverside, in 1873, and as buds were taken from these trees and the cultivation of it spread through the district, it became also known as the Riverside Navel to distinguish it from a similar, though inferior, variety which had been introduced in 1874 from Australia, and was at one time cultivated on a considerable scale in Orange County. There were many other types growing in southern California at that time, most of which were descended from trees planted around the Missions by the Spanish Fathers.

The variety was named by Californians the Washington Navel in honor of the capital from which it was received, but its formal title remains as "Bahia." Both these original trees were transplanted in 1903, one on Magnolia avenue, and the other in the court of Mission Inn, Riverside, by President Roosevelt.

Three fourths of the oranges in California are now of the Washington variety, the remainder comprising the Valencia Late as the most important variety, with fewer of the St. Michael, Mediterranean Sweet, Thompsons, Ruby, Blood, Jaffa, Seedlings, and Tangerines.

The two species of St. Michael, grown in the Azores are the "San Miguel," and "Selecta" (a native of Cape Verde Islands). The former ripens from December to June, and the latter from June till September.

The cultivation of the Jaffa orange in Palestine has largely increased

in recent years; the orange groves in the Jaffa district now cover upwards of 13,000 acres, and the Alexandretta district, about 7,000 acres.

The enormous consumption of oranges is shown by the exports from the leading countries that produce them.

Year.	Spain, pounds.	Italy, pounds.	†Jaffa, boxes.	Japan, pounds.	Porto Rico, boxes.	Cuba, pounds.
1901 -----	629,055,423	166,618,400	361,450	4,880,178	-----	144,002
1902 -----	813,937,355	211,623,500	304,090	4,266,925	-----	58,947
1903 -----	872,077,275	217,553,000	447,675	6,551,824	-----	151,706
1904 -----	901,750,769	250,231,100	467,500	4,372,941	-----	146,378
1905 -----	691,379,112	227,824,700	456,152	11,865,525	-----	295,812
1906 -----	865,761,660	212,663,200	547,718	22,798,096	-----	587,999
1907 -----	1,034,613,282	278,791,700	630,512	25,358,276	-----	1,509,536
1908 -----	1,027,871,410	266,838,200	675,926	20,414,803	308,990	1,881,001
1909 -----	1,031,865,629	244,488,600	744,463	22,245,897	204,239	2,376,635
1910 -----	1,051,764,067	265,498,285	853,767	18,899,371	296,058	2,653,320
1911 -----	869,725,553	282,945,860	869,859	14,158,559	313,461	3,609,817

†The Jaffa box contains about 70 pounds of fruit; the Porto Rican box about 80 pounds.

In addition to the above, the exports from the British West Indies to the United States alone, is on a very large scale, as the following figures show:

Year.	Pounds.
1907 -----	5,983,107
1908 -----	11,789,081
1909 -----	756,999
1910 -----	469,036
1911 -----	4,108,651

The total shipments from the countries mentioned above are equivalent to approximately 21,000,000 boxes of California capacity. California, therefore, provides about forty per cent of the total orange supply of the world and three fourths of the total production of the United States. Spain produces about the same quantity of oranges as California.*

Japan is now growing navel oranges in considerable quantities. In 1911 there were 1,067,659 trees, and planting is rapidly extending. Three years ago these oranges were seldom seen in the market of northern Japan, now they are to be had in every part of Japan at 18 to 30 cents a dozen, according to quality. The fruit is good in quality, thin skinned, juicy, and sweet. They have been recently exported in considerable quantities to Australia, where, on account of their cheapness, they have successfully competed with the California navel oranges, and last winter 1,000 boxes are reported to have been shipped to the United States.

Every one can remember when all domestic oranges were called either California or Florida oranges. Now all this is changed, and there is not only a considerable number of well-known varieties, but a large number of different brands.

*See report of the Citrus Protective League to House of Representatives, January, 1913.

The citrus fruit industry has reached its present development in southern California, which is made up largely of San Bernardino, San Gabriel, and San Fernando valleys, and in the coast region in Orange and Los Angeles counties. There are smaller but less favorable regions in Santa Barbara and Ventura counties, close to the mountains, and in San Diego County oranges have also been cultivated from an early period, and as far as Butte County in the north, and Tulare, Fresno, and Kern counties in central California.

It was not until 1886, however, that the first regular orchard was planted for the purpose of profit, and since then the progress of the industry has been rapid. In 1890 California had 1,757 citrons, 11,495 guavas, 2,007 limes, and 145,000 pineapples in San Bernardino County. In 1900 the numbers were: 4,780 citrons, 7,056 guavas, 1,815 pineapples, and 2,690 Japanese persimmons.

One of the most promising and thriving portions of the San Joaquin Valley is now devoted to the production of citrus fruits in Tulare and Fresno counties. The first commencement of orange growing in this district was made at Lindsay in Tulare County, on a small scale in 1890.

The orange crop of northern California matures from four to six weeks earlier than it does in the southern part of the State, notwithstanding the fact that it is from 200 to 500 miles farther north. This unusual condition is due to the topography of the Pacific coast. The two large San Joaquin and Sacramento valleys in central and northern California lie between two great mountain ranges extending north and south. The coast range mountains shut off the modifying influences of the sea, causing relatively higher night temperatures during the summer months than prevail in the southern part of the State.

In southern California San Bernardino is the largest producer of oranges, with 1,951,254 bearing trees, Los Angeles has 1,674,695, and Riverside 1,021,957 and Orange County 478,272. In northern and central California Tulare leads with 801,151, Butte 147,412, Fresno 85,781, Kern 80,940, and Sacramento 46,256. The shipments from this part of the State show a very large increase, the number of cars of oranges being 4,213 compared with 2,687 in 1911, and 172 cars of lemons against 127 last year.

Pomelos are also grown to a considerable extent, the two leading counties being San Bernardino with 13,134 bearing trees, and Tulare with 8,114. Some idea of the size and value of the crop, and of the immense benefit derived by growers by a well organized association, is shown by the results obtained by the California Fruit Growers' Exchange, the largest and most successful of all the co-operative institutions formed by the fruit growers.

Total number of boxes shipped each year, the net amount received, the average f. o. b. California price per box, and the loss, if any, from failure to collect, or in the transmission of funds:

Year.	Boxes shipped.	F. O. B. returns.	Average per box.	Losses.
1904-5	5,188,511	\$7,124,377 00	\$1 37	\$458 04
1905-6	4,705,515	9,936,497 00	2 11	
1906-7	6,149,708	12,268,752 00	2 00	
1907-8	6,628,644	11,753,544 00	1 77	
1908-9	8,710,828	13,958,990 00	1 60	81 85
1909-10	7,578,801	14,831,975 00	1 96	4,297 57
1910-11	10,842,790	20,708,355 21	1 91	732 32
1911-12	9,191,143	16,891,489 95	1 84	
	58,995,940	\$107,473,980 16	\$1 82	\$5,569 78

Over \$100,000,000 has been brought to California by the Exchange in the eight years, with a loss from failure to collect or in the transmission of funds, of less than \$6,000.

The orange industry in California represents an investment of about \$150,000,000.

The average annual yield on 274 selected orange groves from 1906 to 1911 was 157.6 boxes per acre. The average cost of labor and material in growing the oranges in these orchards was \$136.06 per acre, of which \$52.82, was for labor.

A careful estimate recently made places the production of oranges in California at 129 to 191 boxes to the acre, but there is considerable difference in the crop in various orchards. A recent publication of the United States Department of Agriculture places the average for the last five years at 157.6 boxes to the acre, and the cost of oranges delivered in the markets of the United States exactly 18 cents a dozen.

Increase in the California Citrus Crop in Ten Years.

From the figures of the Bureau of the Census, it appears that the orange crop of California made a gain of 145.4 per cent during the decade between 1899 and 1909, increasing from 5,882,000 boxes in 1889 to 14,436,000 boxes in 1909. During the same period of time, the number of trees of bearing age increased from 5,649,000 to 6,616,000, or 17.1 per cent. There were also in 1910, 2,093,000 trees of non-bearing age. In 1909, the average product per tree was 2.2 boxes. With respect to quantity of fruit, San Bernardino County rose from third rank in 1899 to first in 1909. In 1899, Los Angeles County ranked first, and Riverside County second.

The value of the oranges produced in 1909 was \$12,952,000, an average of 90 cents per box.

The increase in the shipments of oranges from California in periods of five years, from 1886 to 1912, shows a most remarkable and steady growth.

Period.	Per cent increase.
1886-87-1891-92	100
1891-92-1896-97	38
1896-97-1901-02	194
1901-02-1906-07	52
1906-07-1911-12	34

The great damage that was inflicted on California orange growers by the heavy frost which occurred the last week in December and the first week in January, 1912, is shown in a striking manner by the shipments of citrus fruit from southern California up to the end of June, compared with the same period of the last two seasons (carloads) :

	Oranges.	Lemons.
June 25, 1910.....	32,301	4,995
June 25, 1911.....	24,798	4,152
June 25, 1912.....	11,633	1,684

LEMONS.

Although lemons have been grown in California for half a century, it is only during the last twenty years that they have risen to considerable commercial importance. The lemon is less hardy than the orange and comprises from 10 to 15 per cent of the the citrus crop.

The principal varieties of lemons grown in California are: the Eureka, a native of California, grown by C. R. Workman of Los Angeles from seed imported in 1872; the Lisbon, imported from Portugal, first grown at Riverside; Genoa, imported from Genoa by Don José Rubio of Los Angeles; Villa Franca, imported from Europe; Bonnie Brae, originated with H. M. Higgins of San Diego County, and are grown mostly in that county.

California Lemon Crop, 1899-1909.

The lemon crop increased from 874,000 boxes in 1899 to 2,716,000 boxes in 1909, a gain of 1,842,000 boxes, or 210.7 per cent, although for the same period the reported number of trees of bearing age decreased from 1,493,000 to 927,000, or 38 per cent. The number of trees of non-bearing age in 1910 was 377,000. The number of boxes per tree in 1909 was 2.9; in 1899, it was just under three fifths of one box. The value in 1909 was \$2,926,000, or \$1.08 per box.

The California lemon industry has been developed by small land-owners. There are a few groves which contain from 150 to 1,000 acres, but the average grove contains less than 10 acres. In San Diego County 100 growers own approximately 1,000 acres. In the San Dimas district 300 growers own 1,180 acres; in the Pomona district 75 growers own 344 acres; in the Santa Barbara district 70 growers own 407 acres. The newer planting of the last three years usually contain 5, 10 or 15 acres and seldom more than 20 acres. In a recent survey including every important district, 11,185 acres were owned by 1,179 growers; 39 growers owned between 20 and 50 acres; 6 growers, 50 to 100 acres; 8 growers 100 to 250 acres; 1 grower 250 to 500 acres; and 2 growers owned more than 500 acres.

The average annual yield on 143 lemon orchards from 1906 to 1911 was 196.2 boxes per acre. The average value of land and water adapted to lemon culture in California is \$450 per acre, and the cost of bringing a grove into bearing at six years of age, varies from \$800 to \$1,500 per acre, a fair average being \$1,000. In 1909 there were approximately 22,000 acres of lemons in California; in 1912 there were 31,478 acres.

Practically all imported lemons come from Sicily, an Italian island, and the province of Calabria, where the production is very large, the

exports being estimated in 1911 as 57,030,543 pounds, or the equivalent of about 23,763 California carloads.

Enormous quantities of lemons are used in making citrate of lime, which is made from the juice and pulp of the lemon; the quantity produced in 1910 was 21,000 pipes of 672 pounds each. It requires approximately 100,000 lemons to make a pipe of citrate, or the equivalent of a California carload of fruit, so the fruit so converted would amount to 504,000,000 pounds. The estimated production of lemon oil in Sicily in 1910 was 700 tons.

Pomelo or Grapefruit.

The pomelo or grapefruit was formerly almost exclusively grown in Florida, but its cultivation has increased in recent years, and considerable quantities are produced in Riverside, Tulare, San Diego and other citrus counties. The leading varieties are the Nectar, Imperial, Marsh, Seedless, and Triumph.

Citron of Commerce.

The citron of commerce was grown by the Missions in the early days, but now is cultivated only to a very limited extent in Riverside County. At one time there was a grove of 21 acres in Los Angeles County, but it was neglected and five years ago was replaced by oranges, avocado and other trees.

THE FLORIDA CITRUS CROP.

Florida is at present the only other competitor with California in the United States in the production of oranges and lemons, although in recent years citrus fruits are being produced on a small scale in Arizona, Louisiana and Texas.

Florida Citrus Trees in Bearing, 1890, 1900, and 1910.

	1890.	1900.	1910.
Orange -----	2,725,272	2,552,542	2,766,618
Lemon -----	85,052	22,691	11,740
Lime -----	17,089	41,741	45,369
Pomelo -----	3,135	117,336	656,213
Citron -----	2,480	-----	23,234
Tangerines -----	-----	-----	-----

Florida first took the lead in the production of citrus fruits in this country, but "the great freeze" of December, 1894, and February, 1895, when the temperature at some places fell to 14 and 18 degrees, was the disaster from which they are only now fully recovering. From 6,000,000 boxes shipped before the frost, the number fell the following year to 75,000.

Florida Orange Crop, 1899-1909.

The production of oranges in Florida increased from 273,000 boxes in 1899 to 4,853,000 boxes in 1909, a sixteenfold gain. The number of trees of bearing age was 2,553,000 in 1900, and 2,766,618 in 1910, an increase of 7.8 per cent. The number of trees of non-bearing age in 1910 was 1,098,000. The value in 1909 was \$4,305,000, or \$1.11 per box.

Florida Lemon Crop, 1899-1909.

The lemon crop increased from 2,359 boxes in 1899 to 12,367 boxes in 1909, a gain of 10,008 boxes, a fourfold gain. The number of trees of

bearing age reported decreased from 22,691 in 1900 to 11,740 in 1910, or almost one half. The number of trees of non-bearing age in 1910 was 7,329. The value of the lemon crop in 1909 was \$13,753.

Orange and Lemon Crops of California and Florida 1909-1910.

(From the Bureau of the Census.)

Orange and lemon trees of bearing and non-bearing age in 1910, and number of boxes of oranges and lemons produced in 1909, together with the value thereof, 1910:

	California.	Florida.
Oranges—		
Number of trees of bearing age, 1910.....	6,615,929	2,766,618
Number of trees of non-bearing age, 1910.....	2,093,101	1,097,896
Number of boxes produced in 1909.....	14,436,424	4,852,967
Value, 1909	\$12,952,291	\$4,304,987
Lemons—		
Number of trees of bearing age, 1910.....	927,130	11,740
Number of trees of non-bearing age, 1910.....	376,859	7,329
Numbers of boxes produced in 1909.....	2,715,974	12,367
Value, 1909	\$2,925,759	\$13,753
Pomelos—		
Number of trees of bearing age.....	43,427	656,213

Florida Citrus Fruit Crop.

Season.	Oranges, boxes.	Lemons, boxes.
1884-5	600,000	-----
1885-6	900,000	-----
1886-7	1,260,000	-----
1887-8	1,450,000	-----
1888-9	1,950,000	-----
1889-90	2,150,000	-----
1890-91	2,450,000	-----
1891-2	2,664,791	18,889
1892-3	3,357,507	29,756
1893-4	4,163,849	57,219
1894-5	2,808,474	*713
1895-6	147,000	*
1896-7	216,579	1,800
1897-8	357,960	1,006
1898-9	1,250,000	2,200
1899-00	972,589	1,447
1900-1	1,350,700	1,900
1901-2	972,589	1,447
1902-3	1,465,306	5,185
1903-4	1,950,823	4,131
1904-5	2,363,058	14,433
1905-6	2,961,195	8,299
1906-7	2,899,390	10,065
1907-8	3,793,126	6,718
1908-9†	5,250,000	-----
1909-10†	6,100,000	-----
1910-11†	4,600,000	-----
1911-12	4,458,000	-----

*The year of "the great freeze," when the temperatures fell to 14 degrees at Jacksonville and 18 degrees at Tampa on December 29, 1894, followed by one equally severe in February, 1895, which killed most of the citrus trees in the state.

†The figures for the last four years include lemons, the quantity being so small that separate records are not kept. Limes, grapefruit, and tangerines are also included. In the season 1909-10, there were about 7,100 boxes of lemons, 12,600 of limes, and 553,000 boxes of grapefruit. The total for the season 1911-12 includes 810,000 boxes of grapefruit, and 156,000 boxes of tangerines; also limes and lemons, the quantities of which are comparatively small.

The prices received by Florida growers during the last season are of interest as compared with the prices received in California.

Averages Received by the Florida Citrus Exchange, f. o. b. Packing-House, Season 1912-1913.

Oranges.	Boxes.	Average per box.
Oranges -----	766,650	\$1 63
Grape fruit -----	231,196	1 83
Tangerines -----	31,787	1 92
Mixed and miscellaneous -----	313,345	1 63
Grand totals -----	1,342,132	\$1 18

The shipments for the previous three seasons were as follows:

Shipments.

Season.	Oranges.	Grapefruit.	Tangerines.	Miscellaneous.	Total.	Average.
1909-10 -----	1,172,099½	245,819	56,731	7,709½	1,482,359	\$1 34
1910-11 -----	528,080	260,407	42,854	969	832,310	1 65
1911-12 -----	581,675½	134,985½	25,100½	156	741,917½	2 21

THE CALIFORNIA RAISIN INDUSTRY.

One of the largest and most important branches of fruit growing is the cultivation of the raisin grape, the acreage in which is now by far the largest in the world.

The first introduction of the raisin vine into California was in 1851, by Colonel Agostin Haraszthy of San Diego from some muscatel vines from seeds of Malaga raisins. In March the following year, he imported the muscat of Alexandria from Malaga, Spain, and ten years later, during a visit to that place in September, 1861, he selected cuttings of the Gordo Blanca, which were afterwards grown and propagated in his vineyard in San Diego County. He was thus the first to introduce the raisin vine into California. Another importation of the muscat of Alexandria was made in 1855 by A. Delmas, and planted near San Jose. G. G. Briggs of Davisville also imported muscatel grapevines from Spain.

Early Vineyards in Southern California.

In the more southern parts of the State, Riverside entered the field in 1873, when Judge John Wesley North, the founder of the colony of that name, first planted the muscat of Alexandria, but grape growing in that district did not become general until about three years later.

In El Cajon Valley, San Diego County, the same variety of raisin vines was planted by R. G. Clark in 1873, but most of the vineyards in that county were not planted until 1884-86.

In Orange County, raisin grapes were also planted about the year 1875-76 by MacPherson Bros., who, at one time, were the largest growers and packers in the State.

Raisins were also produced in San Bernardino and Los Angeles counties in former years, but owing to the ravages of what has since become known as the Anaheim disease, which destroyed thousands of acres from

1884 to 1889, growers became discouraged, and citrus fruits have taken the place of vines almost entirely.

Beginning of the Raisin Industry in Central California.

In 1876, W. S. Chapman imported some of the best-obtainable muscat vines from Spain for the Central California Colony in Fresno County, which, however, proved in no way different from those already growing in that county. Who produced the first raisins in California will probably never be satisfactorily proved. According to a report of the California State Agricultural Society, raisins were exhibited by Dr. J. Strentzel at the State Fair in 1863. The report states that among the features of the exhibition there were two which rendered it remarkable; these were dried prunes and raisins. "The only grape which has as yet been dried in this State as a raisin is the white muscat of Alexandria."* The first successful raisin vineyards in the State were those planted by G. G. Briggs at Davisville in Yolo County, and by R. B. Blowers of Woodland, Yolo County. The former vineyard contained mainly muscats of Alexandria, and the latter, Gordo Blanca. Both these vineyards produced raisins as early as 1867, but it was not until 1873 that any quantity was placed on the market.

In 1890, according to the Census reports, there were 27,443,900 pounds of raisins packed in 20-pound boxes, the market value being \$1.60 per box.

Within the last twenty years many changes have taken place. Several counties no longer produce raisins in commercial quantities, finding conditions better suited for growing wine and table grapes or other fruits.

Orange and Riverside counties no longer produce raisins; Los Angeles County very few; Yolo County, which at one time produced Sultanias and Thompson's Seedless in considerable quantities, now finds it more profitable to ship them as table grapes, while the large vineyards in Riverside and San Bernardino counties are more devoted to wine grapes.

Of the fifty-eight counties in California, less than a dozen produce raisins in commercial quantities. At the present time the proportion of a full crop raised by each county is estimated to be approximately as follows:

Counties Where Raisins Are Produced.

	Pounds.
Fresno	94,000,000
Tulare	25,000,000
Kings	20,000,000
Sutter	4,000,000
San Bernardino	3,600,000
San Diego	3,200,000
Madera	2,400,000
Yolo	2,000,000
Kern	1,100,000

Los Angeles at one time produced a considerable quantity, but the last few years the amount has been under 1,000,000 pounds.

*Transactions of the State Agricultural Society, 1863, pages 80-88.

When raisins were first shipped east in any quantity it is impossible to say. In 1875, New York reported that up to November 1st, 6000 22-pound boxes of California raisins had been received. About 1880 Fresno appears to have shipped a considerable quantity for the first time. In 1887, the market reports state that "Fresno raisins of excellent quality are now on the market, especially from the Butler and Forsythe vineyards." The growers did their packing in those days.

Raisin Grape Varieties.

For more than half a century many varieties of grapes have been brought into California from all the grape-producing countries of the world. Coming from different countries they have many names. Some of these have been preserved, some lost, and others have received local appellations.

The varieties of raisin grapes are few in number, the White Muscat of Alexandria and the Muscatel Gordo Blanca hold the first place, while Malaga and Feher Szagos are used to a small extent; the seedless varieties are the Sultana (which is grown extensively near Smyrna in Asia Minor and was first brought to California by Colonel Agostin Haraszthy in 1861), and Thompson's Seedless, so named by the Sutter County Horticultural Society after W. Thompson, Sr., of Yuba City, who procured the cuttings in 1878 from Elwanger & Barry of Rochester, New York. It was by them described as "a grape from Constantinople, named Lady De Coverly," and is now to be found in all parts of the State. Professor Bioletti of the University of California, and other high authorities, consider the variety identical with the Sultana, but an improved variety.

The growth of the raisin industry in California has been remarkable. For the first six years progress was slow. In 1879, the crop first exceeded one million pounds; in 1885, it amounted to over nine million pounds, and the following year jumped to fourteen million pounds, and continued to increase steadily until it has reached the enormous total of 140,000,000 pounds. At first, raisins were mostly produced in the San Bernardino Valley, but the industry soon spread northward. About 1887 California raisins began to come into demand in the eastern states and in 1892 the United States Department of Agriculture reported that this source of supply was reducing the imports of foreign raisins by twenty per cent.

Association and Co-operation in the Raisin Industry.

Many plans were brought forward from time to time to organize for mutual protection and benefit, but the pioneer and most important corporation of all was the California Raisin Growers' Association founded under the leadership of the late M. Theo. Kearney, in 1889.

From 1889 to 1893, growers were able to obtain, on an average, five cents a pound, but from the latter year, in which there was a local financial panic, prices fell, until in 1897 they were quoted as low as three fourths of a cent a pound. In some cases they were sold on commission at prices that did not cover the cost of shipping. Owing to these unprofitable conditions, many growers gave up in despair, and it was estimated by one of the best authorities that in Fresno County alone 20,000 acres of vines were pulled up, and the ground turned to

other uses. This was a lesson to growers that if they desired to make a living, and obtain a fair price for their products, their only salvation was in organization. For six years the association was more or less of a success, but difficulties having arisen late in the season of 1903, owing to the fall in prices, and the association being unable to sell, many of the growers got no returns, and on the first of August, 1904, only 30 per cent of the estimated acreage having been signed up, the board of directors decided to return all contracts to the growers, and shortly afterward the association passed into the hands of a receiver.

The question is often asked, What is the proportion of layers or of two- and three-crown raisins to the rest of the crop? The following figures taken from the annual reports of the California Raisin Growers' Association, during the six years of its existence will answer the question, and these figures may be accepted as a fair average. The largest proportion of layers was in 1902, and the lowest in the following year. In Standard Loose Muscatels, the largest output was in 1903, and the lowest in 1899. In Pacifics, the greatest amount packed was in 1900, and the lowest in 1901. In Orientals, the highest amount was 3,782,750 pounds in 1899, and the lowest 42,719 pounds in 1902. By far the largest crop was that of 1903, the quantity packed by the association amounting to 97,001,854 pounds.

The California Raisin Growers' Company.

Owing to the low prices received in 1904, another attempt was made to organize the growers, in which Mr. M. F. Tarpey took the leading part and was elected president, the company being incorporated on May 6, 1905. The returns made to growers averaged three cents a pound, which amounted to \$1,205,546. Some 38,000 acres were signed up, but a certain amount of prejudice had arisen against co-operation, and the company, not being well supported by the growers, finally dissolved May 1, 1906.

After a lapse of ten years a new and strong organization was successfully established early in the present year under the title of the Associated Raisin Company with a capital of \$1,000,000, with every prospect of a useful and profitable career.

Consumption of Raisins.

Efforts have been made in recent years to increase the consumption of raisins in the United States, and there is no reason why they should not prove successful, as there is ample room for a greatly extended use of this wholesome fruit. The United Kingdom consumes annually about 73,000,000 pounds of raisins and 142,000,000 pounds of currants, or a total of about 215,000,000 pounds, equal to five pounds per capita. In the United States the consumption is less than one pound and a half per capita. In other words, if the American public appreciated raisins as they have been for centuries in Europe, the acreage in raisin grapes might be more than doubled without causing overproduction.

It was in 1892 that the California raisin crop first equalled that of Spain, and it has been increasing the difference ever since. Fresno County alone produces nearly double the quantity of raisins produced in Spain, which held the lead for centuries. But for this large production in California, there must have been a great advance in prices, which would have placed raisins beyond the reach of many.

The Raisin Crop of the World.

Year.	In long tons of 2,240 pounds.				Australia—pounds.	
	California.	Spain.	Turkish Sultanas.	Greek currants.	Raisins.	Currants.
1904 -----	40,000	25,000	34,100	151,000	7,449,116	2,004,427
1905 -----	37,000	28,200	58,300	160,000	4,367,181	2,093,076
1906 -----	45,000	15,800	27,500	135,000	6,148,168	2,346,980
1907 -----	70,000	27,000	47,000	156,000	12,796,000	2,922,192
1908 -----	65,000	26,000	45,000	185,000	10,427,760	3,404,464
1909 -----	70,000	24,000	50,000	185,000	10,924,816	4,074,336
1910 -----	56,000	19,000	15,000	123,000	12,191,424	7,107,520
1911 -----	51,000	15,000	25,000	157,000	12,775,056	7,465,360
1912 (estimated)----	85,000	12,000	50,000	157,500	15,408,400	10,470,208

Raisins and Currants in Australia.

The raisins and currants produced in Australia are mostly consumed at home. The quantity at present, though not large, is increasing rapidly. Victoria and South Australia are the two states with the largest production.

As currants can be successfully produced in Australia, there appears to be no reason why they could not be equally well grown in California, the climate being equally suitable.

In New South Wales, Queensland, and Western Australia small quantities of raisins and currants are also produced, as well as in Cape Colony, South Africa.

California Seeded Raisin Industry.

In the early seventies, a raisin seeding machine was invented by George E. Pettit, which was taken up and first put into practical use by the late Colonel Forsythe of Fresno, one of the leading pioneer raisin growers.

Seeded raisins were first introduced to the public by him. When first placed upon the market, it was only with some difficulty that about twenty tons were disposed of, and no one then imagined the enormous success this system was destined to achieve.

The California seeded or "stoned" raisin has a reputation of its own, and has become the most important branch of the raisin industry. Owing to its being packed in a handy shape, ready for use, it saves a vast amount of time and trouble to the consumer. A brief account of the process by which seeded raisins are prepared will not be without interest. The raisins are first subjected to a dry temperature of 140 degrees Fahrenheit, for from three to five hours, immediately after which they are submitted to a chilling process (which enables the cap stems to be removed without difficulty), and are then passed through cleaning or brushing machines, which remove absolutely every particle of dust. They are then taken automatically by elevators to a room, where, spread upon trays, they are exposed to a moist temperature of 130 degrees Fahrenheit, which brings the fruit back to its normal condition. The raisins are then passed through seeding machines, each of which has a capacity of from ten to twelve tons daily. The raisins are pressed between rubber, or similar surfaced, rollers, which at first flatten the berry and then press the seeds to the surface, when an impaling roller catches the seeds between its needles, or teeth affixed to its surface, deftly removing them from the flesh of the fruit, while the latter

passes on, minus its seeds, but possessing every particle of its flesh. The seeds are removed from the roller by a flicking or "wiping" device, and are then sent along to the seed receptacle, formerly ending their journey in the engine room, where they are burned as fuel, but now they are being utilized as a by-product from which alcohol and many other products are manufactured.

The raisins, now devoid of their seed, pass down chutes to the packing tables, where they are weighed and packed into one-pound cartons of numerous designs, more or less artistic. The waste from seeding and cap-stemming amounts to about ten or twelve per cent, according to the condition or quality of the raisins.

SEEDED RAISINS.

Fresno County is the center of the seeded raisin industry, where it originated. The following figures show the wonderful increase in this popular form of raisin during the last fourteen years for the season ending September:

	Tons.		Tons.
1896 -----	700	1905 -----	21,000
1897 -----	3,500	1906 -----	24,000
1898 -----	7,000	1907 -----	26,000
1899 -----	12,000	1908 -----	24,000
1900 -----	14,000	1909 -----	28,000
1901 -----	14,000	1910 -----	31,500
1902 -----	16,000	1911 -----	33,000
1903 -----	18,000	1912 -----	43,000
1904 -----	18,000		

The above are approximate figures.

Loose raisins are packed in 50-pound boxes; Thompson's Seedless in 12-ounce cartons, 45 to the case; seeded raisins in one-pound cartons, 36 to the case; also in 12-ounce, 45 to the case and a few in bulk in 25-pound boxes. Raisin clusters are packed in 5, 10, and 20 pound boxes.

The Climate and Dried Fruit.

The rainfall has such an important influence in drying raisins and other fruits that the following records taken at Fresno, the largest dried fruit district in the United States, are of interest.

Rainfall at Fresno from June to November, 1898-1912, in inches.

Year.	June.	July.	August.	September.	October.	November.
1898 -----	0	0	0	1.12	0.03	0.34
1899 -----	0.66	0	0	0	2.01	1.52
1900 -----	Trace	Trace	0	0.16	0.33	4.61
1901 -----	Trace	Trace	Trace	0.59	0.56	0.86
1902 -----	Trace	0	Trace	0	0.42	2.25
1903 -----	Trace	0	0	0	0	0.68
1904 -----	0	0	0	1.78	3.21	0.08
1905 -----	0	0	0	Trace	0	0.96
1906 -----	Trace	Trace	0	Trace	0	0.73
1907 -----	0.24	0	Trace	Trace	1.08	0
1908 -----	0	0.01	0	0.15	0.02	0.66
1909 -----	0.8	0	0	0	0.72	2.79
1910 -----	Trace	Trace	0	1.00	0.45	0.24
1911 -----	Trace	Trace	0	0.01	0.09	0.17
1912 -----	Trace	Trace	0	0.10	0.01	0.85

Grape-seed Oil.

Grape-seed oil is prepared in certain parts of France, Italy, and Wurtemberg. That obtained cold, from the first pressing, is edible; the oil obtained by pressing and heating and that extracted by means of solvents have a dark color and a bitter taste and, after being purified by concentrated sulphuric acid and cleared with bone black, are used for lighting purposes and in the manufacture of soap and, on account of the small cost, would be a good substitute for the expensive oils used in the textile industry. Aside from the uses mentioned, and because some of its chemical properties are similar to those of castor oil, grape-seed oil has suggested itself as a substitute for castor oil in the preparation of compounds used in the manufacture of red colors (rojo de audinopolis).

On an average, the fresh refuse of the grape contains 25 per cent of seeds. According to the variety of the grapes and their degree of ripeness, the quantity of oil which can be rendered from the seeds varies from 6 to 20 per cent.

THE GREEK CURRANT.

The Greek or Zante currant has been produced on a very large scale for centuries. They are the seedless variety of a peculiar dwarf grape-vine producing a small black grape, or currant, of a peculiar flavor; it is the most important crop in Greece, as it forms nearly one half of the total exports. The vineyards cover 150,000 acres, and produce the enormous total of from 300,000,000 pounds to 370,000,000 pounds in a favorable season, or far more than double the size of an average California raisin crop. Owing to low prices, which did not cover the cost of production, "The Privileged Company for the Protection of Currant Growers and Traders" was established by royal decree in 1905, with a capital of \$4,000,000. The company guarantees three fixed prices according to the grades, and buys at these figures at the end of the season (June 15 to July 31) any currants not absorbed by the regular trade. During the season of 1912 no dried currants were offered to the Privileged Company, as the market prices have been higher than the convention limits. The crop of 1912 is estimated at 157,500 tons, and the quantity available for export on December 31st was estimated at 35,000 tons against 30,000 tons in 1911. Besides the Privileged Company there is a Greek wine and spirit company, "The Société Hellenique de Vinis et Spiritueux," which buys a large quantity of the fruit for wine making. The purchases last year by the company and local distilleries was 46,500 tons of fresh and dried currants, against 47,000 and 38,000 during the two preceding years.

In an endeavor to put a check on overproduction, the Greek government in 1911 made a loan of \$3,860,000 to the Privileged Company to reimburse growers for uprooting their vines, as it is intended to destroy enough vines to reduce the crop twenty-five per cent. Owing to better prices, the progress of uprooting the vines during the past year has not been very rapid, amounting to only about 1,900 acres, the total compensation paid to the growers being about \$150,000, equal to an average of a little less than \$80 an acre. It is hoped that a much larger area will be pulled up during the coming year, the Privileged Company having made more advantageous offers to the growers.

IMPORTED ALMERIA GRAPES.

These table grapes come from the province of that name in Spain, and during the last six years their value has amounted to between \$1,500,000 and \$2,000,000 a year. They come into competition with late-season shipments of California Tokays, Cornichon and Emperor grapes.

Malaga is the center of the grape-exporting industry of southern Spain. Originally the Almeria or Malaga grape was cultivated only in and about a small town called Loja, about 50 miles north of Malaga. Cuttings were distributed throughout this entire district, but these table grapes, the only grapes that will retain their freshness, firmness, and flavor for months after being cut from the vine, are the product of the old cuttings taken from Loja and now cultivated in the Province of Almeria.

Owners of vineyards in the Malaga district have made repeated efforts to produce a grape possessing the keeping qualities of the Almeria fruit, without obtaining satisfactory results. Cuttings taken from Almeria produce a different grape when transplanted outside of that particular district. Cultivated in and about Malaga, the Almeria cuttings produce a tender, thin-skinned grape, more or less on the order of the Muscatel, a grape that may not be preserved for over two months. Cuttings of the Almeria grape have been imported into California, but the result so far has not been satisfactory.

Almeria Grapes Imported.

(Duty, 25 cents per cubic foot of capacity of barrel or packages.)

Year.	Cubic feet.	Value.
1907 -----	1,298,469	\$1,575,521
1908 -----	2,234,508	2,743,356
1909 -----	1,203,419	1,575,620
1910 -----	1,365,310	1,682,994
1911 -----	1,485,159	1,723,022
1912 -----	2,000,841	2,331,504

FRUIT CANNING AND PRESERVING.

California made a pack of hermetically sealed fruits in tin cans in 1861. For many years after that, canned goods were a luxury, relatively expensive, and used only in emergencies, on board ship, or at remote places where other food was not obtainable.

The real importance and development of the canning industry did not commence until about the year 1875. The value of its products, which in 1889 was \$6,621,931, more than doubled during each of the two following decades, amounting in 1909 to \$32,914,829.

The case, which is used as the unit of measure for canned fruits and vegetables in the table below, consists of 24 standard-size cans No. 2 (also called 2-pound cans) for berries, cherries and plums, and No. 3 (also called 3-pound cans) for all fruits and vegetables.

California ranks first among the states in the production of canned apricots, peaches and pears, and of dried peaches and prunes: the State had a complete monopoly of the production of dried apricots and of raisins in the United States in 1909, neither of these being produced in any other state.

The value of dried fruit constituted 55.3 per cent of the total value of products of the industry in 1909, as compared with 52.9 per cent in 1904 and 17.2 per cent in 1899. The increase in the value of the dried fruit products during the decade 1899-1909 was 608.8 per cent, the greatest advance being from 1899 to 1904, when the gain was 437.1 per cent. The most important of the dried fruit products, both in point of quantity and of value, were raisins and prunes. The fruit most largely canned in 1909 was peaches, the value of which constituted 9.2 per cent of the total for the canning and preserving industries.

Canned and Dried Fruits, 1899-1909.

(Compiled from the Census Reports.)

CANNED FRUITS.

Product.	1899.		1904.		1909.	
	Cases.	Value.	Cases.	Value.	Cases.	Value.
Apples -----	25,287	\$71,427	31,286	\$67,591	67,697	\$136,855
Apricots -----	531,568	1,582,927	532,038	1,619,757	560,186	1,819,558
Berries -----	87,564	218,783	67,467	168,640	108,672	200,094
Cherries -----	49,375	155,813	171,298	457,169	213,518	463,476
Peaches -----	903,676	3,103,775	744,715	2,640,524	1,166,627	3,013,208
Pears -----	444,343	1,610,900	524,197	1,577,823	436,272	1,316,022
Plums -----	358,298	596,484	196,379	349,307	138,477	230,384
All other -----			54,215	97,272	19,900	68,750
Totals -----		\$7,340,059		\$6,978,063		\$7,248,342

DRIED FRUITS.

Dried fruits.	1899.		1904.		1909.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Apples -----	3,087,220	\$155,898	811,254	\$40,659	6,860,170	\$481,173
Apricots -----	5,310,217	442,544	19,559,573	1,410,838	29,205,569	2,277,177
Peaches -----	5,502,390	301,495	25,845,364	1,701,105	46,827,391	2,422,043
Prunes -----	24,102,329	907,041	114,580,431	3,169,878	118,917,876	4,394,922
Raisins -----	10,734,221	720,268	121,409,881	6,349,381	195,774,767	6,912,533
All other -----	601,506	42,279	18,102,416	1,128,740	26,140,777	1,724,468
Totals -----	49,337,883	\$2,569,520	300,308,919	\$13,800,601	423,726,550	\$18,212,316

Fresno city is one of the principal centers of the canning and preserving industry of the State, in 1909 reporting nearly one fourth of the total value of products for this industry in California and a much larger proportion of the total value of dried fruits.

Canned Fruit Packed, by Varieties, 1911-1912.

Varieties.	Cases, 1911.	Cases, 1912.
Apples -----	65,300	72,500
Apricots -----	858,325	863,000
Blackberries -----	77,825	826,000
Cherries -----	198,805	351,250
Grapes -----	70,915	66,600
Peaches -----	2,091,148	2,200,000
Pears -----	618,920	1,062,000
Plums -----	165,840	241,000
Figs -----	1,500	1,500
Loganberries -----	19,117	20,000
Raspberries -----	3,625	2,000
Strawberries -----	7,715	4,500
Quinces -----	18,000	20,000
Currants -----	14,500	15,000
Oranges -----	3,500	4,000
Totals -----	4,095,035	5,005,560

The leading varieties of fruits used for canning are as follows:

<i>Apricots—</i>	<i>Figs—</i>	<i>Plums—</i>	<i>Peaches—</i>
Moorpark.	Endish.	Reine Claude.	Clingstones:
Hunskirk.	<i>Grapes—</i>	Greengage.	Phillip.
Blenheim.	Muscat.	Washington.	Tuscan.
Royal.	<i>Pears—</i>	Damson.	Golden Cling.
<i>Cherries—</i>	Bartlett.	Jefferson.	Freestones:
Royal Anne.	<i>Nectarines—</i>	Egg.	Lovell.
Centennial.	Stanwich.	Golden Drop.	Muir.
Rockport.			Crawford.
Black Tartarian.			Foster.

Dried Fruit Packed, 1911-1912.

	Tons, 1911.	Tons, 1912.
Prunes -----	95,000	100,000
Peaches -----	13,500	28,000
Apricots -----	11,000	19,000
Pears -----	2,000	5,000
Figs -----	5,000	4,500
Apples -----	4,000	3,500
Miscellaneous -----	3,800	1,000
Totals -----	134,300	161,000

The varieties of fruit cured by drying are as follows:

<i>Apricots—</i>	<i>Peaches—</i>	<i>Nectarines—</i>	<i>Plums—</i>
Royal.	Lovell.	Stanwich.	Washington.
Blenheim.	Muir.	<i>Pears—</i>	Jefferson.
<i>Figs—</i>	Crawford.	Bartlett.	Egg.
Adriatic.	Foster.		<i>Prunes—</i>
			Petites.

Dried fruit is packed in boxes of 25 and 50 pounds, and 12½ kilos for abroad.

NUTS.

About three fourths of the nuts produced in the United States are grown in California, almonds taking the lead. Almonds are a native of western Asia and Morocco, and are produced in large quantities in Syria and Palestine. The rod of Aaron was taken from an almond tree. They are exported largely from Malaga in Spain.

The walnut is a native of the mountains of Greece, and Armenia, and the northwest Himalayas in India, and is largely cultivated in most temperate countries. Walnuts in the United States are produced almost exclusively in California, Orange and Los Angeles counties taking the lead.

In nuts, California produces practically the whole of the almond crop in the United States.

Peanuts thrive well in southern California, chiefly on the lower lands of the coast region, while in central and northern California, peanuts are mostly grown in the river bottoms of the Sacramento and San Joaquin valleys. The peanut was originally a native of South America. Large quantities are exported to London, Hamburg, and Marseilles for the sake of the oil produced from the seeds, which yield from 42 to 50 per cent oil, which is said to be an excellent substitute for olive oil.

During the civil war almost every army in the field occupied at some time or other that portion of Virginia in which peanuts were grown.

The knowledge of the culture and value of the crop acquired by soldiers was utilized by them on returning home, with the result that between 1865 and 1870 the production increased from two to three hundred per cent annually.

The pecans grow well in the lower lands of the interior valleys but are only raised in limited quantities.

Walnuts.

The English walnut is the greatest nut grown in the State, judged by the size and value of the crop. It is almost entirely grown in the three southern counties of Los Angeles, Orange, and Ventura.

The production of walnuts has doubled in the last ten years until the domestic supply produces half the quantity consumed in the United States. The production of walnuts in 1912 was approximately 9,750 tons. In 1911 about 50 per cent of the walnuts of grade No. 1 were sold at 14 cents a pound f. o. b., California, less $7\frac{1}{2}$ per cent paid to brokers as cash discount and commission. The remaining half of the 1911 crop was sold at from 11 to $13\frac{1}{2}$ cents f. o. b., less the same rate of commission.

In 1912 the entire crop was marketed at 14 cents f. o. b., less the above rate of commission.

The price for the last eleven years is as follows:

Year.	Price, cents.	Year.	Price, cents.
1902 -----	10	1908 -----	$12\frac{1}{2}$
1903 -----	$12\frac{1}{2}$	1909 -----	
1904 -----	11	1910 -----	15
1905 -----	13	1911 -----	14
1906 -----	11	1912 -----	14
1907 -----	15		

Only two districts in Europe, Sorrento in Italy, and Grenoble in France produce walnuts comparable in size and quality with those grown in California.

The bulk of imported nuts are of the Marbot and Cornes varieties which correspond in size and quality to the second grade of the Pacific coast production. The consumption of walnuts in the United States has increased from about 23,362,000 pounds in 1903 to 56,713,000 pounds in 1912.

Almonds.

The production of almonds in California in 1912 is estimated at about 6,000,000 pounds, or double the quantity of the previous year. The net prices paid to growers after all expenses of warehousing and selling had been paid, by the Almond Growers' Exchange which controls about 60 per cent of the crop, is as follows:

Grade.	Price, cents. 1911.	Price, cents. 1912.
Nonpareil -----	$16\frac{1}{2}$	13
I X L -----	$15\frac{1}{2}$	$12\frac{1}{2}$
No Plus Ultra -----	$14\frac{1}{2}$	$11\frac{1}{2}$
Drake Seedling -----	12	$9\frac{1}{2}$
Hardshell -----	8	7

CALIFORNIA FRUIT AND NUT CROPS—1887-1912.

Imports and Exports of Apples, Apricots, Figs, Oranges, Lemons,
Olives, Peaches, Nectarines, Pears, Prunes, Plums, Raisins, Dried
Grapes, and Greek Currants.

CANNED FRUITS, NUTS, ALMONDS, AND WALNUTS.

APPLES (DRIED). (None imported.)

Year.	California crop.	Exported.	
		Pounds.	Value.
1887	700,000	8,130,396	\$413,363
1888	550,000	11,803,161	812,682
1889	500,000	22,102,579	1,201,070
1890	1,000,000	20,861,462	1,038,682
1891	1,800,000	6,973,168	409,605
1892	2,750,000	26,042,003	1,288,102
1893	3,800,000	7,966,819	482,085
1894	5,850,000	2,846,645	168,054
1895	4,560,000	7,085,946	461,214
1896	2,350,000	26,691,963	1,340,507
1897	5,250,000	30,775,401	1,340,159
1898	3,520,000	31,031,254	1,897,725
1899	5,900,000	19,305,739	1,245,733
1900	6,360,000	34,964,010	2,247,851
1901	6,450,000	28,309,023	1,510,581
1902	9,750,000	15,664,468	1,190,593
1903	3,600,000	39,646,297	2,378,635
1904	3,000,000	48,301,665	2,791,421
1905	6,500,000	39,272,890	2,208,414
1906	5,500,000	27,852,831	2,044,820
1907	3,600,000	45,697,948	3,166,946
1908	6,800,000	24,237,873	1,946,810
1909	5,800,000	33,474,634	2,339,936
1910	6,200,000	25,076,618	2,056,692
1911	9,000,000	21,804,086	1,944,209
1912	6,500,000	53,664,639	4,545,971

Dried Apples Exported in 1912.

Country.	Pounds.	Value.
Germany	27,598,728	\$2,336,176
Netherlands	14,396,795	1,221,804
Other countries	11,669,116	987,991
Totals	53,664,639	\$4,545,971

APRICOTS (DRIED).

(None imported.)

Year.	California crop.	Exported.	
		Pounds.	Value.
1886	3,150,000		
1887	3,600,000		
1888	3,250,000		
1889	2,500,000		
1890	8,500,000		
1891	13,500,000		
1892	12,500,000		
1893	9,500,000		
1894	28,750,000		
1895	10,650,000		
1896	6,740,000		
1897	30,125,000		
1898	8,240,000		
1899	11,600,000		
1900	28,080,000		
1901	15,750,000		
1902	37,525,000	1,928,367	\$178,143
1903	21,000,000	9,190,081	713,887
1904	17,000,000	7,205,686	608,511
1905	38,500,000	6,854,154	606,777
1906	6,500,000	13,760,281	1,325,422
1907	3,000,000	2,760,432	336,812
1908	36,000,000	1,224,602	229,467
1909	32,000,000	16,597,871	1,512,417
1910	33,500,000	12,028,834	1,218,423
1911	14,000,000	19,329,358	2,085,437
1912	35,500,000	13,413,430	1,885,855

Dried Apricots Exported in 1912.

Country.	Quantity.	Value.
Germany	5,223,162	\$761,352
United Kingdom	3,012,091	388,755
France	1,169,110	168,633
Netherlands	900,757	153,297
Other countries	3,048,310	413,819
Totals	13,413,430	\$1,885,855

FIGS.
(Duty, 2½ cents per pound.)

Year.	California crop.	Imports.	
		Pounds.	Value.
1886	100,000	7,223,070	\$505,876
1887	200,000	8,724,583	487,602
1888	175,000	10,058,053	496,755
1889	225,000	10,649,049	482,759
1890	360,000	10,284,998	456,567
1891	365,000	9,201,565	697,562
1892	500,000	8,838,759	511,142
1893	890,000	10,503,928	548,995
1894	1,540,000	7,985,959	392,040
1895	2,750,000	11,855,890	587,420
1896	2,160,000	11,900,710	639,512
1897	3,250,000	8,940,762	535,380
1898	4,780,000	9,628,426	509,002
1899	5,800,000	7,284,058	356,762
1900	4,000,000	8,812,487	513,895
1901	6,500,000	9,983,871	458,513
1902	7,250,000	11,087,131	487,733
1903	6,000,000	16,482,142	775,917
1904	5,700,000	13,178,061	660,360
1905	7,250,000	13,364,107	617,027
1906	7,750,000	17,562,358	722,967
1907	6,000,000	24,346,173	1,136,924
1908	6,000,000	18,836,574	867,523
1909	7,500,000	15,235,513	691,981
1910	6,250,000	17,362,197	775,319
1911	8,000,000	23,459,728	1,059,340
1912	10,000,000	18,765,408	934,763

Nearly all the figs are imported from Smyrna in Turkey in Asia, about two million pounds from Greece and smaller quantities from Italy and Spain.

Exports of domestic figs are not shown separately in the Customs returns, but are included in "All other green, ripe, or dried fruits."

OLIVES.

(Duty, 25 cents per gallon in jars; 15 cents per gallon in casks.)

Year.	Imports.	
	Gallons.	Value.
1878		\$74,971
1879		48,549
1880		79,082
1881		112,456
1882		84,473
1883		108,329
1884-99		
1900		
1901-06		
1907	2,298,480	1,277,973
1908	3,121,788	1,358,897
1909	2,969,329	1,349,023
1910	4,555,975	1,659,801
1911	3,044,947	1,567,546
1912	5,076,857	2,308,277

NOTE.—Olives in California, although cultivated on a considerable scale, have generally been considered one of the minor crops, and no regular records of the crop have been kept. A large acreage has been planted in the last year or two.

Imports of Olives in 1910 from—

Country.	Gallons.	Value.
Italy	3,245,860	\$4,159,273
France	809,632	1,327,520
Other countries	781,023	684,089
Totals	4,836,515	\$6,170,882

Exports of domestic olives and olive oil are not shown separately in the Customs returns, but included in "All other fruits or oils."

OLIVE OIL.

(Duty, in cask, 40 cents per gallon; in bottles, 50 cents per gallon. Olive oil unfit for food, free.)

Imports.

Year.	For manufacturing or mechanical purposes.		For table use.		
	Gallons.	Value.	Dozen bottles.	Gallons.	Value.
1880	118,369	\$83,543		264,762	\$442,935
1881	160,051	102,403		224,362	378,280
1882	243,190	151,067		264,838	478,747
1883	279,374	165,395		257,375	459,759
1884	610,429	672,552			
1885	*	*		493,928	†547,017
1886	*	*		634,354	†651,590
1887	*	*		744,766	†662,197
1888	*	*		654,162	†617,172
1889	*	*		893,338	†696,065
1890	*	*		893,984	†819,110
1891	*	*		605,509	†733,489
1892	*	*		706,486	†876,613
1893	*	*		686,852	†891,424
1894	*	*		757,478	†909,897
1895	*	*		775,046	†952,405
1896	*	*		942,598	†1,107,049
1897	*	*		928,567	†1,134,077
1898	*	*		736,877	†923,804
1899	*	*		930,042	†1,090,250
1900	*	*		967,702	†1,170,871
1901	*	*		983,059	†1,266,298
1902	*	*		1,339,097	†1,579,409
1903	*	*		1,494,132	†1,736,648
1904	*	*		1,713,590	†1,875,825
1905	*	*		1,923,174	†2,108,893
1906	2,538,366	1,105,876		2,447,131	2,566,994
1907	1,471,766	682,656		3,449,517	3,523,725
1908	1,565,253	703,829		3,799,112	3,876,901
1909	369,979	183,983		4,129,454	5,069,655
1910	842,926	477,679		3,702,210	4,869,114
1911	578,477	378,819		4,405,827	6,014,191
1912	636,013	389,539		4,836,515	6,170,882

NOTE.—No record has been kept of the annual output of California olive oil, although the amount has been considerable for some years.

*Included in "Olive oil for table use."

†1885-1905 includes olive oil for manufacturing purposes.

CALIFORNIA ORANGE AND LEMON CROP.

Season.	Southern California.		Total carloads.	Northern California.*		Grand total.
	Lemons.	Oranges.		Oranges.	Lemons.	
1886-7	12	2,200	2,212			
1887-8	20	2,500	2,520			
1888-9	26	2,782	2,808			
1889-90	34	3,476	3,510			
1890-1	40	4,016	4,056			
1891-2	52	4,400	4,452			
1892-3	65	5,871	5,936			
1893-4	145	5,726	5,871			
1894-5	335	4,687	5,022			
1895-6	565	7,010	7,575			
1896-7	1,378	5,972	7,350			
1897-8	1,166	13,987	15,153			
1898-9	903	9,448	10,351			
1899-00	1,447	16,362	17,809			
1900-1	2,924	21,173	24,097			
1901-2	2,816	17,571	20,387			
1902-3	2,649	19,776	22,425	†1,304		23,729
1903-4	2,782	25,117	27,899	†1,567		29,466
1904-5	4,274	25,608	29,882	†1,734		31,616
1905-6	3,789	22,175	25,964	†1,564		27,528
1906-7	3,507	23,986	27,493	†2,333		29,826
1907-8	4,959	24,538	29,497	†3,150		32,647
1908-9	6,196	31,875	38,071	†2,501		40,572
1909-10	4,782	25,331	30,113	2,921	109	33,143
1910-11	6,764	36,821	43,585	2,687	127	46,399
1911-12	5,961	30,327	36,288	4,213	172	40,673

*Lemons and oranges not reported prior to 1902-3 and not shown separately until 1909. The number of boxes per car of oranges and lemons has varied considerably, as the size of cars in recent years has increased. In 1904-5, and prior to that date, oranges averaged about 374 and lemons 313 boxes to the car. At the present time the numbers are about 396 for oranges and 336 for lemons.

†Including lemons.

Imports and Exports of Oranges.
(Duty, 1 cent per pound.)

Year.	Exports.		Imports.	
	Boxes.	Value.	Pounds.	Value.
1885				\$2,088,204
1886				1,871,839
1887				2,408,140
1888				2,268,872
1889				1,961,889
1890				1,916,652
1891				2,339,987
1892				1,210,338
1893				1,695,469
1894				1,127,005
1895				1,997,266
1896				2,694,131
1897				2,324,907
1898				886,722
1899		\$339,396		1,097,596
1900		282,313		1,087,041
1901		271,468	68,618,968	716,457
1902		436,560	50,332,914	784,640
1903		420,835	52,742,476	818,780
1904		465,897	56,872,070	525,468
1905		739,593	35,896,260	374,088
1906		929,151	28,880,575	456,726
1907		1,110,993	31,134,341	354,495
1908		1,255,104	21,267,346	275,000
1909	654,251	1,577,661	18,397,429	137,390
1910	866,753	2,131,724	8,435,873	82,457
1911	932,118	2,213,905	4,676,118	116,658
1912	1,179,273	2,983,322	7,672,186	108,880
	1,197,363	3,022,859	7,628,662	

NOTE.—In years for which no figures are given, oranges were included in "Other fresh or dried fruits." Oranges are mostly imported from Mexico, West, Indies, and Italy.

Exports of Domestic Oranges in 1910 to—

Country.	Boxes.	Value.
Canada	1,152,866	\$2,877,695
United Kingdom	15,368	56,951
Other countries	29,129	89,143
Totals	1,197,363	\$3,022,859

Imports of Lemons and Limes.

(Duty, lemons, 1½ cents per pound; limes, 1 cent per pound.)

Year.	Pounds.	Value.	Year.	Pounds.	Value.
1885		\$2,510,426	1899		\$4,398,004
1886		2,608,819	1900	160,198,056	3,666,881
1887		3,835,147	1901	148,514,614	3,516,856
1888		3,395,983	1902	164,075,309	3,320,359
1889		3,189,534	1903	152,004,213	3,079,221
1890		3,374,032	1904	171,923,221	3,659,598
1891		4,351,970	1905	139,084,321	2,905,082
1892		4,548,263	1906	138,717,252	2,933,990
1893		4,994,328	1907	157,859,906	4,253,296
1894		4,285,278	1908	178,490,003	4,388,530
1895		3,917,326	1909	135,183,550	2,623,399
1896		5,040,344	1910	160,214,785	3,136,933
1897		4,043,822	1911	194,968,924	2,985,561
1898		2,848,130	1912	145,639,396	3,368,963

NOTE.—Of the imported lemons in 1912, 145,275,122 pounds came from Italy, and the balance of 364,274 from other countries. The exports of domestic lemons are not shown separately in the Customs returns, but the quantity being small, are included under "All other" fruit.

PEACHES AND NECTARINES (DRIED).

(None imported.)

Year.	California crop.			Exported.	
	Peaches.	Nectarines.	Total.	Pounds.	Value.
1886	4,250,000	160,000	4,410,000		
1887	8,000,000	300,000	8,300,000		
1888	8,650,000	345,000	8,995,000		
1889	5,250,000	275,000	5,525,000		
1890	12,250,000	525,000	12,775,000		
1891	12,250,000	625,000	13,875,000		
1892	13,500,000	720,000	14,220,000		
1893	16,800,000	780,000	17,580,000		
1894	30,540,000	1,250,000	31,790,000		
1895	24,500,000	1,325,000	25,825,000		
1896	16,460,000	625,000	17,085,000		
1897	27,150,000	285,000	27,435,000		
1898	10,960,000	190,000	11,150,000		
1899	34,800,000	840,000	35,640,000		
1900	34,340,000	870,000	35,210,000		
1901	29,510,000	650,000	30,160,000		
1902	50,420,000	910,000	51,330,000		
1903	36,000,000	635,000	36,635,000		
1904	23,000,000	420,000	23,420,000		
1905	35,000,000	370,000	35,370,000		
1906	22,500,000	340,000	22,840,000	1,181,649	\$110,407
1907	24,000,000	275,000	24,275,000	1,757,650	186,043
1908	48,000,000	525,000	48,525,000	1,148,598	144,318
1909	40,000,000	750,000	40,750,000	2,403,430	151,834
1910	50,000,000	500,000	50,500,000	2,617,069	151,520
1911	22,000,000	800,000	22,800,000	7,125,014	499,530
1912	53,000,000	500,000	53,500,000	4,425,803	422,766

NOTE.—Included in "All other green, ripe, or dried fruits" in the years where no figures are given.

The largest consumers of dried peaches are Canada and Germany. In 1911 Canada took 3,141,000 pounds; Germany, 2,640,000 pounds; United Kingdom 621,900; and the Netherlands, 143,230; other countries took less than 75,000 pounds.

PEARS.
(None imported.)

Year.	California crop, dried pears.	Exported green or ripe, value.
1886	60,000	-----
1887	180,000	-----
1888	150,000	-----
1889	140,000	-----
1890	600,000	-----
1891	11,000,000	-----
1892	2,250,000	-----
1893	2,640,000	-----
1894	6,530,000	-----
1895	5,400,000	-----
1896	3,650,000	-----
1897	6,350,000	-----
1898	6,620,000	-----
1899	5,760,000	-----
1900	14,550,000	-----
1901	6,510,000	-----
1902	5,250,000	-----
1903	4,650,000	-----
1904	3,500,000	-----
1905	3,500,000	-----
1906	7,000,000	\$631,972
1907	1,000,000	675,944
1908	5,000,000	288,918
1909	2,500,000	546,198
1910	2,000,000	302,958
1911	4,000,000	578,067
1912	3,500,000	784,627

NOTE.—Included under "All other green, ripe, or dried fruit" in the years where no figures are given. Dried pears are not shown separately. Pears are mostly exported to the United Kingdom and Canada.

DRIED PRUNES.
(Duty, 2 cents per pound.)

Year.	California crop.	Exports.	
		Pounds.	Value.
1886	4,340,000	*	*
1887	7,500,000	-----	-----
1888	8,050,000	-----	-----
1889	17,150,000	-----	-----
1890	16,200,000	-----	-----
1891	13,875,000	-----	-----
1892	22,500,000	-----	-----
1893	52,180,000	-----	-----
1894	44,750,000	-----	-----
1895	64,500,000	-----	-----
1896	55,200,000	-----	-----
1897	97,780,000	-----	-----
1898	90,420,000	15,940,791	\$1,021,888
1899	112,900,000	5,615,565	380,847
1900	174,000,000	25,922,371	1,646,332
1901	81,600,000	10,021,564	589,113
1902	195,000,000	23,358,849	1,404,422
1903	165,000,000	66,385,215	3,512,507
1904	135,000,000	73,146,214	3,410,497
1905	70,000,000	54,993,849	2,455,056
1906	180,000,000	24,869,744	1,410,636
1907	105,000,000	44,400,104	2,400,960
1908	57,000,000	28,148,450	1,642,114
1909	150,000,000	22,602,288	1,078,210
1910	75,000,000	89,014,880	4,016,554
1911	140,000,000	51,080,711	3,271,971
1912	200,000,000	74,328,074	4,969,053

*Previous to 1898, the export of prunes was included under "Other fresh or dried fruits"; the imports of prunes are included with plums.

Exports of Domestic Prunes, 1912 to—

Country.	Pounds.	Value.
Germany -----	31,416,210	\$1,930,828
Canada -----	13,503,157	850,810
United Kingdom -----	6,586,572	495,255
Other European countries -----	20,256,809	1,496,009
Other countries -----	2,565,326	196,151
Totals -----	74,328,074	\$4,968,053

PLUMS.

(Duty, 2 cents per pound.)

Year.	California plum crop.	Imports of plums and prunes.	
		Pounds.	Value.
1886 -----	400,000	64,995,545	\$2,026,595
1887 -----	450,000	92,082,625	2,999,648
1888 -----	365,000	70,626,027	2,197,150
1889 -----	330,000	46,154,825	1,423,304
1890 -----	1,000,000	58,093,410	1,789,176
1891 -----	1,250,000	34,281,322	2,054,486
1892 -----	2,000,000	10,869,797	437,271
1893 -----	1,500,000	26,414,112	1,162,318
1894 -----	2,760,000	9,908,122	416,342
1895 -----	4,500,000	14,352,057	527,625
1896 -----	2,100,000	483,658	68,862
1897 -----	3,250,000	710,028	73,308
1898 -----	2,460,000	303,992	39,660
1899 -----	3,360,000	600,360	63,574
1900 -----	3,900,000	443,457	47,700
1901 -----	3,450,000	745,974	62,880
1902 -----	2,560,000	522,478	44,077
1903 -----	2,870,000	633,819	63,218
1904 -----	2,300,000	494,105	46,976
1905 -----	1,860,000	671,604	63,617
1906 -----	2,000,000	497,494	53,348
1907 -----	1,500,000	323,377	45,386
1908 -----	1,000,000	335,089	49,322
1909 -----	1,200,000	296,123	41,696
1910 -----	750,000	*	*
1911 -----	1,200,000	*	*
1912 -----	750,000	*	*

*Included in "All other fruits" after 1909, the quantity being so small.

CALIFORNIA RAISIN CROP, AND EXPORTS AND IMPORTS.

(Duty on raisins and dried grapes, 2½ cents per pound.)

Year.	California crop.	Exports.		Imports.	
		Pounds.	Value.	Pounds.	Value.
1884	3,500,000			53,702,220	\$3,290,150
1885	9,400,000			38,319,787	2,661,699
1886	14,460,000			40,387,946	2,885,123
1887	16,000,000			40,673,288	2,881,981
1888	18,860,000			40,476,763	2,070,120
1889	19,740,000			35,091,139	1,736,786
1890	38,000,000			36,914,330	1,997,103
1891	52,000,000			39,572,655	2,018,879
1892	57,000,000			20,687,640	964,309
1893	85,000,000			27,543,563	1,266,342
1894	103,000,000			13,751,050	554,081
1895	91,000,000			15,921,278	651,420
1896	68,000,000			10,826,094	460,200
1897	93,000,000			12,650,598	567,089
1898	80,000,000	3,109,639	\$167,062	6,593,833	381,889
1899	71,000,000	4,659,807	242,620	4,933,201	282,400
1900	90,000,000	2,415,456	139,689	10,309,498	531,124
1901	74,000,000	3,512,164	218,715	3,860,836	297,631
1902	106,000,000	2,323,274	149,216	6,683,545	399,973
1903	120,000,000	4,280,028	284,530	6,715,675	476,844
1904	75,000,000	4,020,418	281,402	6,867,617	355,542
1905	87,000,000	7,054,824	372,087	4,041,689	273,031
1906	95,000,000	4,528,502	305,768	12,414,855	524,590
1907	140,000,000	9,128,827	599,395	3,967,151	364,403
1908	130,000,000	5,684,541	427,583	9,132,358	554,633
1909	140,000,000	7,880,161	455,657	5,794,320	327,644
1910	115,000,000	8,526,114	417,403	5,042,683	296,047
1911	120,000,000	18,659,992	1,069,300	2,479,220	237,422
1912	185,000,000	19,949,046	1,351,986	3,255,861	295,466

NOTE.—Imported raisins come almost entirely from Spain, and Sultanias, which are included in the above figures, from Smyrna in Turkey in Asia. These latter have also greatly decreased in recent years from upwards of 7,000,000 pounds in 1906 to less than 500,000 pounds the last two years. Canada is our best customer for raisins, taking 11,004,000 pounds. Other countries taking over one million pounds are: New Zealand 2,647,000 pounds, Germany 1,336,000 pounds and the United Kingdom 1,130,000 pounds.

DRIED GRAPES.

(Imports and exports included in raisins.)

Year.	California crop, pounds.	Year.	California crop, pounds.
1886	1,600,000	1900	480,000
1887	1,800,000	1901	350,000
1888	2,340,000	1902	375,000
1889	2,500,000	1903	410,000
1890	10,500,000	1904	340,000
1891	5,500,000	1905	385,000
1892	4,000,000	1906	400,000
1893	4,880,000	1907	375,000
1894	4,520,000	1908	360,000
1895	4,250,000	1909	450,000
1896	2,700,000	1910	650,000
1897	3,450,000	1911	500,000
1898	640,000	1912	600,000
1899	450,000		

IMPORTS OF GREEK CURRANTS.
(Duty, 2 cents per pound.)

Year.	Pounds.	Value.
1891*	33,128,140	\$1,246,074
1892*	36,665,828	1,209,119
1893*	33,166,546	1,185,537
1894*	52,664,843	774,802
1895*	16,450,706	258,659
1896*	33,040,846	551,072
1897	29,265,761	596,084
1898	25,186,210	837,987
1899	30,849,253	798,357
1900	36,251,779	916,908
1901	16,049,198	916,994
1902	36,238,976	1,238,756
1903	33,878,209	743,644
1904	38,347,649	997,430
1905	31,742,919	764,289
1906	37,078,311	1,119,146
1907	38,392,779	1,746,941
1908	38,652,656	1,592,018
1909	32,482,111	1,185,106
1910	33,326,030	1,190,020
1911	33,439,565	1,486,208
1912	33,151,396	1,561,359

*From 1891 to 1894, currants were duty free, and in 1895, 1896, and 1897, currants not from Zante were admitted free. Currants practically all come from Greece.

CALIFORNIA CANNED FRUIT, AND EXPORTS.
(None imported.)

Year.	California pack, cases.	Exports, value.
1886	675,000	\$580,422
1887	772,500	506,794
1888	1,360,400	834,688
1889	1,420,600	915,341
1890	1,495,300	698,321
1891	1,571,200	703,880
1892	1,602,370	1,558,820
1893	1,001,640	1,137,600
1894	1,528,815	660,723
1895	1,639,807	871,465
1896	1,602,446	1,376,281
1897	1,942,982	1,686,798
1898	2,085,166	1,624,741
1899	3,003,100	2,330,715
1900	2,775,800	3,127,278
1901	2,677,000	3,006,109
1902	2,252,000	1,195,685
1903	2,783,500	1,739,571
1904	2,840,600	2,637,002
1905	3,252,500	2,541,085
1906	3,125,000	2,348,004
1907	2,983,000	1,581,047
1908	4,734,000	1,549,836
1909	3,047,000	2,899,374
1910	3,600,000	2,656,089
1911	4,095,035	2,686,445
1912	5,005,950	4,012,468

Exported domestic canned fruit in 1912, to the United Kingdom, \$2,690,834; to other countries, \$1,321,629.

IMPORTS OF MISCELLANEOUS FRUITS.

Duty on Imported Preserved Fruits.

Preserved in sugar or their own juices 1 cent a pound and 35 per cent ad valorem; if containing over 10 per cent alcohol 35 per cent ad valorem and in addition \$2.50 per proof gallon of alcohol in excess of 10 per cent. Jellies 35 per cent ad valorem; pineapples preserved in their own juice 25 per cent ad valorem.

Year.	All other fresh or dried fruits, value.	Prepared or preserved fruits, value.	Total fruits, value.
1886	\$2,332,812	\$833,557	\$15,421,464
1887	3,065,707	748,493	18,508,861
1888	3,778,209	941,302	18,302,045
1889	3,362,025	1,042,846	16,770,167
1890	3,168,367	954,331	18,310,007
1891	2,552,245	1,289,137	23,018,937
1892	2,508,940	1,234,828	18,176,471
1893	3,372,666	864,166	20,944,918
1894	2,980,584	526,561	16,566,782
1895	1,725,342	570,568	15,227,079
1896	2,128,056	598,928	16,957,307
1897	1,810,807	605,053	14,926,771
1898	1,294,855	922,357	12,329,012
1899	1,579,652	1,020,644	15,586,664
1900	1,989,546	1,248,479	16,284,758
1901	2,059,130	1,366,801	16,317,848
1902	2,053,588	1,454,788	17,436,184
1903	2,353,864	1,521,443	18,860,238
1904	2,749,670	1,796,209	18,964,688
1905	2,924,187	1,599,488	19,779,113
1906	2,484,345	2,437,766	21,542,322
1907	1,363,167	1,272,445	26,124,277
1908	2,250,815	1,550,246	27,710,799
1909	1,912,949	1,062,775	22,446,430
1910	920,362	956,368	24,177,160
1911	971,572	893,633	27,017,632
1912	1,693,516	936,008	29,549,281

Bananas to the value of about \$10,000,000, and dates valued at \$500,000, and "other fruits" not classified, of the value of some \$1,500,000, are also imported, but not being produced in California, are omitted from these lists.

EXPORTS OF DOMESTIC FRUIT.

Year.	Other fresh or dried fruits.	Preserved other than canned.	Total fruits.
1883	\$447,395		\$3,005,942
1884	381,117	\$53,361	1,746,418
1885	369,540	37,239	3,515,708
1886	340,507	28,339	3,308,308
1887	337,447	29,489	2,609,965
1888	397,643	58,630	3,482,424
1889	621,390	52,048	5,039,224
1890	1,003,846	59,401	4,031,686
1891	699,798	93,996	2,384,176
1892	1,095,845	214,738	6,565,461
1893	881,804	224,881	3,823,897
1894	1,016,397	211,215	2,299,006
1895	1,522,100	47,420	4,856,517
1896	1,868,353	70,353	5,585,783
1897	2,172,199	43,276	7,613,500
1898	2,033,845	82,504	8,851,878
1899	1,997,649	66,899	7,757,285
1900	2,545,451	63,448	11,486,172
1901	2,716,269	71,597	10,607,908
1902	2,153,050	94,323	8,415,108
1903	4,215,034	66,757	17,558,119
1904	4,317,910	115,490	20,348,299
1905	2,253,638	71,868	15,297,391
1906	1,727,943	89,872	14,857,272
1907	2,246,384	104,683	17,206,267
1908	2,360,360	137,929	13,965,840
1909	2,104,624	77,746	16,079,227
1910	2,119,210	176,474	18,504,591
1911	2,792,281	205,643	23,943,063
1912	3,812,304	136,870	30,354,700

NUTS.

ALMONDS.

(Duty, 4 cents per pound; shelled, 6 cents per pound.)

Year.	California crop, pounds.	Imported.	
		Pounds.	Value.
1884		3,828,104	\$547,616
1885		4,732,269	507,946
1886		5,822,733	647,077
1887	300,000	5,482,363	597,476
1888	220,000	5,747,957	631,740
1889	450,000	5,545,400	595,227
1890	250,000	5,715,858	613,276
1891	500,000	6,812,061	931,007
1892	1,066,000	7,629,392	1,028,671
1893	720,000	6,679,147	938,054
1894	2,125,000	7,436,784	769,453
1895	1,850,000	7,903,375	810,439
1896	3,210,000	7,789,681	763,594
1897	4,750,000	9,644,338	880,263
1898	900,000	5,746,362	659,639
1899	4,640,000	9,957,427	1,222,807
1900	5,480,000	6,317,633	949,003
1901	3,000,000	5,140,232	946,138
1902	6,540,000	9,868,982	1,240,886
1903	6,400,000	8,142,164	1,337,717
1904	1,600,000	9,838,852	1,246,474
1905	4,250,000	11,745,081	1,520,065
1906	1,800,000	15,009,326	1,825,475
1907	1,850,000	14,233,613	2,331,816
1908	6,000,000	17,144,968	2,410,690
1909	3,500,000	11,029,421	1,852,523
1910	6,800,000	18,556,356	3,153,665
1911	3,400,000	15,552,712	2,896,573
1912	6,000,000	17,231,458	3,253,456

Practically all almonds are imported from Spain, Italy and France. The quantity in 1911 was:

Country.	Pounds.	Value.
Spain	7,222,118	\$1,490,067
Italy	5,357,848	997,533
France	2,595,892	345,285
Other countries	346,854	67,690
Totals	15,522,712	\$2,896,573

Of the above quantity, 12,153,000 were shelled, and 3,762,000 unshelled.

WALNUTS.

(Duty on imported walnuts, 3 cents per pound, unshelled; shelled, 5 cents.)

Year.	California crop.	Imported.	
		Pounds.	Value.
1886			
1887	800,000		
1888	1,000,000		
1889	1,500,000		
1890	2,000,000		
1891	2,124,000		
1892	2,950,000		
1893	2,866,000		
1894	5,805,000		
1895	4,620,000		
1896	8,230,000		
1897	7,970,000		
1898	11,300,000		
1899	11,160,000		
1900	10,860,000		
1901	13,800,000		
1902	17,140,000		
1903	11,000,000	12,362,567	\$1,106,033
1904	15,180,000	23,670,761	1,729,378
1905	11,500,000	21,684,104	1,469,463
1906	12,250,000	24,917,028	2,193,653
1907	14,000,000	32,597,592	2,969,649
1908	18,000,000	28,887,110	2,765,486
1909	17,000,000	26,157,703	2,409,644
1910	15,000,000	33,641,466	3,538,264
1911	22,000,000	33,619,434	4,471,227
1912	19,500,000	37,213,674	4,069,515

Years for which no figures are given are included in "Other nuts."

Walnuts Imported in 1911.

Country.	Pounds.	Value.
France	15,705,785	\$2,826,554
Italy	8,139,181	691,586
Austria-Hungary	2,582,206	240,077
Turkey in Asia	2,443,937	374,038
Other countries	4,748,325	338,972
Totals	33,619,434	\$4,471,227

Of the above number 21,146,000 pounds were unshelled, and 11,244,000 shelled.

IMPORTED NUTS.

(Duty on imported peanuts, unshelled, one half of 1 per cent per pound; shelled, 1 per cent per pound.)

Year.	Peanuts and other ground nuts.		Miscellaneous nuts, value.	Total all nuts, value.
	Pounds.	Value.		
1884			\$687,185	\$1,982,084
1885			553,991	1,776,449
1886			563,727	1,896,795
1887			682,878	2,099,625
1888			743,668	2,200,178
1889			598,317	1,976,250
1890			800,376	2,437,767
1891			1,115,978	2,997,456
1892			822,255	2,792,846
1893			951,941	2,744,741
1894			631,759	2,187,989
1895			730,411	2,012,844
1896			868,799	2,075,132
1897			848,511	2,200,161
1898			1,002,344	2,237,938
1899			879,166	2,727,542
1900			1,326,804	2,978,834
1901			1,518,484	3,268,855
1902			1,971,072	4,044,341
1903			1,514,406	4,866,398
1904			1,523,462	5,471,166
1905			2,082,344	6,158,343
1906			2,055,557	7,373,425
1907			2,100,274	9,742,883
1908			1,790,375	9,643,943
1909			1,717,374	8,664,253
1910	29,276,235	\$1,234,088	1,218,052	13,246,742
1911	18,834,441	765,033	1,254,943	14,498,413
1912	15,558,038	575,282	858,837	15,827,988

Years for which no figures are given included in "All other nuts." Peanuts are again given separately in the returns for 1910 and 1911.

In 1912 the unshelled peanuts imported amounted to 12,930,563 pounds, and the shelled to 2,627,475 pounds.

EXPORTS OF DOMESTIC NUTS.

Year.	Peanuts.		Other nuts, value.	Total nuts, value.
	Pounds.	Value.		
1885				\$449
1886				1,767
1887				
1888				27,784
1889				32,360
1890				27,861
1891				50,617
1892				60,684
1893				94,902
1894				125,233
1895				115,274
1896				93,283
1897				125,805
1898				161,432
1899				140,250
1900				156,490
1901				218,743
1902				304,241
1903				299,558
1904				330,366
1905				309,195
1906*	7,180,163	\$275,927	\$140,959	416,886
1907	6,386,012	278,236	103,929	382,165
1908	5,503,685	283,819	89,205	373,024
1909	5,501,107	242,569	246,284	488,853
1910	4,484,613	224,779	156,284	381,063
1911	5,447,185	276,651	328,151	604,802
1912	5,920,711	305,465	303,473	608,938

TABLE XLIV.

Orchard Fruits by Counties.
(Number of bearing trees in 1910.)

Counties.	Apples.	Apricots.	Cherries.	Peaches and nectarines.	Pears.	Plums and prunes.	Total.
Alameda	26,045	270,461	89,284	12,555	70,382	157,981	627,824
Alpine	1,140	7	63	28	79	214	1,531
Amador	8,592	1,197	1,143	16,349	5,112	10,685	43,332
Butte	34,425	9,900	4,317	255,047	22,159	104,474	452,302
Calaveras	13,341	672	459	5,954	2,178	8,265	31,276
Colusa	8,067	4,420	223	4,075	2,432	57,468	71,796
Contra Costa	13,429	38,812	7,258	39,461	68,088	58,177	225,939
Del Norte	3,234		48	42	129	96	3,549
El Dorado	31,929	503	3,259	61,800	49,672	32,764	180,017
Fresno	32,097	186,823	2,729	2,277,314	13,356	66,926	2,579,859
Glenn	4,617	6,830	78	6,420	1,655	24,860	44,565
Humboldt	73,010	235	3,733	9,471	3,804	26,950	117,368
Imperial	86	1,922		432	347	347	3,170
Inyo	19,611	342	539	4,602	2,668	2,349	30,164
Kern	7,725	33,573	163	35,149	1,057	58,075	136,088
Kings	4,196	124,007	11	777,697	4,379	132,192	1,048,506
Lake	22,254	1,463	590	9,288	39,075	47,244	120,037
Lassen	12,679	70	439	1,455	632	2,223	17,511
Los Angeles	101,433	122,769	795	160,197	16,149	43,592	446,698
Madera	20,576	9,408	40	40,989	1,185	7,570	80,156
Marin	15,995	1,689	165	6,313	4,151	3,775	32,263
Mariposa	16,001	233	120	1,618	701	762	19,461
Mendocino	63,263	187	1,181	6,928	15,829	37,197	125,282
Merced	8,941	7,381	343	134,991	5,704	5,401	163,013
Modoc	28,969	652	963	2,113	1,888	3,182	37,776
Mono	1,088	6	197	91	123	86	1,595
Monterey	290,404	27,996	1,729	7,381	5,194	6,189	339,105
Napa	41,301	16,953	16,955	71,080	50,210	299,613	497,391
Nevada	20,223	193	1,727	17,873	36,800	6,955	84,259
Orange	11,992	129,352	23	12,461	2,100	4,569	160,667
Placer	42,704	4,092	31,209	683,824	142,999	279,766	1,190,074
Plumas	3,534	18	65	184	261	510	4,574
Riverside	10,577	83,069	982	72,933	18,447	34,357	220,723
Sacramento	10,948	10,480	17,173	99,635	161,094	206,553	506,961
San Benito	26,593	61,694	3,421	12,301	12,409	91,066	207,537
San Bern'dino	55,150	111,125	3,057	197,763	2,302	8,779	379,533
San Diego	37,662	20,858	1,792	29,800	6,023	16,022	112,993
San Francisco	40			120		945	1,105
San Joaquin	5,053	53,007	21,590	185,073	13,664	83,641	364,290
San L. Obispo	35,006	20,123	702	10,614	5,097	21,383	93,217
San Mateo	18,634	3,694	671	572	1,688	18,279	43,655
Santa Barbara	2,744	15,512	659	9,560	2,612	2,730	34,200
Santa Clara	102,841	783,585	173,002	437,677	142,550	3,387,455	5,043,766
Santa Cruz	647,136	63,021	17,608	11,868	23,100	112,269	875,642
Shasta	35,440	839	2,785	98,950	33,952	87,959	262,136
Sierra	3,398		67	157	148	232	4,002
Siskiyou	31,055	366	1,850	4,371	2,300	5,683	45,708
Solano	4,862	310,262	53,923	341,266	182,194	465,341	1,357,911
Sonoma	386,740	9,087	43,927	237,220	109,965	569,232	1,364,105
Stanislaus	3,680	20,451	1,182	154,553	4,158	6,095	190,515
Sutter	5,433	5,086	1,249	149,057	17,911	65,723	244,587
Tehama	15,633	30,446	624	260,204	41,584	92,459	441,070
Trinity	4,272	41	247	886	738	1,083	7,313
Tulare	25,261	48,834	316	714,494	6,483	264,337	1,059,630
Tuolumne	13,544	162	144	3,065	1,056	1,404	19,554
Ventura	15,179	219,836	392	8,943	2,597	12,541	259,682
Yolo	2,512	117,228	4,534	116,003	38,115	119,193	397,748
Yuba	5,468	1,481	559	8,744	10,220	3,487	30,264
Quinces and mulberries							79,055
Totals	2,482,762	2,992,453	522,304	7,829,011	1,410,905	7,168,705	22,485,195

TABLE XIV.

Tropical Fruits and Grapes by Counties.
(Number of bearing trees in 1910.)

Counties.	Figs.	Olives.	Lemons.	Oranges.	Pomelos.	Total.	Grapevines.
Alameda	482	10,963	660	3,782	4	15,900	2,390,959
Alpine		4				4	9,000
Amador	347	274	8	151		780	314,604
Butte	9,518	73,453	2,223	147,412	122	235,442	258,742
Calaveras	1,839	4,065	19	388	3	6,315	212,300
Colusa	1,391	336	199	1,537	70	3,537	482,417
Contra Costa	293	9,744	148	402		10,597	2,972,130
Del Norte	1					1	
El Dorado	587	37		53		677	581,342
Fresno	120,124	72,788	12,389	85,781	346	291,754	40,687,207
Glenn	879	445	593	4,860	5	6,783	20,416
Humboldt	82			1		83	4,095
Imperial	606	41	36	1,410	18	2,411	298,813
Inyo	14					14	39,478
Kern	1,475	393	54	80,940	16	82,888	419,582
Kings	391	5		24		425	4,538,732
Lake	1,062	3,198	8	72		4,340	296,752
Lassen							31
Los Angeles	5,736	84,934	219,149	1,674,695	6,853	1,994,402	4,923,877
Madera	4,321	18,010	15	184	2	22,532	1,530,630
Marin	201	48	26	79	5	387	115,198
Mariposa	461	2,711	35	1,169	1	4,378	28,647
Mendocino	358	7		4		370	924,191
Merced	9,837	6,981	209	1,572	11	18,613	1,281,342
Modoc							795
Mono							2,000
Monterey	217	657	7	29		913	79,935
Napa	1,234	20,176	258	1,192	9	23,251	8,595,338
Nevada	1,468	419	6	364	2	2,311	94,338
Orange	1,066	67,046	46,954	478,272	677	597,383	282,682
Placer	4,463	26,396	714	26,921	289	59,906	1,340,132
Plumas	6	6				12	
Riverside	2,054	80,572	115,020	1,021,957	4,477	1,224,217	1,570,794
Sacramento	1,145	34,077	2,500	46,256	864	84,863	7,627,510
San Benito	128	4	5	42		179	177,976
San Bernardino	1,144	30,190	157,731	1,951,254	13,134	2,153,501	5,987,127
San Diego	2,459	109,871	195,318	107,457	5,764	425,260	1,228,858
San Francisco		1				1	3,000
San Joaquin	4,037	19,998	75	1,950	2	26,070	13,371,794
San Luis Obispo	819	1,597	955	794	75	4,253	265,481
San Mateo	36	7,187	1	25		7,249	124,990
Santa Barbara	858	44,258	46,181	4,246	716	99,023	208,595
Santa Clara	985	13,945	996	1,905	57	18,023	5,584,488
Santa Cruz	333	1,243	349	330	7	2,279	1,365,414
Shasta	2,306	9,616	7	55		11,986	117,481
Sierra							
Siskiyou	4		2			3	2,473
Solano	4,598	1,221	126	2,950	15	8,911	1,213,265
Sonoma	3,850	10,863	396	5,047	8	20,226	17,939,979
Stanislaus	37,676	5,458	576	10,492	18	54,291	1,932,302
Sutter	4,675	3,018	602	2,427	18	10,741	1,249,923
Tehama	3,176	17,373	356	10,744	5	31,654	1,307,218
Trinity	20		2			22	2,842
Tulare	15,750	5,605	41,069	801,151	8,114	872,657	7,227,491
Tuolumne	237	10	6	114		367	95,811
Ventura	618	25,961	95,018	131,681	392	253,754	36,398
Yolo	10,476	4,482	183	2,371	1,325	18,858	2,568,019
Yuba	3,159	6,660	109	1,263		11,205	162,751
All other tropical fruit							
Totals	269,001	836,347	941,293	6,615,805	43,427	8,726,005	144,097,670

TABLE XLVI.
NUTS AND SMALL FRUITS.
Small Fruits and Nuts by Counties.
(Number of bearing trees in 1910.)

Counties.	Almonds, number of trees.	Pecans, number of trees.	Walnuts, Persian or English, number of trees.	Total nut trees.	Straw- berries, acres.	Black- berries and dew- berries, acres.	Total small fruit, acres.
Alameda -----	21,190	5	3,726	25,250	18	12	401
Alpine -----	12			12			
Amador -----	628	1	185	830	6	13	29
Butte -----	84,069	158	1,063	85,445	48	57	148
Calaveras -----	14,624	6	832	15,619	5	14	34
Colusa -----	16,078	10	1,306	17,409	1	5	7
Contra Costa ---	209,056	25	6,148	215,249	1	3	6
Del Norte -----		3	3	6	1		1
El Dorado -----	438		880	1,512	5	11	23
Fresno -----	7,390	56	634	8,203	148	91	310
Glenn -----	25,739	15	220	26,336	2	4	8
Humboldt -----	304		498	827	58	4	87
Imperial -----	29		24	53		1	1
Inyo -----	28	9	35	72	5	8	21
Kern -----	3,101	563	127	3,819	2	26	34
Kings -----	1,721	2	24	1,747	15	13	31
Lake -----	8,281	6	564	8,920	6	15	25
Lassen -----	8		8	16	3	2	20
Los Angeles ----	76,949	313	281,837	359,349	1,380	280	1,975
Madera -----	2,778	5	14	2,797	2	3	7
Marin -----	151		61	212	1		3
Mariposa -----	159		91	262	1	2	7
Mendocino -----	229		360	762	22	14	57
Merced -----	17,132	31	633	17,845	5	21	34
Modoc -----			3	27	9	9	37
Mono -----							1
Monterey -----	2,196	3	306	2,505	263	56	407
Napa -----	18,731	996	7,767	27,622	22	26	59
Nevada -----	1,325	10	1,105	2,768	4	15	55
Orange -----	1,248	26	276,842	278,879	76	43	205
Placer -----	11,539	2	535	12,122	433	62	582
Plumas -----			4	4	6	1	13
Riverside -----	21,789	98	3,040	24,940	27	28	64
Sacramento -----	66,372	3	755	67,156	450	52	554
San Benito -----	6,953	6	1,869	8,333	35	1	54
San Bernardino --	634		2,228	2,900	34	68	130
San Diego -----	9,279	1,080	9,159	19,651	43	22	87
San Francisco ---							
San Joaquin ----	97,024	6	2,455	99,499	33	31	92
San Luis Obispo -	9,281	1	7,871	17,264	45	30	137
San Mateo -----	94		223	331	56	10	69
Santa Barbara ---	239	70	96,776	97,091	24	32	63
Santa Clara -----	25,862	136	19,070	48,396	460	228	1,011
Santa Cruz -----	240	5	4,015	4,757	489	116	744
Shasta -----	8,056	7	1,168	9,339	44	32	95
Sierra -----			24	24	2	1	6
Siskiyou -----	83	2	30	185	7	10	31
Solano -----	98,276	134	1,806	100,239	5	5	12
Sonoma -----	2,893	43	11,955	16,681	103	930	1,471
Stanislaus -----	33,726	25	864	34,701	95	53	161
Sutter -----	61,572	11	671	62,239	1	7	16
Tehama -----	32,919	10	1,569	34,555	36	7	49
Trinity -----	30	1	58	91	5	5	15
Tulare -----	1,977	26	1,942	3,945	19	70	119
Tuolumne -----	54	1	175	240	5	8	19
Ventura -----	12,057	301	98,622	110,984	14	7	31
Yolo -----	149,019	9	1,270	150,822	1	6	10
Yuba -----	3,163	6	287	3,458	4	6	19
All others† -----				*10,109			2,576
Totals -----	1,166,730	4,226	853,237	2,034,302	4,585	2,576	9,687

*See page 143 for details regarding nuts.

†See page 122 for details regarding small fruits.

TABLE XLVII.
COMPARATIVE INCREASE IN ORCHARD FRUITS, 1890-1910.
(Number of trees in bearing.)

Counties.	Apples.			Apricots.		
	1890.	1900.	1910.	1890.	1900.	1910.
Alameda	23,988	59,379	26,045	85,709	283,102	270,461
Alpine	1,037	1,412	1,140	2	513	7
Amador	16,880	13,936	8,592	4,950	4,098	1,197
Butte	34,870	39,761	34,425	13,251	35,376	9,900
Calaveras	15,290	13,627	13,341	543	640	672
Colusa	5,673	4,164	3,067	10,632	12,591	4,420
Contra Costa	18,045	22,191	13,429	16,443	70,108	38,812
Del Norte	7,574	6,694	3,234		5	
El Dorado	50,768	36,944	31,929	346	1,905	503
Fresno	13,463	54,945	32,097	52,867	164,184	186,823
Glenn		9,816	4,617		10,828	6,830
Humboldt	47,228	69,578	73,010	66	302	235
Imperial			86			1,922
Inyo	3,438	28,571	19,611	59	289	342
Kern	5,187	18,018	7,725	333	33,929	33,573
Kings		5,069	4,196		108,161	124,007
Lake	18,914	35,232	22,254	526	2,149	1,463
Lassen	18,820	21,145	12,679	120	104	70
Los Angeles	75,229	136,800	101,433	109,056	420,750	122,769
Madera		13,538	20,576		15,153	9,408
Marin	30,753	29,306	15,995	3,433	3,896	1,689
Mariposa	5,898	16,417	16,001	187	362	233
Mendocino	35,303	94,525	63,263	92	401	187
Merced	7,064	7,858	8,941	10,406	11,736	7,381
Modoc	21,296	29,540	28,969	47	324	652
Mono	242	966	1,088		6	6
Monterey	25,336	177,187	290,404	5,650	14,422	27,996
Napa	49,409	69,055	41,301	8,904	29,535	16,953
Nevada	23,084	32,236	20,223	56	1,108	193
Orange	17,734	26,769	11,992	50,012	209,113	129,352
Placer	27,573	65,072	42,704	8,458	12,222	4,092
Plumas	4,484	4,277	3,534			18
Riverside		19,986	10,577		184,113	88,069
Sacramento	33,205	24,156	10,948	57,348	82,845	10,480
San Benito	7,565	19,873	26,593	5,204	67,588	61,694
San Bernardino	6,291	58,644	55,150	83,553	211,602	111,125
San Diego	15,264	84,688	37,662	27,097	61,331	20,858
San Francisco		118	40		1,966	
San Joaquin	16,229	16,771	5,053	16,784	76,395	53,007
San Luis Obispo	34,233	52,828	35,006	15,392	41,325	20,123
San Mateo	13,638	21,094	18,634	1,363	8,663	3,694
Santa Barbara	27,915	59,003	2,744	20,493	84,257	15,512
Santa Clara	49,109	76,922	102,841	263,051	738,854	783,585
Santa Cruz	109,828	557,361	647,136	12,130	62,879	63,021
Shasta	20,473	59,019	35,440	2,132	2,952	839
Sierra	1,222	3,332	3,398			
Siskiyou	27,158	50,878	31,055	182	739	366
Solano	5,681	15,648	4,862	238,210	378,792	310,262
Sonoma	218,016	442,533	386,740	6,507	13,366	9,067
Stanislaus	3,721	13,178	3,680	5,383	22,469	20,451
Sutter	1,711	9,692	5,433	18,029	21,958	5,066
Tehama	14,789	31,668	15,633	18,121	67,101	30,446
Trinity	6,576	3,855	4,272	12		41
Tulare	16,460	31,772	25,261	41,229	60,374	48,834
Tuolumne	14,991	20,053	13,544	683	460	163
Ventura	8,669	43,124	15,179	185,402	429,688	219,836
Yolo	1,169	3,789	2,512	37,329	166,192	117,228
Yuba	11,241	10,114	5,468	4,976	5,984	1,481
Totals	1,269,784	2,878,169	2,482,762	1,442,749	4,244,384	2,992,453

The totals for 1900 include about 12,000 trees in the Indian reservations.

TABLE XLVII—Continued.

COMPARATIVE INCREASE IN ORCHARD FRUITS, 1890-1910.

(Number of trees in bearing.)

Counties.	Cherries.			Peaches and nectarines.		
	1890.	1900.	1910.	1890.	1900.	1910.
Alameda	67,243	153,810	89,284	28,276	68,186	12,555
Alpine	37	63	63	44	252	28
Amador	693	1,362	1,143	21,469	19,819	16,349
Butte	3,800	6,070	4,317	109,333	340,834	255,047
Calaveras	490	155	459	5,976	3,745	5,954
Colusa	589	181	223	13,681	17,642	4,075
Contra Costa	3,228	18,771	7,258	19,082	66,341	39,461
Del Norte	234	293	48	123	101	42
El Dorado	1,487	2,208	3,259	93,005	91,851	61,800
Fresno	456	5,628	2,729	111,670	924,486	2,277,314
Glenn		312	78		21,660	6,420
Humboldt	2,501	2,784	3,733	4,665	7,961	9,471
Imperial						432
Inyo	71	226	539	3,306	9,041	4,602
Kern	95	638	163	14,076	68,431	35,149
Kings		458	11		253,834	777,697
Lake	282	737	590	16,948	25,900	9,288
Lassen	240	293	439	830	1,628	1,455
Los Angeles	1,375	8,192	795	88,661	445,195	160,197
Madera		55	40		95,327	40,989
Marin	949	205	165	2,923	7,492	6,313
Mariposa	126	233	120	2,712	4,995	1,618
Mendocino	807	2,676	1,181	8,541	20,189	6,928
Merced	69	214	343	23,187	56,108	134,991
Modoc	531	783	963	679	695	2,113
Mono	21	106	197		423	91
Monterey	1,228	3,398	1,729	5,704	14,245	7,381
Napa	15,901	21,548	16,955	49,927	112,503	71,080
Nevada	653	1,633	1,727	4,368	25,232	17,873
Orange	216	100	23	10,397	59,258	12,461
Placer	14,452	25,519	31,209	229,548	681,578	683,824
Plumas	15	83	65	52	353	184
Riverside		5,059	982		112,898	72,933
Sacramento	6,509	18,531	17,173	408,988	312,513	99,635
San Benito	765	4,123	3,421	4,124	27,756	12,301
San Bernardino	178	6,517	3,057	164,445	275,011	197,763
San Diego	494	5,028	1,792	31,373	97,796	29,800
San Francisco		260			3,425	120
San Joaquin	2,677	17,156	21,590	25,701	107,093	185,073
San Luis Obispo	1,163	1,071	702	18,653	30,756	10,614
San Mateo	1,391	2,352	671	1,459	1,792	572
Santa Barbara	450	841	659	7,077	9,395	9,560
Santa Clara	44,743	191,548	173,002	135,271	591,849	437,677
Santa Cruz	8,199	27,901	17,608	29,250	38,210	11,868
Shasta	478	7,032	2,785	30,577	169,516	98,950
Sierra	29	70	67	50	112	157
Siskiyou	922	2,102	1,850	4,913	8,065	4,371
Solano	22,888	63,249	53,923	302,041	428,027	341,266
Sonoma	23,062	57,184	43,927	152,401	386,666	237,220
Stanislaus	242	1,187	1,182	9,565	35,077	154,553
Sutter	885	3,461	1,249	69,857	192,912	149,057
Tehama	937	4,009	624	213,967	470,409	260,204
Trinity	84	52	247	569	417	886
Tulare	219	452	316	121,913	489,282	714,494
Tuolumne	478	160	144	12,671	11,066	3,065
Ventura	1,153	733	392	4,616	34,768	8,943
Yolo	31	6,338	4,534	43,106	158,563	116,003
Yuba	1,179	1,175	559	8,073	28,575	8,744
Totals	236,945	686,891	522,304	2,669,843	7,472,393	7,829,011

TABLE XLVII—Continued.

COMPARATIVE INCREASE IN ORCHARD FRUITS, 1890-1910.

(Number of trees in bearing.)

Counties.	Pears.			Plums and prunes.		
	1890.	1900.	1910.	1890.	1900.	1910.
Alameda	40,993	133,199	70,382	67,019	290,959	157,961
Alpine	43	233	79	152	323	214
Amador	2,789	6,364	5,112	10,580	19,808	10,663
Butte	11,045	59,245	22,159	21,797	120,321	104,474
Calaveras	2,885	950	2,178	5,733	8,592	8,265
Colusa	2,511	16,043	2,432	3,965	109,339	57,466
Contra Costa	18,685	106,663	68,088	13,995	113,527	58,177
Del Norte	139	221	129	521	1,438	96
El Dorado	16,357	52,311	49,672	20,955	43,845	32,764
Fresno	25,127	213,984	13,356	9,885	128,153	66,926
Glenn		7,448	1,655		51,935	24,860
Humboldt	1,780	2,386	3,804	6,301	31,429	26,950
Imperial			347			347
Inyo	325	3,319	2,668	288	2,387	2,349
Kern	362	25,599	1,057	490	129,793	58,075
Kings		70,722	4,379		185,489	132,192
Lake	2,961	37,859	39,075	14,464	98,268	47,244
Lassen	705	1,153	632	870	3,536	2,223
Los Angeles	51,612	56,700	16,149	52,272	347,748	43,592
Madera		10,161	1,185		13,237	7,570
Marin	6,014	6,534	4,151	1,351	3,591	3,775
Mariposa	911	1,773	701	714	3,718	762
Mendocino	3,651	26,074	15,829	4,374	132,145	37,197
Merced	2,075	10,818	5,704	538	28,893	5,401
Modoc	738	1,636	1,888	1,022	2,823	3,182
Mono		417	123		375	86
Monterey	1,710	8,706	5,194	14,475	75,265	6,189
Napa	22,859	69,358	50,210	63,026	381,301	299,613
Nevada	4,866	38,923	36,800	1,344	12,675	6,955
Orange	13,448	8,610	2,100	19,196	23,824	4,569
Placer	22,409	146,891	142,999	22,252	163,431	279,766
Plumas	183	91	261	135	413	510
Riverside		25,505	18,447		136,350	34,357
Sacramento	88,245	261,582	161,094	49,243	297,889	206,553
San Benito	4,001	25,779	12,409	5,281	143,455	91,066
San Bernardino	13,547	6,690	2,302	6,801	65,442	8,779
San Diego	5,166	22,953	6,023	6,941	87,411	16,022
San Francisco		200			4,646	945
San Joaquin	7,303	19,936	13,664	16,591	73,210	53,641
San Luis Obispo	5,290	13,232	5,097	24,156	79,688	21,829
San Mateo	4,652	2,506	1,688	3,597	25,861	18,279
Santa Barbara	5,310	6,242	2,612	13,049	34,297	2,730
Santa Clara	113,058	182,803	142,550	617,584	3,570,193	3,387,455
Santa Cruz	10,735	31,466	23,100	58,501	289,831	112,260
Shasta	2,168	58,978	33,952	8,147	131,421	87,969
Sierra	48	126	148	8	108	233
Siskiyou	1,157	3,497	2,300	2,099	6,339	5,083
Solano	63,962	251,523	182,194	87,392	401,794	465,341
Sonoma	52,434	139,673	109,965	172,744	705,486	569,222
Stanislaus	779	6,479	4,158	1,594	25,623	6,686
Sutter	6,423	38,203	17,911	15,388	78,623	68,223
Tehama	2,382	79,820	41,584	14,992	215,801	92,430
Trinity	330	261	738	286	502	1,083
Tulare	12,206	82,465	6,483	10,177	474,428	264,257
Tuolumne	3,288	6,347	1,056	10,523	5,306	1,404
Ventura	2,038	7,485	2,597	12,924	154,900	12,541
Yolo	30,309	104,423	38,115	9,713	267,509	119,180
Yuba	3,724	14,974	10,220	4,388	12,304	3,482
Totals	695,738	2,512,890	1,410,905	1,509,833	9,823,713	7,168,726

TABLE XLVIII.

COMPARATIVE INCREASE IN TROPICAL FRUITS AND GRAPES, 1890-1910.
(Number of trees in bearing.)

Counties.	Figs.			Olives.		
	1890.	1900.	1910.	1890.	1900.	1910.
Alameda	1,139	3,111	482	29,688	11,167	10,963
Alpine						4
Amador	394	662	347	296	453	274
Butte	1,980	14,148	9,518	10,436	93,578	73,453
Calaveras	3	66	1,839	30	9,801	4,065
Colusa	7,780	2,629	1,391	8,414	419	336
Contra Costa	898	1,168	293	898	25,876	9,744
Del Norte			1			
El Dorado	118	1,542	587		1,232	37
Fresno	27,892	38,866	120,124	20,595	30,811	72,788
Glenn		1,896	879		121	445
Humboldt		33	82		60	
Imperial			606			41
Inyo		3	14			
Kern	1,947	2,479	1,475	438	4,171	393
Kings		229	391		332	5
Lake	234	2,302	1,062	572	4,201	3,198
Lassen						
Los Angeles	2,643	11,674	5,736	79,208	306,397	84,934
Madera		14,447	4,321		1,171	18,010
Marin	43		201			48
Mariposa	516	815	461	774	6,502	2,711
Mendocino	847	493	358	1,634	886	7
Merced	915	8,098	9,837	1,020	20,337	6,981
Modoc						
Mono						
Monterey	19	252	217	15	1,745	657
Napa	632	529	1,234	6,504	31,135	20,176
Nevada	35	1,615	1,468	59	181	419
Orange	8,010	5,102	1,066	1,797	51,817	67,046
Placer	4,830	5,189	4,463	6,225	59,221	26,396
Plumas		12	6			6
Riverside		1,221	2,054		106,707	80,572
Sacramento	763	2,822	1,145	1,203	21,700	34,077
San Benito	590	594	128	1,061	240	4
San Bernardino	1,089	2,049	1,144	1,457	98,938	30,190
San Diego	665	12,417	2,459	1,375	162,017	109,871
San Francisco		1				1
San Joaquin	3,233	2,193	4,037	3,233	13,793	19,998
San Luis Obispo	1,087	1,086	819	1,507	1,153	1,597
San Mateo	212	94	36		5,580	7,187
Santa Barbara	469	248	858	8,025	63,447	44,258
Santa Clara	6,774	936	985	22,747	21,926	13,945
Santa Cruz	29	383	333	549	1,778	1,243
Shasta	1,099	2,101	2,306	687	10,731	9,616
Sierra						
Siskiyou		4	4			
Solano	971	5,182	4,598		4,335	1,221
Sonoma	7,244	2,556	3,850	58,340	47,217	10,863
Stanislaus	463	6,561	37,676	925	5,813	5,458
Sutter	1,056	3,467	4,675	945	3,376	3,018
Tehama	2,870	4,144	3,176	1,673	149,787	17,373
Trinity		12	20			
Tulare	9,403	4,605	15,750	2,439	13,995	5,605
Tuolumne	199	545	237	332		10
Ventura	747	902	618	1,609	110,763	25,961
Yolo	5,065	13,470	10,476	815	6,414	4,482
Yuba	4,632	3,896	3,159	855	18,815	6,660
Totals	109,535	188,941	269,001	278,380	1,530,164	836,347

TABLE XLVIII—Continued.

COMPARATIVE INCREASE IN CITRUS FRUITS AND GRAPES, 1890-1910.
(Number of trees in bearing.)

Counties.	Lemons.			Oranges.		
	1890.	1900.	1910.	1890.	1900.	1910.
Alameda		1,596	660	686	7,215	3,782
Alpine						151
Amador		25	8	252	321	147,412
Butte	44	3,546	2,223	13,018	224,243	388
Calaveras		2	19		225	1,537
Colusa	634	61	199	767	1,088	402
Contra Costa		138	148	38	874	
Del Norte						
El Dorado		1,500			266	53
Fresno	2,919	6,721	12,389	3,733	78,195	85,781
Glenn		801	593		1,720	4,860
Humboldt					7	1
Imperial			36			1,410
Inyo						
Kern		68	54	532	876	80,940
Kings					1	24
Lake	26	19	8	160	130	72
Lassen						
Los Angeles	45,880	367,768	219,149	472,065	1,409,135	1,674,685
Madera		1	15		45	184
Marin			26			79
Mariposa		49	35	447	507	1,169
Mendocino		10			207	4
Merced	457	500	209	1,188	1,635	1,572
Modoc						
Mono						
Monterey		12	7		37	29
Napa		250	258	635	2,143	1,192
Nevada			6		3,220	364
Orange	12,367	47,512	46,954	137,599	347,486	478,272
Placer	86	1,018	714	1,908	38,980	26,921
Plumas					6	
Riverside		149,559	115,020		1,377,720	1,021,957
Sacramento		3,874	2,500	493	54,308	46,256
San Benito		12	5		113	42
San Bernardino	2,302	174,962	157,731	469,670	1,547,911	1,951,254
San Diego	6,701	498,676	195,318	25,083	168,953	107,457
San Francisco						
San Joaquin		66	75	499	1,148	1,950
San Luis Obispo	11	162	955	44	172	794
San Mateo		47	1		57	25
Santa Barbara	6,043	83,266	46,181	8,114	3,909	4,246
Santa Clara		1,757	996	961	5,369	1,905
Santa Cruz		104	349		214	330
Shasta		3	7		52	55
Sierra						
Siskiyou			2			
Solano		112	126	275	1,840	2,950
Sonoma	390	375	396	3,427	5,378	5,047
Stanislaus	39	534	576	1,144	18,854	10,492
Sutter	38	157	602	154	1,711	2,427
Tehama	62	404	356	273	9,450	10,744
Trinity			2			
Tulare	67	45,767	41,069	361	197,906	801,151
Tuolumne		7	6		755	114
Ventura	4,810	100,855	95,018	4,138	104,108	131,681
Yolo	21	34	183	987	1,461	2,371
Yuba	214	781	109	5,180	28,818	1,263
Totals	82,611	1,493,113	941,293	1,153,881	5,648,714	6,615,805

TABLE XLVIII—Continued.

COMPARATIVE INCREASE IN POMELOES AND GRAPES.

(Number of trees and vines in bearing)

Counties.	Pomelos.			Number of grapevines.		
	1890.	1900.	1910.	1890.	1900.	1910.
Alameda		14	4	6,500	3,549,414	2,390,959
Alpine						9,000
Amador		85		1,000	448,502	314,604
Butte	4	309	122	800	227,799	258,742
Calaveras			3	1,440	67,980	212,300
Colusa		51	70	500	236,812	482,417
Contra Costa		552		4,000	2,400,257	2,972,130
Del Norte						
El Dorado				1,600	704,702	581,342
Fresno		101	346	16,000	24,904,559	40,687,207
Glenn		1	5		105,610	20,416
Humboldt					6,780	4,095
Imperial			18			298,813
Inyo				95	51,570	39,478
Kern		2	16	750	265,537	419,582
Kings					4,218,824	4,538,732
Lake		16		1,185	233,614	296,752
Lassen						31
Los Angeles		9,480	6,853	18,120	2,884,144	4,923,877
Madera			2		1,483,354	1,530,630
Marin			5	520	161,806	115,198
Mariposa			1	500	34,660	28,647
Mendocino				208	238,547	924,191
Merced			11	2,014	429,645	1,281,342
Modoc					42	795
Mono					1,240	2,000
Monterey				500	81,203	79,935
Napa			9	16,611	4,859,490	8,595,338
Nevada			2	235	155,772	94,338
Orange		1,384	677		621,428	282,682
Placer			289	2,621	816,983	1,340,132
Plumas						
Riverside		12,306	4,477		603,010	1,570,794
Sacramento		139	864	6,465	3,639,513	7,627,510
San Benito		2		110	84,246	177,976
San Bernardino	40	15,684	13,134	9,562	1,752,046	5,987,127
San Diego	86	37,676	5,764	6,000	1,420,060	1,228,858
San Francisco					37,600	3,000
San Joaquin		1	2	2,000	2,346,061	13,371,794
San Luis Obispo		2	75	652	269,902	265,481
San Mateo				750	328,027	124,990
Santa Barbara		174	716	1,125	179,840	208,595
Santa Clara		1	57	10,000	7,108,402	5,584,480
Santa Cruz			7	1,500	1,385,422	1,365,414
Shasta				500	213,677	117,481
Sierra				250		
Siskiyou				4	12,969	2,473
Solano		6	15	3,500	1,042,477	1,213,265
Sonoma		5	8	21,683	15,004,458	17,939,972
Stanislaus		26	18	496	209,306	1,932,302
Sutter		1	18	430	148,187	1,249,923
Tehama		6	5	4,972	1,436,122	1,307,218
Trinity				220	24	2,842
Tulare		2,879	8,114	4,500	2,473,308	7,227,491
Tuolumne				890	153,531	95,811
Ventura	14	4	392	800	125,692	36,398
Yolo		10	1,325	3,491	1,408,196	2,568,019
Yuba		1		165	112,570	162,751
Totals	144	80,918	43,427	155,272	90,686,458	144,097,670

TABLE XLIX.

COMPARATIVE INCREASE IN NUTS, 1890-1910.

(Number of trees in bearing.)

Counties.	Almonds.			Pecans.		
	1890.	1900.	1910.	1890.	1900.	1910.
Alameda	102,708	108,710	21,190			5
Alpine		29	12			1
Amador	1,919	2,610	628		9	1
Butte	22,080	96,559	84,069		4	15
Calaveras	488	6,515	14,624			6
Colusa	49,939	11,501	16,078	80	24	10
Contra Costa	10,771	298,158	209,056		25	25
Del Norte						3
El Dorado	3,530	990	488		50	
Fresno	12,376	12,446	7,390		35	56
Glenn		11,791	25,739		6	15
Humboldt		11,503	304			
Imperial			29			
Inyo		102	28		19	9
Kern	1,508	5,650	3,101		4	563
Kings		1,829	1,721			2
Lake	1,470	8,093	8,281		14	6
Lassen			8			
Los Angeles	19,046	159,342	76,949	19	233	313
Madera		3,315	2,778			5
Marin	216	71	151			
Mariposa	648	2,706	159		9	
Mendocino	1,292	2,854	229		55	
Merced	5,169	17,759	17,132		26	31
Modoc						
Mono						3
Monterey	226	6,636	2,196			996
Napa	4,107	32,959	18,731		114	10
Nevada	148	3,387	1,325		10	26
Orange	1,836	4,389	1,248		30	2
Placer	7,812	9,073	11,539	80	158	
Plumas		2				98
Riverside		22,132	21,789		20	3
Sacramento	7,564	59,608	66,372		3	6
San Benito	7,404	20,414	6,958		10	
San Bernardino	117	8,614	634		500	1,080
San Diego	77	19,980	9,279		60	
San Francisco						6
San Joaquin	63,876	104,548	97,024	57	67	1
San Luis Obispo	1,798	19,598	9,281		1,000	
San Mateo	6,505	1,084	94			70
Santa Barbara	4,479	5,052	239			136
Santa Clara	125,318	32,100	25,862		37	5
Santa Cruz	593	956	240		12	7
Shasta	14,233	10,371	8,056		3	
Sierra						2
Siskiyou		87	83		1	134
Solano	36,465	124,193	98,276		6	43
Sonoma	58,396	4,489	2,893		75	25
Stanislaus	1,162	17,233	33,726		36	11
Sutter	20,893	37,598	61,572			10
Tehama	5,929	66,446	32,919		36	1
Trinity			30			26
Tulare	2,197	95	1,977		1	1
Tuolumne	1,330	65	54		2	301
Ventura	570	37,976	12,057	3		9
Yolo	20,971	186,272	149,019	20	12	6
Yuba	22,400	3,787	3,163	17	2	
Totals	658,566	1,601,947	1,166,730	276	2,708	4,226

TABLE XLIX—Continued.

COMPARATIVE INCREASE IN WALNUTS, 1890-1910.

(Number of trees in bearing.)

Counties.	1890.	1900.	1910.
Alameda	636	5,524	3,726
Alpine		104	185
Amador	269	2,903	1,063
Butte		235	832
Calaveras	1,833	683	1,306
Colusa	10	3,529	6,148
Contra Costa			3
Del Norte		391	880
El Dorado	5,725	1,436	634
Fresno		120	220
Glenn		120	498
Humboldt			24
Imperial		17	35
Inyo	326	492	127
Kern		141	24
Kings	65	545	561
Lake			8
Lassen	19,040	215,000	281,837
Los Angeles		2	14
Madera		1	61
Marin	36	752	91
Mariposa		1,526	360
Mendocino		296	633
Merced			3
Modoc	404	347	308
Mono	104	6,817	7,767
Monterey	46	3,263	1,105
Napa	45,831	210,361	276,842
Nevada	16	2,007	535
Orange			4
Placer		4,529	3,040
Plumas	450	1,546	755
Riverside		843	1,369
Sacramento	625	5,718	2,228
San Benito	1,251	15,859	9,159
San Bernardino			2,455
San Diego	1,700	676	7,871
San Francisco	1,230	4,968	228
San Joaquin		420	96,776
San Luis Obispo	72,604	91,742	19,070
San Mateo	10,847	8,954	4,015
Santa Barbara		4,907	1,168
Santa Clara		1,026	24
Santa Cruz			30
Shasta		688	1,806
Sierra	46	668	11,955
Siskiyou	7,087	6,592	864
Solano	65	1,587	671
Sonoma	630	79	1,569
Stanislaus	336	3,176	58
Sutter			1,942
Tehama			175
Trinity	197	547	98,622
Tulare		89,044	1,270
Tuolumne		292	287
Ventura	11,862	925	
Yolo	270		
Yuba	477		
Totals	184,018	701,426	853,237

PART V.

CALIFORNIA WINE INDUSTRY.

Early History in United States, Foreign Wines, California Vineyards, Price of Wine Grapes, California Brandies, California Vintages 1891-1912, Sparkling Wines, Imports and Exports of Wine and Brandy.

The California wine industry, with its extensive vineyards of wine grapes and enormous investments of capital, has attained such proportions as to demand special notice. In sweet wines the production has more than doubled within the last ten years, and the output is much greater than that of all other states combined.

To take the two most popular wines, port and sherry: New York produced 216,563 gallons of port, and New Jersey 1,798 gallons, or a total of 218,361 gallons, in 1911, compared with 9,502,391 gallons in California. Of sherry, New York was the only other producing state, with 5,420 gallons, while the vintage in California amounted to 7,904,955 gallons. The total production of sweet wines in all other states, which includes only four varieties, namely, port, sherry, sweet Catawba, and Scuppernong, the latter manufactured in North Carolina, only amounted to 605,004, against seven varieties with a total of 22,491,772 in California.

Pioneer Wine Makers in the United States.

The London Company planted vineyards in Virginia prior to 1620, and many succeeding attempts at grape growing were made by William Penn and by German and Swiss settlers.

Major John Adlum made the first really successful efforts at grape growing on the Atlantic coast. In 1820, he planted a vineyard near Georgetown, D. C., consisting mostly of native vines, and introduced the Catawba variety, so called from the Catawba River in North Carolina, from whence it came. In a letter written by him to Nicholas Longworth in 1825, he says that "in bringing this grape into public notice, I have rendered my country a greater service than I would have done had I paid the national debt." Another variety largely grown in the East is the Concord grape, first introduced by Mr. Ephriam Wales Bull in 1843. Adlum made the first wine from the Catawba grape about the year 1830. In 1850, there were within twenty miles of Cincinnati 743 acres in vines belonging to 264 proprietors and tenants, Longworth alone owning 122 acres.

The first really successful attempt at wine making of any commercial importance was made by Nicholas Longworth at Cincinnati, Ohio. He is said, after many years of experiments carried on at considerable expense, to have made a sparkling wine from the Catawba grape that was considered very successful. This variety is now largely used in Ohio and New York in the manufacture of American champagne. The first statistical report of the United States Government on wine manufacture is contained in the abstract of the Census of 1810, from which it appears

there were 14,191 distilleries, producing 22,977,167 gallons of spirit from fruit and grain, and 11,755 gallons of wine, of which 9,230 gallons were made from currants and 2,525 from grapes.

Wine and Brandy in the Last Century.

Little more than a century ago there were very few varieties of wine, and no whisky or brandy. Madeira and rum appeared to be the most popular.

In the tariff act of 1789 Madeira wine is the only one mentioned by name, and "Jamaica" proof spirit. The duty on the former was 18 cents a gallon and 10 cents on the latter. The duty on "all other" spirits was 8 cents a gallon, and "all other" wines 10 cents a gallon.

In 1790, Madeira wine "of the quality of London particular," and Sherry are mentioned; in 1792, Saint Lucar, Lisbon, Oporto, and Teneriffe wines appear; in 1795, Malaga, Burgundy, and Champagne first appear, and in 1800, Malmsey, Reinish, Tokay, and Claret are mentioned for the first time.

Brandy was not named separately, apart from spirits, until 1842.

The Wines of California—1771-1912.

The introduction of the European vines into California dates back to 1771. It was first brought from Spain by way of Mexico by the Catholic missions. The Mission of San Gabriel at Los Angeles planted the first vineyard, and the planting of vines extended from mission to mission, until vineyards of from 5 to 30 acres stretched from San Diego to Sonoma. They had but one variety, which is still largely grown and known by the name of Mission. A Mission vine planted at Montecito, California, in 1795 was exhibited at the Centennial Exposition in Philadelphia. It was 18 inches in diameter, and in one season had produced over 5 tons of grapes. The vineyard labor was performed by the native Indians. All the missions grew this one variety, which produced from 700 to 1,000 gallons of wine to the acre, and practically all was consumed in the neighborhood. There were no facilities for export, neither were there casks nor bottles. The wine was fermented in cemented cisterns, where it was allowed to remain, or was drawn into hides or earthenware jars.

With the downfall of the Spanish power in Mexico, the California missions waned, and with them viticulture declined also. In 1845 the missions were abolished and confiscated, and the Americans when they came into possession found both missions and vineyards in ruins.

According to the sugar retained by the arrest of fermentation, wines are divided into sweet and dry; according to color, into red and white, and according to the presence or absence of carbonic acid gas generated in fermentation and retained under pressure, into still and effervescing wines, such as champagne. The presence or absence of sugar contained in grapes when used for wine making is influenced by many conditions, such as the variety of the grape, soil, climate, and the vicissitudes of the season, and will vary from 15 to 25 per cent. In fermentation, sugar is converted into alcohol, and for the sweet wines the grapes with the largest percentage of sugar are selected. Before enough of the sugar is fermented out to convert the juice into a dry wine, grape brandy is added to give the requisite alcoholic strength and to arrest fermenta-

tion. Red wines are made from grapes with colored skins which are fermented with the juice, which in the heat of fermentation extracts the coloring matter. White wines are usually made from distinct types of light-colored grapes fermented without the skins.

In 1850, 58,055 gallons of wine were produced by two counties—Los Angeles 57,355 gallons and Santa Barbara 700 gallons; and in 1860 246,518 gallons were made in the State.

At the annual exhibition of the Californ State Agricultural Society of Marysville in 1858 a wine was exhibited made from the natural California grape, which grew in great luxuriance on the banks of the Feather River, and was called the California Frost Grape, and the committee on wines pronounced it very good. The number of grapevines in the State at this period began to increase rapidly. In 1856 the numbers were 1,540,134; 1857, 1,265,062; and in 1858, 3,954,548.

In 1859 Colonel Haraszthy wrote a comprehensive and interesting article on vine cultivation and wine making, which was given wide circulation by the State Agriculture Society, and did much to encourage and promote the wine industry.*

In 1861, as a member of the Commission on Viticulture appointed by the legislature, Colonel Haraszthy visited the famous wine districts of Europe and purchased 100,000 vines, embracing about 1,400 different varieties, which were propagated at Sonoma. Cuttings from these vines were distributed among the growers in different parts of the State. From that time the manufacture of wine in California has had a continuous and marvelous growth, interrupted only by the depreciation of prices in certain years.

In 1870, 1,814,656 gallons of wine were produced on farms, the three leading counties being Los Angeles, 531,710 gallons; Sonoma, 308,496 gallons; and Santa Clara, 85,150 gallons. In addition, 139 wineries, with a capital of \$658,420, produced wine of the value of \$602,553, but the quantity is not stated.

Between 1870 and 1875, there was a great increase in the acreage of vineyards. This caused an overproduction of wine, which was followed by ruinous depreciation in prices. Many vineyards were uprooted, and the land devoted to other uses. In 1870 there were 139 wineries; in 1880, the number had fallen to 45. The large vineyardists, however, continued to improve their properties, and by 1879, as a result of the growing demand for California wines, consumption had overtaken production, and prices advanced. Since 1880 the progress of wine manufacture has been continuous.

In 1890 the vintage had increased to 14,626,000 gallons, the five largest producers being Napa, 3,000,000 gallons; Santa Clara, 2,260,000 gallons; Sonoma, 1,756,300 gallons; Los Angeles, 1,342,800 gallons, and Fresno, 1,200,000 gallons. In 1900 the production was 8,433,000 gallons of sweet wines and 15,000,000 of dry wines, or a total of 19,983,000 gallons.

In the production of wine, it is not possible to arrive at the totals for each year as given in the Census reports, owing to different classification. The quantities given above are for wines "made on farms," the wines made in wineries being included in separate returns under the head of

*Transactions of the State Agricultural Society, 1859, pages 311-329.

“Manufactures,” where the value of the product, instead of the quantity, is stated. The figures are as follows:

Wine Made in Wineries.

Year.	Establishments.	Capital.	Cost of material.	Value of product.
1850				
1860	11	\$173,000	\$53,030	\$160,300
1870	139	658,420	203,631	602,553
1880	45	639,600	292,075	622,067
1890	128	3,729,413	840,222	1,738,863
1900	187	4,658,625	2,526,768	3,937,871
1910	181			8,936,848

For 1900, the following additional figures are given:

Pounds of grapes used	320,398,267
Cost	\$2,160,655
Still wine, gallons	19,019,378
Value	\$3,817,582
Effervescing wine, gallons	8,880
Value	\$27,220

NOTE.—Only 169,055 gallons of effervescing wine were made in the United States in 1900.

Great Wine Grape Vineyards.

Some of the California vineyards are now the largest and best cultivated in the world. In the southern part of the State there is the large vineyard of the Italian Vineyard Company, in San Bernardino County, comprising 3,200 acres of all the best varieties, including Alicante Bouchet, Zinfandels, Burger, Folle Blanche, and a dozen others. In central California there is the Wahtoke vineyard near Reedley in Fresno County of 3,631 acres, with 2,500 already planted and in bearing and containing some twenty of all the leading varieties; and in northern California there is the Vina vineyard in Tehama County, with 1,500 acres, mostly in Zinfandel and Burger. These are the most important vineyards in the State.

Largest Wine Producing Countries.

The largest wine producers and consumers in the world are France and Italy in Europe, and Argentina in South America. The total area under wine grapes in Italy is over 11,000,000 acres; in France about 4,000,000 acres, and in Germany about 280,000 acres. The Argentina vintage in 1912, according to the Minister of Agriculture, was 107,800,000 gallons, producing from 1,345,000,000 pounds of grapes. The bulk of this enormous output, as in France and Italy, is consumed at home.

Area of Vineyards and Production of Wine in Specified Countries, 1911-1912.

(From a report of the International Institute of Agriculture.)

Country.	Area.		Production (wine).	
	1912. Acres.	1911. Acres.	1912. Gallons.	1911. Gallons.
Italy	11,008,305	11,063,161	1,162,848,000	1,126,793,360
France	4,148,663	4,156,501	1,567,559,288	1,185,740,254
Spain	3,123,356	3,187,533	369,838,000	389,572,846

Consumption of Wine and Other Liquors.

The production of wine, both in quantity and quality, varies considerably from year to year in all countries, grapes depending almost more than any other crop upon weather conditions. France is the largest producer in the world, followed closely by Italy. In all wine countries the domestic consumption is large, in France amounting to 33 gallons per capita, in Italy 25.10 gallons, and Spain ranks next with rather more than 18 gallons. In English-speaking countries the consumption is very small. The production of wine in the leading foreign countries in Europe is enormous; both France and Italy produce upwards of a billion gallons in some years. Much of this is of a very inferior character, and is consumed at home.

There is no reliable data available regarding the production of the various kinds of dry wine, but since 1890 the exact figures for sweet wines and brandy have been recorded, and are here given, so that a comparison can be made. The quantity of sweet wine has increased during the last twenty years from 1,083,000 gallons in 1891 to 18,850,000 in 1911, and in the season just closing for 1911-1912 the increase is by far the heaviest in the history of the industry, as it will probably exceed 22,000,000 gallons.

Port and sherry are the two leading wines, the former leading as a rule, but in some years the output of sherry comes to the front, as in 1902 and 1903; in the latter year the output of sherry was the largest ever produced, amounting to upward of 8,230,000 gallons. Muscatel and Angelica are the next favorites, followed by Malaga and Tokay.

The imports of foreign wines have remained steady during the last few years, the value being about \$10,000,000 annually; the figures for 1909-10 only show the results of imports rushed to escape the increase of duty fixed by the act of 1909. The value of domestic wines exported has not fluctuated much in recent years, but shows some improvement since 1911, the value being \$518,000, compared with \$224,000 in 1910.

California, Chili and Argentina together produce about 200,000,000 gallons of wine. Argentina in 1911 had 304,825 acres of vines, producing a little over 100,000,000 gallons of wine, valued at \$40,000,000. Chili and California each produced about half of the remainder. California has about the same acreage of vineyards as Argentina, but, while that of the latter consists almost entirely of wine grapes, California produces large quantities of raisins and shipping grapes, which accounts for its smaller wine production. Small quantities of wine are produced in the United States east of the Rockies, in Mexico, Peru, Southern Brazil, and several other Central and South American countries.

It is acknowledged that the best wines of California and of South America are equal to those produced in Europe. California grows the principal wine grapes of France, Italy, Spain, Portugal and Germany, and the variety of types of wines produced is unequalled by any country in the world. Conditions suitable for the growth of any variety, including the American varieties of the eastern states, are found here.

Surplus table and shipping grapes are used for the manufacture of wine, but the qualities desirable in a shipping grape differ from those of a good wine grape and the product is inferior. They are more suitable for making brandy, which is their principal use. Surplus raisin grapes are used for the same purposes, but the quality is somewhat

better. Large quantities of sweet wine and brandy are made from the Muscat of Alexandria and form a special type of their own.

The great bulk of all the dry and sweet wines and of the brandy is made from a special wine grape which are unsuited for other purposes.

Wine Districts of California.

It is usual to classify the wine-producing areas of California into "Dry wine districts" and "Sweet wine districts." Those included in the former are situated principally in the valleys and hills of the counties of the Coast Range, from Mendocino to San Diego. The great central valleys of Sacramento and San Joaquin, from Shasta to Kern, constitute the latter. While this classification corresponds fairly accurately with the practice of the wine-makers and with the nature of their actual products, it is not quite logical, as both sweet and dry wines can be made in nearly, if not all, the grape-growing districts of California, and if justified by the demand of the market, all the wine grapes of California could be used for the manufacture of good dry wine.

A more rational classification would be into fine wine and bulk wine districts. This would be a very difficult classification to make, however, as the areas would not correspond to any geographical districts.

Fine wines are made on the warm, well drained slopes of the Coast Ranges, of hills in similar situations in the foothills of the Sierra and in favored locations in valley and plain where the physical conditions of the soil resemble those of the hill slopes. The quality of the wines may be equal in all these locations, though the character will differ widely, according to the climate and to the variety of grapes grown.

In the cooler and later parts of the northern and central grape growing regions of the coast counties, the lightest dry wines, resembling the Rhine, Moselle, Champagne and Medoc types are made. In the warmer parts of these same regions and in favored locations in the Sierra foothills and southern California, wines resembling Chablis, Burgundy, Hermitage, Sauternes and the fine wines of Italy are made. By a careful choice of varieties and methods, fine wines of dry Sherry or Madeira type can be made throughout the hotter regions.

Bulk, or cheap wines, can be made anywhere that the soil, water and climate favor the production of large crops. This includes the rich valleys both of the coast and of the interior. The bulk wines of the coast tend to be too high in natural acidity and low in alcohol; those of the interior with abundant alcohol are usually deficient in acidity. These opposite defects are mutually complementary and by judicious blending, either of the grapes before or of the wines after fermentation, good standard wines can be produced very cheaply.

Wine Grapes Used in California.

Practically all the principal wine grapes of Europe have been introduced into California and tested. About four fifths of the wine, both dry and sweet, however, is made from about a dozen varieties, and between forty and fifty will include over 95 per cent of the wine grapes.

The Zinfandel is the typical red wine grape of California and is grown in larger quantities than any other. From it the bulk of all dry and sweet red wines is made. The proportion of Zinfandel, however, tends to diminish in newer plantings. Other red wine varieties

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largely planted are Carignane, Petit Sirah, Mataro, Petit Bouschet, Alicante Bouschet, Grenache, Blue Elbling and Charbono. The commonest white wine grapes are Burger, Colombar, Palomino, Green Hungarian, Feher Szagos and Muscat of Alexandria. Of table and raisin grapes, used largely for wine making, the principal are, besides the Muscat, Flame Tokay, Malaga, Sultanina (Thompson's Seedless) and Verdal.

The fine wines are made principally of Petite Sirah, Colombar and Semillon, though a large number of other fine varieties are used in varying amounts.

The yield of average vineyards varies from one or two tons per acre to eight or ten. This difference depends principally on the soil and climate and on the methods of the grape grower. Some varieties have the reputation of being heavy bearers and some of being light. The differences, however, are more those of proper adaptation to conditions and the use of proper viticultural methods. A variety, such as the Semillon, with a reputation as a light bearer, may produce seven or eight tons to the acre, if planted in a suitable location, and properly pruned and cultivated. A variety such as the Burger owes its reputation for heavy bearing to the fact that it will bear in almost any location and however unskillfully it is treated. Practically all varieties producing fine wines require great care in selection of cuttings, suitable soil and climate and skilled treatment by the cultivator. Varieties recommended for various purposes in various regions are given below:

Wine Grapes Recommended for California.

FOR COOLER REGIONS.

Fine wines of Rhine type: Franken Riesling, Johannisberger, Traminer.

Fine wines of Sautern type: Semillon, Colombar, Sauvignon blanc.

Fine wines of Chablis type: Marsanne, Chardonay, Peverella.

Bulk white wines: Palomino, Green Hungarian.

Fine wines of Medoc type: Cabernet Sauvignon, Beclan, Blue Portuguese, Verdot, Merlot.

Fine wines of Hermitage type: Petite Sirah, Mondeuse, Tannat.

Bulk red wines: Zinfandel, Carignane.

FOR WARMER REGIONS.

Fine white wines: Franken Riesling, Johannisberger, Vernaccia Sarda, Marsanne.

Bulk white wines: Burger, Folle blanche, West's White Prolific.

Fine red wines: Valdepeñas, St. Macaire, Lagrain, Gros Mansenc, Barbera, Refosco.

Bulk red wines: Zinfandel, Alicante Bouschet.

FOR SWEET WINES.

Fine white: Furmint, Beba, Boal.

Bulk white: Palomino, Perruno, Mourisco, Branco.

Fine red: Trousseau, Tinta Madeira.

Bulk red: Grenache, Mission, Monica, California Black Malvoisi Tinta Amerella, Alicante Bouschet.

Muscat: Muscat of Alexandria, Frontignan.

Some varieties, such as the Riesling, give fine wines, though of different character, wherever they are planted. Others produce a fine wine in one locality and a poor wine in another. The Cabernet Sauvignon produces a fine wine in the cooler regions and a harsh disagreeable wine in the hot regions. The Valdepeñas produces a better wine in the hot interior than in the Coast ranges.

Most of the varieties recommended for bulk wines are capable of yielding fine wines under favorable conditions when blended with a sufficient quantity of finer varieties.*

According to the quantity of sugar retained by the arrest of fermentation, wines are divided into sweet and dry; according to color, into red and white, and according to the quantity of carbonic acid gas generated in fermentation and retained under pressure, into still and effervescing wines, such as champagne. The quantity of sugar contained in grapes used for wine making is influenced by many conditions, such as the variety of the grape, soil, climate, and the vicissitudes of the season, and will vary from 13 to 30 per cent. In fermentation, sugar is converted into alcohol, and for the sweet wines the grapes with the largest percentage of sugar are selected. Before enough of the sugar is fermented out to convert the juice into a dry wine, grape brandy is added to give the requisite alcoholic strength and to arrest fermentation. Red wines are made from grapes with colored skins which are fermented with the juice, and from which the alcohol formed by the fermentation of the sugar absorbs the coloring matter. White wines are usually made from distinct types of light-colored grapes fermented without the skins.

The production of sweet wine during 1911 constituted a record, the quantity of the different varieties up to the close of the year being as follows:

	Gallons.
Port	9,522,237
Sherry	8,559,872
Angelica	2,609,518
Muscatel	2,247,219
Malaga	327,172
Madeira	119,781
Tokay	81,645
Total	23,467,444

The production of wine and brandy is given for the fiscal year ending June 30th, but as almost all the wine is made in the fall of the year, the vintage is really that of the previous year. For example, the complete 1912 vintage, will appear under the year ending June 30, 1913.

Sparkling Wines.

The manufacture of sparkling wines is now engaging the attention of the wine makers in California, and promises to be successful. The production of naturally fermented champagne in the bottle during the

*Professor Frederic T. Bioletti, of the University of California.

last three years has steadily increased, the total being estimated as follows:

	Bottles.
1911 -----	580,000
1912 -----	800,000
1913 -----	1,000,000

The bottling is done in the months of June and July of the following year. The increase in the output is largely due to the heavy bottling of the Italian Swiss Colony during the past ten years. Last year they filled 400,000 bottles of Golden State Champagne, which is the brand they will offer during the Exposition year, and this year it is expected that 600,000 bottles will be filled at Asti.

The quantity of sweet wine made in other states is very small, the number of gallons produced being as follows:

Sweet Wines Produced In Other States.

	Port.	Sherry.	Sweet catawba.	Scuppernong.	Total.
New Jersey -----	8,826		2,360		11,186
New York -----	164,609	5,028	425,372		595,009
North Carolina -----				54,102	54,102
Totals -----	173,436	5,028	427,732	54,102	660,297

Prices of Wine Grapes.

The prices paid for grapes varies considerably according to the varieties and districts. The average price for standard wine grapes, such as Zinfandel, in the bay counties were in 1911 \$14 per ton, and in 1912 \$15 per ton, but for special varieties, such as Petit Sirah, Serene, Mondeuse, Cabernet, etc., as high as \$20 was paid.

In Fresno County in 1911 the price paid for average sweet wine grapes (not including muscats) was \$10 per ton, and in 1912 from \$5 to \$6 per ton.

In other parts of the San Joaquin Valley, and the Sacramento Valley, \$9 per ton was paid for average wine grapes in 1911, and as high as \$11 for special varieties. In 1912, standard grapes were \$6 per ton, and for special varieties, or under contract, as high as \$10 per ton.

California Brandy.

From the years 1863 to 1877, the amount of brandy produced from grapes, apples, and peaches was not given separately in the internal revenue returns, but was included in spirits distilled from other materials.

The following summary shows that almost all the brandy made in the United States is produced by California:

Total Fruit Brandy Produced in the United States, 1891-1913.

For the fiscal year ended June 30th—	Production of fruit brandy, including apple, peach, and grape. Tax, gals.
1891	1,804,712
1892	3,667,465
1893	2,358,548
1894	2,948,159
1895	1,960,176
1896	3,403,852
1897	1,813,427
1898	2,906,198
1899	3,097,769
1900	3,760,487
1901	4,047,602
1902	4,220,400
1903	6,430,673
1904	5,193,262
1905	5,448,584
1906	4,444,072
1907	6,138,305
1908	6,899,823
1909	6,440,857
1910	7,170,212
1911	7,316,488
1912	8,721,693
1913 (estimated)	7,373,013

Under the provisionse of "An act to reduce revenue and equalize duties on imports, and for other purposes" approved October 1, 1890, provision was made for the fortification with grape brandy, free of tax, of pure sweet wine, and of wine intended for exportation. Since that year, exact returns have been kept by the Internal Revenue Department of the quantity of the various kinds of wines produced, and the amount of brandy used for fortification.

Brandy from Other Fruits.

Brandy is also produced from other fruits, and until 1908 was shown separately as grape brandy in the internal revenue returns; since then, all brandy is included under the head of "fruit brandy." The quantity, however, is not large; in 1908, the last year the varieties are shown separately, fruit brandy other than grape brandy was only 94,558 gallons, while grape amounted to 5,367,489 gallons.

Variety and Quantity of Fruit Brandy.

	Gallons.
Prune	60,594
Peach	21,210
Pear	9,339
Apricot	2,178
Apple	897
Orange	280
Fig	30
Berry	30
Total	94,558

The production of brandy during the last twenty years has also greatly increased; in 1891, the quantity amounted to 1,474,876 gallons, and in 1912 to 7,373,013 gallons; considerably more than one half of this is used for fortifying the sweet wines, the amount used for this purpose in 1912 amounting to 4,469,707 gallons.

SUMMARY OF CALIFORNIA VINTAGES, 1866-1913.

(For the fiscal year ending June 30th.)*

Year.	Sweet wine, gallons.	Dry wine, gallons.	Total wine, gallons.	Brandy used for fortifications.
1851-65				
1866			2,250,000	
1867			2,500,000	
1868			4,000,000	
1869			3,000,000	
1870			3,800,000	
1871			4,500,000	
1872			3,000,000	
1873			2,500,000	
1874			4,000,000	
1875			4,000,000	
1876			4,000,000	
1877			4,000,000	
1878			5,000,000	
1879			7,000,000	
1880			10,200,000	
1881			8,000,000	
1882			9,000,000	
1883			8,500,000	
1884			10,000,000	
1885			11,000,000	
1886			18,000,000	
1887			15,000,000	
1888			17,000,000	
1889			15,500,000	
1890			14,626,000	
1891	1,083,274	18,900,000	19,983,274	193,557
1892	2,746,655	12,200,000	14,946,655	695,844
1893	2,652,480	22,000,000	24,652,480	617,598
1894	4,724,595	9,200,000	13,924,595	1,112,794
1895	4,242,600	13,700,000	17,942,600	1,018,483
1896	6,084,009	10,900,000	16,984,009	1,484,887
1897	4,968,339	11,400,000	16,368,339	1,174,466
1898	7,024,372	24,400,000	31,424,372	1,688,949
1899	7,779,031	11,200,000	18,979,031	1,860,721
1900	8,433,383	15,000,000	23,433,383	2,063,093
1901	9,177,560	13,000,000	22,177,560	2,220,659
1902	9,301,353	33,600,000	42,901,353	2,292,721
1903	16,059,747	18,500,000	34,559,747	4,011,865
1904	13,571,845	16,000,000	29,571,845	3,329,804
1905	13,161,198	18,000,000	31,161,198	3,260,421
1906	11,502,309	29,000,000	40,502,309	2,996,998
1907	15,657,572	26,800,000	42,457,572	3,962,353
1908	16,491,169	27,700,000	44,191,169	4,233,977
1909	14,368,025	33,900,000	48,268,025	3,678,376
1910	18,086,868	27,400,000	45,486,868	4,702,865
1911	18,850,167	26,000,000	44,850,167	4,951,640
1912	22,491,772	25,000,000	47,491,772	6,153,181
1913 (estimated)	17,719,113	22,000,000	39,719,113	4,469,707

*The above figures for sweet wine and brandy are exact; the amount of dry wine can only be estimated, as no complete records are kept. Wines being made in the fall, the vintages belong to the previous year, thus the vintage for the year ending June 30, 1913, was made from August to December, 1912.

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Production of Sweet Wines by Vintages, 1891-1912.
(For the fiscal year ending June 30th.)

	1891.	1892.	1893.
Angelica -----	182,208	379,964	339,590
Malaga -----	3,248	62,000	
Muscatel -----	106,922	145,735	353,299
Madeira -----			
Port -----	663,668	1,723,744	1,535,227
Sherry -----	124,837	423,383	424,138
Sauterne* -----		5,588	
Sweet Catawba -----		555	226
Tokay -----	2,391	5,686	
Fractional gallons -----			
Totals -----	1,083,274	2,746,655	2,652,480
	1894.	1895.	1896.
Angelica -----	386,860	364,297	466,156
Frontignan -----		6,133	6,327
Lenoir -----		949	6,081
Malaga -----	42,929	2,795	2,906
Muscatel -----	400,064	188,437	863,227
Madeira -----			
Port -----	2,808,832	2,809,762	2,613,734
Sherry -----	1,084,714	1,370,284	2,118,942
Tokay -----	1,193		6,634
Fractional gallons -----	3	3	2
Totals -----	4,724,595	4,242,600	6,084,009
	1897.	1898.	1899.
Angelica -----	330,032	748,686	438,419
Frontignan -----	9,020		3,048
Malaga -----		11,614	14,267
Muscatel -----	960,897	721,556	819,105
Madeira -----	2,269		
Port -----	1,670,495	3,158,545	3,441,592
Sherry -----	1,994,649	2,872,197	3,053,163
Tokay -----	974	11,772	9,433
Fractional gallons -----	3	2	4
Totals -----	4,968,389	7,024,372	7,779,031
	1900.	1901.	1902.
Angelica -----	870,195	548,095	465,104
Malaga -----	975		
Muscatel -----	868,388	1,611,116	1,909,485
Madeira -----		901	
Port -----	3,949,681	4,407,250	2,854,477
Sherry -----	2,697,682	2,597,377	4,069,538
Tokay -----	46,508	12,819	2,749
Fractional gallons -----	4	2	
Totals -----	8,433,383	9,177,560	9,301,353

*See note on page 183.

Production of Sweet Wines—Continued.

	1903.	1904.	1905.
Angelica -----	887,238	1,029,404	1,187,683
Malaga -----		81,136	18,847
Muscatel -----	1,741,952	721,033	1,398,532
Madeira -----			5,530,310
Port -----	5,171,103	7,630,881	5,011,744
Sherry -----	8,233,871	4,109,075	14,080
Tokay -----	25,580	316	2
Fractional gallons -----	3		
Totals -----	16,059,747	13,571,845	13,161,198
		1906.	1907.
Angelica -----		566,604	1,009,600
Malaga -----		8,098	11,899
Muscatel -----		933,647	1,484,447
Madeira -----			
Port -----		5,322,203	7,708,226
Sherry -----		4,648,305	5,443,397
Tokay -----		23,448	
Fractional gallons -----		4	3
Totals -----		11,502,309	15,657,572
	1908.	1909.	1910.
Angelica -----	1,513,534	919,540	1,361,290
Lenoir -----	452		
Malaga -----	216,390	73,518	81,175
Moselle* -----	3,488		
Muscatel -----	2,449,211	2,242,412	1,767,387
Madeira -----	13,316	51,716	2,785
Port -----	6,015,052	5,859,630	9,051,017
Sherry -----	6,267,323	5,189,598	5,690,080
Tokay -----	12,400	31,607	133,132
Fractional gallons -----	3	4	2
Totals -----	16,491,169	14,368,025	18,086,868
	1911.	1912.	1913. estimated.
Angelica -----	1,241,431	2,609,518	1,640,738
Malaga -----	223,739	327,172	184,308
Muscatel -----	1,087,411	2,247,219	2,070,827
Madeira -----	363,455	119,781	48,714
Port -----	9,780,864	9,522,237	8,132,409
Sherry -----	5,955,886	8,559,568	5,613,383
Sweet Catawba -----	9,497		
Tokay -----	187,882	81,645	28,725
Fractional gallons -----	2	4	4
Totals -----	18,850,167	23,467,444	17,719,113

*See note on page 183.

SUMMARY OF WINES PRODUCED BY VARIETIES, 1891-1913.

(Gallons.)

Year.	Angelica.	Frontignan.	Lenoir.	Madeira.	Malaga.
1891	182,208				3,248
1892	379,964				62,000
1893	339,590				
1894	386,860				42,929
1895	364,297	6,133	949		2,795
1896	466,156	6,327	6,081		2,906
1897	330,032	9,020		2,269	
1898	748,686				11,614
1899	438,419	3,048			14,267
1900	870,195				975
1901	548,095			901	
1902	465,104				
1903	887,238				
1904	1,029,404				81,136
1905	1,187,683				18,847
1906	566,604				8,098
1907	1,009,600				11,899
1908	1,513,534		452	13,316	216,390
1909	919,540			51,716	73,518
1910	1,361,290			2,785	81,175
1911	1,241,431			363,455	223,739
1912	2,609,518			119,781	327,172
1913	1,640,738			48,714	184,308

NOTE.—The wine is made in the fall of the previous year, which is the real date of the vintage, but the returns are made for the fiscal year ending June 30th.

SUMMARY OF SWEET WINE PRODUCED BY VARIETIES, 1891-1913.

(Gallons.)

Year.	Muscatel.	Port.	Sherry.	Sweet catawba.	Tokay.
1891	106,922	663,668	124,837		2,391
1892	145,735	1,723,744	423,383	555	5,686
1893	353,299	1,535,227	424,138	226	
1894	400,064	2,808,832	1,084,714		1,193
1895	188,437	2,309,702	1,370,284		
1896	863,227	2,613,734	2,118,942		6,634
1897	960,897	1,670,495	1,994,649		974
1898	721,556	3,158,545	2,372,197		11,772
1899	819,105	3,441,592	3,053,163		9,433
1900	868,388	3,949,631	2,697,682		46,508
1901	1,611,116	4,407,250	2,597,377		12,819
1902	1,909,485	2,854,477	4,069,538		2,749
1903	1,741,952	5,171,103	8,233,871		25,580
1904	721,033	7,630,881	4,109,075		316
1905	1,398,532	5,530,310	5,011,744		14,080
1906	933,647	5,322,203	4,648,305		23,448
1907	1,484,447	7,708,226	5,443,397		
1908	2,449,211	6,015,052	6,267,323		12,400
1909	2,242,412	5,859,630	5,189,598		31,607
1910	1,767,387	9,051,017	5,690,080		133,132
1911	1,087,411	9,780,864	5,955,886		187,882
1912	2,247,219	9,522,237	8,559,868		81,645
1913	2,070,827	8,132,409	5,613,388		28,725

NOTE.—The wine is made in the fall of the previous year, which is the real date of the vintage, but the returns are made for the fiscal year ending June 30th.

In 1892 5,588 gallons of Sauterne were reported, and in 1908 3,488 gallons of Moselle, but this is probably an error, as neither can be classed as sweet wines.

BRANDY.

(For fiscal year ending June 30th.)

Year.	Produced.	Number of fruit distilleries.		
		Used for fortification of sweet wines.	Registered.	Operated.
1863-77				
1878	178,544			
1879	69,340			
1880	129,086			
1881	240,124			
1882	381,825			
1883	223,977			
1884	200,732			
1885	312,197			
1886	329,679			
1887	673,610			
1888	864,704			
1889	913,481			
1890	1,072,306			
1891	1,474,876	193,557	288	284
1892	2,197,613	695,844	298	295
1893	1,642,284	617,593	292	286
1894	2,256,607	1,112,794	272	267
1895	1,677,082	1,018,483	270	268
1896	2,066,404	1,484,887	235	229
1897	1,439,285	1,174,466	239	237
1898	2,382,241	1,688,949	267	267
1899	2,775,164	1,860,721	238	232
1900	3,060,078	2,063,083	208	194
1901	3,194,544	2,220,659	222	212
1902	3,464,391	2,292,721	213	209
1903	5,614,215	4,011,865	230	223
1904	4,451,928	3,329,804	225	216
1905	4,602,133	3,260,421	224	225
1906	3,864,080	2,998,998	224	218
1907	5,367,489	3,962,352	209	201
1908	*6,388,076	4,233,977	216	193
1909	*5,971,171	3,678,376	206	202
1910	*7,170,212	4,702,863	203	201
1911	*7,316,488	4,951,640	211	195
1912	*8,721,693	6,153,181	192	202
1913	*7,373,013	4,469,707	192	181

*Including fruit brandy other than grape.

IMPORTS AND EXPORTS OF WINE AND BRANDY.

Wines Imported.

Year.	1 Champagne and other sparkling.		2 Still wine in casks.		3 Still wine bottled.		Total value of wines.
	Doz. qts.	Value.	Gallons.	Value.	Doz. qts.	Value.	
1851	117,229	\$655,108	5,852,510	\$1,470,811	143,487	\$233,360	\$2,359,279
1852	111,579	620,176	6,039,863	1,333,213	138,934	249,841	2,203,230
1853	145,211	880,712	6,742,678	1,778,390	191,464	416,529	3,075,631
1854	184,900	1,004,028	6,436,812	1,873,738	270,651	493,036	3,370,802
1855	157,717	909,922	4,669,729	1,641,078	310,967	566,330	3,117,330
1856	179,064	970,706	3,622,282	1,559,081	297,831	634,653	3,164,440
1857	210,474	1,148,469	5,336,391	2,448,913	331,436	676,823	4,274,205
1858	156,593	860,942	3,940,542	1,862,548	255,024	522,898	3,246,388
1859	246,186	1,385,760	5,022,765	1,687,404	260,698	534,964	3,608,148
1860			7,620,010	2,650,644	1,882,428	2,125,149	4,775,793
1861			4,416,583	1,790,805	1,190,829	1,347,870	3,138,175
1862			1,904,637	697,235	522,339	559,469	1,256,704
1863			3,862,706	1,172,055	736,429	967,884	2,139,939
1864 ¹							3,391,576
1865	107,786	768,513	2,477,249	986,675			1,755,188
1866	192,784	1,551,206	11,405,573	3,908,940			5,460,146
1867	155,033	1,269,327	7,919,912	3,150,281			4,419,606
1868	162,822	1,358,236	5,292,761	2,207,669			3,565,905
1869			6,698,682	2,478,126	323,228	2,289,393	4,767,519
1870			9,087,159	3,214,996	520,622	2,586,361	5,801,357
1871			9,553,156	3,228,177	484,570	2,545,146	5,773,323
1872			9,484,157	3,290,439	430,691	2,754,035	6,044,474
1873			9,836,442	3,584,766	455,260	2,866,982	6,451,748
1874			7,839,837	3,156,979	419,422	2,887,109	6,044,088
1875			6,731,593	2,842,622	401,849	2,708,652	5,551,274
1876			4,436,016	2,084,385	364,946	2,669,725	4,754,110
1877			4,192,630	1,889,871	309,995	2,236,889	4,126,760
1878			3,686,157	1,838,891	295,172	2,123,254	3,962,145
1879			4,080,938	2,054,700	298,715	2,284,833	4,339,533
1880			4,087,332	2,356,705	407,328	3,289,766	5,646,471
1881			4,370,947	2,743,669	457,257	3,928,067	6,671,756
1882			4,878,919	3,160,672	511,444	4,398,586	7,559,258
1883			6,187,520	3,939,278	643,176	6,040,348	9,979,626
1884	201,414	2,362,137	2,774,771	1,979,953	251,489	1,318,743	5,660,883
1885	228,580	2,834,816	3,419,532	2,241,682	239,381	1,199,205	6,275,708
1886	238,604	3,110,292	3,787,420	2,519,624	258,153	1,310,125	6,940,041
1887	255,656	3,382,907	3,383,593	2,345,565	253,132	1,327,613	7,056,085
1888	274,914	3,646,475	3,333,322	2,287,062	284,174	1,402,661	7,336,198
1889	315,870	4,254,413	3,078,554	2,126,548	260,026	1,325,811	7,706,772
1890	354,350	4,752,572	3,485,792	2,450,174	329,604	1,657,210	8,859,956
1891	400,084	5,615,872	3,860,503	2,641,816	348,666	1,749,372	10,007,060
1892	319,592	4,571,816	3,477,989	2,464,484	365,140	1,906,203	8,944,508
1893	374,124	5,579,054	3,525,625	2,505,024	413,860	2,121,275	10,205,353
1894	237,860	3,498,522	2,599,693	1,817,813	296,097	1,423,143	6,739,478
1895	257,757	3,807,961	2,789,153	1,945,347	296,779	1,430,229	7,183,537
1896	246,393	3,628,319	2,834,898	1,950,770	314,190	1,527,916	7,107,005
1897	228,628	3,348,004	2,997,952	2,039,250	309,281	1,475,211	6,862,465
1898	223,827	3,264,823	1,930,870	1,392,710	268,921	1,312,147	5,969,180
1899	262,871	3,668,791	2,253,226	1,573,573	274,873	1,347,842	6,590,206
1900	310,149	4,114,908	2,533,828	1,744,736	315,920	1,560,851	7,421,495
1901	311,078	4,589,494	2,785,850	1,942,322	373,832	1,687,420	8,219,236
1902	335,256	4,930,768	3,300,026	2,143,433	397,818	1,846,937	8,921,138
1903	407,944	5,861,639	3,753,211	2,292,297	440,869	2,095,360	10,249,296
1904	336,245	4,969,635	4,007,691	2,387,018	471,153	2,035,217	9,391,870
1905	371,811	5,723,764	3,973,919	2,352,485	488,773	2,165,672	10,241,921
1906	415,394	6,127,062	4,482,499	2,567,712	546,688	2,299,194	10,993,968
1907	419,403	6,228,281	5,213,458	2,966,154	636,938	2,614,346	11,806,781
1908	366,669	5,221,070	5,443,782	3,008,996	628,428	2,516,461	10,746,527
1909	436,628	6,863,785	5,747,056	2,838,232	650,861	2,574,596	12,276,613
1910	391,003	6,302,377	7,100,661	3,527,896	822,243	3,177,020	13,007,293
1911	218,495	3,566,824	4,812,787	2,638,039	596,521	2,326,750	8,531,613
1912	281,134	4,688,090	3,864,071	2,488,744	577,244	2,414,621	9,591,451

¹1860-63 and 1869-83 included in "Still wines bottled"; 1864 included in "Total wines."²1864 included in "Total wines"; 1865-68 including "Still wines bottled."³1860-63 and 1869-83 including "Sparkling wines"; 1864 included in "Total wines"; 1865-68 included in "Still wines unbottled."

Wines Imported in 1912.

Champagne and other sparkling wines.		Value of all wines in casks and bottles.	
Country.	Dozen quarts.	Country.	Value.
France -----	247,938	France -----	\$1,096,525
Germany -----	10,251	Germany -----	1,109,579
Other countries -----	22,945	Italy -----	1,170,497
(Value. \$4,688,090.)		Spain -----	741,844
		Japan -----	393,297
		Other countries -----	391,619
Total -----	281,134	Total -----	\$9,591,451

Duty on Imported Wines.

Wine containing more than 24 per cent of alcohol is classed as spirits and charged accordingly. Champagne and sparkling wines \$9.60 per dozen quarts, \$4.80 per dozen pints. Half pints \$2.40 per dozen. Bottles containing more than one quart to pay at the rate of \$3.00 per gallon on the excess. Still wines in casks, if containing 14 per cent or less of alcohol, 45 cents per gallon; above 14 per cent 60 cents per gallon. In bottles, per case of one dozen quarts, or two dozen pint bottles, \$1.85 per case. Bottles containing more than the above 6 cents per pint on the excess.

Brandy Imported.

(Duty, brandy and other spirits, \$2.60 per proof gallon.)

Year.	Proof gallons.	Value.
1851 -----	3,163,783	\$2,128,679
1852 -----	2,751,947	1,792,968
1853 -----	3,854,956	3,251,406
1854 -----	2,152,441	2,255,397
1855 -----	1,024,497	1,479,362
1856 -----	1,715,717	2,859,342
1857 -----	1,513,328	2,527,262
1858 -----	1,180,484	2,232,452
1859 -----	2,528,356	3,262,058
1860 -----	2,616,555	3,938,041
1861 -----	1,175,480	1,860,994
1862 -----	373,227	549,345
1863 -----	501,007	743,727
1864 -----	693,043	915,946
1865 -----	188,621	253,619
1866 -----	817,743	981,010
1867 -----	657,688	959,563
1868 -----	379,369	590,986
1869-83 (included in "spirits and cordials")		
1884 -----	506,681	1,263,803
1885 -----	503,945	1,227,556
1886 -----	432,611	1,117,237
1887 -----	421,141	1,091,456
1888 -----	416,899	1,119,327
1889 -----	400,089	1,076,265
1890 -----	461,257	1,217,913
1891 -----	443,278	1,139,315
1892 -----	333,234	829,883
1893 -----	326,303	918,165
1894 -----	201,433	568,458
1895 -----	313,327	813,882
1896 -----	250,704	690,761
1897 -----	337,595	911,721
1898 -----	137,902	395,758
1899 -----	219,968	626,875
1900 -----	244,100	696,540
1901 -----	290,301	843,318
1902 -----	316,222	911,419
1903 -----	348,878	1,000,997
1904 -----	390,988	1,104,410
1905 -----	403,386	1,139,129
1906 -----	470,433	1,286,270
1907 -----	629,333	1,687,473
1908 -----	592,382	1,523,842
1909 -----	764,244	1,961,170
1910 -----	716,259	1,899,021
1911 -----	409,242	1,018,382
1912 -----	509,286	1,316,081

Brandy Imported in 1912 from—

Country.	Proof gallons.	Value.
France -----	411,948	\$1,102,865
Other countries -----	97,238	153,166
Totals -----	509,286	\$1,316,081

Domestic Wines and Brandy.
(Exported.)

Year.	Casks.		Bottled.		Total value of wines.	Brandy proof gallons.	Value.
	Gallons.	Value.	Dozen bottles.	Value.			
1851-63 -----							
1864 -----	97,104	\$84,022			\$84,022		
1865 -----	51,572	69,247			69,247		
1866 -----	20,338	27,990			27,990		
1867 -----	31,288	43,078			43,078		
1868 -----	27,070	33,564			33,564		
1869 -----	*	24,181			24,181		
1870 -----	32,812	42,120			42,120		
1871 -----	19,217	26,444			26,444		
1872 -----	31,263	37,713			37,713		
1873 -----	46,715	48,202			48,202		
1874 -----	48,141	45,534			45,534		
1875 -----	45,039	50,308			50,308		
1876 -----	31,915	33,483			33,483		
1877 -----	57,408	40,632			40,632		
1878 -----	46,614	38,775			38,775		
1879 -----	46,224	49,775			49,775		
1880 -----	154,887	123,317			123,317		
1881 -----	68,181	69,915			69,915		
1882 -----	65,140	67,909			67,909		
1883 -----	80,973	77,280			77,280		
1884 -----	83,951	65,309	5,463	\$28,923	94,232		
1885 -----	79,733	62,574	6,487	32,725	95,299		
1886 -----	119,085	93,297	6,051	24,813	118,110		
1887 -----	282,607	191,672	4,426	23,499	215,171		
1888 -----	302,233	201,525	7,185	31,698	233,233		
1889 -----	372,350	236,488	7,311	33,000	269,488		
1890 -----	393,323	238,580	7,281	32,350	270,930		
1891 -----	543,292	319,085	11,409	52,392	371,477	136,529	\$111,657
1892 -----	655,795	371,344	14,834	67,686	439,030	216,696	178,294
1893 -----	708,558	369,893	11,128	51,654	421,547	123,518	90,731
1894 -----	802,192	380,588	13,813	63,860	444,448	361,653	291,022
1895 -----	1,125,297	545,708	13,919	56,202	601,910	100,719	94,324
1896 -----	1,339,090	581,827	17,147	69,460	651,287	89,259	87,294
1897 -----	1,389,375	629,270	16,794	69,444	698,714	11,815	12,640
1898 -----	1,623,103	682,028	9,672	46,721	728,749	24,886	39,455
1899 -----	1,498,078	624,315	Dozen quarts 10,973	52,015	676,330	20,944	29,299
1900 -----	1,408,859	575,665	9,854	49,927	625,592	80,259	83,698
1901 -----	1,117,858	461,560	9,901	43,013	504,573	15,323	28,176
1902 -----	929,900	407,345	10,952	42,980	450,325	24,077	30,174
1903 -----	678,150	290,552	5,232	24,624	315,176	18,117	19,213
1904 -----	896,643	403,557	6,066	33,136	436,693	70,193	44,119
1905 -----	839,386	355,215	5,800	23,242	383,457	21,171	18,217
1906 -----	789,526	326,335	5,596	25,215	351,550	5,145	8,553
1907 -----	560,147	251,353	4,404	20,128	271,481	14,172	22,496
1908 -----	438,676	195,160	6,278	30,830	225,990	2,750	4,900
1909 -----	415,891	181,516	3,839	19,902	201,418	14,718	12,362
1910 -----	501,348	193,597	5,962	31,314	224,911		
1911† -----	1,394,994				518,536		
1912† -----	957,120				366,260		

*Prior to 1864, stated as "Wines"; in 1869, the quantity is not stated. Brandy was included under "Alcohol" prior to 1891, and included in "All other spirits" after 1910.

†Not stated in detail after 1910. The quantity includes wines both in cask and bottles.

PART VI.

IRRIGATION.

Description of Irrigation Enterprises; Source of Water Supply; Cost of Irrigation; Irrigated Crops, and Orchards; Dry Farming; Irrigation Districts; Colorado River and Salton Sea; Tulare and Other Lakes; Summary of Agricultural and Irrigated Areas; Irrigation from Underground Waters; California Rivers and Creeks; Acreage of Irrigated Farms by Counties.

Farms and Irrigation.

In most sections of California there is usually sufficient rainfall for the maturing of some crops, although there are other sections where no crops can be grown without irrigation. The normal annual precipitation ranges from about 2 inches in the Imperial Valley in the southeastern part of the State to about 60 inches along the coast in the northwestern part.

Irrigation is practiced to some extent throughout the State, but the largest part of the irrigated land lies in the southern part of the Sacramento and the San Joaquin valleys, and in the northern part of the State.

In 24 of the 58 counties in the State more than half the farms are irrigated. Imperial County has the largest percentage of farms irrigated, 94.6, and Inyo County the next largest, 93.2 per cent. In both 1900 and 1910, the county for which the largest area of irrigated land was reported was Fresno, with an irrigated acreage of 402,318 compared with 283,737 in 1900. In Tulare County 265,404 acres were irrigated in 1910, and in five other counties the area irrigated exceeded 100,000 acres. The summary on page 192 shows that in 1910 existing enterprises were ready to supply water to 3,619,378 acres, or 955,274 acres more than were irrigated in 1909. The acreage included in projects exceeds the acreage irrigated in 1909 by 2,826,256 acres, which is more than twice the acreage brought under irrigation in the last decade. This acreage represents the area which will be available for the extension of irrigation in the next few years upon the completion of projects now under way and without new undertakings.

Description of Enterprises.

Name.	Acreage irrigated.	Per cent distribution.
United States Reclamation Service.....	400	*
United States Indian Service.....	3,490	0.1
Irrigation districts	173,793	6.5
Co-operative enterprise	779,020	29.2
Commercial enterprises	746,265	28.0
Individual and partnership enterprises.....	961,136	36.1
Totals	2,664,104	100.0

*Less than one tenth of one per cent.

Irrigation districts, co-operative enterprises and individual and partnership enterprises, which together supply about 72 per cent of the acreage irrigated, are all controlled by the water users. Commercial enterprises, the only other class in the State that irrigates any extensive acreage, supplies 28 per cent.

The United States Reclamation Service operates under the Federal law of June 17, 1902, providing for the construction of irrigation works with the receipt from the sale of public lands.

The United States Indian Service operates under various acts of Congress, providing for the construction by that service of works for the irrigation of land in the Indian reservations.

The Carey act or Federal law of August 18, 1894, granted to each of the states in the arid region 1,000,000 acres of land on condition that the state provide for its irrigation.

Irrigation districts are public corporations that operate under state laws providing for their organization and management, and empower them to issue bonds, and levy and collect taxes with the object of obtaining funds for the purchase or construction, and for the operation and maintenance of irrigation works.

Co-operative enterprises. These are controlled by the water users under some organized form of co-operation. The most common form is a stock company, the stock of which is owned by the water users.

Commercial enterprises supply water to parties who own no interest in the works. Persons obtaining water from such enterprises are usually required to pay for the right to receive water, and to pay, in addition, annual charges based in some instances on the acreage irrigated and in others on the quantity of water received.

Individual and partnership enterprises, belong to individual farmers or to neighboring farmers, who control them without formal organization. It is not always possible to distinguish between partnership and co-operative enterprises, as the difference is slight.

Source of Water Supply.

As in other states, streams are the principal source of supply of water for irrigating, but in California wells supply much more land than in any other state. Much land receives water from both sources, but most of this is credited to streams.

Source.	Acreage irrigated.	Per cent distribution.
Streams	2,246,722	84.3
Lakes	18,470	0.7
Wells	350,723	13.2
Springs	31,779	1.2
Reservoirs	16,410	0.6
Totals	2,664,104	100.00

The preceding figures show the extent to which underground water is utilized for irrigation in California. The flowing wells, of which there were 2,361, with a total capacity of 477,343 gallons per minute, irrigated 74,128 acres. The great majority of these wells are in southern California and the San Joaquin Valley, the land thus irrigated

being in Kern, Kings, Los Angeles, Orange, Riverside, San Bernardino, Santa Clara and Tulare counties. Of the 10,724 pumped wells, 5,248 were in the counties named and 4,503 in Fresno, Merced, Monterey, Sacramento, San Benito, San Diego, San Joaquin, and Ventura counties. The pumped wells in these two groups of counties irrigated 258,687 of the 276,595 acres irrigated by such wells in the entire State. Pumping from lakes and streams has also been practiced extensively in many sections of the State, 32,539 acres having been irrigated in this way in 1909.

The Cost of Irrigation.

The following summary shows the total cost of irrigation enterprises up to July 1, 1910, including construction of works and acquisition of rights, but not operation and maintenance, with the average cost per acre, based on the acreage the enterprises were capable of irrigating in 1910.

	1900.	1910.	Increase. Per cent.
Cost of irrigation enterprises-----	*\$19,181,610	\$72,580,030	278.3
Average per acre-----	†13.27	20.05	-----
Estimated final cost of existing enterprises-----		84,392,344	-----
Average per acre included in projects-----		15.37	-----

*Exclusive of those on Indian reservations.

†Exclusive of 242 acres in Indian reservation.

The cost of irrigation systems shows the largest increase of any item, amounting to 278.4 per cent. In the average cost per acre there was also a considerable increase compared with 1900. The large increased cost of irrigation enterprises is due in a considerable measure to the expensive equipment installed to secure a water supply and protect it from loss by seepage and evaporation, in sections where water is scarce and crop values are high. A number of large enterprises are under construction upon which considerable expenditures have been made, but which are irrigating little land as yet, making the average cost higher than the true average. The average based on the estimated final cost, and the acreage included in projects, \$15.37 per acre, probably more truly represents the average cost per acre of irrigation in California.

The county showing the lowest average cost per acre enterprises were capable of irrigating in 1910, \$1.29, is Mono, where much of the irrigated land consists of flooded pastures. The highest average cost per acre, \$368.40, is in Nevada County, where the unusual cost is due to the fact that many of the ditches now used for irrigation were originally constructed at heavy expense for mining purposes.

Irrigated Crops.

(From the Reports of the Bureau of the Census.)

The information relating to irrigated crops is to some extent incomplete; it shows, however, the relative importance of the different irrigated crops, and is sufficiently complete to afford reliable averages of yields and for comparison with totals for the State.

Acreage Yield.

Crop.	Total for state.	Irrigated.		Total for state.	On irrigated land.
		Amount.	Per cent of total.		
Cereals—				Bushels.	Bushels.
Corn -----	51,935	17,802	34.3	1,273,901	491,978
Oats -----	192,158	5,903	3.1	4,143,688	205,727
Wheat -----	478,217	22,603	4.7	6,203,206	408,706
Barley -----	1,195,158	77,785	6.5	26,441,954	1,844,971
Rye -----	7,027	107	1.5	70,683	1,265
Other grains and seeds—					
Alfalfa seed -----	8,761	2,570	29.3	23,791	5,911
Dry edible beans -----	157,987	11,384	7.2	3,328,218	244,624
Dry peas -----	2,959	290	9.8	57,468	9,902
Hay and forage—				Tons.	Tons.
Timothy alone -----	13,725	8,026	58.5	20,001	11,236
Timothy and clover mixed -----	46,661	20,880	44.7	73,183	34,177
Clover alone -----	8,519	1,176	13.8	20,380	2,689
Alfalfa -----	484,134	366,692	75.7	1,639,707	1,280,105
Other tame or cultivated grasses -----	92,556	6,504	7.0	122,103	10,656
Wild, salt or prairie grasses -----	253,127	153,672	60.7	281,033	189,964
Grains cut green -----	1,604,745	101,187	6.3	2,019,526	146,013
Coarse forage -----	25,868	7,593	29.4	60,611	19,151
Sundry crops—				Bushels.	Bushels.
Potatoes -----	67,688	32,735	48.4	9,824,005	5,180,006
Sugar beets -----	78,671	14,657	18.6	843,269	171,494
Orchard fruits -----	*	73,491	*		
Small fruits -----	9,687	6,876	71.0		
Tropical fruits -----	*	98,969	*		
Nuts -----	*	22,429	*		
Grapes -----	*	74,984	*		

*Agricultural returns only give number of trees, not acreage.

Acreage of Irrigated Crops.

Of the entire acreage of the crops in the preceding table, slightly less than one fifth is irrigated, the proportion irrigated varying widely for the different crops.

The cereals are very generally grown without irrigation, only 6.5 per cent of the total acreage of the cereal crops above given being irrigated. The hay and forage crops are more generally irrigated than the cereals, the irrigated acreage forming 26.3 per cent of the total for these crops, alfalfa being the highest, 75.7 per cent. Of the entire acreage for potatoes 48.4 per cent was irrigated, and that in small fruits 71 per cent.

Sugar beets are grown for the most part without irrigation in California, only 18.6 per cent of the total acreage of the crop being irrigated. While many of the crops irrigated are well distributed geographically, there is a tendency toward the concentration of certain crops in particular localities.

Irrigation Acreage in Orchards.

The following summary gives the counties having the largest acreage of the principal irrigated crops, with the proportions which each contains of the total irrigated acreage of these crops in the State:

Of the orchard fruits irrigated: Fresno County has 31.9 per cent; Placer, 14.8 per cent; Tulare, 8.4 per cent; Santa Clara, 6.5 per cent.

Of small fruits: Los Angeles County, 30.4 per cent; Santa Clara, 13.9 per cent; Sacramento, 10.9 per cent; Santa Cruz, 7.2 per cent.

Tropical fruits: San Bernardino County, 25.6 per cent; Los Angeles, 24.8 per cent; Riverside, 14.2 per cent; Tulare, 11.6 per cent.

Nuts: Orange County, 46 per cent; Los Angeles, 34.7 per cent; Ventura, 12.1 per cent.

Grapes: Fresno County, 62.6 per cent; Tulare, 12.2 per cent; Kings, 6.2 per cent; Sacramento, 5.7 per cent.

Of the total irrigated acreage of fruit trees and vines not bearing in 1909, amounting to 59,031, 36.1 per cent was in Fresno County, 14 per cent in Tulare County, 8 per cent in Orange County, and 7.2 per cent in Los Angeles County.

SUMMARY OF IRRIGATED FARMS AND IRRIGATION ENTERPRISES IN 1900 AND 1910.

	1900.	1910.	Increase.	Per cent.
Number of farms in state.....	72,542	88,197	15,655	21.6
Number of farms irrigated.....	25,675	39,352	13,677	53.3
Acreage irrigated.....	1,446,114	2,664,104	1,217,990	84.3
Acreage enterprises were capable of irrigating in 1910.....	*	3,619,378		
Acreage included in projects.....	*	5,490,360		
Percentage of number of farms irrigated.....	35.4	44.6	9.2	
Percentage of improved land in farms irrigated.....	12.1	23.4	11.3	
Irrigation enterprises—				
Number of independent enterprises.....	*	13,970		
Total length of ditches (miles).....	*	21,129		
Number of main ditches.....	*	8,590		
Length of main ditches (miles).....	*	12,620		
Capacity of cubic feet per second.....	*	89,597		
Number of lateral ditches.....	*	6,143		
Length of lateral ditches (miles).....	*	8,509		
Number of reservoirs.....	*	1,583		
Capacity (acre feet).....	*	743,269		
Number of flowing wells.....	*	2,361		
Capacity, gallons per minute.....	*	477,343		
Number of pumped wells.....	*	10,724		
Capacity, gallons per minute.....	*	4,119,575		
Acreage irrigated with pumped wells.....	*	276,595		
Acreage irrigated with flowing wells.....	*	74,128		
Acres irrigated with pumped water from all sources, including lakes and streams.....	*	309,134		
Number of pumping plants.....	*	9,297		
Engine capacity, horsepower.....	*	128,143		
Pumping capacity, gallons per minute.....	*	5,276,298		
Total cost of irrigation systems.....	\$19,181,610	\$72,580,030	\$53,398,420	283.3
Average cost per acre.....	\$13 27	\$20 05	\$6 76	50.2

NOTE.—Reservoirs are those filled by collecting storm water, or from water courses that are usually dry. When reservoirs are filled from streams or wells the primary source is considered the source of supply. The "acre-foot" is the volume of water required to cover one acre to a depth of one foot or 43,560 cubic feet.

*Not reported in 1900.

Irrigation in 1910 Compared with the Year 1900.

The increase in irrigation during the last decade has been very large. The total number of farms irrigated was 39,352, against 25,657 in 1900, an increase of 13,677, or 53.3 per cent. The per cent irrigated of the whole number of farms was 44.6 per cent, compared with 35.4 per cent in 1900, showing an increase of 9.2 per cent during the ten years.

The total acreage irrigated in 1910 was 2,664,104 acres, against 1,446,114 acres in 1900, an increase of 1,217,990 acres, or 84.2 per cent. The total acreage which all enterprises were capable of irrigating in 1910 was 3,619,378 acres, an excess of 955,274 acres over the area irrigated in 1909. The area included in projects either contemplated or under construction in 1910 was 5,490,360 acres. This indicates in a general way the area which will be available within the next few years for the extension of irrigation, and shows that the area irrigated in 1910 can be more than doubled without the construction of additional works.

The number of independent enterprises in 1910 was 13,970. The total length of all ditches was 21,129 miles, of which there were 8,590 main ditches extending 12,620 miles, and 6,143 lateral ditches with 8,509 miles. The length of main ditches in 1900 was 5,106 miles, showing an increase in the ten years of 7,493 miles, or 146.7 per cent.

The number of reservoirs reported was 1,583, having a capacity of 743,269 acre feet.

The number of wells pumped for irrigation was 10,724, with a capacity of 4,119,575 gallons per minute. The number of pumping plants was 9,297, with an engine capacity of 128,143 horsepower and a pumping capacity of 5,276,298 gallons per minute. The flowing wells numbered 2,361, with a capacity of 477,343 gallons a minute.

The total cost of irrigation systems in 1910 was \$72,580,030, against \$19,181,610 in 1900, an increase of \$53,398,420, or 278.3 per cent.

The average cost per acre was \$20.05 in 1910, against \$13.27 in 1900.

Dry Farming.

The United States Government is not only interested in settling its irrigated lands, but also in developing all parts of its territory, and for this reason the various bureaus of the Department of Agriculture have been studying the soils of the West and also scouring the world to find crops suited for these regions. Dry farming is meeting with a certain amount of success in various parts of the country, and the combined efforts of all of these endeavors to make fertile and productive these lands will result in an era of unprecedented prosperity for the entire West.

The Orland Project. This project is in the Sacramento Valley, and includes about 14,000 acres in Glenn and Tehama counties, principally in the former. The canals of the Lemon Home and Stony Creek Irrigation Companies have been purchased, and together with storage on Stony Creek, assume a continuous supply of water. The present boundaries may be extended in the future, as surveys have been completed for the Iron Canyon Reservoir on the Sacramento River above Red Bluff, which, if completed, will furnish water to large areas in Shasta, Butte, Tehama, and Glenn counties.

Yuma or Laguna Project. This project is principally in Arizona, but will cover about 17,000 acres in the Colorado desert in Imperial County.

The Laguna dam is situated on the Colorado River about twelve miles above Yuma, and diversions will be made to both sides. The land on the California side is included in the Yuma Indian reservations, and all but 4,000 acres, reserved for the Indians, is open to bona fide settlers. The dam was completed in April, 1909, and water is now being carried through the canals.

Klamath Project. This covers land in Oregon and California, and is largely a drainage proposition in California, being the reclamation of swamp land surrounding Lower Klamath Lake, and the lowering of the water level in Tule Lake in Siskiyou and Modoc counties.

Irrigation Districts.

Modesto District. This district lies entirely in Stanislaus County, between the Tuolumne and Stanislaus rivers, and contains 81,143 acres of valley land. The irrigated area is increasing rapidly, and during 1909 more than 22,000 acres were served by the canals.

Turlock District. This district lies just across the Tuolumne River from the Modesto district, and extends southwest to the Merced River. It includes nearly all the valley land between these two streams in Stanislaus and Merced counties, and comprises 176,210 acres. It was opened in 1901, and nearly 52,000 acres were irrigated in 1909.

Alta District. This district is located in Fresno, Tulare, and Kings counties, and covers 130,000 acres extending from the east and south bank of the Kings River to the Sierra foothills. It was organized in July, 1888, and the 1876 canal system was purchased to supply the water. The company did not have an early right on Kings River, and the water is cut off usually in July, but receives it again in October and November by agreement with the earlier appropriators. About 80,000 acres are under irrigation, mostly around Reedley and Dinuba.

Tulare District. This district was organized in June, 1889. It obtains water from the Kaweah and St. John rivers in Tulare County, and includes 37,400 acres, of which 12,000 were irrigated in 1909. Water rights are similar to those in the Alta district, and pumping is resorted to during the summer to augment the supply.

South San Joaquin and Oakdale Districts. These districts were organized in 1909. The South San Joaquin district includes about 71,000 acres on the north side of the Stanislaus River, and the Oakdale district includes 65,000 acres lying on both sides of the river.

Private Irrigation Systems.

The following are a few of the most important of the very large number of private systems in various parts of the State:

California Development Company. This company diverts water from the west bank of the Colorado River close to the Mexican border. Its main canal passed through a portion of the Mexican territory of Lower California, where about 100,000 acres are served. It enters the State again at about sea level, and covers about 400,000 acres, mostly below sea level, in the Imperial Valley, of which upward of 225,000 acres are irrigated. The company does not own any of the land, most of which has been taken up under the Desert Land Act. The company has organized the farmers on the main laterals into mutual companies, each

of which controls its own separate system and elects and appoints its officials.

San Diego Flume Company. This system, which is typical of the coast region of southern California, irrigates about 7,000 acres to the north and east of the city of San Diego from the San Diego River and the storage reservoirs. The main reservoir, known as the Cuyamaca, is on the headwaters of Boulder Creek, at an elevation of 4,600 feet, and has a capacity of about 12,250 acre feet. The water is diverted from San Diego River at the mouth of Boulder Creek twelve miles below the reservoir and carried to the irrigated orchards by means of a 4 by 6 foot wooden flume thirty-five miles long. There are five tunnels and numerous high trestles along the route. The San Diego River is dry for four or five months in the year, at which time the stored water is used.

Riverside Water Company and Gage Canal Company. These two systems serve the valuable lands between the south bank of the Santa Ana River and the hills from the section east of Colton through the Riverside district in San Bernardino and Riverside counties, but are in no way connected with each other. The former company covers the lower lands, while the latter furnishes water to those nearer the foothills, including Arlington Heights. The Riverside Water Company was organized by the irrigators under it with 24,000 shares of stock, two shares being held for each acre, 12,000 acres being the limit of service. In 1908, 9,050 acres were irrigated, nearly two thirds of which were in orange orchards, and the greater part of the balance in alfalfa. The main canal is lined with concrete cement, and the distributary system is largely pipe lines, conveying water to the highest point on each ten acres. The value of the entire system, which includes the municipal supply of Riverside, is estimated at \$2,500,000, the irrigating portion alone being valued at nearly \$1,000,000.

The Gage Canal Company diverts water from the Santa Ana River; its flow is largely augmented during the summer by numerous artesian wells and pumping plants. About 9,500 acres were irrigated in 1907, mostly orange orchards, but the system will cover 2,000 acres more. This is probably the most highly-developed system in the United States, no expense being spared to prevent seepage loss or to give satisfactory service.

Kern County Land Company. The Kern County Land Company owns large interests in numerous canal companies, incorporations, taking water from both sides of Kern River, irrigating lands in what is called the Kern Delta, lying south, west, and southwest of Bakersfield. A large percentage of these lands is owned by the Kern County Land Company. Of these lands there are 80,000 acres in alfalfa, 12,000 acres in grain, 10,000 acres in pasture, wild grass, and 15,124 acres in orchards, vines, gardens, etc. The right to the use of water on these lands is appurtenant thereto.

Kern Valley Irrigation Company. The Kern Valley Water Company's canal, belonging to Miller & Lux, irrigates the riparian lands lying between Buena Vista Lake and Tulare Lake. About 63,000 acres of this land are in cultivation, mostly in alfalfa. The flood waters of Kern River are stored in the Buena Vista Lake reservoir, and the water so stored belongs to the Kern Valley Water Company. The Kern

Valley Water Company's canal also serves to carry off the water in time of excessive floods.

Fresno and Consolidated Canals Company. These two systems, although kept separate, are operated by the same people and cover practically all the irrigated lands in Fresno County, amounting to about 360,000 acres. The points of diversion for the various canals are all along the west bank of the Kings River, close to where it enters the valley. The Fresno canal system is one of the oldest of the large irrigation concerns in the valley, having been organized in 1871, when it took over some of the small canals constructed a year or two earlier, and this was the beginning of the great agricultural development of this county. The Gould and Enterprise canals are also included in this system.

The Consolidated includes the Fowler Switch and the Centerville and Kingsburg canals, as well as a majority of the stock of the Emigrant canal. The latter is on the lower Kings River, and diverts water from the river six miles west of Kingsburg to irrigate lands on the Laguna De Tache Rancho, which belongs largely to this company.

The water rights do not represent any rights in the affairs of either company, being merely a right to use the water, and when located on the lands they are appurtenant thereto and can not be removed. The Fresno system has an early priority on the Kings River, amounting to 1,000 cubic feet per second, which gives 1,000 first-class rights, but as a considerable area of the earlier irrigated section does not require water on account of the high water-table, second-class rights have been sold. By agreement, these rights are entitled to the water not used under the first-class rights, and do not receive any if the first-class rights demand the entire flow of the canal. Little trouble has been experienced thus far by the holders of these second-class rights. Water can be obtained usually under this system up to September 1st, and in some years to October 1st.

The Consolidated has later priorities on the river, and its flow is cut off from the middle of June to August 1st, so that its rights are not so valuable as the Fresno canal rights. An annual charge is made for the maintenance of the main canals, amounting to 62½ cents per acre under the Fresno and 75 cents per acre under the Consolidated. The lateral ditches are owned and controlled by the irrigators. No measurements are made to users, each irrigator taking what he needs in accordance with the rights held by him. Considering its area, it is the most highly developed district in the State.

The San Joaquin and Kings River Canal and Irrigation Company. This system diverts water from the west bank of the San Joaquin River about 1½ miles north of the town of Mendota in Fresno County. It is the oldest large canal in the valley, having been organized in February, 1871. The area tributary to it extends for seventy miles along the west bank of the river in Fresno, Merced, and Stanislaus counties. The company belongs to Miller & Lux, who have riparian rights on the river, and their own lands are very largely included. About 340,000 acres of land are irrigable from this system, although at present about one third is served, of which 40,000 acres are in private ownership and purchase water from the company. No water rights are sold; the water is measured to the users and charged for on the basis of a flow of 1 cubic foot per second for twenty-four hours. The lands under this system include

a large area of swamp and overflow land along the river. This is flooded during the high water by means of large checks and produces pasturage during the summer and fall months for large herds of cattle belonging to the company. The improved lands under this system are in alfalfa principally, with some orchards and vineyards in the Dos Palos Colony.

The Crocker-Huffman Land and Water Company. The Merced River furnishes the supply for the 220,000 acres irrigable from its canals. These lands extend from the foothills near where the river enters the valley to the country surrounding the city of Merced, and between that city and Livingston. Only a small portion of the land is irrigated at present, but settlement is going on rapidly, especially near Atwater.

The Butte County and the Sutter County Canals. These two canals are controlled by the same people using the same main canal, but are separately incorporated. The Butte canal serves the area in Butte County, and the Sutter canal serves that in Sutter County. This combined system covers about 80,000 acres, 30,000 in Butte and 50,000 in Sutter County, composed of lands between the Feather River, the Marysville Buttes, and the swamp lands along the Sacramento River south to where the slough which leaves the Feather River near Marysville joins the Sutter basin. The point of diversion is on the west bank of the river, six miles northeast of Biggs. The canal follows the high land parallel and near to the Feather River, and irrigates the land on both sides. About 10,000 acres are under irrigation, the principal crop being alfalfa, although orchards and vineyards are being planted also.

Sacramento Valley Irrigation Company. This is a recent enterprise backed by large Eastern financial interests, which have secured the rights of the Central Irrigation District by the purchase of all outstanding district bonds for 35 per cent of their par value. They have secured control, also, of 100,000 acres in the above district, and are carrying on extensive work in preparing for the irrigation and drainage of the 225,000 acres, which will be included in their system. The central irrigation canal, which diverts water from the west bank of the Sacramento River about two miles south of the county line between Tehama and Glenn counties, will be their main canal. This canal runs first to Willows and from there to the town of Arbuckle in Colusa County. All lands between this main canal and the Sacramento River are included in the project. The installation of a drainage system at the same time as the irrigating will insure the lands against damage from a high water-table, which has ruined many fertile acres of irrigated lands in the State.*

Imperial Valley and the Salton Sea.

The Colorado River is the division line between California and Arizona. It empties into the Gulf of California about sixty miles below Yuma, Arizona. The Colorado has been called the Nile of America, as it is subject to a large rise annually. Its waters have turned the desert lands of Imperial Valley into fertile lands, and more will be reclaimed by the Yuma project of the United States Reclamation Service.

*See "Irrigation in California," by F. W. Roeding, United States Department of Agriculture.

The Salton Sea, or sink, originally formed a part of the Colorado desert, which comprises an area of nearly 2,000 square miles. The desert comprises two fertile valleys, one in Riverside County, known as the Coachella Valley, the other in Imperial Valley, in Imperial County. Salton Sea, which partly fills the sink, lies between the two valleys. On December 31, 1908, its surface was 206 feet below mean sea level, and was nearly 45 miles long and from 9 to 15 miles wide, its maximum depth 67 feet and its area about 443 square miles.

In 1891, the Colorado overflowed into Salton Sink; in 1905, the flood repeated on a much larger scale. The old channel of the Alamo River was transformed into a deep, wide gorge, and another channel, now called New River, was formed. Practically all the water received by Salton Sea enters through Alamo and New rivers, but chiefly through the former. These rivers run through Imperial Valley and are drainage channels for waste water from irrigation systems and power plants.

Lakes.

There are several good-sized lakes in the northeastern part of the State, namely, Lower Klamath Lake, near Brownell, which has an area of about 21,000 acres; Tule, Clear, Goose, and Upper, Middle and Lower Alkali lakes. All of these are shallow and more or less alkaline. Further south there are the Eagle and Honey lakes, the water of the former sweet, and the latter rather alkaline.

South of these is Lake Tahoe at an elevation of 6,000 feet, with a surface area of about 250 square miles, partly in California and partly in Nevada. It has an average depth of about 1,000 feet, and is the source of the Truckee River.

Mono and Owens lakes, like many others, have no outlet, and are strongly alkaline.

Tulare Lake is a shallow body of water about thirty miles south of Fresno, and forty miles northwest of Bakersfield. In 1852-54 the area was nearly 1,000 square miles, the lake being full, and about 35 feet deep. The flood of 1867 was the last to fill the lake to overflowing and about 1870 began to recede, until in 1898 the lake bed became practically dry, brought about by the water being diverted for irrigation and light precipitation for a number of years. After partly refilling in 1901, it became completely dry in 1905, and in the early spring of 1906 was entirely under cultivation. On March 15, 1906, the first water reached the lake bed at the mouth of the Kings River and spread over a large area. A few days later water from Kaweah and Tule rivers reached the lake. On June 1st, the water was 7 feet deep and covered about 200 square miles. On June 23d, overflow water from Kern Basin cut through the sand ridge to the south and flowed into the lake. On August 4th, the water reached its greatest height for the year 1906, and the lake had an area of about 300 square miles and a maximum depth of 12.7 feet. The total rise of the lake that year was 10.8 feet. In November, 1907, the lake had an area of about 274 square miles, a depth of about 12.4 feet, and average length of 20 miles, and a width of 13.5 miles. The lake reached its greatest height in July of 1907, when it had a maximum depth in the summer of nearly 14 feet. Since then it has been subsiding, and is about 11 feet deep. It is probable that the lake will continue to fluctuate very much as in the past, but whether it is to fill and subside alternately are questions of great importance.

The sudden reappearance of the lake resulted in the loss of millions of dollars, but permanent reclamation is ultimately hoped for.*

Buena Vista Lake is the outlet of Kern River, and is connected with Tulare Lake by sloughs.

Clear Lake, in Lake County, is the only natural body of sweet water in the Coast Range worthy of consideration. It has a surface area of 64 square miles, and is the source of Cache Creek, which enters the Sacramento River near Woodland.

IRRIGATION RESOURCES OF CALIFORNIA.

Summary of Agricultural and Irrigated Areas in Northern California.

(Compiled from the report of the Conservation Commission of California.†)

Division.	Valley agricultural land. Acres.	Valley plains. Acres.	Foothill agricultural land. Acres.	Areas irrigated. Acres.
Northern coastal counties.....	503,000			2,290
North central mountain valleys.....	435,000			99,910
Northeastern plateaus and valleys.....	867,000			161,850
Feather River valleys.....	158,000			50,600
Sierra foothills.....			789,000	45,250
Sacramento Valley.....	2,659,000	790,000		123,800
Totals.....	4,622,000	790,000	789,000	483,700

Summary of Agricultural and Irrigated Areas in Central California.

Division.	Valley agricultural land. Acres.	Valley plains. Acres.	Foothill agricultural land. Acres.	Areas irrigated. Acres.
Coastal valleys.....	887,000			87,000
San Joaquin Valley.....	6,530,000	1,046,000		1,728,975
Sierra foothills above San Joaquin Valley.....			730,000	10,620
Lands east of the Sierra Nevada.....	472,000			137,760
Totals.....	7,889,000	1,046,000	730,000	1,959,355

Summary of Agricultural, Irrigated, and Estimated Irrigable Lands in Southern California.

Area.	Agricultural land. Acres.	Irrigated land. Acres.	Estimated area that ultimately will be irrigated. Acres.
Santa Barbara and Ventura counties.....	509,250	49,656	322,500
Los Angeles and San Gabriel River lands.....	441,986	167,454	381,500
Santa Ana River lands.....	876,671	213,407	279,000
San Diego County.....	363,668	19,880	87,100
Colorado Desert and River valleys.....	1,550,750	279,600	768,500
Mojave Desert.....	2,328,000	15,489	113,000
Totals.....	6,070,325	745,486	1,949,000

*For further valuable details, see Water Supply Paper, Part XI, by W. B. Clapp and F. F. Henshaw, United States Geological Survey.

†For full descriptive accounts of the following areas, with complete maps, see the report of the commission for 1912.

Summary of Valley Agricultural and Irrigated Areas in Northern Coastal Counties. (Del Norte, Humboldt, Mendocino, Sonoma, Lake, Napa, and Marin.)

Area.	Counties.	Valley agricultural land. Acres.	Area irrigated. Acres.	Principal water source for irrigation.
Smith River Valley, and adjacent coastal lands	Del Norte	36,000	0	Smith River; ample.
Lower Klamath River	Del Norte	8,000	0	Klamath River; ample.
Upper Klamath and tributaries	Humboldt	300	100	Klamath River and tributaries; ample.
Prairie Creek	Humboldt	700	-----	Prairie Creek; ample.
Orick	Humboldt	1,300	-----	Redwood Creek; ample.
Big, Stone, and Fresh-water lagoons	Humboldt	1,800	-----	Lagoons south of Orick; ample.
Hupa Valley	Humboldt	6,800	-----	Trinity River; ample.
Little River	Humboldt	2,400	150	Little River; ample.
Essex	Humboldt	700	-----	Mad River; ample.
Upper Mad River*	Humboldt	1,000	-----	Mad River and tributaries; ample.
Mad River bottoms	Humboldt	6,200	-----	Mad River; ample.
Arcata Bottoms	Humboldt	11,500	0	Mad River and Jacoby, and Freshwater Creeks; ample.
Lower Humboldt Bay drainage	Humboldt	5,900	0	Eel River and Salmon Creeks; ample.
Kneeland Prairie	Humboldt	9,500	0	None readily accessible.
Maple Creek	Humboldt	600	0	Maple Creek; ample.
Eel River Valley	Humboldt	42,000	0	Eel River; ample.
Ellinor	Humboldt	500	0	Eel River and small tributaries; ample, mainly by pumping.
Pepperwood	Humboldt	800	0	
Shiveley	Humboldt	600	-----	
Englewood	Humboldt	300	-----	
Myers	Humboldt	300	50	
Miranda	Humboldt	300	-----	South Fork Eel River; ample by pumping.
Phillipsville	Humboldt	300	-----	
Fort Seward	Humboldt	600	-----	
Garberville	Humboldt	1,300	-----	Duzen River; ample.
Van Duzen River*	Humboldt	2,500	25	
Capetown	Humboldt	1,900	0	Bear River; ample.
Petrolia	Humboldt	800	35	{ Mattole River, tributaries; ample, if storage is feasible.
Upper Mattole Valley	Humboldt	1,300	0	
Humboldt County*	Humboldt	-----	6	Long Valley Creek; ample, if storage is feasible.
Long Valley	Mendocino	4,400	60	
Round Valley	Mendocino	18,400	20	Middle Fork Eel River, and underground supply.
Williams Valley	Mendocino	1,000	0	Run-off from 11 sq. mi. of tributary watershed.
Willits Valley	Mendocino	8,000	10	Small creeks, and probably underground supply.
Walker Valley	Mendocino	1,500	60	Walker Valley Creek; springs.
Potter Valley	Mendocino	7,000	100	70 sq. mi. watershed on East Fork Russian River, turned diversion from South Eel River.
Redwood Valley	Mendocino	4,900	10	{ 80 sq. mi. of watershed on East Fork of Russian River, south Eel River.
Coyote Valley	Mendocino	3,800	10	
Ukiah Valley	Mendocino	15,000	160	250 sq. mi. of watershed on Russian River, turned diversion from South Eel, and pumping.
Sanel Valley	Mendocino	5,000	0	Russian River by pumping.
Anderson Valley	Mendocino	5,600	25	Pumping from Navarro River.
Garcia River Valley	Mendocino	1,800	0	Garcia River.
Mendocino County*	Mendocino	-----	92	Russian River, turned diversion from South Eel River and others.
Russian River Valley	Sonoma	35,000	200	

Summary of Valley Agricultural and Irrigated Areas—Continued.

Area.	Counties.	Valley agricultural land. Acres.	Area irrigated. Acres.	Principal water source for irrigation.
Dry Creek Valley-----	Sonoma-----	8,000	20	100 sq. mi. of watershed, mostly torrential flow; some pumping.
Santa Rosa Valley-----	Sonoma-----	90,000	60	Santa Rosa, Mark West, and Petaluma Creeks, also underground water.
Knights Valley-----	Sonoma-----	2,500	13	10 sq. mi. of local watershed.
Los Guillicos Valley----	Sonoma-----	16,000	15	50 sq. mi. of watershed; partial supply if storage is available.
Sonoma Valley-----	Sonoma-----	23,000	344	80 sq. mi. of watershed, artesian flow near Sonoma; supply inadequate for full irrigation.
Gravelly Valley-----	Lake-----	500	5	Proposed reservoir site.
Upper Lake-----	Lake-----	6,200	0	Middle Creek with 67 sq. mi. of watershed; average annual run-off 770 acre-feet per sq. mi.
Bachelor Valley-----	Lake-----	1,900	0	13 sq. mi. of local watershed.
West Lake Valley-----	Lake-----	1,100	0	Small local drainage; pumping from Clear Lake.
Scotts Valley-----	Lake-----	4,200	25	77 sq. mi. of watershed; some artesian supply.
Big Valley-----	Lake-----	11,000	280	Kelsey Creek with 120 sq. mi. drainage; reservoir surveyed, capacity 27,500 acre-feet.
Long Valley-----	Lake-----	2,600	0	Long Valley Creek, with about 40 sq. mi. watershed.
Little Indian Valley----	Lake-----	1,400	24	North Fork of Cache Creek. Little Indian Valley reservoir site, estimated that 110 sq. mi. of watershed will produce 50,000 acre-feet annually.
High Valley-----	Lake-----	2,000	0	8 sq. mi. of local watershed.
Burns Valley-----	Lake-----	900	0	Possible minor storage and pumping from Clear Lake.
Lower Lake-----	Lake-----	1,700	31	9 sq. mi. and pumping from Clear Lake.
Morgan Valley-----	Lake-----	1,700	0	10 sq. mi. watershed; insufficient without underground supply.
Coble Valley-----	Lake-----	400	50	10 sq. mi. watershed on upper Kelsey Creek.
Coyote Valley-----	Lake-----	4,800	65	Putah Creek; ample if available.
Middletown-----	Lake-----	6,600	142	Putah Creek drainage; ample; storage necessary.
Napa Valley-----	Napa-----	42,800	311	Napa River and Sarco, Milliken, Dry, and White Sulphur Creeks would give all needed with storage, tributary watershed of 235 sq. mi.
Berryessa Valley-----	Napa-----	10,000	130	550 sq. mi. of Putah Creek drainage with storage, if legally available.
Capell Valley-----	Napa-----	700	0	16 sq. mi. watershed on Capell Creek.
Poss Valley-----	Napa-----	400	0	10 sq. mi. of local watershed.
Wooden Valley-----	Napa-----	1,100	0	8 sq. mi. of local storage tributary to Suisun Creek.
Gordon Valley-----	Napa-----	1,000	0	18 sq. mi. of local watershed.
Marin County*	Marin-----		67	
*Scattering.		503,000	2,293	

Summary of Agricultural and Irrigated Areas in Northern Sierra Foothills.

Area.	Counties.	Agricul- tural land. Acres.	Area irrigated. Acres.
North of Feather River:			
Whitmore	Tehama and Butte	2,400	10,262
Paradise Ridge	Butte	1,200	700
Between Feather and Yuba rivers:			
Wyandotte-Bangor	Butte and Yuba....	38,000	1,395
Browns Valley	Yuba	25,000	1,750
Between Yuba and Bear rivers:			
Nevada City-Smartsville	Yuba and Nevada..	117,000	4,013
Between Bear and American rivers:			
Placer county fruit districts	Placer	104,000	14,000
Orangevale-Fair Oaks	Sacramento	29,000	4,450
Between American and Cosumnes rivers:			
Georgetown	El Dorado	42,000	1,546
Placerville	El Dorado	26,000	1,613
Folsom-Pleasant Valley	El Dorado and Sac- ramento.	148,000	1,100
South of Cosumnes River:			
Ione-Jackson	Sacramento and Amador.	220,000	630
Scattering, unlocated		4,000	3,791
Eagle Lake	Lassen	1,700	200
Willow Creek	Lassen	13,900	7,100
Susan River	Lassen	66,000	22,300
Honey Lake Valley	Lassen	154,000	12,200
Long Valley	Lassen	9,300	4,100
Scattering, unlocated		10,500	10,000
Totals		867,000	161,930

Summary of Valley Agricultural and Irrigated Areas in the High Mountain Valleys
in Plumas, Sierra, and Southwestern Lassen Counties.

Area.	Counties.	Valley agricul- tural lands. Acres.	Area irrigated. Acres.
Sierra Valley	Sierra and Plumas	101,000	23,900
Mountain Meadows	Lassen	13,000	400
Big Meadows	Plumas		1,000
Indian Valley	Plumas	11,000	5,900
Genesee Valley	Plumas	3,100	2,900
Meadow and Spanish Ranch valleys	Plumas	2,250	500
American Valley	Plumas	4,300	4,000
Long and Mohawk valleys	Plumas	1,400	550
Red Clover Valley	Plumas	4,250	2,100
Grizzly Valley	Plumas	8,200	100
Scattering	Plumas	9,500	9,250
Totals		158,000	50,600

Summary of Valley Agricultural and Irrigated Areas in Northeastern Lava Plateau Region.

Area.	Counties.	Agricultural land. Acres.	Area irrigated. Acres.
Surprise Valley -----	Modoc -----	113,000	35,200
Goose Lake Valley -----	Modoc -----	39,000	5,800
Fandango Creek -----	Modoc -----	1,300	200
North Fork Pit River -----	Modoc -----	2,300	2,300
Alturas and South Fork Pit River -----	Modoc -----	40,000	18,600
Rattlesnake Creek -----	Modoc -----	8,000	
Lost River drainage -----	Modoc -----	47,000	2,900
Fairchild Meadow and Antelope Plains -----	Modoc -----	25,000	1,300
Ingalls Valley -----	Modoc -----	700	
Warm Spring Valley -----	Modoc -----	32,000	2,050
Black Canyon -----	Modoc -----	1,200	500
Stone Coal Valley -----	Modoc -----	1,000	500
Bound Valley -----	Modoc -----	6,000	1,200
Big Valley -----	Modoc and Lassen -----	83,000	14,500
Ash Creek Valley -----	Lassen -----	6,500	4,000
West Valley -----	Modoc and Lassen -----	1,200	1,200
Jess Valley -----	Modoc -----	4,500	3,400
Little Valley -----	Modoc and Lassen -----	900	900
Dixie Valley -----	Modoc and Lassen -----	2,900	1,200
Madeline Plains -----	Lassen -----	153,000	3,900
Dry Valley -----	Lassen -----	3,000	
Grasshopper Valley -----	Lassen -----	6,300	1,900
Painters Flat -----	Lassen -----	2,000	
Snake and Rush creeks -----	Lassen -----	4,700	600
Secret Valley -----	Lassen -----	19,000	1,280
Bull Creek -----	Lassen -----	2,700	
Horse Lake -----	Lassen -----	5,400	2,600

Summary of Valley Agricultural and Irrigated Areas in North Central Mountain Valleys.

Area.	Counties.	Valley agricultural land. Acres.	Areas irrigated. Acres.
Lower Klamath Lake -----	Siskiyou -----	23,000	4,600
Butte Valley -----	Siskiyou -----	65,000	2,800
Klamath River above Salmon River -----	Siskiyou -----	23,000	8,900
Shasta Valley -----	Siskiyou -----	158,000	23,800
Scott Valley -----	Siskiyou -----	55,500	15,500
Pall River Valley -----	Shasta and Lassen -----	66,000	24,700
Salmon River and tributaries -----	Siskiyou -----	600	600
Red Rock Valley -----	Siskiyou -----	11,000	
Grass Lake -----	Siskiyou -----	4,400	
Sisson Valley -----	Siskiyou -----	2,200	1,400
Burney and Goose valleys -----	Shasta -----	6,000	5,000
Clayton Valley -----	Shasta -----	1,700	1,300
Flat Creek -----	Shasta -----	4,500	3,000
Hay Fork and scattering -----	Trinity -----	8,000	6,355
Pit River and tributaries from McCloud River to Burney Creek -----	Shasta -----	1,700	1,700
Sacramento River above Pit River -----	Shasta -----	500	328
McCloud River, scattering -----	Shasta -----	900	900
Scattering -----		3,000	2,967
Totals -----		435,000	108,850

The most northerly agricultural areas in this division are those around Lower Klamath Lake in Butte Valley, and along Klamath River and its small tributaries down as far as Salmon River.

Summary of Agricultural and Irrigated Areas in Central Coastal Valleys.

Area.	Counties.	Agricultural land. Acres.	Irrigated land. Acres.
San Ramon Valley	Contra Costa	6,000	16
Bay Shore-Richmond-Stege	Contra Costa	50	59
Lafayette	Contra Costa	1,250	
Pacheco-Concord-Martinez	Contra Costa	17,500	20
Ignacio Valley	Contra Costa	11,800	
San Francisco	San Francisco	400	409
East Bay Shore	Alameda	59,500	2,250
Oastro Valley	Alameda	2,200	
Sunol Valley	Alameda	2,500	
Livermore Valley	Alameda	53,000	80
West Bay Shore	San Mateo	33,600	1,230
Pacific Shore	San Mateo	23,400	2,440
Santa Clara Valley	Santa Clara	148,000	42,550
Along coast, Santa Cruz to Davenport	Santa Cruz	4,300	
Along coast, Santa Cruz to Capitola	Santa Cruz	3,200	520
Pajaro Valley	Santa Cruz	26,000	670
Pajaro Valley	Monterey	6,000	700
Gilroy	Santa Clara	43,000	1,200
Paradise Valley	Santa Clara	3,800	20
Hollister	San Benito	59,500	3,300
Lower Salinas Valley	Monterey	250,000	25,000
Upper Salinas Valley	Monterey and San Luis Obispo	60,000	300
San Antonio Valley	Monterey	18,000	
Carmel Valley	Monterey	6,500	
San Luis and Los Osos valleys	San Luis Obispo	24,000	80
Chorro Valley	San Luis Obispo	9,000	640
Arroyo Grande and Los Berros valleys	San Luis Obispo	12,000	500
Nipomo Valley	San Luis Obispo	2,500	
Totals		887,000	82,000

Summary of Agricultural and Irrigated Areas in Sacramento Valley.

Area.	Valley agricultural land. Acres.	Plains agricultural land. Acres.	Area irrigated. Acres.
Redding	24,000	55,000	4,080
Happy Valley		62,000	1,628
West Side:			
Red Bluff-Corning	87,000	137,000	4,500
Orland	79,000	32,300	5,300
Stony Creek	3,000		2,250
Willows	186,000	40,000	6,000
Colusa	330,000	39,000	7,875
Woodland	400,000	78,000	14,570
Capay Valley	10,000		160
Solano	157,000		2,527
Vaca Valley	7,000		50
Suisun	30,000		276
East Side:			
Red Bluff-Vina	34,500	29,000	9,600
Ohico	138,000	15,200	800
Glenn-Colusa east side	82,500		17,190
Feather River	266,000	86,000	218
Sutter Basin	158,000		4,186
Yuba	113,000	14,500	225
Sacramento-Lincoln	246,000	94,000	13,000
Sacramento-Galt	236,000	108,000	28,272
Lower Sacramento River islands	72,000		791
Scattering, unlocated			
Totals	2,659,000	790,000	123,500

Drainage Area in Square Miles, Annual Flow in Cubic Feet of Rivers and Creeks in Sacramento Valley, 1875-1910.

Streams and point of measurement.	Number of years.	Drainage area. Square miles.	Mean flow. Cubic feet per second.	Total mean annual run-off. Acre-feet.
Sacramento River, Red Bluff.....	16	9,300	14,300	10,400,000
Sacramento River, Collinsville.....	7	26,200	35,900	26,000,000
Stony Creek, Fruto.....	10	600	802	581,000
Feather River, Oroville.....	9	3,640	8,320	6,020,000
Yuba River, near Smartsville.....	7	1,220	4,440	3,220,000
Bear River, Van Trent.....	6	263	574	416,000
Cache Creek, Yolo.....	8	1,230	960	695,000
Putah Creek, Winters.....	5	805	712	515,000
American River, Fair Oaks.....	6	1,910	5,060	3,660,000
Cosumnes River, Michigan Bar.....	3	524	571	404,000

Available Storage on Sacramento Valley Streams.

Name of reservoir.	Description.	Capacity of reservoir basin as surveyed. Acre-feet.	Probable amount available annually from watershed. Acre-feet.
Guenoce.....	Putah Creek.....	188,000	80,000
Monticello.....	Putah Creek.....	130,000	130,000
Clear Lake.....	Cache Creek.....	100,000	100,000
Little Indian Valley.....	Cache Creek.....	76,500	50,000
Briscoc.....	Stony Creek.....	14,385	14,385
East Park.....	Stony Creek.....	26,000	26,000
Mill Site.....	Stony Creek.....	43,735	43,735
Iron Canyon.....	Sacramento River.....	226,900	226,900
Jess Valley.....	South Fork Pit River.....	224,560	-----
West Valley.....	South Fork Pit River.....	94,579	-----
Warm Spring Valley.....	Pit River.....	559,015	-----
Round Valley.....	Ash Creek.....	184,732	-----
Big Valley.....	Pit River.....	3,196,188	*1,000,400
Big Meadows.....	North Fork Feather River.....	780,384	780,384
Indian Valley.....	Indian Creek.....	688,000	500,000
Concow.....	North Fork Feather River.....	10,012	10,012
Butte.....	North Fork Feather River.....	107,000	107,000
American Valley.....	North Fork Feather River.....	86,055	86,055
Spanish Ranch Valley.....	North Fork Feather River.....	8,469	8,469
Buck Valley.....	North Fork Feather River.....	37,843	37,843
Grizzly Valley.....	Middle Fork Feather River.....	61,820	20,000
Mohawk Valley.....	Middle Fork Feather River.....	12,626	12,626
Oregon House Valley.....	North Fork Yuba River.....	90,823	90,823
Greenwood.....	American River.....	65,962	65,962
Totals.....		7,013,578	3,380,184

*This estimate includes discharge from Goose Lake drainage.

Summary of Agricultural and Irrigated Areas in San Joaquin Valley.

Area.	Counties.	Valley land.		Plains lands.	
		Total agricultural. Acres.	Area irrigated. Acres.	Total agricultural. Acres.	Area irrigated. Acres.
Areas south of San Joaquin River:					
Southern Kern County	Kern -----	390,000	115,500	228,000	570
Wasco -----	Kern -----	368,000	32,500	81,000	-----
Lands along Buena Vista Slough.	Kern -----	116,000	40,000	-----	-----
Antelope Plains, west side valley.	Kern -----	304,000	-----	-----	-----
White and Deer creeks	Tulare -----	181,000	7,600	37,000	1,430
Porterville -----	Tulare -----	162,000	38,010	37,500	11,710
Kaweah River -----	Tulare and Kings	342,000	117,550	37,000	7,130
Valley lands south and west of Tulare Lake.	Tulare and Kings	240,000	58,420	-----	-----
Present area of Tulare Lake.	Kings -----	133,000	-----	-----	-----
Valley lands west of Tulare Lake.	Kings -----	119,000	-----	-----	-----
Alta -----	Fresno -----	147,000	93,960	39,000	1,130
Hanford -----	Kings -----	226,000	159,360	-----	-----
Fresno -----	Fresno -----	535,000	325,400	44,500	1,220
Murphy Slough -----	Fresno -----	135,000	77,840	-----	-----
Jameson -----	Fresno -----	130,000	43,000	-----	-----
West side, north of Tulare Lake.	Fresno and Kings	763,000	4,580	-----	-----
Totals -----		4,153,000	1,113,720	504,000	23,190
Areas north of San Joaquin River, west side:					
Firebaugh to Crows Landing.	Fresno, Merced and Stanislaus.	367,000	127,250	-----	-----
Crows Landing to Tracy.	Stanislaus and San Joaquin.	143,000	6,200	-----	-----
Tracy to Bay Point.	San Joaquin and Contra Costa.	66,000	-----	-----	-----
Madera -----	Madera -----	390,000	43,000	112,000	40
Merced -----	Merced -----	361,000	84,895	112,000	-----
Modesto-Turlock -----	Stanislaus and Merced.	315,000	135,760	135,000	-----
South San Joaquin-Oakdale.	Stanislaus and San Joaquin.	129,000	4,000	110,000	-----
Stockton -----	San Joaquin -----	256,000	13,320	73,000	-----
San Joaquin Delta lands.	Contra Costa and San Joaquin.	315,000	177,600	-----	-----
Totals -----		2,372,000	592,025	542,000	40
Grand totals -----		6,530,000	1,705,745	1,046,000	23,230

¹Not included in total.²Includes all land holding water rights from Crocker-Huffman Canal; only 19,500 acres actually received water in 1912.³Not segregated from valley irrigated areas.

Drainage Area in Square Miles, Mean and Annual Flow in San Joaquin Valley.*

Rivers, creeks, and measurement at edge of foothills.*	Number of years.	Drainage area. Square miles.	Mean flow. Cubic feet.	Total mean annual run-off. Acre-feet.
San Joaquin River, and North:				
Mokelumne River -----	12	657	1,380	1,000,000
Calaveras River -----	6	491	520	377,000
Stanislaus River -----	18	1,051	1,930	1,400,000
Tuolumne River -----	21	1,635	2,870	2,080,000
Merced River -----	15	1,090	1,700	1,228,000
Bear Creek -----	6	166	65	47,000
Mariposa Creek -----	6	122	46	33,000
Chowchilla River -----	6	268	152	110,000
Fresno River -----	6	272	167	121,000
Upper San Joaquin River -----	16	1,640	2,850	2,080,000
Total -----	11	7,392	11,680	8,456,000
South of San Joaquin River:				
Kings River -----	23	1,740	2,647	1,920,000
Kaweah River -----	13	520	736	533,000
Tule River -----	9	266	204	148,000
Kern River -----	22	2,345	1,063	770,000
Caliente Creek -----	6	423	191	138,000
Poso Creek -----	6	289	128	92,000
White Creek -----	6	90	40	29,000
Deer Creek -----	6	110	49	35,000
Total -----	11	5,738	5,058	3,665,000
Grand total -----	11	13,175	16,738	12,121,000

*From records of California Engineering Department.

Summary of Agricultural and Irrigated Lands in Sierra Foothills Above San Joaquin Valley.

Area.	Counties.	Foothill agricultural land. Acres.	Areas irrigated. Acres.
Between Mokelumne and Calaveras rivers	San Joaquin -----	37,000	0
Between Mokelumne and Calaveras rivers	Calaveras -----	54,500	560
Between Calaveras and Stanislaus rivers:			
Lower foothills -----	San Joaquin, Stanislaus and Calaveras.	115,000	40
Salt Springs Valley -----	Calaveras -----	47,000	100
Vicinity of Andreas and Angels Camp -----	Calaveras -----	15,000	570
Between Stanislaus and Tuolumne rivers:			
Lower foothills -----	Stanislaus and Tuolumne.	46,000	40
Vicinity of Sonora -----	Tuolumne -----	81,000	2,300
Between Tuolumne and Merced Rivers:			
Lower foothills -----	Stanislaus, Merced, Tuolumne and Mariposa.	53,000	0
Vicinity of Coulterville -----	Tuolumne and Mariposa.	22,000	230
Between Merced and San Joaquin rivers:			
Upper Bear Creek drainage area -----	Merced and Mariposa.	67,000	0
Upper Mariposa Creek drainage area -----	Mariposa -----	62,000	0
Upper Chowchilla Creek drainage area -----	Mariposa -----	50,000	40
Upper Fresno River drainage area -----	Mariposa -----	27,000	200
Madera County areas -----	Madera -----	18,000	40
Upper Kern River Valleys -----	Kern -----	35,000	6,500
Total -----		730,000	10,620

Irrigation From Underground Waters in the Central Coast Valleys and the San Joaquin Valley.

CENTRAL COAST VALLEYS IN 1909.

Counties.	Areas Irrigated from pumped wells. Acres.*	Areas irrigated from flowing wells. Acres.*
Alameda	1,125	-----
Contra Costa	68	-----
Monterey	4,428	-----
San Benito	1,812	847
San Francisco	383	-----
San Luis Obispo	109	18
San Mateo	1,057	-----
Santa Clara	15,947	7,415
Santa Cruz	247	2
Totals	25,176	8,282

SAN JOAQUIN VALLEY IN 1909 AND 1912.

Counties.	Area irrigated by pumping plants. 1909. Acres.*	Area irrigated from flowing wells. 1909. Acres.*	Total irrigated from ground waters. 1909. Acres.*	Area reported irrigated in 1912. Acres.†
Fresno	21,729	-----	21,729	27,620
Kern	4,290	2,097	6,387	12,240
Kings	1,042	11,400	12,442	30,780
Madera	1,663	-----	1,663	9,300
Merced	2,002	262	2,264	4,680
San Joaquin	8,642	-----	8,642	11,380
Stanislaus	5	-----	5	440
Tulare	31,286	6,556	37,942	75,320
Totals	70,659	20,415	91,074	171,760

*From the census reports in 1909. †California Conservation Commission.

NOTE.—The increase for the three years, 1909-1912, in the San Joaquin Valley, has averaged 30 per cent per year.

Summary of Agricultural and Irrigated Areas in the Valleys East of the Sierra.

Area.	Counties.	Agricultural land.	Area irrigated. Acres.
Alpine County	Alpine	3,500	3,350
Antelope Valley	Mono	22,100	16,700
Bridgeport Valley	Mono	24,200	19,100
Area southwest of Mono Lake	Mono	19,000	2,720
Area north of Mono Lake	Mono	63,000	1,360
Owens River areas:			
Adobe Meadows	Mono	27,000	260
Valley north of Bishop	Mono and Inyo	77,000	18,700
Long Valley	Mono	21,500	5,630
Round Valley	Inyo	8,700	-----
Owens Valley:			
Bishop to Aberdeen	Inyo	100,000	47,400
Aberdeen to Owens Lake	Inyo	98,000	21,900
West and south of Owens Lake	Inyo	8,000	640
Totals		472,000	137,760

SOUTHERN CALIFORNIA.

Summary of Agricultural and Irrigated Areas In Santa Barbara and Ventura Counties.

Area.	Agricultural land. Acres.	Irrigated land. Acres.	Estimated area that will be ultimately irrigated. Acres.	Possible source of water for further development.
Santa Maria and Cuyamaca valleys.	192,000	11,441	140,000	Storage on Santa Maria and Sisquoc rivers and underground waters.
San Antonio and Los Alamos valleys.	15,800	1,750	5,000	Underground waters.
Santa Ynez and Lompoc valleys.	58,300	1,675	25,000	Storage on Santa Ynez River and tributaries and underground waters.
Santa Barbara coastal plain.	30,750	600	25,000	
Ventura and Ojai valleys.	16,900	2,040	5,500	Storage on Matillija Creek and underground waters.
Santa Clara River Valley.	120,800	31,020	120,000	Storage on tributaries of Santa Clara River, and underground waters.
Simi and Los Posas valleys.	74,700	1,130	2,000	Underground waters.
Totals -----	509,250	49,656	322,500	

Summary for Los Angeles and San Gabriel River Lands.

Area.	Agricultural land. Acres.	Irrigated land. Acres.	Estimated area that will be ultimately irrigated. Acres.	Possible source of water for further development.
San Fernando Valley----	110,500	10,010	105,000	Los Angeles Aqueduct, storage on Tejuanga River, and underground waters.
San Gabriel Valley-----	78,636	36,536	70,000	Los Angeles Aqueduct, storage on San Gabriel River, and underground waters.
San Jose Creek Valley--	10,350	3,401	6,500	Underground waters.
Los Angeles coastal plain.	242,500	117,507	200,000	Los Angeles Aqueduct, and underground waters.
Totals -----	441,986	167,454	381,500	

Summary for Santa Ana River Lands.

Area.	Agricultural land. Acres.	Irrigated land. Acres.	Estimated area that will be ultimately irrigated. Acres.	Possible source of water for further development.
Pomona Valley and Cucamonga plains.	131,448	44,823	55,000	Underground waters.
San Bernardino Valley and Riverside.	200,523	79,992	100,000	Storage on Santa Ana River and tributaries, and underground waters.
Yucaipa Valley and San Gorgonio Pass.	72,000	7,730	24,000	Storage on Whitewater River canyons above Yucaipa Valley and underground waters.
San Jacinto Valley and Corona.	268,200	29,862	40,000	Storage on San Jacinto River and Strawberry Creek and underground waters.
Orange County -----	204,500	51,000	60,000	Underflow of Santa Ana River and underground waters.
Totals -----	876,671	213,407	279,000	

Summary for San Diego County.

Area.	Agricultural land. Acres.	Irrigated land. Acres.	Estimated area that will be ultimately irrigated. Acres.	Possible source of water for further development.
Santa Margarita River valleys and Fallbrook.	114,072	1,632	10,000	Storage on Temecula Creek and underground waters.
San Luis Rey, Escondido, and Santa Ysabel valleys and Linda Vista.	154,498	4,995	51,600	Storage on San Luis Rey, Escondido, and Santa Ysabel rivers and underground waters.
San Diego River valleys and mesas.	44,700	7,143	15,000	Storage on San Diego River and tributaries, and underground waters.
Sweetwater Valley and Chula Vista mesa.	14,080	4,750	7,500	Underground waters.
Otay and Tia Juana valleys.	36,318	1,360	3,000	Storage on Cottonwood Creek and underground waters.
Totals -----	363,668	19,880	87,100	

Summary of Agricultural and Irrigated Areas Under San Diego River.

Area.	Agricultural land. Area.	Irrigated land. Area.
El Cajon Valley -----	27,100	1,143
Mesa land -----	12,000	4,700
Mission Valley -----	3,000	1,000
Spring Valley -----	2,600	300
Totals -----	44,700	7,143

Summary for Colorado Desert.

Area.	Agricultural land. Acres.	Irrigated land. Acres.	Estimated area that will ultimately be irrigated. Acres.	Possible source of water for further development.
Coachella Valley and desert.	167,200	4,000	10,000	Underground waters.
Imperial Valley -----	816,000	260,000	400,000	Colorado River, San Felipe and Oarisco creeks.
Yuma Indian Reservation.	18,000	6,500	16,500	Colorado River.
Palo Verde Valley -----	85,000	9,000	85,000	Colorado River.
Chuckawalla Valley and Palo Verde Mesa.	352,000	-----	250,000	Colorado River and underground waters.
Other Colorado valleys.	112,550	100	5,000	Underground waters of Colorado River.
Totals -----	1,550,750	279,600	766,500	

Summary for Mojave Desert.

Area.	Irrigated land. Acres.	Agricultural land. Acres.	Estimated area that will ultimately be irrigated. Acres.	Possible sources of water for further development.
Mojave River Valley and mesas.	910,000	10,000	50,000	Storage on Little Bear Creek and Mojave River and underground waters.
Antelope Valley -----	485,500	4,629	40,000	Storage in mountain canyons and underground waters.
Desert basins in San Bernardino County.	637,000	-----	8,000	Underground waters.
Desert basins in Kern County.	231,000	700	10,000	Underground waters.
Desert basins in Inyo County.	64,500	160	5,000	Underground waters.
Totals -----	2,328,000	15,489	113,000	

Summary of Agricultural, Irrigated, and Estimated Irrigable Lands of Southern California.

Area.	Agricultural land. Acres.	Irrigated land. Acres.	Estimated area that will ultimately be irrigated. Acres.
Santa Barbara and Ventura counties -----	509,250	49,656	322,500
Los Angeles and San Gabriel River lands -----	441,986	167,454	381,500
Santa Ana River lands -----	876,671	213,407	279,000
San Diego County -----	363,668	19,880	87,100
Colorado Desert and River valleys -----	1,550,750	279,600	766,500
Mojave Desert -----	2,328,000	15,489	113,000
Totals -----	6,070,325	745,486	1,949,600

CALIFORNIA RIVERS AND CREEKS IN 1911.*

(Compiled from the Reports of the U. S. Geological Survey.)

Rivers or creeks, and canals.	Drainage area. Sq. mi.	Drainage in second-feet.		Total run-off	
		Maximum.	Minimum.	Depth in inches on drainage area.	Total in acre-feet.
<i>Southern Pacific Ocean Drainage Basins.</i>					
Tia Juana River Basin—					
Cottonwood Creek (and conduit), near Jamul.....	270	97	.0		4,800
Sweetwater River, near Descanso	40	182	.0	2.57	5,400
San Diego River Basin—					
San Diego River (and flume) at Lakeside	208	660	.0	1.81	14,400
San Dieguito River Basin—					
Santa Ysabel Creek, near Escondido	128				3,410
San Luis Rey River, near Pala.....	318				31,000
Santa Ana River Basin—					
Santa Ana River, near Mentone and Pacific Light and Power canal	182	1,900	39	9.91	96,500
San Gabriel River and canal, near Azusa	222	9,160	32	23.33	276,000
Los Angeles River Basin—					
Arroyo Seco, near Pasadena.....	16.4				3,250
Santa Ynez River Basin—					
Santa Ynez River, near Santa Barbara	207				51,500
Santa Ynez River, near Lompoc	725	20,400	30	13.86	537,000
Salinas River Basin—					
Arroyo Seco, near Soledad.....	215	13,300	11	25.51	292,000
<i>San Francisco Bay Drainage Basins.</i>					
San Joaquin River Basin—					
San Joaquin River, near Friant (formerly Pollasky).....	1,640	33,800	297	40.81	3,570,000
Kern River (and power canal) at Isabella	1,220	5,750	245	13.02	846,000
Kern River, near Bakersfield.....	2,345	4,623	281	8.10	1,010,000
Tule River, near Porterville.....	266	2,780	14	8.58	122,000
Kaweah River, near Three Rivers	520	6,610	62	19.69	546,000
Kings River, near Sanger.....	1,740	20,500	270	30.58	2,840,000
Merced River, near Merced Falls	1,090	37,200	100	36.32	2,110,000
Tuolumne River, near Lagrange (and three canals).....	1,500	52,600	16		3,380,000
Modesto Canal, near Lagrange		618	.0		184,000
Turlock Canal, near Lagrange		1,030	.0		302,000
Lagrange Water and Power Co.'s canal, near Lagrange.....		66	0		43,400
Stanislaus River, Stanislaus Water Co.'s canal and shell ditch at Knight's ferry.....	935	36,900	182	46.58	2,320,000
Mokelumne River, near Clements	642	16,700	75	44.29	1,520,000
Ocosumnes River at Michigan Bar	524	22,400	24	31.24	874,000
Sacramento River Basin—					
Sacramento River at Antler.....	461	14,000	245	39.84	979,000
Sacramento River, near Red Bluff (including Goose Lake Basin)	10,400	130,000	5,110	17.27	2,580,000

California Rivers and Creeks—Continued.

Rivers or creeks, and canals.	Drainage area. Sq. mi.	Drainage in second-feet.		Total run-off.	
		Maximum.	Minimum.	Depth in inches on drainage area.	Total in acre-feet.
River, near Ydalpom (includes Goose Lake drainage basin, 1,090 square miles)-----	6,350	20,600	3,080	11.91	4,040,000
McCloud River at Baird-----	665	12,600	1,240	46.45	1,650,000
North Fork of Cottonwood Creek at Ono-----	52	2,460	5	33.21	92,100
Stony Creek, near Fruto-----	601	15,400	15	16.20	519,000
Little Stony Creek, near Logana-----	102	4,980	2	17.41	94,800
Yuba River at Oroville-----	3,640	75,400	1,060	25.27	6,850,000
Yuba River, near Smartsville--	1,220	39,000	410	53.09	3,460,000
North Fork of Yuba River at Goodyear Bar-----	214	4,570	120	63.74	727,000
North Fork of North Fork of Yuba River at Downieville---	71.2	2,290	42	71.10	270,000
Rock Creek at Goodyear Bar---	10.8	545	.5	59.40	34,200
Goodyear Creek at Goodyear Bar-----	12.2	1,180	3	106.95	69,600
Bar River at Van Trent-----	263	22,200	23	36.43	510,000
American River at Fair Oaks---	1,910	69,100	-----	53.01	5,400,000
Rubicon River, near Quintette-	198	3,000	5	37.66	398,000
Little South Fork of Rubicon River at mouth, near Quintette (1909-1911)-----	57.8	616	2	33.72	104,000
CACHE Creek at Lower Lake---	500	1,410	3	9.47	252,000
CACHE Creek at Yolo-----	1,230	18,400	.0	7.573	496,000
<i>Northern Pacific Ocean Drainage Basins.*</i>					

This includes the Russian River basin, Mattole Creek basin, Eel River basin, Bear Creek, Van Duzen River, Mad River basin, and Redwood Creek basin, but the records available are not sufficient to enable these details to be given.

In addition to these there are a large number of other rivers and streams, the records of which are not so complete as the above. See Water Supply Paper 311, U. S. Geological Survey, 1912.

Note.—There are four drainage areas in California: The South Pacific Coast area—San Joaquin River, Sweetwater River, San Diego River, San Diequito River, San Luis River, Santa Ana River, San Gabriel River, Malibu Creek, Santa Ynez River, San Joaquin River, Salinas River; North Pacific Coast area—Russian River, Eel River, Mad River, Klamath River (includes Trinity and Scott rivers); Big Basin area—Sacramento River, Willow Creek, Truckee River, Owens River; Great Valley area—Sacramento Valley, San Joaquin Valley, San Joaquin River Basin, Tulare Lake Basin, San Joaquin River Basin.

TABLE I.

Irrigated Farms—Acreage and Cost, 1910.

(Compiled from the Reports of the Bureau of the Census.)

Counties.	Number of farms irrigated.	Acreage irrigated.	Acreage capable of irrigation, 1910.	Acreage capable of irrigation in projects.	Cost of enterprises to July 1, 1910.	Average cost per acre capable irrigation 1910.
Alameda	50	1,859	1,872	2,605	\$57,156	\$30
Alpine	32	3,349	3,399	3,435	7,493	2
Amador	73	826	3,973	4,139	265,608	66
Butte	556	28,754	115,075	233,500	1,231,894	10
Calaveras	154	1,275	3,161	3,919	121,033	33
Colusa	112	4,276	16,541	18,783	76,112	4
Contra Costa	78	26,856	32,562	32,640	90,503	2
Del Norte						
El Dorado	244	5,122	5,501	20,264	346,939	63
Fresno	5,310	402,318	560,326	633,652	1,898,460	3
Glenn	196	5,661	16,804	220,664	1,519,561	90
Humboldt	33	208	333	966	29,027	87
Imperial	1,250	190,711	242,000	375,000	4,955,272	20
Inyo	408	65,163	71,815	92,319	962,698	13
Kern	876	190,034	217,418	402,806	1,783,635	8
Kings	1,126	190,949	289,523	310,523	687,381	2
Lake	43	582	828	1,268	12,124	14
Lassen	355	77,079	89,815	149,530	834,965	9
Los Angeles	4,669	145,586	183,506	241,794	7,817,023	42
Madera	153	38,705	51,230	82,321	512,098	10
Marin	6	67	71	71	3,380	47
Mariposa	56	376	546	767	13,440	24
Mendocino	39	371	590	1,365	30,297	51
Merced	1,417	151,998	248,670	281,719	3,748,211	15
Modoc	437	82,075	89,476	124,166	301,040	3
Mono	76	49,027	50,007	84,973	64,282	1
Monterey	258	15,056	27,176	29,914	495,916	18
Napa	36	1,191	2,035	2,443	53,948	26
Nevada	300	3,339	4,259	5,267	1,569,028	368
Orange	2,215	55,056	63,486	71,444	1,948,246	30
Placer	618	16,845	23,365	61,751	2,798,740	119
Plumas	151	36,602	37,529	37,901	107,118	2
Riverside	2,174	71,436	103,233	210,452	5,648,469	54
Sacramento	1,053	53,683	69,970	74,588	1,452,471	20
San Benito	240	7,186	13,790	20,067	177,924	12
San Bernardino	2,463	70,278	86,107	152,415	9,416,960	109
San Diego	890	24,944	31,205	45,535	3,753,127	120
San Francisco	25	383	383	383	21,975	57
San Joaquin	1,452	59,811	77,083	173,563	1,689,720	21
San Luis Obispo	91	1,687	2,416	2,539	32,311	13
San Mateo	75	3,648	3,653	3,983	90,921	24
Santa Barbara	137	12,012	13,572	13,603	307,186	27
Santa Clara	1,101	37,637	50,939	60,140	1,337,216	26
Santa Cruz	106	1,201	1,313	2,232	76,621	53
Shasta	639	33,004	36,564	72,653	430,766	11
Sierra	94	17,504	17,505	18,249	69,650	3
Siskiyou	636	60,301	66,866	79,161	370,627	5
Solano	150	3,610	7,160	8,192	135,532	18
Sonoma	38	631	761	951	13,801	18
Stanislaus	1,911	84,015	141,785	340,914	4,051,870	28
Sutter	39	1,173	1,361	1,959	18,800	13
Tehama	366	14,281	23,167	36,020	263,055	11
Trinity	201	6,324	7,127	9,513	173,414	24
Tulare	3,048	265,404	337,938	466,735	5,634,379	16
Tuolumne	157	2,035	2,033	5,958	180,474	84
Ventura	489	25,273	49,407	56,357	2,262,205	45
Yolo	333	11,754	14,697	55,967	311,660	21
Yuba	112	3,073	6,401	46,322	198,268	30
Totals	39,352	2,664,104	3,619,378	5,490,360	\$72,580,080	\$20

REPORT OF THE STATE STATISTICIAN.

TABLE LI.

Irrigated Farms—Main Ditches, Laterals, Flowing Wells and Pumped Wells, 1910.

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Counties.	Main ditches.		Laterals.		Wells.	
	Number.	Length, miles.	Number.	Length, miles.	Number of flowing wells.	Number of pumped wells.
Alameda						
Alpine	49					
Amador	25	21				
Butte	55	34				
Calaveras	135	185	3			
Colusa	148	270	12	1		56
Contra Costa	38	124	145	56		
Del Norte	176	44	32	170		
El Dorado		172	10	31		
Fresno	56			7	6	46
Glenn	254	285			1	7
Humboldt	50	831	25	55		3
Imperial	33	136	688	1,354		26
Inyo	12	26	554	1,073	3	855
Kern	184	117	4	2		105
Kings	178	396	179	890		2
Lake	27	441	326	168	10	1
Lassen	44	137	51	257	25	140
Los Angeles	295	26	21	159	75	20
Madera	601	368	263	2	1	3
Marin	34	800	494	116		
Mariposa	5	79	30	500	376	1,673
Mariposa	49	5		294		33
Mendocino	33	21				1
Merced	45	19	8	6		2
Modoc	446	261	353	352	29	78
Mono	85	637	490	175	45	2
Monterey	106	172	101	65		102
Napa	26	223	23	32		2
Nevada	110	8	3	3		5
Orange	309	236	46	32	588	580
Placer	35	180	115	246		2
Plumas	147	194	46	108	3	792
Riverside	301	201	62	16	553	1,168
Sacramento	213	500	262	8		87
San Benito	64	238	5	33	79	449
San Bernardino	291	61	12	283		39
San Diego	288	466	237	140		1,618
San Francisco	24	259	244			12
San Joaquin	51	7	49	192	4	40
San Luis Obispo	76	308	5	8		113
San Mateo	458	42		5	7	800
Santa Barbara	81	58	4	27	498	58
Santa Clara	446	75	39		2	34
Santa Cruz	119	228		81		3
Shasta	595	41	130	1		125
Sierra	20	678	4	41		11
Siskiyou	32	150	172			8
Solano	23	688		274		18
Sonoma	13	22			1	141
Stanislaus	136	21	34	40		1
Sutter	208	153	41	13	79	794
Tehama	752	1,033	41	629	3	4
Trinity	62	177	11	24	32	157
Tulare	148	87	53	87		58
Tuolumne	8	128	13			11
Ventura	36			8,590	2,361	10,794
Yolo						
Yuba						
Totals	8,590	12,620	6,143			

PART VII.

PETROLEUM, NATURAL GAS, MINERALS AND MINERAL SPRINGS.

Petroleum by Counties and Fields. Production 1870-1912. Production in Other States. World's Output. Imports and Exports. Natural Gas. Minerals. Mineral Springs.

PRODUCTION OF PRINCIPAL MINERALS—1887-1911.

Value of Principal Minerals, Value by Counties, Mineral Springs in California.

PETROLEUM.

The existence of petroleum in California has long been known. The native Indians used it in the form of asphaltum for various purposes, and it was utilized by the Catholic Fathers for roofing their missions and other buildings. For nearly half a century Russia was the largest producer of petroleum in the world, but now occupies only the second place, the first being held by California.

Until the year 1875, practically all the oil produced in the United States came from Pennsylvania and New York; in 1876, California, West Virginia, and Ohio became producers, but California soon took the lead, and has kept on increasing it ever since, and promises to retain this supremacy for future years.

Early History of California Fields.

Ventura was the pioneer county in California in the second successful search for oil. In June, 1865, the first well was started, but it was a failure. In 1876, oil of good quality was found, and by 1883 the production was well developed.

In Los Angeles the industry dates from February, 1892, when two wells were dug, and at 150 feet oil was found. The wells were near the intersection of West street and Lake Shore avenue, but the production was only two to three barrels a day. By the end of 1895, there were more than 300 wells within an area of four million square feet, and by June, 1900, 1,300 wells were drilled within the city.

In Santa Barbara County oil was first struck in the Summerland district in 1893, many of the wells being sunk beyond low-water mark. The Santa Maria district up to 1899 was entirely unknown as an oil-producing district. A favorable report having been made on lands of the Carreaga ranch, three prospect holes were drilled, and in August, 1901, paying quantities were obtained. In 1902, the Pinal Oil Company of Santa Maria began operations on the north side of Graciosa Ridge, and, meeting with marked success, many other companies have since undertaken operations in this field. The developed fields lie on the low, rolling hills between the Santa Maria and Lompoc valleys, and the wells are known to obtain their oil from the Monterey shale which underlies this region. The Hartnell well, a gusher, struck in 1904, producing 10,000 barrels daily for several months, and at the time was said to be

the greatest well ever drilled in the United States. In 1911 the developments were satisfactory, especially to the east of Cat Canyon. The output of the Santa Maria field during the last seven years has been fully maintained, the production being about eight million gallons.

In the Coalinga field, the first well was drilled about the year 1890 to the depth of 163 feet, and a windmill pump was attached, which raised 20 barrels of oil in two days. In 1895, the Producers' and Consumers' Oil Company of Selma was organized by J. A. McClurg and others. In 1897, the Home Oil Company of Selma was formed by S. W. Terril and others, which drilled wells ranging from 900 to 1,700 feet. The production in 1897 was 70,140 barrels; in 1898, 154,000 barrels; in 1900, 582,000 barrels, and in 1903 it first passed the million mark, with 2,214,160 barrels.

In orange County prospecting for oil commenced as early as 1867, but it was not until 1897 that the Santa Fe Railroad made a strike in the Fullerton district, and since then developments have been steady.

In Kern County the production of oil first commenced in 1898 with an output of 10,000 barrels, increased to 15,000 the following year, and is now the largest oil-producing county in the State.

The Kern River district, near Bakersfield, is the largest producer, followed by the Midway, Maricopa, Sunset, McKittrick, and the new Lost Hills fields, where oil was struck in October, 1910, by the Lake-shore well, the first ever drilled there, at a depth of less than 600 feet.

Duration of Oil Fields.

An estimate made by Mr. Ralph Arnold for the Geological Survey states that the known oil fields of the State can furnish a minimum of 5,000,000,000 barrels, and a probable maximum of 8,000,000,000 barrels of oil. In other words, a supply of cheap and most efficient fuel is available in California for a century to come.

The National Conservation Committee in 1908 estimated the petroleum area in California as 850 square miles, and the natural gas area as 310 square miles.

A vast system of pipe lines has been constructed from the various fields to the coast. There are several lines in the Coalinga fields, two of 133 miles in length to Point Richmond on the bay of San Francisco, another of 110 miles to Monterey, another to Salinas, and one to Port Costa, 198 miles long. There is also another to Port Hartford, about 100 miles in length, which makes a junction in the Devil's Den district, with a line coming north from McKittrick, Midway, and Bakersfield.

The Kern River field has a pipe line to Port Costa and Point Richmond, a line from Midway connecting with them.

The Santa Maria oil field has three pipe lines, two from Orcutt and Lompoc to Hartford, and another to Gaviota.

Production and Value of Petroleum In California by Districts and Counties.

District and county.	1910.			1911.		
	Quantity.	Value.	Price per barrel.	Quantity.	Value.	Price per barrel.
Coastal and southern:						
Los Angeles County—						
Los Angeles city.....	441,639	\$305,334	\$0.691	397,424	\$268,574	\$0.675
Newhall						
Puente						
Salt Lake-Sherman.....						
Whittier						
Orange County—						
Fullerton	16,152,528	10,143,829	.628	16,247,804	10,231,176	.622
Ventura County—						
Santa Paula						
Santa Barbara County—						
Lompoc						
Santa Maria						
Summerland	71,511	44,742	.326	68,238	45,458	.719
San Luis Obispo County.....						
Santa Clara County.....	40,405	88,175	.682	20,462	12,072	.590
San Joaquin Valley—						
Fresno County—						
Coalinga	18,887,750	9,143,858	.497	18,483,751	9,100,371	.492
Kern County—						
Kern River	14,698,907	6,060,159	.412	13,225,713	4,922,785	.382
McKittrick*	5,604,653	2,140,070	.382	5,149,226	1,798,279	.382
Midway	10,436,137	5,122,375	.491	21,196,475	9,830,922	.464
Sunset	7,157,080	2,751,431	.384	6,350,298	2,459,493	.387
Total	87,896,727	\$16,074,085	\$0.424	45,921,712	\$19,011,429	\$0.414
Grand total.....	78,010,560	\$35,749,473	\$0.490	81,134,391	\$33,719,080	\$0.417

*Includes Lost Hills.

Production of Petroleum in California, 1902-1911, by Counties, in Barrels.

Year.	Fresno.	Kern.	Los Angeles.	Orange.	Santa Barbara.	Ventura.	San Mateo.	Santa Clara.	Total.
1902....	572,498	9,705,708	1,938,114	1,068,549	242,340	484,764	1,800	-----	13,964,286
1903....	2,138,068	18,077,900	2,087,627	1,413,782	306,066	348,295	5,137	5,607	24,382,473
1904....	5,114,958	19,608,045	2,102,892	1,473,335	789,006	517,770	1,500	41,928	29,649,434
1905....	10,967,015	14,437,967	3,469,433	1,429,688	2,684,837	337,970	50,563	-----	33,437,473
1906....	7,991,089	14,520,854	3,449,119	2,032,637	4,774,361	299,124	*31,464	-----	33,068,566
1907....	7,871,723	15,632,156	3,477,235	2,604,932	3,708,077	357,094	*77,109	-----	39,748,375
1908....	10,336,168	18,132,898	4,692,495	3,358,714	7,316,682	379,044	*83,741	-----	44,534,757
1909....	14,795,459	23,831,768	-----	16,774,195	-----	-----	*70,179	-----	55,471,691
1910....	18,887,750	37,896,727	-----	16,665,678	-----	-----	100,405	-----	73,010,560
1911....	18,483,751	45,921,712	-----	16,708,466	-----	-----	120,402	-----	81,134,391

*Includes oil produced in San Luis Obispo County.

†Production of Santa Clara and San Luis Obispo counties.

Production of Petroleum by Valley and Coast Fields in 1911 and 1912.

	1911. Barrels.	1912. Barrels.
Valley:		
Coalinga	17,830,433	18,803,292
Kern	12,161,580	10,878,606
McKittrick	5,373,114	4,785,907
Belridge		1,351,817
Sunset	4,625,631	5,264,552
Midway	20,967,021	25,199,196
Lost Hills	97,158	1,245,777
Coast:		
Santa Maria	6,228,492	5,270,089
Fullerton	5,859,686	5,787,765
Salt Lake	2,795,692	2,668,125
Whittier	1,154,128	715,369
Coyote		1,351,827
Los Angeles	437,300	386,362
Ventura	459,281	653,234
Newhall	140,748	116,244
Summerland	64,875	52,200
Totals	78,195,139	84,530,364

Field Report for California in 1911, by Counties and Districts.

County and district.	Wells.						Acreage.		
	Productive Jan. 1.	Completed in 1910.		Aban- doned.	Productive Dec. 31.	Drill- ing Dec. 31.	Fee.	Lease.	Total.
		Oil.	Dry.						
Fresno County	794	192	22	30	956	-----	32,165	12,745	44,910
Kern County:									
Kern River	1,668	153	6	34	1,787	-----	14,889	1,871	16,760
McKittrick	281	24	7	9	246	-----	40,183	1,868	42,071
Midway	408	383	21	49	692	-----	32,352	26,427	58,779
Sunset	243	94	7	7	330	-----	17,498	12,844	30,337
Devils Den	2	24	4	6	20	-----	6,980	880	7,860
Lost Hills									
Los Angeles County:									
Los Angeles city	427	10	-----	24	413	-----	318	25	343
Newhall-Puente	135	2	6	4	133	-----	5,642	4,990	10,632
Salt Lake	276	15	5	3	288	-----	12,420	3,023	15,443
Whittier	121	5	1	17	109	-----	5,088	154	5,242
Orange County	255	29	-----	36	248	-----	11,807	6,333	18,190
San Luis Obispo County ..	11	1	5	9	8	-----	3,565	2,061	6,226
San Mateo County	4	-----	-----	-----	4	-----	-----	-----	-----
Santa Clara County	5	1	-----	2	4	-----	56	6,000	6,056
Santa Barbara County:									
Lompoc-Santa Maria ..	241	19	11	5	255	-----	98,291	30,839	130,130
Summerland	120	42	-----	1	161	-----	11	13	24
Ventura County	245	19	5	9	255	-----	44,369	98,570	145,939
Miscellaneous	2	-----	4	1	1	-----	5,380	38,239	43,619
Total	5,188	963	104	246	5,905	-----	*326,009	237,552	563,561

*Includes 37,827 acres reported as oil locations.

Production of Petroleum in 1912.

(Estimated† gross production.)

Per cent of total production.	Name of field.	County.	Number of barrels.
13.82	Kern River -----	Kern -----	12,446,445
7.17	McKittrick -----	Kern -----	6,642,350
28.81	Midway -----	Kern -----	25,948,980
6.21	Sunset -----	Kern -----	5,590,824
1.46	Lost Hills -----	Kern -----	1,313,076
21.70	Coalinga -----	Fresno -----	19,546,122
0.05	Watsonville -----	Santa Cruz -----	43,920
0.01	Arroyo Grande -----	San Luis Obispo-----	*1,950
0.82	Santa Paula -----	Ventura -----	740,173
7.51	Fullerton-Brea-Canyon -----	Orange -----	6,764,360
1.13	Lompoc -----	Santa Barbara -----	1,013,880
6.42	Santa Maria -----	Santa Barbara -----	5,788,086
0.07	Summerland -----	Santa Barbara -----	65,715
0.13	Newhall -----	Los Angeles -----	119,712
2.96	Salt Lake -----	Los Angeles -----	2,662,776
0.45	Los Angeles -----	Los Angeles -----	410,651
1.25	Whittier-Coyote -----	Los Angeles -----	1,125,769
0.03	Puente -----	Los Angeles -----	29,650
	Repetto -----	Los Angeles -----	
	Salinas Valley -----	San Benito -----	
100.00	Total -----		90,074,439

*Shut down in March.

†For further details, see the "California Derrick" and "California Oil World." The above figures are from the former.

NOTE.—About 5,000,000 barrels is consumed on the fields, which explains the difference in various estimates, same being the gross output and others net. Increased consumption, 1910-1912: 1910, 66,172,373 barrels; 1911, 72,933,803 barrels; 1912, 83,409,630 barrels.

The quantity in storage on December 31, 1912, was estimated at 46,698,054 barrels.

SUMMARY.

Production of Petroleum in California, 1870-1912.

Year.	Barrels of 42 gallons.	Value.
1851-69	3,600	\$5,125
1870	5,200	7,370
1871	6,500	9,876
1872	7,200	10,920
1873	7,700	11,540
1874	8,400	12,090
1875	12,000	15,410
1876	13,000	18,140
1877	15,227	22,780
1878	19,858	29,672
1879	40,552	68,450
1880	99,862	130,678
1881	128,636	172,730
1882	142,857	207,540
1883	262,000	428,600
1884	325,000	613,920
1885	377,145	642,785
1886	678,572	1,357,144
1887	690,333	1,380,666
1888	303,220	368,048
1889	307,360	384,200
1890	323,600	401,264
1891	385,049	561,333
1892	470,179	606,092
1893	783,078	1,064,521
1894	1,245,339	1,000,235
1895	1,257,780	1,180,793
1896	1,911,569	1,918,269
1897	2,249,088	2,376,420
1898	2,677,875	2,660,798
1899	4,329,950	4,152,928
1900	7,710,315	2,961,102
1901	14,356,910	4,692,189
1902	24,340,839	7,313,271
1903	29,736,003	8,317,800
1904	34,275,701	9,007,820
1905	32,624,000	9,238,020
1906	40,311,171	16,783,943
1907	48,306,910	26,566,181
1908	58,191,723	32,398,187
1909	73,010,560	35,749,473
1910	78,195,139	40,552,068
1911	84,530,364	43,000,000
1912 (estimated)		

Of the fourteen states now producing petroleum, the date of first production was as follows:

Year.	State.	Barrels.
1859	Pennsylvania and New York	2,000
1876	California	12,000
1876	West Virginia	120,000
1876	Ohio	31,763
1883	Kentucky and Tennessee	4,755
1887	Colorado	76,295
1889	Indiana	33,375
1889	Illinois	1,460
1889	Kansas	500
1889	Texas	48
1889	Missouri	30
1891	Oklahoma	2,366
1894	Wyoming	543,617
1902	Louisiana	

Rank of Producing State With Quantity and Value of Petroleum Produced in 1911.

State.	Rank.	Quantity.	Percent- age.	Value.	Percent- age.
California -----	1	81,134,391	36.80	\$38,719,080	28.89
Oklahoma -----	2	56,069,637	25.44	26,451,767	19.73
Illinois -----	3	31,317,038	14.21	19,734,339	14.72
Louisiana -----	4	10,720,420	4.86	12,767,293	9.52
West Virginia -----	5	9,795,464	4.44	10,894,074	8.13
Texas -----	6	9,526,474	4.32	9,479,542	7.07
Ohio -----	7	7,817,112	4.00	6,554,552	4.89
Pennsylvania -----	8	8,248,158	3.74	5,668,814	4.23
Indiana -----	9	1,695,289	.77	1,248,950	.93
Kansas -----	10	1,278,819	.58	1,228,835	.92
New York -----	11	952,515	.43	608,756	.45
Kentucky -----	12	472,458	.22	328,614	.25
Colorado -----	13	226,926	.10	228,104	.17
Wyoming -----	14	194,690	.09	132,032	.10
Missouri -----	15				
Utah -----	16				
Michigan -----	17				
Totals -----		220,449,391	100.00	\$134,044,752	100.00

The World's Production of Petroleum, 1907-1911.

Country.	Rank.	Number of barrels.					Per cent of total produc- tion.
		1907.	1908.	1909.	1910.	1911.	
United States	1	166,095,335	178,527,355	183,170,874	209,557,248	220,449,391	63.80
Russia -----	2	61,850,734	62,186,447	65,970,350	70,336,574	66,183,691	19.16
Mexico -----	3	1,000,000	3,481,410	2,488,742	3,332,807	14,051,643	4.07
Dutch East							
Indies -----	4	9,982,597	10,283,357	11,041,852	11,030,620	12,172,949	3.52
Roumania -----	5	8,118,207	8,252,157	9,327,278	9,723,806	11,101,878	3.21
Gallcia -----	6	8,455,841	12,612,295	14,932,799	12,673,688	10,485,726	3.04
India -----	7	4,344,162	5,047,088	6,676,517	6,137,990	6,451,203	1.87
Japan -----	8	2,010,639	2,070,145	1,889,563	1,930,661	1,658,903	.48
Peru -----	9	756,226	1,011,180	1,316,118	1,330,105	1,398,036	.40
Germany -----	10	756,631	1,009,278	1,018,837	1,032,522	995,764	.29
Canada -----	11	788,872	527,987	420,755	315,895	291,096	.08
Italy -----	12	59,875	50,966	42,388	42,388	*71,905	.02
Other -----		*30,000	*30,000	*30,000	*30,000	*200,000	.06
Totals ---		264,249,119	285,089,615	298,326,073	327,474,304	345,512,185	100.00

*Estimated.

Imports of Petroleum, 1900-1912.

Year.	Free gallons.	Value.	Dutiable gallons.	Value.
1900 -----	2,354,720	\$217,405	19,509	\$3,042
1910 -----	13,693,228	609,400	*2,156	644
1911 -----	38,775,884	2,143,661		
1912 -----	160,502,114	3,654,453		

*From July 1st to August 5th, all mineral oils became free on August 6, 1910.
Note the large increase of 121,726,230 gallons in 1912.

Petroleum Exports (Domestic) In 1900 and 1912.

Description.	Gallons.	Value
1900.		
Mineral, crude including all natural oils, without regard to gravity.....	133,023,656	\$7,364,162
Mineral, refined or manufactured:		
Naphthas and all lighter products of distillation.....	21,998,093	2,016,802
Illuminating oil.....	721,027,637	55,979,566
Lubricating and heavy paraffin oil.....	74,583,769	9,744,367
Residuum, tar and all from which the light bodies have been distilled.....	16,629,186	506,853
Total mineral oils.....	967,262,341	\$68,247,588
1912.		
Mineral, crude including all natural oils, without regard to gravity.....	208,110,365	\$6,831,367
Mineral, refined or manufactured:		
Naphthas and all lighter products of distillation.....	171,040,150	15,437,736
Illuminating oil.....	1,044,049,848	59,845,823
Lubricating and heavy paraffin oil.....	202,125,197	25,970,271
Residuum, tar and all from which the light bodies have been distilled.....	168,339,478	4,386,903
Total crude oils.....	208,110,365	\$6,831,367
Total refined oils.....	1,585,554,673	105,640,733
Grand totals.....	1,793,665,038	\$112,472,100

NOTE.—California petroleum is exported to all quarters of the globe.

NATURAL GAS.

The development of natural gas in several localities in California, especially in the Buena Vista Hills, has proceeded rapidly in the hands of large corporations, resulting in a supply of natural gas to the town of Bakersfield and to other points in the San Joaquin Valley, with the prospect of ultimate extension to Los Angeles. During the year, several gas wells, among them perhaps the largest ever drilled in the United States, were opened with convincing evidence from the pressure and the thickness of the sands of an adequate supply justifying large development.

The estimated value of natural gas consumed in California in 1911 was \$800,714, as compared with \$476,697 in 1910, a gain of \$324,017, or nearly 70 per cent, it being the greatest year in the history of the natural-gas industry in this State. This was the result of increased production and distribution of gas to consumers from wells in the Midway field, pipe lines for which were in course of construction in 1910. In the early part of 1911 Bakersfield was being supplied with gas from this field, in addition to Maricopa, Taft, and Fellows, besides camps and drilling rigs in the Kern County oil fields. No new gas fields were opened in this State in 1911, but a total of 8 productive gas wells was completed, all of which were located in the Midway field, the number of gas wells in this field being 12 at the close of the year 1911. The total distribution of gas to 10,598 domestic consumers in California was 543,392,000 cubic feet, valued at \$317,467, as against 245,738,000 cubic feet of gas, valued at \$194,631, supplied to 8,292

domestic consumers in 1910. The quantity and value of the gas supplied for industrial purposes in this State in 1911 was estimated to be 5,846,428,000 cubic feet, valued at \$483,247, which was principally consumed for power in the oil fields. However, considerable quantities of gas are daily wasted, and for the purpose of utilizing this surplus gas some plants for the the production of gasoline are being installed in the oil fields of Brea Canyon, Puente, and Santa Maria.

The principal towns supplied with gas in California are as follows: Stockton, with gas from San Joaquin County; Sacramento, with gas from Sacramento County; Ventura, Oxnard, and Santa Paula, with gas from Ventura County; Suisun City, Fairfield, and Cement, with gas from Solano County; Santa Maria, Guadalupe, and Betteravia, with gas from Santa Barbara County; and Bakersfield, Maricopa, Taft, and Fellows, with gas from Kern County.

The total number of wells from which gas was being used at the close of 1911 was 60 as compared with 54 at the close of 1910. During the year 8 productive gas wells were drilled and 6 dry holes and 2 gas wells were abandoned.

In 1889, when natural gas was first produced and used in California, principally in the Sacramento and San Joaquin valleys, the amount was small. During the twenty years 1889-1909 it has increased considerably. As in the case of mineral waters, untold quantities of natural gas are annually wasted, so that the estimated value is probably much too low.

Gasoline.

Only one gasoline plant was in successful operation in California in 1911, located in the Brea Canyon oil field, Orange County, where the gas is said to yield 2 gallons of gasoline per 1,000 cubic feet of gas. A few other companies are installing plants in the State—one at Orcutt, to use gas from the wells in Santa Barbara County, and another at Santa Maria. Later reports appear to indicate that this will prove to be a very successful branch of the oil industry.

Year.	Value.	Year.	Value.
1890		1901	\$62,602
1891	\$33,000	1902	120,648
1892	30,000	1903	104,521
1893	55,000	1904	114,195
1894	62,000	1905	133,696
1895	60,350	1906	134,560
1896	55,000	1907	168,397
1897	55,682	1908	307,652
1898	50,000	1909	446,993
1899	65,337	1910	476,697
1900	86,891	1911	800,714
	79,083		

Acreage Controlled by Natural Gas Companies, 1911, by States.

State.	In fee.	Leased.	Gas rights.	Total.
Alabama	570	66,350		66,920
Arkansas	600	17,217		17,817
California	1,321	6,400		7,721
Colorado		195		195
Illinois	4,057	198,800	25,800	228,357
Indiana	100,348	178,396	10,152	288,896
Kansas	28,340	388,750	1,925	419,015
Kentucky	1,940	105,348	4,045	111,333
Louisiana	22,298	575,531	22,476	620,305
Missouri	4,636	1,410		6,046
New York	8,962	589,066	985	599,013
North Dakota		20,000		20,000
Ohio	27,245	1,506,723	109,260	1,643,228
Oklahoma	9,743	1,022,976	114,851	1,147,570
Pennsylvania	108,595	1,372,131	557,046	2,032,772
Tennessee	500			500
Texas	3,740	153,379	361,739	518,858
West Virginia	45,005	2,537,264	816,944	3,399,213
Wyoming	1,320	3,570		4,890
Totals	364,220	8,743,199	2,025,223	11,132,642

MINERALS.

California is rich in minerals, but as yet comparatively little has been done, with the exception of gold mining and in more recent years in the petroleum fields, to develop its vast resources. The great difficulty in the way of opening up some of these valuable deposits is the want of transport.

The existence of gold had long been known in California, and washing had been carried on in the southern part of the State near San Fernando Mission as early as 1841. After the discovery of gold in the northern part of the State in 1848, there was a rush of immigration during the fall and winter of that year, and the following year it was estimated that 100,000 men reached California from the East, across the plains and by the way of the Isthmus of Panama. The excitement continued during the three succeeding years, but fell off in a marked degree in 1854. In 1852, the "hydraulic process" was introduced.

Those who first got hold of the rich bars on the American, Yuba, Feather, Stanislaus, and other smaller streams made sometimes \$1,000 to \$5,000 a day, but these rich spots were mostly limited in area. The auriferous belt of California extends through the northern and central parts of the State, and from the summit of the Sierra to the San Joaquin and Sacramento valleys.

The gold occurs in three types of deposits: River gravels, or placers, high panels, and veins. A great series of these veins, called the "Mother Lode," extends across Tuolumne, Calaveras, Amador, and El Dorado counties.

The State annually produces about \$19,000,000 to \$20,000,000 in gold, much depending on the "water season." The largest amount, \$81,294,700, was produced in 1852. When the snow is light, many quartz mills have to shut down for a few months, owing to lack of water for power, and the want of water to wash the gravels of the placers. There are about 1,100 producing mining properties in the State, rather more than half being placers.

Of the placers the most important producers are the gold dredges, which yield about 85 per cent of the placer gold, or 40 per cent of the total gold output of the State from all sources, and the production by dredging has been gradually increased in recent years.

In addition to the precious metals, the output of a number of other selected minerals is also given for a number of years, as an illustration of the varied resources of the State, as space will not allow a complete list in detail. The following summaries are compiled from the reports of the State Mining Bureau:

Total Gold Production of California—1848-1911.*

Gold is more widely distributed than any other substance thus far mined in California, thirty-three counties out of the fifty-eight in the State showing a gold yield in 1909, and gold is known to exist in several others. Gold was discovered by James W. Marshall on January 24, 1848, at Sutter's Mill, near Coloma, El Dorado County. The value of the gold produced since that year amounts to about \$1,548,000,000.

Year.	Value.	Year.	Value.
1848	\$245,301	1880	\$20,030,761
1849	10,151,360	1881	19,223,155
1850	41,273,106	1882	17,146,416
1851	75,938,232	1883	24,316,873
1852	81,294,700	1884	13,600,000
1853	67,613,487	1885	12,661,044
1854	69,433,931	1886	14,716,506
1855	55,485,395	1887	13,538,614
1856	57,509,411	1888	12,750,000
1857	43,628,172	1889	11,212,913
1858	46,591,140	1890	12,309,793
1859	45,846,599	1891	12,728,869
1860	44,095,163	1892	12,571,900
1861	41,884,995	1893	12,422,811
1862	38,854,668	1894	13,923,281
1863	23,501,736	1895	15,334,317
1864	24,071,423	1896	17,181,562
1865	17,930,858	1897	15,871,401
1866	17,123,867	1898	15,906,478
1867	18,205,452	1899	15,336,031
1868	17,555,867	1900	15,863,355
1869	18,229,044	1901	16,989,044
1870	17,458,133	1902	16,910,320
1871	17,477,885	1903	16,471,264
1872	15,482,194	1904	19,109,600
1873	15,019,210	1905	19,197,043
1874	17,264,836	1906	18,732,452
1875	16,876,009	1907	16,727,928
1876	15,610,723	1908	18,761,559
1877	16,501,268	1909	20,237,870
1878		1910	19,715,440
1879	19,626,654	1911	19,738,908

Total value 1848-1910 (63 years), \$1,548,539,547.

Gold is found in thirty-three counties, Amador, Butte, and Nevada counties each producing between \$2,000,000 and \$3,000,000 in 1909.

*The Output and Value of Minerals for 1912 has not yet been issued.

Silver.

Year.	Value.	Year.	Value.
1887	\$1,632,008	1900	\$1,510,344
1888	1,700,000	1901	1,229,350
1889	754,798	1902	616,412
1890	1,060,618	1903	517,444
1891	953,157	1904	873,525
1892	463,602	1905	678,494
1893	537,157	1906	817,830
1894	297,332	1907	751,646
1895	599,789	1908	873,057
1896	422,464	1909	896,250
1897	452,789	1910	993,646
1898	414,055	1911	673,336
1899	504,012		

The total value of silver obtained for 25 years is \$20,417,948, and the average price in 1911, 53 cents per ounce.

Silver is found in twenty-six counties, Shasta being the leading producer.

Quicksilver.

Year.	Flasks.	Value.	Year.	Flasks.	Value.
1850	7,723		1882	52,753	
1851	27,779		1883	46,725	
1852	20,000		1884	31,913	
1853	22,284		1885	32,073	
1854	30,004		1886	29,981	
1855	33,000		1887	33,760	\$1,425,000
1856	30,000		1888	33,250	1,413,125
1857	28,204		1889	26,464	1,190,500
1858	31,000		1890	22,926	1,203,615
1859	13,000		1891	22,904	1,086,366
1860	10,000		1892	27,998	1,139,600
1861	35,000		1893	30,164	1,108,527
1862	42,000		1894	30,416	984,000
1863	40,531		1895	36,104	1,337,131
1864	47,489		1896	30,765	1,075,449
1865	53,000		1897	26,648	993,445
1866	46,550		1898	31,092	1,188,626
1867	47,000		1899	29,454	1,405,045
1868	47,728		1900	26,317	1,182,786
1869	33,811		1901	26,720	1,285,014
1870	30,077		1902	29,552	1,276,524
1871	31,686		1903	32,094	1,335,954
1872	31,621		1904	28,876	1,086,323
1873	27,642		1905	24,655	886,081
1874	27,756		1906	19,516	712,334
1875	50,250		1907	17,379	663,178
1876	75,074		1908	18,089	763,530
1877	79,396		1909	16,217	773,788
1878	63,880		1910	17,665	799,002
1879	73,684		1911	19,109	879,205
1880	59,926		1912	20,600	866,094
1881	60,851				

NOTE.—Flasks contain 75 pounds since June 1, 1904. Average price in San Francisco in 1901, \$48.46; in 1906, \$36.50; in 1911, \$46.01, and in 1912, \$42.04.

Eight counties reported a production of quicksilver during 1912, against 9 for 1911. California supplies about 80 per cent of the quicksilver production in the United States. San Benito County is the largest producer, followed by Santa Clara, Lake, and San Luis Obispo, Sonoma, and Fresno.

Copper.

Year.	Pounds.	Value.	Year.	Pounds.	Value.
1890	23,347	\$3,502	1901	34,931,788	\$5,501,782
1891	3,397,455	424,675	1902	27,860,162	3,239,975
1892	2,980,944	342,808	1903	19,113,861	2,520,997
1893	239,682	21,571	1904	29,974,154	3,969,995
1894	738,594	72,486	1905	16,997,489	2,650,605
1895	225,650	21,901	1906	28,726,448	5,522,712
1896	1,992,844	199,519	1907	32,602,945	6,341,987
1897	13,638,626	1,540,666	1908	40,868,772	5,350,777
1898	21,543,229	2,475,168	1909	65,727,736	8,478,142
1899	23,915,486	3,990,534	1910	53,721,032	6,680,641
1900	29,515,512	4,748,242	1911	36,838,024	4,604,753

Copper is produced in thirteen counties, Shasta being by far the largest producer.

Platinum.

Year.	Ounces.	Value.	Year.	Ounces.	Value.
1890	600	\$2,500	1901	250	\$3,200
1891	100	500	1902	39	468
1892	80	440	1903		1,062
1893	75	517	1904		1,849
1894	100	600	1905	200	3,320
1895	150	900	1906	91.46	1,647
1896	162	944	1907	300.07	6,255
1897	150	900	1908	706	13,414
1898	300	1,800	1909	416	10,400
1899	300	1,800	1910	337	8,386
1900			1911	511	14,873

Gems.

Year.	Value.	Year.	Value.
1900	\$20,500	1906	\$497,090
1901	40,000	1907	232,642
1902	162,100	1908	208,950
1903	110,500	1909	193,700
1904	136,000	1910	237,475
1905	148,500	1911	51,824

Gems are found in six counties, San Diego and Tulare counties being the largest producers.

Asphalt.

Year.	Tons.	Value.	Year.	Tons.	Value.
1890	3,000	\$30,000	1901	21,634	\$313,219
1891	4,000	40,000	1902	34,511	349,344
1892	7,550	75,500	1903	41,670	503,659
1893	9,150	161,250	1904	56,187	672,910
1894	11,689	233,800	1905	40,304	285,290
1895	25,525	170,500	1906	77,756	777,560
1896	20,914	362,590	1907	79,718	1,058,400
1897	22,697	404,350	1908	105,443	1,082,376
1898	25,690	482,175	1909	136,664	1,707,159
1899	15,060	308,130	1910	184,967	2,125,122
1900	12,575	253,950	1911 (estimated)	180,000	2,250,000

Asphalt is found in eight counties, principally in Kern and Los Angeles.

Bituminous Rock.

Year.	Tons.	Value.	Year.	Tons.	Value.
1890	40,000	\$160,000	1901	24,052	\$66,354
1891	39,962	154,164	1902	33,490	43,411
1892	24,000	72,000	1903	21,944	53,106
1893	32,000	192,036	1904	45,280	175,690
1894	31,214	115,193	1905	24,753	60,436
1895	38,921	121,586	1906	16,077	45,204
1896	49,456	122,500	1907	24,122	72,835
1897	45,470	128,173	1908	30,718	109,818
1898	46,836	137,575	1909	34,123	116,436
1899	40,321	116,097	1910	87,547	165,711
1900	25,306	71,495	1911	75,125	117,279

Only two counties produce bituminous rock, Santa Cruz leading in the production.

Coal.

Year.	Tons.	Value.	Year.	Tons.	Value.
1890	110,711	\$282,019	1901	150,724	\$401,772
1891	93,301	204,902	1902	88,460	243,622
1892	85,178	209,711	1903	93,026	265,363
1893	72,603	167,555	1904	79,062	376,494
1894	59,887	139,862	1905	46,500	144,500
1895	79,858	193,790	1906	24,850	61,600
1896	70,649	161,335	1907	23,734	55,849
1897	87,449	196,255	1908	18,496	55,503
1898	143,045	337,475	1909	49,389	216,913
1899	160,491	420,109	1910	11,063	23,484
1900	176,956	535,531	1911	11,047	18,297

Borax.

Year.	Pounds.	Value.	Year.	Pounds.	Value.
1890			1901	14,442,000	\$362,330
1891	6,402,084	\$480,152	1902	34,404,000	2,294,904
1892	8,533,337	640,000	1903	68,860,000	661,400
1893	11,050,495	838,787	1904	91,294,000	696,810
1894	7,910,563	593,292	1905	97,068,000	1,019,153
1895	11,540,099	807,807	1906	116,346,000	1,182,410
1896	11,918,000	595,900	1907	106,825,000	1,200,913
1897	13,508,000	675,400	1908	44,400,000	1,117,000
1898	16,000,000	1,080,000	1909	33,257,000	1,163,900
1899	16,600,000	1,153,000	1910	33,656,000	1,177,900
1900	40,714,000	1,139,882	1911	50,945,000	1,456,672
	51,674,000	1,013,251			

Salt.

Year.	Tons.	Value.	Year.	Tons.	Value.
1890	8,729	\$57,085	1901	126,218	\$366,376
1891	26,094	90,308	1902	115,208	205,876
1892	28,570	104,788	1903	102,895	211,365
1893	50,500	213,000	1904	95,968	187,900
1894	49,131	140,087	1905	77,118	141,925
1895	53,081	150,576	1906	101,650	213,228
1896	64,743	153,244	1907	88,063	310,967
1897	67,851	157,520	1908	121,764	281,469
1898	93,421	170,855	1909	155,680	414,702
1899	82,654	149,588	1910	174,920	395,417
1900	89,338	204,754	1911	173,332	324,255

Salt is produced by seven counties, Alameda being the largest producer.

Magnesite.

Year.	Tons.	Value.	Year.	Tons.	Value.
1890	600	\$9,000	1901	4,726	\$43,057
1891	1,500	15,000	1902	2,830	20,655
1892	1,500	15,000	1903	1,361	20,515
1893	1,098	10,980	1904	2,850	9,298
1894	1,440	10,240	1905	3,933	16,221
1895	2,220	17,000	1906	4,082	40,320
1896	1,500	11,000	1907	6,405	57,720
1897	1,143	13,671	1908	10,582	80,822
1898	1,263	19,075	1909	7,942	62,588
1899	1,280	18,480	1910	16,570	113,887
1900	2,252	19,333	1911	8,858	67,430

Magnesite is found in Fresno, Riverside, Santa Clara, and Tulare counties, the latter having the largest output.

SUMMARY OF THE QUANTITY AND VALUE OF MINERAL PRODUCTS OF CALIFORNIA IN 1890, 1900, AND 1911.*

Products.	1900.		1910.		1911.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Antimony, tons	70	\$5,700				
Asbestos, tons	50	1,250	200	\$20,000	125	\$500
Asphalt, tons	12,575	253,950	184,967	2,125,122		
Barytes, tons			860	5,640	309	2,207
Bituminous rock, tons	25,306	71,495	87,547	165,711	75,125	117,279
Borax, lbs.	51,674,000	1,013,251	33,656,000	1,177,960	50,945	1,456,672
Cement, bbls.	52,000	121,000	5,453,193	7,485,715	6,371,369	9,085,625
Chrome, tons	140	1,400	749	9,707	935	14,197
Clay, brick, M.	137,191	905,210	340,833	2,934,731	327,474	2,638,121
Clay, pottery, tons	59,636	60,956	249,028	324,099	224,576	252,759
Coal, tons	176,956	535,531	11,083	23,484	11,047	18,297
Copper, lbs.	29,515,512	4,748,242	53,721,082	6,680,641	36,838,024	4,604,753
Crushed rock, tons					6,487,223	3,610,357
Feldspar, tons			760	5,720	740	4,560
Fuller's earth, tons	500	3,750	340	3,820	466	5,294
Gems	500	20,500		237,475		51,824
Gold*		15,863,355		19,715,440		19,738,908
Granite, cu. ft.	311,803	295,772	486,098	417,898	401,209	355,742
Gypsum, tons	2,522	10,088	45,294	129,152	31,457	101,475
Infusorial earth, tons			1,843	17,617	2,194	19,670
Iron ore, tons			579	900	558	558
Lead, tons	520	41,600	1,508	134,082	710	63,173
Lime		315,231		1,058,891	429,587	390,988
Limestone					516,398	452,790
Lithia mica, tons	440	11,000				
Macadam,* tons	360,597	262,570	2,350,398	1,104,526		
Magnesite, tons	2,252	19,333	16,570	113,887	8,858	67,430
Manganese, tons	131	1,310	265	4,235	2	40
Marble, cu. ft.	4,103	5,891	18,960	50,200	20,201	54,103
Mineral paint, tons	529	3,993	200	2,040	186	1,184
Mineral water, gals.	2,456,115	268,607	2,335,259	522,009	2,637,669	590,654
Natural gas, M. cu. ft.		34,578	10,579,933	1,676,367		491,859
Paving blocks, M.	1,192	23,775	4,434	198,916	4,141	210,819
Petroleum, bbls.	4,329,950	4,152,928	77,697,563	37,639,542	84,648,157	40,552,088
Platinum,* ozs.			337	8,386	511	14,873
Pyrates, tons	3,642	21,133	42,621	179,862	54,225	182,954
Quartz crystals, lbs.	4,000	18,000				
Quicksilver, flasks.	26,317	1,182,786	17,665	799,002	19,109	879,205
Rubble, tons	428,690	299,072	3,477,430	1,673,164		
Salt, tons	89,338	204,754	174,920	395,417	173,332	324,255
Sand, glass, tons	2,000	2,000	9,124	8,165	8,620	8,672
Sand, quartz, tons	200	200	10,100	10,100		
Sandstone, cu. ft.	378,468	254,140	165,971	80,443	255,313	127,314
Serpentine, cu. ft.	350	2,000				
Silver*		1,510,344		993,646		673,336
Slate, squares	3,500	26,250	1,000	8,000		
Soapstone, tons			740	7,260		
Soda, tons	1,000	50,000	8,125	11,862	9,023	52,887
Tungsten				208,245		127,706
Zinc, pounds					2,679,842	152,751
Totals		\$32,622,945		\$38,419,079		\$37,497,879

*Gold, silver, and platinum figures from reports of United States Geological Survey. The output and value of minerals in 1912 has not yet been issued.

*Not included.

*Included in crushed rock.

TABLE LII.
Value of Minerals by Counties, 1906-1911.

Counties.	1906.	1907.	1908	1909.	1910.	1911.
Alameda	\$1,104,820	\$1,266,493	\$874,075	\$1,182,201	\$1,205,387	\$799,630
Alpine						
Amador	2,305,943	2,145,909	1,983,197	2,415,395	2,785,767	2,993,670
Butte	3,031,325	2,797,947	3,162,742	3,029,024	2,529,179	2,406,856
Calaveras	2,682,863	1,789,642	2,038,888	2,215,048	2,026,166	1,970,050
Colusa ²	101,972	134,622	134,430	100,799	148,005	138,227
Contra Costa	244,047	680,135	726,536	792,904	484,923	594,256
Del Norte	5,978	881	13,491	4,747	5,845	1,750
El Dorado	556,574	413,116	427,412	306,009	194,631	153,918
Fresno	2,135,046	3,740,397	6,055,389	9,472,029	9,505,699	9,711,463
Glenn				49,000	34,020	51,430
Humboldt	57,780	41,723	56,330	72,654	77,437	76,858
Imperial ¹		10,000	28,272	80,229	97,656	105,044
Inyo	50,264	128,731	368,955	641,235	704,473	710,033
Kern	5,417,828	6,092,606	10,896,912	14,112,645	19,614,014	21,176,534
Kings	20,000	9,000	25,400	11,260	10,085	900
Lake	198,909	161,540	183,251	164,547	142,427	100,296
Lassen ²			8,067	117,790	83,152	
Los Angeles	2,345,202	4,110,985	5,978,464	5,565,413	5,525,317	5,407,868
Madera	199,314	120,107	189,967	132,970	133,766	80,201
Marin	252,600	252,111	128,750	177,085	183,885	232,731
Mariposa	369,771	409,708	484,112	461,624	346,245	175,752
Mendocino	14,819	13,800	12,400	11,700	500	1,600
Merced	6,000	13,332	190,572	235,364	71,064	49,548
Modoc					5,513	20,238
Mono	351,849	413,768	445,655	392,701	445,115	298,405
Monterey ³	64,153	146,263	100,308	199,771	162,523	74,536
Napa	180,147	202,000	278,730	315,450	244,410	220,399
Nevada	2,691,939	2,193,306	2,327,793	2,689,835	2,553,204	2,219,214
Orange	1,220,400	1,485,546	2,575,106	2,761,194	3,220,164	4,113,585
Placer	139,192	719,550	603,269	606,061	583,659	539,246
Plumas	230,460	225,328	258,322	160,153	200,870	230,010
Riverside	350,673	869,197	641,528	551,957	507,406	622,489
Sacramento	1,171,258	993,066	1,481,795	1,991,625	1,660,970	2,109,678
San Benito	289,029	289,029	352,592	525,510	584,343	558,846
San Bernardino	623,414	685,924	711,920	518,651	447,836	710,108
San Diego	384,388	374,117	264,119	284,001	374,874	419,008
San Francisco	175,039	591,413	455,414	381,514	120,126	119,636
San Joaquin	104,615	133,723	252,834	391,697	376,149	189,593
San Luis Obispo	172,396	231,632	78,379	112,884	215,322	75,556
San Mateo	223,743	144,896	230,724	320,771	279,872	233,985
Santa Barbara	1,564,814	4,568,163	4,946,679	4,520,733	5,334,960	3,411,107
Santa Clara	298,834	379,416	281,833	389,846	420,782	461,611
Santa Cruz	445,092	326,686	255,758	446,642	400,794	338,814
Shasta	5,745,843	7,084,706	6,983,657	11,460,916	8,203,677	5,406,461
Sierra	411,884	498,525	414,543	190,629	313,365	467,117
Siskiyou	1,500	490,680	593,629	438,227	527,178	553,037
Solano	166,759	262,752	590,066	221,241	255,169	188,848
Sonoma	353,073	306,594	420,034	389,792	283,113	238,610
Stanislaus ⁴	1,720	5,112	83,000	52,450	223,061	315,219
Sutter			5,000			
Tehama	9,600	58,200	5,300	800	4,400	500
Trinity	570,013	541,454	611,017	530,263	508,433	620,950
Tulare	230,810	69,826	132,892	148,145	206,050	158,335
Tuolumne	1,106,230	993,449	933,649	1,127,763	755,591	1,240,734
Ventura	205,492	247,292	240,336	377,874	392,974	362,810
Yolo	204	350	1,150			
Yuba	800	1,773,677	2,060,233	2,486,271	3,209,645	3,011,689
Unapportioned ⁵	6,189,217	3,991,461	2,643,022	6,635,160	9,487,888	11,028,377
Totals	\$46,776,085	\$55,697,949	\$66,363,198	\$82,972,209	\$88,419,079	\$87,497,379

¹Includes precious metals for Imperial and San Diego. ²Includes precious metals for Colusa and Lassen. ³Includes precious metals for Monterey, San Luis Obispo and Santa Cruz. ⁴Includes precious metals for Stanislaus and Merced. ⁵Unapportioned includes product of single mines, etc., in counties, to conceal their identity. For this reason it is necessary to put under this heading borax, coal, Portland cement, some gold and silver and a few other substances formerly credited to certain counties. This causes an apparent, but not real, falling off in the output of a few counties, where these "unapportioned" substances occur. If credited to the exact county, where there is only a single operator, private business would be made public. Under these circumstances, the figures and values of output in some counties do not actually represent their relative rank, as some of the products may be placed under "unapportioned."

CALIFORNIA MINERAL SPRINGS.

There are a very large number of valuable mineral springs in California, which contain the same curative properties as the most famous spas of Europe, but they are not so widely known as they deserve. Among these are to be found alkaline, carbonated, chalybeate, epsom salts, saline, sulphur, soda, vichy, cold, warm, and hot, and also hot mud springs.

Mineral water are generally divided into four classes: Acidulous, sulphurous, chalybeate, and saline.

Acidulous or carbonated waters are those charged with carbonic acid.

Sulphur waters are those impregnated with sulphureted hydrogen or soluble sulphides.

Chalybeate or ferruginous waters are those which contain in solution the salts of iron.

The fourth class, saline springs, embrace waters of the greatest diversity.

Summary of the Principal Mineral Springs.

Name of spring.	Description.	County.
Adams Springs	Alkaline—Carbonated water ----	Lake.
Aetna Soda Springs.....	Alkaline water	Napa.
Aqua Calienta Springs.....	Sulphur (hot)	San Diego.
Aqua Calienta Springs.....	Sulphur (hot)	Kern.
Aqua de Vida Springs.....	Alkaline-saline. Sulphureted ...	Alameda.
Alabaster Cave Springs.....	.....	El Dorado.
Alameda Warm Springs.....	.....	Alameda.
Alder Glen Springs.....	.....	Sonoma.
Alhambra Mineral Spring.....	.....	Contra Costa.
Alkali Springs .....	.....	Mono.
Allen Springs	Alkaline-Saline. Carbonated ...	Lake.
Alum Rock Springs.....	Alkaline and chalybeate.....	Santa Clara.
Anderson Mineral Springs	Mild alkalo—Sulphureted chalybeate and Salina-acidulous; also hot sulphurous springs.	Lake.
Arrowhead Hot Springs....	Upwards of 20 hot springs.....	San Bernardino.
Arroyo Grande Springs....	Alkaline and carbonated.....	San Luis Obispo.
Azule Springs	Carbonated	Santa Clara.
Bartlett Springs	Alkaline. Carbonated	Lake.
Bear Valley Hot Springs....	Saline and calcic.....	San Bernardino.
Benton Hot Springs.....	Very hot, slightly alkaline.....	Mono.
Big Hot Springs.....	Very hot .....	.....
Bitter Springs	Cold saline	San Bernardino.
Black Lake	Sulphurous and saline.....	Mono.
Blank's Hot Springs.....	Hot sulphur	Colusa.
Blodgett's Soda Springs....	Alkalo-carbonated and sulphur..	Santa Clara.
Boiling Lakes	Alkaline	Plumas.
Boiling Springs	Alkaline	Inyo.
Boiling Sulphur Springs....	Alkalo-sulphureted	Mono.
Bonanza Hot and Cold Springs.	Hot carbonated and hot sulphureted.	Lake.
Borax Pond	Biborate of soda (borax).....	Lake.
Borax Hot, Borax Marsh, and Borax Patch.	Borax	San Bernardino.
Borax Springs	On the edge of Clear Lake.....	Lake.
Boyd's Hot Springs.....	Alkaline, charged with carbonic acid gas.	Modoc.
Branhick's Boiling Springs.	Alkaline	Lassen.
Byron Springs	Hot and cold; muriated saline, sulphurous, chalybeate, black sulphurous, mud and others.	Contra Costa.
California Geysers	Many various kinds; also mud springs.	Sonoma.
Calistoga Mineral Springs	Light sulphureted water; also hot.	Napa.

Summary of the Principal Mineral Springs—Continued.

Name of spring.	Description.	County.
Campbell's Hot Springs...	One cold and two hot; slightly saline and mildly sulphurous.	Sierra.
Carbonated Springs		Siskiyou.
Casa Diablo Hot Springs...	Saline and sulphureted; also small boiling geysers.	Mono.
Castalian Mineral Springs	Mostly cold, sulphurous, alkaline and carbonated; one of the heaviest waters on the coast.	Inyo.
Castle Rock Springs.....	Sulphureted and carbonated soda.	Shasta.
Chalybeate Mineral Springs.		Tehama.
Coal Valley Boiling Springs.	Very hot; soda.....	Modoc.
Cold Soda Lake.....	Alkaline	Plumas.
Cold Soda Springs.....	Alkaline and carbonated.....	Tuolumne.
Congress Springs	Muriated-alkaline	Santa Clara.
Cook's Springs	Saline and sulphurous.....	Colusa.
Coronado Mineral Springs	Light alkalo carbonated.....	San Diego.
Corral De Leoz Warm Springs.	Highly charged with sulphur....	San Diego.
Crystal Springs	Carbonated alkaline	Napa.
Cuyana Hot Springs.....	Sulphurous	Santa Barbara.
Desert or Cave Springs...	Alkaline carbonated	Kern.
Duncan Springs	Alkaline-Calcic	Mendocino.
Elsinore Springs	Hot and cold; carbonated.....	San Diego.
Eureka Springs	Chlorinated—heavy; hot mud....	Humboldt.
Fairmont Mineral Springs	Alkaline and carbonated.....	Sonoma.
Felt's Mineral Springs.....		Humboldt.
Fresno Hot Springs.....		Fresno.
Geyser Spa or Soda Springs.	Alkaline and chalybeate.....	Sonoma.
Gilroy Hot Springs.....	Alkalo-sulphureted	Santa Clara.
Glen Alpine Springs.....	Carbonated and chalybeate....	El Dorado.
Gordon's Mineral Springs	Alkalo-saline	Lake.
Harbin Hot Sulphur Springs.	Saline-sulphureted, arsenic and others.	Lake.
Hibb's Soda Springs.....		Shasta.
Highland Springs	Alkalo-saline and chalybeate, heavy saline and others.	Lake.
High Rock Springs.....	Hot alkaline	Lassen.
Hot Borate Springs.....	Borate water	Lake.
Hot Mud Springs.....	Sulphur	Siskiyou.
Hot Springs	(On Pahoa Island in Mono Lake)	Mono.
Hough's Mineral Springs.		Lake.
Howard Springs	Alkalo-carbonated	Lake.
Iodine Springs		Lake.
Klamath Hot Springs.....	Alkalo-saline and sulphurous....	Siskiyou.
Lake Tahoe or Carnelian Hot Springs.	Hot and cold; sulphurous and saline.	Placer.
Kellogg's Springs	Saline and sulphureted.....	Napa.
Lane's Mineral Springs...	Alkalo-sulphurous and chalybeate.	Calaveras.
Las Cruces Hot Springs...		Santa Barbara.
Little Yosemite Soda Springs.	Alkalo-carbonated	Tulare.
Litton Seltzer Springs...	Alkalo-carbonated and chalybeate.	Sonoma.
Mark West Springs.....	Hot sulphur and hot mud.....	Sonoma.
Matilija Hot Springs.....	Hot and cold; sulphureted.....	Ventura.
Mission San Jose Hot Springs.		Alameda.
Mono Basin Warm Springs	Chlorinated and alkaline.....	Mono.
Mono Lake	Chlorinated (the Dead Sea of California).	Mono.
Montecito Hot Springs...	Sulphurous	Santa Barbara.
Napa Soda Springs.....	Alkaline-chalybeate	Napa.
Newsom's Arroyo Grande Springs.	Light saline-sulphureted	San Luis Obispo

Summary of Principal Mineral Springs—Continued.

Name of spring.	Description.	County.
New Almanden Vichy Springs.	Vichy-alkalo-chalybeate -----	Santa Clara.
Nicholas Springs -----	Epsom salts and iron salts -----	Santa Cruz.
Ojai Hot Sulphur Springs	Hot and cold; carbonated and sulphureted.	Ventura.
Orr's Hot Springs -----		Mendocino.
Owens Lake -----	The second Dead Sea in California; highly chlorinated and alkaline.	Inyo.
Pacific Congress Springs..	Alkalo-chalybeate -----	Santa Clara.
Palm Springs -----		Riverside.
Paraiso Hot Springs -----	Sulphur; hot soda, similar to Carlsbad of Austria.	Monterey.
Paso Robles Springs -----	Hot and cold, sulphur mud springs; alkaline-saline, sulphined.	San Luis Obispo.
Piedmont White Sulphur Springs.	Chalybeate and sulphur -----	Alameda.
Subicon Soda Springs -----		Placer.
San Bernardino Hot Springs.	Calcic and saline -----	San Bernardino.
San Jacinto Springs -----	Arsenic, white sulphur, soda, and mud.	Los Angeles.
San Juan Capistrano -----	Light carbonated -----	San Bernardino.
San Luis Hot Springs -----		San Luis Obispo.
San Marcos Sulphur Springs.		Santa Barbara.
San Rafael Springs -----	Slightly saline and carbonated.	Marin.
Santa Barbara Hot Springs.	Sulphurous, saline and chalybeate.	Santa Barbara.
Santa Rosa White Sulphur Springs.	Light-salino-sulphurous -----	Sonoma.
Santa Ysabel Cold and Hot Sulphur Springs.	Salino-sulphureted, sulphur mud springs and others.	San Luis Obispo.
Saratoga Springs -----		Inyo.
Saratoga Mineral Springs	Cold, contain sulphur, soda, and iron.	Lake.
Seigler's Springs -----	Arsenic, soda, epsom salts -----	Lake.
Seltzer Springs -----	Alkaline-saline-calcic, carbonated.	Mendocino.
Shafer's Hot Springs -----	Saline and sulphates -----	Lassen.
Shasta Soda Springs -----	Carbonated and ferruginous -----	Siskiyou.
Simmons' Hot Sulphur Springs.		Colusa.
Skagg's Hot Springs -----	Alkalo-carbonated (heavy) -----	Sonoma.
Springs of Dos Palos -----	Chlorinated, warm -----	San Diego.
Summit Soda Springs -----	Alkalo-chalybeate -----	Placer.
Tassajara Hot Springs -----	Saline and sulphurous -----	Monterey.
Thermal Acid Springs -----	Acid, sulphate -----	Inyo.
Tolenas Springs -----	Alkalo-saline and chlorinated -----	Solano.
Tule River Soda Springs -----		Tulare.
Tuscan or Lick Springs -----	Saline and sulphurous -----	Tehama.
Upper Soda Springs -----	Alkalo-carbonated or soda class -----	Siskiyou.
Vallejo Sulphur Springs -----		Solano.
Vichy Springs -----	Alkalo-carbonated or soda class -----	Mendocino.
Volcanic Mineral Springs	(In Death's Valley) -----	Inyo.
Warner Hot Springs -----	Hot, sulphurous and saline -----	San Diego.
Wheeler's Hot Springs -----		Ventura.
White Sulphur Springs -----	Light sulphurated and alkaline.	Napa.
Wilbur Springs -----	Thermal salino-sulphureted -----	Colusa.
Witter's Mineral Springs -----	Saline-chalybeate. Sulphureted.	Lake.
Young's Natural Gas Well and Mineral Springs.		Lake.
Zem Zem -----	Highly carbonated -----	Lake.

NOTE.—There are many other unnamed and undeveloped springs in California, including geysers, salt, thermal, hot, warm and white sulphur springs. For fuller details and analysis of the numerous springs, see "Mineral Springs and Health Resorts of California," by Winslow Anderson, 1890, and "Mineral Waters of the United States," by Jas. K. Crook, 1899.

PART VIII.

CALIFORNIA FORESTS. THE LUMBER INDUSTRY.
MANUFACTURES.

NATIONAL FORESTS.

Grazing Permits; Ownership of Forests by Counties; National Monuments; Lumber Industry—Lumber Cut, 1880–1909; Value of Lumber, 1850–1909.

MANUFACTURES.

Summary of Fourteen Leading Manufactures; Manufacturing Industry, 1850–1909; Twenty-one Leading Cities; Transportation by Water—River Traffic.

The total area within the boundaries of the national forests was decreased in 1911 by presidential proclamation, which eliminated 4,598,705 acres and added 2,806,267 acres. While it will doubtless be necessary in the future to make small additions and eliminations from time to time as conditions change, it is believed that the boundaries now established or planted may be regarded as fairly stable.

As the national forests consists largely of unsurveyed lands, the gross area figures are subject to correction. The area in California is larger than any other state in the Union, Idaho and Montana ranking next, with 19,000,000 acres each.

California.	Acres.
Gross area, June 30, 1910.....	27,968,510
Additions	732,378
Eliminations	883,400
Gross area, September 30, 1911.....	27,667,695
Alienated area	6,676,130
Net area, September 30, 1911.....	20,991,565

The amounts paid to the State to be expended for roads and schools from the national forest receipt for 1910 was \$60,752.91, for 1911, \$53,716.87, and in 1912, \$62,052.82.

In the timber-sale policy of the Forest Service, provision is first made for local needs, present and future, and sale of timber which will enter into the general markets is considered only when it is clear that an excess over the permanent supply required by local industries exists.

Number of Timber Sales Classified According to Amount of Sale.

	Number.
Under \$100	506
Under \$100 to \$500.....	24
Under \$500 to \$1,000.....	2
Under \$1,000 to \$5,000.....	6
Over \$5,000	5
Total number of sales.....	543

Timber Sold and Cut in National Forests.

Year.	Timber sold. Board-feet.	Value.	Timber cut under sales. Board-feet.	Value.
1911 -----	112,438,000	\$295,536 22	37,899,000	\$90,243 65
1912 -----	109,214,000	232,697 81	43,914,000	97,239 33

Total number of timber sales in 1912, 635, compared with 543 in 1911.

Free timber is accorded to residents in or near the national forests who need material for personal use and who can not reasonably be expected to purchase. Special consideration is given to new settlers and prospectors for minerals. Free use is also granted on a liberal scale for co-operative enterprises and public purposes.

Free Use of Timber.

Year.	Number of permits.	Board-feet.	Value.
1911 -----	3,085	9,197,000	\$17,359 02
1912 -----	2,756	8,490,000	14,797 95

Reforestation.

Year.	Sown acres.	Planted acres.	Total.
1911 -----	2,659	169	2,828
1912 -----	632.69	188.60	821.29

Grazing Permits.

Year.	Number of permits.	Cattle, number.	Horses, number.	Hogs, number.	Number of permits.	Sheep and lambs.	Number goats.
1911 -----	2,382	151,582	9,824	3,867	298	368,781	13,464
1912 -----	2,521	169,361	10,408	3,480	367	432,974	15,235

Predatory Animals Destroyed.

Animal.	1910.	1911.	1912.
Bears -----	73	37	12
Mountain lions -----	23	5	3
Wolves -----	2	3	2
Wolf pups -----		2	
Coyotes -----	903	743	478
Wild cats -----	309	193	100
Lynxes -----	37	15	2
Totals -----	1,347	*998	657

* Also 2 wolverines and 6 foxes, or total of 1,006 animals.

Location, Date Latest Proclamation Effective, and Area of the National Forests on September 30, 1911, in California.

(From reports of the Forest Service, Department of Agriculture.)

State or territory and forests.	Proclamation effective.	Area.
California:		
Angeles -----	Nov. 25, 1910	1,265,300
California -----	Oct. 12, 1910	1,061,000
Cleveland -----	Dec. 16, 1910	2,220,800
Crater ¹ -----	July 1, 1911	61,100
El Dorado ² -----	July 28, 1910	835,800
Inyo ³ -----	Feb. 23, 1911	1,337,780
Kern -----	Jan. 30, 1911	1,934,275
Klamath ⁴ -----	July 1, 1911	1,688,580
Lassen -----	Dec. 30, 1910	1,397,000
Modoc -----	Dec. 23, 1910	1,578,200
Mono ⁵ -----	June 30, 1911	883,150
Monterey -----	Dec. 12, 1910	501,150
Plumas -----	July 28, 1910	1,433,600
Santa Barbara ⁶ -----	July 1, 1910	2,348,200
Sequoia -----	July 1, 1910	1,220,000
Shasta -----	Dec. 16, 1910	1,578,200
Sierra -----	July 1, 1910	1,743,000
Siskiyou ⁶ -----	July 1, 1911	406,260
Stanislaus -----	July 12, 1910	1,136,500
Tahoe ⁷ -----	July 28, 1910	1,210,500
Trinity -----	Dec. 16, 1910	1,827,300
Total -----		27,667,695
Alienated -----		6,676,130
Net area -----		20,991,565

¹Total of Crater in California and Oregon, 1,080,500 acres.

²Total of El Dorado in California and Nevada, 836,000 acres.

³Total of Inyo in California and Nevada, 1,413,110 acres.

⁴Total of Klamath in California and Oregon, 1,697,780 acres.

⁵Total of Mono in California and Nevada, 1,366,440 acres.

⁶Total of Siskiyou in California and Oregon, 1,694,250 acres.

⁷Total of Tahoe in California and Nevada, 1,272,470 acres.

The acreage of National Reserves in California is 27,667,000; the acreage of state timber lands 2,000; and the acreage of private lands 8,500,000.

Of the standing timber in this State a very large percentage is now in private ownership, the total acreage amounting to 4,555,941.*

Forest fires do a vast amount of damage. In 1910 there were 738 forest fires in California, most of which could have been prevented; 519,463 acres were burned over, the direct damage amounting to \$683,989. In 1911, 282,284 acres were burned over, and the damage estimated at \$128,451, and in 1912, up to November 1st, 92,920 acres were burned over.

*See page 243.

Ownership of Forests.

County.	Acres.	County.	Acres.
Alpine	3,270	Plumas	224,717
Amador	17,903	Riverside	4,784
Butte	89,737	San Benito	2,960
Calaveras	68,663	San Bernardino	10,940
Del Norte	109,600	San Diego	23,460
El Dorado	96,820	San Luis Obispo	2,040
Fresno	19,983	Santa Barbara	160
Glenn	16,796	Santa Cruz	19,956
Humboldt	486,950	Shasta	429,512
Kern	8,600	Sierra	134,176
Lake	10,320	Siskiyou	693,180
Lassen	244,434	Sonoma	162,474
Madera	23,176	Tehama	126,358
Marin	11,597	Trinity	333,840
Mariposa	35,073	Tulare	33,358
Mendocino	475,318	Tuolumne	131,378
Modoc	265,317	Ventura	803
Mono	15,320	Yuba	19,400
Monterey	81,518		
Nevada	60,101	Total	4,555,941
Placer	156,949		

National Monuments.

There are 159 national forests in the United States, of which 21 are in California.

The following three national monuments, situated within national forests, have been created under the act of June 8, 1906, for the preservation of objects of historic or scientific interest:

State or territory and forests.	Proclamation effective.	Area, acres.
Ogden Cone, Lassen	May 6, 1907	5,120
Devil Postpile, Sierra	July 6, 1911	800
Lassen Peak, Lassen	May 6, 1907	1,280

THE LUMBER INDUSTRY.

The timber of California is found upon the Sierra Nevada and Coast ranges north of San Francisco Bay. A little is found in the Coast ranges farther south, and in those of southern California. The species consists mainly of yellow and sugar pine, redwood, and red fir. Redwood is found in a narrow strip stretching from the Oregon line southward, closely bordering the coast, nearly to the bay of San Francisco. In this strip, comprising some 2,000 square miles, there is estimated to be 75,000,000,000 feet of redwood in a pure forest. This is probably the densest forest, as measured by the amount of lumber per acre, in the world. Lumbering is carried on mainly about Humboldt Bay, at Crescent City, near the Oregon line, and at various points in Mendocino County.

Yellow pine is found along the entire length of the Sierra Nevada, and in the northern Coast ranges. It occupies in the Sierra a well-defined belt, which, in the southern part of the range, is limited by a contour 3,000 feet above sea level, while northward it gradually descends, com-

ing down to about 1,500 feet in the upper Sacramento Valley. Its upper limit is on an average about 8,000 feet, above which it is succeeded by species which are fitted to a colder climate. Throughout its range it is accompanied by sugar pine in the average proportion of about three of the former to one of the latter. The forest also contains a notable amount of incense cedar and of red fir. The composition of the forests in the northern part of the Coast ranges is quite similar to that in the Sierra, excepting that the proportion of red fir is somewhat greater.

Scattered about in the yellow pine forests, on the slope of the Sierra Nevada, at altitudes ranging from 4,000 to 6,000 feet, are ten groves, differing greatly in magnitude, of *Sequoia gigantea*, the big tree. These trees range in height up to 325 feet, and in diameter to a little over 30 feet. They do not appear in pure growth, but scattered through the yellow pine forest.

The wooded land of the State is estimated to have an area of 44,700 square miles, or 22 per cent of the total area of the State. The total amount of standing timber in the State was estimated in 1900 to be at least 200,000,000,000 feet, the principal species being redwood and yellow pine, with smaller amounts of sugar pine, red fir, and incense cedar. Redwood is the only important kind of lumber, the production of which is limited to one state. California has no competitor in its production, nor can it ever have, since there is no commercial supply of redwood timber elsewhere. The output in 1909 was 521,630,000 feet, decidedly less than in both 1906 and 1907, since the market for redwood was affected by the same depressing causes as was that for Douglas fir.

The number of active mills reporting in 1909 was 69, and the total value of the output \$7,720,124.

The redwood cut in 1909 was 44.08 greater than the cut in 1899, the average value per thousand feet in 1909 being \$14.80, compared with \$10.09 ten years earlier. The value in 1909, however, was nearly \$3 per thousand feet less than in 1907.

In the cut of lumber by states, California ranked 18, with 305 active mills and 68 idle, the quantity of lumber, lath, and shingles being 1,143,507 million feet board measure, compared with 737,035 in 1899.

The quantity of lumber cut in previous years was:

Lumber Cut, 1880-1909.

Year.	Million feet, board measure.	Year.	Million feet, board measure.
1880 -----	304,795	1906 -----	1,348,599
1890 -----	515,823	1907 -----	1,345,943
1900 -----	734,232	1908 -----	996,115
1905 -----	1,077,499	1909 -----	1,143,567

Lumber, Lath and Shingles in 1909.

Species.	Number of active mills.	Million feet, board measure.	Value.	Average per thousand feet
Soft woods:				
Redwood	69	521,630	\$7,720,124	\$14 80
Douglas fir	100	88,852	943,698	10 62
Spruce	28	13,241	196,099	14 81
Western or yellow pine	184	364,748	6,752,076	18 51
Oedar	67	14,834	192,109	12 95
Sugar pine	71	88,822	1,634,325	18 40
White fir	72	48,306	676,767	14 01
Laurel		26	650	25 00
Hemlock		416	4,044	
Lodgepole		452	4,068	
Total soft woods		1,141,301	\$18,123,211	
Hard woods:				
Oak		2,180	141,678	
All other		26	650	
Total hard woods		2,206	\$142,328	
Total soft woods		1,141,301	18,123,211	
Grand totals	305	1,143,507	\$18,265,539	

Rough Lumber, Lath and Shingles.

Product.	Quantity.		Value, 1909.
	1899.	1909.	
Rough lumber, thousand feet b. m.	737,085	1,143,507	
Laths, thousands	11,507	32,615	\$73,384
Shingles, thousands	650,090	574,342	833,671

During the ten years 1899 to 1900 the output of rough lumber in California increased 55.1 per cent and that of laths 183.4 per cent, while the production of shingles decreased 11.7 per cent. The period of most rapid growth in the industry was from 1899 to 1904, when the output of lumber increased 46.2 per cent. The woods which supply the raw material are almost exclusively conifers, the hardwood cut in 1909, practically all of which was California or tan-bark oak, forming only one fifth of 1 per cent of the total lumber production during the year. A total of 521,630 thousand feet board measure, or more than 45.6 per cent of the lumber output in 1909, was California redwood, a species of timber which does not occur in saw-log size outside of California. Chief among the other species sawed into lumber in 1909 were western pine, with a production of 364,748 thousand feet board measure; Douglas fir, with a production of 88,852 thousand feet; sugar pine, with a production of 88,822 thousand feet. The manufacture of shingles, while carried on to some extent in connection with that of lumber, nevertheless amounts practically to a separate industry. Over 88 per cent of the shingle output of the State for 1909 was manufactured from redwood, which timber possesses in very high degree the qualities most desirable in shingle material.

The term "white fir" is used as a designation for two or three firs of the Rocky Mountains and the Pacific coast. The lumber produced from them in no way resembles that of the Douglas fir, which, botanically, is not a fir at all.

California produced over one half of the white fir reported in 1909.

The average value per thousand feet at the mill was \$13.10, the average for individual states ranging from \$10.20 in Oregon to \$14.01 in California.

Yellow Pine. Under the general term "yellow pine" is included all pine lumber which was produced east of the Rocky Mountains, with the exception of white, Norway, and Jack pine. In the production of redwood, yellow pine, sugar pine, and white fir, California holds the first place.

Sugar Pine. The commercial range of this great giant of the white pine family is confined almost entirely to the regions of the Sierra in California, where 91.4 per cent of the total cut of 97,191,000 feet was produced in 1909. The output was 81.5 per cent greater than in 1899. The average value of the product per thousand feet in 1909 was 36 cents greater than in 1908, but \$1.70 less than in 1907.

California Tanbark and Tanning Extract In 1909.

Description.	Tons.	Cost.	Average cost per ton.
Oak bark -----	36,005	\$714,146	\$19 83
Myrobalan nuts -----	620	20,470	33 02
All others -----	495	10,152	20 51
Totals -----	37,120	\$744,768	\$20 06

The average cost per ton in 1909, \$10.31, was 73 cents more than in 1908. The highest average cost per ton was reported by California, \$20.06. In the total quantity of bark, etc., used in 1909, eleven out of the twenty-one states showed gains over 1908, the greatest being 9,605 tons in California.

The lumber industry includes three distinct operations, which are in some cases carried on by the same organization, in others separately:

1. The logging industry, including the felling of timber, cutting it into lengths, and transporting it by rail or river or flume to the mill.

2. The sawmill industry, in which the raw material consists of sawlogs, the product of the lumber camps; the finished product of rough lumber, including beams, joists, scantling, boards, shingles, laths, etc.

3. The planing mill industry, in which the raw material consists of rough lumber and the finished product planed lumber, with such minor manufactures as are carried on in connection with these mills. In the United States this industry ranks fourth among the greatest manufacturing industries of the country, being exceeded in value of products only by iron and steel, the textile, and the slaughtering and meat-packing industries.

Value of California Lumber Industry, 1850-1910.

Year.	Value of product.
1850 -----	\$959,485
1860 -----	3,943,881
1870 -----	5,227,064
1880 -----	4,428,960
1890 -----	8,794,655
1900 -----	13,761,647
1909 -----	18,265,539

The ten largest holdings of timber lands comprise 2,448,094 acres, or approximately 42 per cent of all the privately-owned timber and cut-over land in the State. They are as follows:

	Acres.
Central Pacific Railroad Co. (S. P.).....	921,311
T. B. Walker and associates.....	673,665
McCloud River Lumber Co.....	232,063
Diamond Match Co.....	159,489
Hammond Lumber Co.....	94,761
Union Lumber Co.....	80,350
L. E. White Lumber Co.....	79,540
Weed Lumber Co.....	71,458
C. A. Smith.....	69,768
Sierra Nevada Wood and Lumber Co.....	65,680

The holdings under 2,000 acres are too numerous to publish, but they are summarized as follows:

Size of holdings.	Number of holdings.	Amount in acres.		Total.
		Timber.	Cut over.	
Below 1,000 acres.....	1,087	460,093	79,071	539,164
1,000 to 2,000 acres.....	196	195,687	59,321	255,008
2,000 and over.....	286	4,081,794	947,494	5,029,288
Grand total		4,737,554	1,085,886	5,823,440

MANUFACTURES.

Although agriculture and mining are the principal industries in California, the State shows a marked growth in manufactures during the last forty years. The gross value of products per capita of the total population increased from \$119 in 1869 to \$223 in 1909.

The natural resources of the State give rise to several of its leading industries, such as the lumber industry, canning and preserving, flour milling and gristmilling, petroleum refining, the refining of beet sugar, the wine industry, and the manufacture of cement.

The high cost of fuel, the greater part of which had to be brought from outside of the State, retarded the early development of manufactures, but the development of the oil fields, and the utilization during recent years of electricity generated by water power have given a decided impetus to manufactures in California.

The statistics of manufacture do not include the United States Navy Yard at Mare Island, which in 1909 employed an average of 1,917 wage earners, and the value of the work performed was \$4,335,000.

The most important manufacturing industries are as follows:

Lumber and Timber Products. This industry embraces logging operations, sawmills, planing mills, and establishments engaged in the manufacture of wooden packing boxes. It does not include mills engaged exclusively in custom sawing. The industry is the leading one in the State, giving employment in 1909 to 22,935 wage-earners, or 19.9 per cent of the total for all manufacturing industries, and the value of its products amounted to \$45,000,000, or 8.5 per cent of the total.

The lumber industry is one of the seasonal industries. The number of wage-earners in January, the month of the minimum employment, was 14,585 less than the number in July, the month of maximum employment.

Slaughtering and Meat-Packing. This classification includes the wholesale slaughtering and meat-packing establishments and those engaged in the manufacture of sausage only. The animals slaughtered are largely cattle and sheep from the foothills and lower mountain slopes and from the plateau region of the northeastern part of the State, and southeastern Oregon, conditions in these sections being very favorable to stock raising. About half of the stock slaughtered is raised within the State. The fact that within recent years the meat packers have been able to overcome, through refrigeration, climatic difficulties, which required the excessive use of preservatives in salt meats, has been an important factor in the growth of this industry. The total value of products reported for the industry in 1909, \$34,280,000, represents an increase of \$18,463,000, or 116.7 per cent, as compared with the amount reported for 1899.

Canning and Preserving. This classification includes the canning of fruits and vegetables, fish, oysters, clams, etc., the preparation of pickled, smoked, and dried fish, the packing of dried fruits by packing houses which make a specialty of such business, and the manufacture of pickles, preserves, jellies, sauces, etc., but it does not include the drying and packing of fruits by the grower on the farm, nor does it include the canning of meats, soups, and similar products in meat-packing establishments (the statistics for which are included with those for the slaughtering and meat-packing industry). The canning, pickling, smoking and drying of fish and the canning of oysters form comparatively unimportant branches of the industry. California far exceeds any other state in the value of products for this industry, the amount reported for 1909 being \$32,915,000, or 21 per cent of the total for the United States. Canning and preserving is a seasonal industry, giving employment to a large number of persons in July, August, September and October, and to a comparatively small number during most of the other months of the year. The number of wage-earners employed in the industry varied from 2,781 in February to 16,047 in August.

Foundry and Machine Shop Products. This industry embraces, in addition to the general class of foundries and machine shops, establishments engaged in such special lines as the manufacture of gas machines and gas and water meters, hardware, plumber's supplies, steam fittings and heating apparatus, and structural ironware. It does not, however, include establishments which manufacture distinctive products covered by other classifications, such as cash registers and calculating machines, or electrical machinery, apparatus, and supplies. This industry ranked third among the manufacturing industries of the State in 1909 in number of wage-earners, giving employment to 8,377, or 7.3 per cent of the total for all industries.

Flourmill and Gristmill Products. The statistics for all merchant mills grinding wheat, rye, buckwheat, corn or other grains are included in this classification. It does not, however, include factories making fancy cereals or other food preparations as a chief product, or mills

doing custom grinding exclusively. The industry shows an increase of \$12,143,000 or 93.1 per cent, in value of products during the decade 1899-1909.

Printing and Publishing. This classification includes job printing, the printing and publishing of books, newspapers and periodicals, and music, bookbinding, steel engraving, and lithographing. The 1,240 establishments reporting included 705 publishing newspapers and periodicals and 481 doing book and job work exclusively. The average number of wage-earners employed in the newspaper and periodical branch of the industry was 3,650, and the value of products \$15,239,000; the average number of wage-earners engaged in book and job work was 2,907, and the value of products, \$7,438,000. These two branches of the industry together employed 86.8 per cent of the average number of wage-earners, and reported 90.6 per cent of the total value of products for the entire industry in 1909.

Cars and General Shop Construction and Repairs by Steam Railroad Companies. This industry represents the work done in the car shops, but does not cover minor repairs in roundhouses. It is seventh in importance as measured by value of products, and shows a remarkable development for the ten-year period. In 1909 the industry gave employment to an average of 9,342 wage-earners, the second largest number reported for any manufacturing industry in the State, and the value of the work amounted to \$18,719,000.

Petroleum Refining. The refining of petroleum has made remarkable progress in the State during the last few years, the value of the products of the industry in 1909 being 17,878,000, or over twenty-five times as great as in 1899, when it was only \$698,000.

Butter, Cheese and Condensed Milk. This industry, which in California is confined chiefly to the manufacture of butter, has made marked progress during the past decade, the value of products increasing from \$3,583,000 in 1899 to \$12,761,000 in 1909, a gain of 256.2 per cent. The manufacture of cheese and condensed milk decreased materially during the period 1904-1909.

Leather, Tanned, Curried and Finished. The tanning, currying and finishing of leather did not become prominent in California until about 1861. From that time, however, it grew rapidly, and since 1877 the local supply of hides and skins has not been large enough to satisfy the requirements of the industry, so that it has been necessary to supplement it by hides and skins brought in from other states or imported from foreign countries.

Malt Liquors. This industry shows considerable growth for the decade, being greater, however, for the five-year period, 1899-1904, than for the following five-year period.

Wines. The extensive vineyards of California have placed the State far ahead of any other in wine industry. In 1909 the value of the products for the industry in the State, \$8,937,000, represented 68.1 per cent of the total for the United States.

Gas, Illuminating and Heating. The manufacture of gas is notable in California because of the extensive use of petroleum. On account of the lack of coal in the State, the product of the gas plant has been

limited to the manufacture of carbureted water gas and oil gas. According to the statistics for 1909, the production of oil gas greatly exceeds that of carbureted water gas. The total value of products reported for the industry in 1909 was \$8,927,000, an increase of \$5,765,000, or 182.3 per cent over that for 1899.

Cement. California has numerous beds of soft limestone and clay which are relatively low in magnesia and which are being utilized to a considerable extent for the manufacture of Portland cement. In 1904 there were four establishments engaged in the industry, employing 596 wage-earners and reported products valued at \$1,601,000, while in 1909 the industry had increased to eight establishments, giving employment to an average of 2,407 wage-earners and reporting a product valued at \$6,504,000. The counties in which the industry is most extensively carried on, named in order of importance, are Solano, Santa Cruz and San Bernardino.

The Automobile Industry. This industry, which in California had its beginning but a short time prior to 1904, shows a very high rate of increase, the value of products in 1909 being more than forty times as great as in 1904.

Engines and Power. The following shows the number of engines or other motors, according to their character, employed in generating power (including electric motors operated by purchased current) and their total horsepower in 1899 and 1909. The more general use of gas engines is shown, there being 765 such engines, with an indicated capacity of 10,115 horsepower, in 1909, as against 545 engines with 3,244 horsepower in 1899.

Water wheels show a decrease in number but an increase in total horsepower. The figures also show that the practice of renting electric power is increasing rapidly, 35.4 per cent of the total power being rented electric power in 1909, as against 7.6 per cent in 1899. The proportion for 1909 is larger than for any other state in the Union. The use of electric motors for the purpose of applying the power generated within the establishments is rapidly becoming more common, the horsepower of such motors having increased from 6,138 in 1899 to 27,147 in 1909.

Fuel. Of the fuel consumed in generating this power, a notable fact is the large amount of oil and the small amounts of nearly all other kinds of fuel used. The larger part of this oil is crude oil used as fuel in the generation of steam power, but increasing quantities of refined oil are being used in internal-combustion engines.

Anthracite coal, tons.....	4,421
Bituminous coal, tons.....	43,165
Coke, tons.....	113,665
Wood, cords.....	76,323
Oil, including gasoline, barrels.....	8,883,015
Gas, 1,000 feet.....	302,548

MANUFACTURING IN CALIFORNIA—1850-1909.

The growth of manufactures in California has made rapid progress, as is shown by the following summary:

	1850.	1860.
Number of establishments.....	1,003	8,468
Capital invested.....	\$1,006,197	\$22,043,096
Cost of raw material.....	\$1,201,154	\$27,051,674
Male hands employed.....	3,964	49,169
Female hands employed.....		57
Cost of labor.....	\$3,717,180	\$28,432,687
Value of products.....	\$12,862,522	\$68,253,228

	1870.	1880.	1890.
Number of establishments.....	3,984	5,885	7,923
Capital invested.....	\$39,728,202	\$61,243,784	\$146,797,102
Number of wage-earners.....	29,148	43,693	72,696
Total wages.....	\$13,136,722	\$21,065,905	\$41,172,918
Cost of material used.....	\$35,351,193	\$72,807,709	\$120,243,683
Value of products.....	\$66,594,556	\$116,218,973	\$213,403,996

	1900.	1909.
Number of establishments.....	12,582	7,659
Capital invested.....	\$205,395,025	\$537,134,000
Average number of wage-earners.....	91,047	115,296
Total salaries and wages.....	\$47,425,947	\$107,097,000
Cost of materials used.....	\$188,125,602	\$325,238,000
Value of products.....	\$302,874,761	\$529,761,000

Summary of Manufacturing Establishments.

	Number or amount.	
	1890.	1909.
Number of establishments.....	4,997	7,659
Persons engaged in manufacture.....	*	141,576
Proprietors and firm members.....	*	8,077
Salaried employees.....	6,877	18,203
Wage-earners (average number).....	77,224	115,296
Primary horsepower.....	126,953	329,100
Capital.....	\$175,468,000	\$537,134,000
Expenses.....	\$225,404,000	\$476,154,000
Services—		
Salaries.....	\$7,495,000	\$22,955,000
Wages.....	39,890,000	84,142,000
Totals.....	\$47,385,000	\$107,097,000
Materials.....	\$164,894,000	\$325,238,000
Miscellaneous.....	\$13,125,000	\$43,819,000
Value of products.....	\$257,386,000	\$529,761,000
Value added by manufacture (value of products less cost of materials).....	\$92,492,000	\$204,523,000

*Figures not available.

Laundries. Statistics for steam laundries are not included in these tables, or in the totals for manufacturing industries. In 1909 there were 321 such establishments in California, 87 of which were in San Francisco, 41 in Oakland, 31 in Los Angeles, and 10 in Sacramento.

The following statement summarizes the statistics:

Number of establishments.....	321
Persons engaged in the industry.....	9,060
Proprietors and firm members.....	308
Salaried employees.....	714
Wage-earners (average number).....	8,038
Primary horsepower.....	8,961
Capital.....	\$6,295,915
Expenses.....	8,177,759
Services.....	5,260,743
Material.....	1,612,112
Miscellaneous.....	1,304,904
Amount received for work done.....	9,541,795

Fourteen Leading Manufactures.

Industry.	Number of establishments.	Persons engaged.*	Salaries.	Wages.	Capital.	Value of product.
Automobiles.....	41	589	\$71,000	\$368,000	\$701,000	\$1,470,000
Butter, cheese and condensed milk.....	161	918	202,000	466,000	2,829,000	12,761,000
Canning and preserving.....	196	8,714	1,080,000	8,454,000	18,316,000	32,915,000
Cars and steam railway shop construction and repairs.....	42	9,688	379,000	8,394,000	4,721,000	18,719,000
Cement.....	8	2,521	195,000	1,650,000	24,014,000	6,504,000
Flour mill and grist mill products.....	125	1,392	514,000	732,000	13,424,000	25,188,000
Foundry and machine shops.....	543	10,218	1,832,000	7,312,000	28,698,000	26,731,000
Gas, illuminating and heating.....	74	2,538	824,000	1,408,000	47,075,000	8,927,000
Leather, tanned, curried and finished.....	40	1,547	215,000	988,000	8,535,000	9,367,000
Malt liquors.....	83	1,626	545,000	1,391,000	18,804,000	9,319,000
Wines.....	181	1,691	429,000	682,000	20,189,000	8,937,000
Lumber and timber products.....	644	25,079	2,237,000	15,651,000	55,165,000	45,000,000
Petroleum, refining.....	29	1,146	367,000	801,000	13,881,000	17,878,000
Printing and publishing.....	1,240	12,215	3,829,000	6,432,000	17,198,000	25,032,000
Slaughtering and meat packing.....	94	2,135	550,000	1,307,000	11,463,000	34,280,000

*Includes proprietors and firm members, salaried employees, and wage-earners.

**Manufactures of Twenty-one Cities With a Population of Ten Thousand and Over,
According to Their Relative Industrial Importance.**

	Capital.		Average number of wage-earners.		Value of products.	
	1899.	1909.	1899.	1909.	1899.	1909.
San Francisco†	\$69,643,000	\$183,824,000	32,555	28,244	\$107,023,567	\$133,041,069
Los Angeles	10,045,000	59,518,000	5,173	17,327	15,153,696	68,586,274
Oakland	5,173,000	19,113,000	2,476	6,905	5,368,258	22,342,926
Sacramento	6,856,000	10,097,000	3,686	4,514	9,494,633	13,976,911
Stockton	4,454,000	8,250,000	1,185	1,594	5,525,391	11,849,252
Fresno	1,435,000	4,933,000	819	1,938	2,752,201	11,090,195
San Jose	2,980,000	3,815,000	1,221	1,430	3,291,641	5,610,427
San Diego	990,000	5,326,000	255	1,071	669,682	4,740,990
Berkeley	456,000	3,465,000	211	1,084	651,286	4,435,374
Eureka	*	3,306,000	*	946	*	3,011,682
Bakersfield	*	1,791,000	*	746	*	2,818,744
Alameda	749,000	3,002,000	372	915	1,335,326	2,554,417
Vallejo	*	1,559,000	*	203	*	1,895,562
Pasadena	313,000	1,347,000	177	499	330,578	1,724,364
San Bernardino	*	1,242,000	*	729	*	1,659,705
Riverside	*	1,102,000	*	267	*	1,177,962
Santa Barbara	*	895,000	*	265	*	1,169,195
Santa Cruz	*	2,605,000	*	274	*	1,161,269
Long Beach	*	1,326,000	*	277	*	927,180
Pomona	*	630,000	*	224	*	559,661
Redlands	*	1,104,000	*	147	*	518,320

*Figures not available.

†The remarkable increases shown for Alameda and Berkeley, and also for Oakland, are doubtless due largely to the influx of population and business from San Francisco following the earthquake in 1906.

Engines and Power.

Power.	Number of engines or motors.		Horsepower.		Per cent distribution of horsepower.	
	1899.	1909.	1899.	1909.	1899.	1909.
Owned:						
Steam	2,158	2,520	105,190	193,526	82.9	58.8
Gas	545	765	3,244	10,115	2.6	3.1
Water wheels	171	115	4,680	7,390	3.7	2.2
Water motors	*	47	*	280	*	0.1
Other			1,609	30	1.3	*
Totals	2,874	3,447	114,723	211,341	90.4	64.2
Rented:						
Electric	*	10,802	9,624	116,537	7.6	35.4
Other			2,606	1,222	2.1	0.4
Totals	2,874	14,249	12,230	329,100	100.0	100.0
Electric motors:						
Run by current generated by establishment	281	1,591	6,138	27,147	38.9	18.9
Run by rented power.	*	10,802	9,624	116,537	61.1	81.1
Total	281	12,393	15,762	143,684	100.0	100.0

*Not reported.

PART IX.

MISCELLANEOUS.

TRANSPORTATION BY WATER: RIVER TRAFFIC.

California Fisheries: Quantity and Value of Salmon; Salmon Rivers; Salmon Catch by Counties. Game: Deer; Antelope; Mountain Sheep; Bear; Wild Ducks and Geese; Quail; Grouse; Sage-hen; Doves and Pigeons; Pheasants and Wild Turkeys. Public Roads: Mileage of Roads by Counties.

Transportation by Water.

The largest volume of unused water in California comes from the Sacramento and San Joaquin valleys, and it is here that the greatest development in the future will take place. It is not believed that this increased use of water will seriously injure navigation interests, because a large percentage of the water diverted will return to the streams as waste seepage.

The complete utilization of these two rivers will give California the largest rural population of any state in the Union. Whatever expenditure is necessary to protect navigation interests and enable this to be brought about should be made. Even if it requires the construction of locks and the canalizing of both streams, the improvements will be well worth their cost, and as it is a recognized field for the expenditure of government appropriations, a proper presentation of the situation should prove successful. The above is the opinion of such a high authority as Prof. Elwood Mead.

The navigation of the upper part of the San Joaquin River is now engaging serious attention by those interested in the development of this great valley, and a determined effort is being made to accomplish this great work, by taking active steps to prove its feasibility, and to induce the Federal Government to assist in promoting the undertaking by making the river navigable as far as Herndon, if necessary by a canal for a portion of the distance.

The San Joaquin River fluctuates widely in the course of a year between a high flood-water level, and a lower, or autumn, flow. By gaugings at Friant (formerly called Pollasky), and also at Herndon, the maximum flow of the river has been recorded as high as 59,800 cubic feet per second. The months of the greatest flow are from January to July, inclusive. On the other hand, the minimum flow has fallen as low as 150 feet at Herndon. The months from August to October include the period of low water. In the winter and spring months the average discharge approximates 5,000 to 6,000 feet per second.

From its source in the high Sierra to the point where it joins the Sacramento at Suisun Bay (about 50 miles by water from San Francisco), the San Joaquin is about 350 miles long; 125 in the mountains, and 225 in the valley. It receives the discharge of all the Sierra streams south of the Mokelumne and from all the smaller creeks draining from

the eastern slope of the Coast Range between San Francisco Bay and the Tehachapi.

San Francisco Bay, which has an area of about 450 square miles, is by far the most important harbor of the State.

River Traffic.

The Sacramento is navigable as far as Red Bluff, 262 miles above its mouth, while the San Joaquin is navigable, at high water, as far as Hills Ferry, 195 miles from the mouth. The channel up to Stockton is open throughout the year. The capacity of a typical steamboat of these rivers may average not far from thirty carloads of grain or potatoes. Often a steamer will tow one or more barges laden with grain or other commodities. In addition to the steamboat and barge lines, a number of launches are engaged in the freight and passenger service between Sacramento or Stockton and the smaller river landings. One line is operated between Stockton and Sacramento. In May, 1910, there were at least nine or ten different lines of steamboats and launches carrying passengers or freight to and from Sacramento. Another kind of river craft is the scow schooner, or sail vessel common on these rivers and San Francisco Bay.

Although data showing grain traffic on the Sacramento and San Joaquin are but fragmentary, it is known that much wheat and barley are shipped by steamboat and barges down these streams to tidewater. The grain carried on the San Joaquin in 1907 was reported as 137,306 tons, while 109,427 tons were reported in 1906 and 63,457 tons in 1908; live stock traffic in 1906 amounted to 3,336 tons and to 3,244 tons in 1908.*

The wheat grown west of the Rocky Mountains enters into a trade distinct from that of the rest of the United States. The farmer of California, Oregon, or Washington looks to Liverpool and other European ports, not to Chicago and Minneapolis, for his market. His product is carried some 18,000 miles before it reaches the English miller, but this route is cheaper than the 2,000-mile haul across the mountains to milling centers of the Mississippi Valley. Local mills grind considerable quantities, but the surplus for export is regularly carried by sea to Europe.

On the upper Sacramento River the rate from Red Bluff, the head of navigation, to San Francisco, a distance of about 387 miles, was in 1910 equivalent to 9 cents per bushel for wheat or 7.2 cents for barley. The rate from Stockton to San Francisco was less than 2 cents per bushel for wheat and slightly more than 1.5 cents for barley. River steamers (and the portage railway around the falls) charged for wheat 9.6 to 10.5 cents per bushel between Lewiston, Idaho, and Portland.

This water service is especially valuable to a considerable area of rich farming land situated on islands in the deltas of the two rivers. Not only is grain an important product, but potatoes, beans, asparagus, and other vegetables are also shipped in large quantities.

The time of steamboat transit between San Francisco and Sacramento was probably about the same in the early days as now; in 1910, the schedule time for local day boats was ten hours upstream and nine hours downstream. When conditions required it, this time could be shortened greatly.

*For full details on marketing grain and live stock, see Bulletin 89, Bureau of Statistics, United States Department of Agriculture, by Frank Andrews.

Transportation by Water.

In a special report issued by the Bureau of Census in 1906 on Transportation by Water, it is stated that from 1875 to June 30, 1907, the Federal Government expended \$878,749 in improving the Sacramento and Feather rivers, the latter being navigable for gasoline boats and launches from its junction with the Sacramento to Marysville. The canalization of the Sacramento and San Joaquin rivers was suggested as part of a plan to furnish an inland waterway from the upper to the lower part of the State.

Navigable Streams—Length and Depth at Low Water.

Name and points connecting.	Distance in miles.	Navigable length.	Depth at low water, feet.	Traffic, tons.	
				In 1905.	In 1906.
Redwood Creek:					
Mouth to Redwood.....		1.0	3.0	47,700	
San Joaquin River:					
Mouth to Stockton.....		200	8.0		971,382
Stockton to railroad crossing.....			3.0		
Stockton to Firebaugh.....			A few inches.		
Mokelumne River:					
Mouth to Galt.....		20.0	2.0		50,000
Mouth to Snodgrass Slough.....	13.0		6.0		to 100,000
Sacramento River:					
Mouth to Red Bluff.....		262.0	2.5		
Mouth to Sacramento.....	64.0		7.0		375,000
Sacramento to Red Bluff.....	198.0		2.5		*
Feather River:					
Mouth to Marysville.....		30.0	1 to 2	5,306	
Petaluma Creek:					
Mouth to Petaluma.....		16.0	4.0		175,025
Napa River:					
Mouth to Napa.....		16.0	4.0		182,642

*Steamboat lines only.

An act of congress approved March 1, 1903, created the California Débris Commission, to regulate hydraulic mining in the territory drained by the Sacramento and San Joaquin river systems, and to adopt plans to improve and protect the navigation of those rivers.

On Petaluma Creek and Napa River there is a considerable amount of farm and dairy produce carried on light-draft vessels and a small amount of general merchandise. Vessels operating on the Sacramento, San Joaquin, Mokelumne, Old and Middle rivers handle fruit and vegetables from river landings to San Francisco for local consumption and canneries, and to Sacramento for local consumption, canneries, and transcontinental shipment. Return cargoes consist of general supplies and such manufactured products as are consumed in agricultural districts. Other shipments are grain, dried fruits, live stock, general merchandise, and machinery.

The commerce on the lower San Joaquin River between Stockton and San Francisco is large and important. In 1906 the commerce of this river was reported as 971,382 tons, valued at \$14,770,730, exclusive of freight.

The commerce of the upper river is small, the amount of trade reported in 1905 being 10,891 tons. There have been no records kept

of the tonnage of the Mokelumne River, the amount of which can only be estimated.

Tonnage of All Freight and of Grain and Live Stock Carried on San Joaquin and Sacramento Rivers.
(Tons of 2,000 pounds.)

Calendar year.	San Joaquin River, all freight, tons.	Sacramento River, all freight, tons.
1900	270,887	461,314
1901	357,746	452,965
1902	322,000	404,900
1903	366,038	383,724
1904	360,486	353,164
1905	373,186	365,957
1906	440,300	375,000
1907	736,472	367,224
1908	509,233	394,945

Depth of Channel and Distance from Open Sea for California Ports.

Port.	Location.	Distance from open sea, nautical miles.	Depth of channel.		
			Mean low water, feet.	Mean high water, feet.	Remarks.
Eureka	Humboldt Bay	5.5	18½	24	At wharves, 15 to 36 feet deep.
San Francisco	San Francisco Bay	14.8	18½	24	
Oakland	San Francisco Bay	14.8	18½	24	
Monterey	Bay of Monterey	3.0			
Port Harford	On the sea		27		At wharves, 15 to 48 feet.
Santa Barbara	On the sea		25		
Los Angeles ports:					
Port Los Angeles	On the sea		34		
Redondo Beach	On the sea				
San Pedro	San Pedro Harbor	1.9	20	25	
San Diego	San Diego Bay	6.1	25	29½	

CALIFORNIA FISHERIES.

The principal feature in the California fisheries is a decline in value of products, although the quantity was greater, fewer men employed, but more power in boats.

The quantity of fish, oysters, and whale products caught in 1908 was 645,000 pounds more than in 1899, but the value was \$581,000 less. Cod showed a decline, as did flounders, smelt, sole, and crabs. Oysters fell from \$867,000 in 1899 to \$337,000 in 1908. Salmon showed an increase, the catch amounting to 24 per cent of the total value of the products in 1908, compared with 10 per cent in 1899. Other species that have increased notably are striped bass, barracuda, spiny lobsters, rockfish, catfish, and white sea bass.

The value of the products taken in the shore and boat fisheries in 1908 was \$1,627,000, 38 per cent of which was obtained in the Sacramento River, where salmon was the principal species caught, amounting to 7,292,000 pounds. San Francisco Bay was second in rank, according to the value of products taken in the shore and boat fisheries. Herring was the principal species taken in the bay fisheries, while oysters, smelt, sea bass, rockfish, striped bass, and sardines were also taken in considerable quantities.

The vessel fisheries were credited with products valued at \$343,000, whalebone and whale oil accounting for \$132,000, but the vessel fisheries amounted to only 17 per cent of the total value of the fishery products of the State.

In 1908, salmon stood first, both in quantity and in value, among the species of fish taken in California waters, the State ranking third in the country, both in quantity and in value of the catch of salmon. Of the total quantity, 79 per cent was taken from the Sacramento River. Striped bass ranked second and cod third in value, the latter being taken largely off the coast of Alaska. All were salted, and the catch was 41 per cent less than in 1904.

The gradual decrease in the product of the oyster industry from 1889 to 1908 is difficult of explanation, though 1908 was a poor year, some beds not yielding more than 10 per cent of the usual catch.

Crabs show a decrease between 1904 and 1908 of 67 per cent in quantity and 56 per cent in value. Spiny lobster decreased 47 per cent in quantity, but the value increased 60 per cent. The decrease in shrimps was 47 per cent in quantity and 54 per cent in value. The abalone industry in the United States is confined to California, and increased 134 per cent in value from 1904 to 1908, though the product was only \$22,000 in value.

Steady decrease in whale produce for several years is notable. Whalebone and oil in 1904 were \$393,000 in value, as compared with \$119,000 in 1908.

The catching of sea lions for exhibition purposes is an industry of considerable importance.

Summary of Quantities and Values.

In the value of products from fisheries, California ranked second among the Pacific coast states, both at the canvass of 1904 and 1908. The river or inland fisheries are confined almost exclusively to the rivers flowing into San Francisco Bay, the largest and most productive of which is the Sacramento.

The following tabular statement gives a summary of the industry for 1908:

Number of persons employed.....	4,129
Vessels and boats, including outfit.....	\$1,066,000
Apparatus of capture.....	\$502,000
Shore and accessory property and cash.....	\$91,000
Value of products.....	\$1,970,000
Products by fishing grounds.....	

The quantity and value of fish taken by the shore and boat fisheries from the different waters of the State in 1908 was as follows:

Fishing ground.	Quantity, pounds.	Value.
Sacramento River	11,643,000	\$617,000
San Francisco Bay.....	3,522,000	431,000
Pacific Ocean	8,552,000	249,000
Humboldt Bay, including Eel and Mad rivers.....	2,888,000	96,000
Monterey Bay	5,248,000	89,000
Monica Bay	2,574,000	67,000
Santa Barbara channel.....	1,535,000	62,000
Klamath River	433,000	8,900
San Luis Obispo Bay.....	464,000	6,200
Totals	36,860,000	\$1,627,000

Of the total products taken by the shore and boat fisheries in 1908, the Sacramento River supplied 32 per cent in quantity and 38 per cent in value. Salmon was the principal fish caught in this river, amounting to 7,292,000 pounds; striped bass was next in importance, the total being 1,690,000 pounds. Catfish, shad, carp, black bass, pike, and sturgeon follow in the order named. San Francisco Bay was second in rank, according to the value of products.

In Humboldt Bay and its tributaries there were taken besides salmon, smelts, flounders, herring, rockfish, and crabs. The sardine catch of Monterey amounted to 1,782,000 pounds. More than two thirds of the abalone catch of the State is credited to Monterey Bay. Out of a total of 47,477,000 pounds of fish caught in 1908, the principal kinds were:

Variety.	Pounds.	Value.
Salmon -----	9,211,000	\$471,000
Chinook -----	8,846,000	460,000
Blueback -----	147,000	4,900
Silver -----	141,000	4,200
Steelhead -----	76,000	2,800
Sardines -----	4,638,000	30,000
Sole -----	3,487,000	65,000
Cod (salted) -----	3,298,000	94,000
Barracuda -----	3,205,000	88,000
Flounders -----	3,193,000	80,000
Rockfish -----	2,319,000	60,000
Striped bass -----	1,776,000	135,000
White sea bass -----	1,337,000	42,000
Oatfish -----	1,069,000	56,000
Crabs -----	1,702,000	69,000
Oysters -----	729,000	337,000
Abalone (meat and shells) -----	1,235,000	22,000

THE SALMON FISHERIES.

In the last report of the United States Commissioner of Fisheries, attention is called to the enormous destruction of young salmon in the Sacramento River through the medium of irrigation canals and the attacks of black bass during the migration of the salmon to salt water. One of the canals referred to is 85 feet wide at the bottom, and as the fry follow the current in their descent of the river, large numbers are carried into the canal by the inflowing water and are left stranded on adjacent lands. Unless the fry are planted below the intake, or some effective method of screening is resorted to, it will be impossible to maintain the present run of salmon in the Sacramento River.

The California Fish Commission, realizing the futility of maintaining the supply of salmon in the Sacramento and tributaries in the face of such adverse conditions, is contemplating the establishment of a hatchery near tidewater for the development of eggs collected at interior stations.

The largest, best-known, and most valuable species is the Chinook, or King salmon, which is found from Ventura River to North Sound, Alaska. There are two runs of spawning fish in the Sacramento, the "spring run" in April, May, and June, spawning mainly in the cold water of the McCloud and Fall rivers. The second, or "fall run," occurs in August, September, and October, and these fish spawn in the riffles in the main river between Tehama and Redding.

In former years the San Joaquin, and the American and Feather rivers of the Sacramento system, had large runs of salmon, but excessive

fishing and the operation of various mining and irrigation projects have practically depleted them.

The Eel and Mad rivers of northern California have only a fall run, while the Klamath River has both a spring and a fall run, and the Smith River, in the northern part of the State, has a spring run alone.

The salmon rivers and fishing grounds in California are: Smith River, Klamath River, Humboldt Bay and tributaries, Mad River, Eel River, Mattole River, a small river in the southern part of Humboldt County, Sacramento and San Joaquin rivers, Pitt and McCloud rivers, and Battle Creek.

The principal fishing grounds for salmon are Suisun Bay and the lower part of the San Joaquin and Sacramento rivers. Drift gill nets are used almost exclusively. From Sacramento to Anderson there is considerable commercial fishing with haul seines. The southernmost point on the coast where salmon are taken commercially is Monterey Bay.

Persons Employed. The total number of persons employed in the salmon fisheries in 1909 was 2,675, Contra Costa County leading with 774 persons. These are classified as follows:

	Fishermen.	Shoremen.	Transporters.
White	2,114	276	-----
Japanese	168	5	-----
Chinese	15	-----	-----
Indians	-----	15	-----
Totals	2,297	296	82

Investment, Apparatus, etc. The total capital invested amounted to \$1,232,960, Contra Costa County leading in the total investments. Gill nets, haul seines, and trolling lines are the principal forms of apparatus used. The items included under this head are: Transporting power vessels, power boats, power fishing boats, fishing boats, and row, house boats, and scows.

Apparatus, Shore Fisheries. Haul seines, gill nets, drift; shore and accessory property, and cash capital.

Summary of Values by Counties.

County.	Value.
Del Norte	\$45,508
Humboldt	40,800
Alameda	159,550
Marin	1,500
San Francisco	259,435
Solano	194,700
Contra Costa	394,053
San Joaquin	18,480
Yolo	6,285
Sacramento	30,755
Sutter	1,400
Butte	3,915
Glenn	1,300
Tehama	4,170
Shasta	705
Monterey	56,441
Santa Cruz	13,963
Total	\$1,232,960

The total catch amounted to 12,141,937 pounds, valued at \$585,995. Contra Costa leads in catch, followed closely by Solano County. Nearly four fifths of the catch were made with gill nets, while Chinook salmon comprise almost all of the catch.

Production and Value by Species.

Species.	Pounds.	Value.
Blueback	21,000	\$689
Chinook (fresh)	11,893,199	575,542
Chinook (salted)	69,049	4,552
Silver (fresh)	99,500	2,675
Silver (salted)	46,000	1,900
Dog	4,200	84
Steelhead trout	8,989	553
Totals	12,141,937	\$585,995

Production and Value of Salmon Catch by Counties in 1909.

County.	Pounds.	Value.
Del Norte	655,225	\$12,852
Humboldt	864,196	34,124
Marin	5,330	310
San Francisco	91,063	4,055
Solano	3,238,788	168,713
Contra Costa	3,949,080	211,166
San Joaquin	61,187	2,585
Yolo	197,520	10,852
Sacramento	599,723	32,690
Sutter	62,119	1,917
Butte	163,022	8,285
Glenn	72,547	3,627
Tehama	314,102	16,905
Shasta	46,475	2,789
Monterey*	1,779,524	73,134
Santa Cruz*	41,984	1,991
Totals	12,141,937	\$585,995

*With lines.

Statistics by Waters.

Persons Employed. Of the 2,675 persons employed in the industry, 1,880 were on the Sacramento River; the next largest number was employed on Monterey Bay.

	Fishermen.	Shoremen.	Transporters.	Total.
Smith River	47	32	3	79
Klamath River	37			40
Mad River	41			41
Eureka Bay	7	6		13
Eel River	291	13	79	304
Sacramento River	1,582	219		1,880
Monterey Bay	292	26		318
Totals	2,297	296	82	2,675

Investment and Apparatus. More than nine tenths of the total investments are represented in the Sacramento River. Trolling lines are used in Monterey Bay.

Waters.	Value.
Smith River	\$2,540
Klamath River	42,968
Mad River	3,265
Eureka Bay	3,100
Eel River	34,435
Sacramento River	1,076,248
Monterey Bay	70,404
Total	\$1,232,960

Products and Value of the Salmon Catch by Waters.

Waters.	Pounds.	Value.
Smith River	94,000	\$3,200
Klamath River	561,225	9,652
Mad River	108,900	4,286
Eureka Bay	28,000	840
Eel River	727,298	28,998
Sacramento River	8,801,006	463,894
Monterey Bay	1,821,508	75,125
Totals	12,141,937	\$585,995

NOTE.—But one cannery was operated in 1909, and that at Requa, on the Klamath River. The pack was 5,663 cases of 1-pound flat Chinooks, which sold for \$28,315.

Mild, Cured, and Smoked Salmon.

River.	Mild, cured Chinook.		Smoked.				Total.	
			Chinook.		Silver.			
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Eel -----	64,000	\$6,400	50,000	\$5,000	3,000	\$300	117,000	\$11,700
Sacramento	4,095,162	450,019	56,550	8,943	4,660	326	4,156,372	459,288
Monterey Bay -----	728,800	64,049	4,000	700	-----	-----	732,800	64,749
Totals--	4,887,962	\$520,468	110,550	\$14,643	7,660	\$626	5,006,172	\$535,737

Sacramento Canned Salmon, 1873-1905.

The quantity of canned salmon from the Sacramento River since 1873 increased rapidly the first ten years until it touched upwards of 200,000 cans in 1882; since that year the quantity packed rapidly declined until 1905.

Year.	Cases.	Year.	Cases.
1873	1,000	1890	35,006
1874	2,500	1891	4,142
1875	3,000	1892	4,600
1876	8,300	1893	22,336
1877	21,500	1894	28,463
1878	36,500	1895	24,000
1879	31,000	1896	13,387
1880	51,000	1897	42,500
1881	181,200	1898	28,000
1882	200,300	1899	33,550
1883	160,000	1900	34,000
1884	81,450	1901	17,500
1885	48,500	1902	14,043
1886	39,300	1903	10,491
1887	36,500	1904	19,698
1888	58,000	1905	2,780
1889	66,666		

NOTE.—See the Salmon Fisheries of the Pacific Coast, by John N. Cobb.

Hatcheries.

The following is a summary of the distribution from the different hatcheries for the season 1912:

Hatchery.	Total shipped and held for breeding.
Sisson: Trout, 6 varieties.....	8,913,670
Salmon.....	6,142,555
Tahoe: Eastern brook trout.....	3,111,158
Brookdale: Steelhead trout.....	803,500
Price Creek: Steelhead trout and salmon.....	3,783,660
Ukiah: Steelhead trout.....	433,458
Wawona: Rainbow and black-spotted trout.....	330,472
Sacramento Experiment Station: Salmon.....	900,000
Mill Creek Station: Salmon.....	8,663,230
Black bass—Adult black bass caught up and distributed for breeders.....	1,750
Summary.	
Trout distributed and held for breeding in State of California during season of 1912.....	14,172,258
Salmon distributed during season of 1912.....	18,909,445
Black bass distributed during season of 1912.....	1,750
Total	33,083,453

California Game.*

The game animals are so valuable in California that the title to them has been retained by the State, and the fees charged for licenses, which expire annually on June 30th, amount to a considerable sum.

Hunting licenses.	Fiscal year, 1910-11.	Fiscal year, 1911-12.
Residents at \$1.....	\$138,410	\$141,551
Non-residents at \$10.....	1,080	680
Aliens at \$25.....	3,775	3,950
Totals	\$143,265	\$146,181

The total number of licenses issued was 138,669 in 1910-1911, and 141,777 in 1911-1912. The amount received for commercial fish licenses for the year ending March 31, 1912, was, alien \$18,645, citizen \$4,902, or a total of \$23,545, while the fines paid into the state treasury for violation of fish and game laws for the year ending June 30, 1912, were \$19,530.

In California there are so many different conditions of climate and topography that it is almost impossible to create a blanket fish and game law. When deer, for example, are in proper condition to be killed in one section, they are out of condition in another. Two years ago the legislature divided the State into six fish and game districts, but by chapter 575, passed at the recent legislature, the number of districts has been increased to seven.

Deer. It is reported in many parts of the State that deer are on the increase, but this is doubtful. There are probably killed in the State each year by hunters 10,000 deer. It has been estimated that every mountain lion will kill at least 52 deer a year; estimating the lions at 250, the number devoured by them would amount to 13,000. Coyotes and other animals would probably bring the total number destroyed to near 30,000. In average years the natural death rate is not great; most of them meet violent deaths, so the above number can be accepted as the number of deer dead from all causes in the State.

Elk and Antelope. Of the thousands of these animals that formerly ranged the State, there are now but a few scattered bands. In the San Joaquin Valley, near Button Willow, and in the Sequoia National Park range are all that are left of the thousands of "tule," a dwarf elk that formerly were found throughout the San Joaquin and Sacramento valleys. This species is peculiar to California, and now only number between 400 and 500 head.

Another variety is found in small numbers in Humboldt and Del Norte counties, in bands numbering from six to twelve, but the total number probably does not exceed 200.

The Antelope. The antelope is still found in the extreme eastern part of the State; some are found in Antelope Valley, in the north-eastern part of Los Angeles County, while in the western San Joaquin Valley the largest band of the State is found. In Modoc, Lassen, and Siskiyou counties there are several small bands. All told, there are probably about 600 antelope left in the State.

Mountain Sheep. These still flourish in considerable numbers in the southeastern part of the State. Formerly this magnificent game animal ranged over the entire Sierra Nevada region and across to the lower Coast Range, as far north as San Luis Obispo County.

Bear. The grizzly bear is practically extinct. There are probably not more than half a dozen left in the State. The common brown or black bear is fairly abundant in some parts. It is for the most part a harmless species, feeding on roots, berries, grubs and insects, and rarely kills sheep or hogs. The pelt of a well-colored bear in prime condition is worth from \$20 to \$40.

Fur-bearing Animals. Few people realize the importance of fur-bearing animals in this State, yet each year furs worth nearly \$200,000 are shipped to the various fur centers.

*See Report of the California Fish and Game Commission, 1910-12.

Wild Ducks and Geese. These are the most abundant game birds in the State, although neither of them are nearly as numerous as they were in former years. Ducks breed throughout the entire State, and the number killed in California last year is estimated at approximately one million.

Quail. Quail are slowly decreasing throughout most of the State, on account of the great number of hunters. In parts of the State there is urgent need of a close season for a number of years if quail are to be kept from extermination. Mountain quail have become very scarce throughout the southern end of the State, and in the coast region below San Francisco. In other parts of the State they are about holding their own.

Grouse. Ruffed grouse are fairly abundant in the extreme northwestern corner of the State. The blue grouse is becoming scarcer, and where the settlers have engaged in sheep raising, they are almost extinct.

The Sage Hen. This bird is found only in the eastern part of the State, in the true sagebrush country. The sage hen is practically never found below an elevation of 3,000 to 4,000 feet, nor out of the true sagebrush country. It is the largest California game bird.

Doves and Pigeons. The most difficult bird to arrange a proper season for is the common mourning dove, January being the only month in which they do not nest. On this account many sportsmen advocate the removal of the dove from the list of game birds. There is urgent need for the protection of the wild (band-tail) pigeon. This is the slowest breeding game bird in the United States. One egg is the complete set, and probably only one egg is laid the entire year.

Pheasants and Wild Turkeys and Hungarian Partridges. Of the introduced game birds, ring-neck pheasants have done well, especially in Humboldt County; they have also increased in parts of Santa Clara and San Joaquin valleys. Wild turkeys have been liberated in the lower Sierra Nevada region; other plants have been made in San Diego, San Bernardino, Monterey, San Benito, Alameda, Sonoma, and Humboldt counties. Hungarian partridges have been given a good trial, but, as yet, without success.

PUBLIC ROADS.

The total mileage of public roads in the United States in 1909 was 2,199,645 miles, and the total of improved roads 190,476 miles, made up as follows: Stone 59,237 miles, gravel 102,870 miles, other material 28,372 miles. Indiana leads all other states in the mileage of improved roads with 24,955 miles; Ohio is second, New York third, California seventh, and Massachusetts eighth. A decrease in improved roads is reported from California, Michigan, Minnesota, and Wisconsin.

The practice of improving the earth roads by the use of oil in California has been, to a large extent, discontinued, and this has had the effect of cutting down the mileage of that class of roads considerably, and so reducing the total mileage of improved roads. The information from some of the counties is not altogether satisfactory, but the figures are as accurate and complete as it was possible to obtain at the time. California had, at the close of 1909, 48,069 miles of public roads, which exceeds the total mileage reported for 1904 by 1,416 miles.

Of the total mileage of public roads in the State, 579 miles are reported as having been surfaced with stone, 6,054 miles with gravel,

1,289 miles with sand clay, and 653 miles with oiled earth, making a total mileage of improved roads of 8,587, or 17.87 per cent. This is about 1 per cent less than was reported in 1904, and this decrease is due principally to the fact that the oiling of earth roads has been abandoned to a large extent, for while there were 2,541 miles of earth roads reported to have been oiled in 1904, there were only 653 miles of oiled roads reported in 1909.

The gain in improved roads is as follows: 160 miles of macadam, 1,289 miles of sand clay, and 210 miles of gravel. No sand clay roads were reported in 1904. There are ten counties in the State which report no improved roads, twenty-one counties have less than 10 per cent improved, and nine counties have from 52 to 80 per cent improved as follows:

County.	Improved.
Napa	80.89 per cent
Los Angeles	72.33 per cent
Santa Clara	68.83 per cent
San Benito	68.73 per cent
San Mateo	65.14 per cent
Sonoma	59.92 per cent
Yolo	57.72 per cent
Alameda	55.55 per cent
Colusa	52.24 per cent

TABLE LIII.
Mileage of Public Roads in 1909.

Counties.	Total mileage of all public roads.	Mileage of improved roads.					Approximate percentage of roads improved.
		Stone.	Gravel.	Sand clay.	Oiled.	Total.	
Alameda	765	25	400			425	55.55
Alpine	100						
Amador	500	15	20			35	7.00
Butte	1,200	5	400			405	33.75
Calaveras	606	5	40			45	7.42
Colusa	578		302			302	52.24
Contra Costa	500		100	10	40	150	30.00
Del Norte	125		30			42.5	34.00
El Dorado	900			5		5	.55
Fresno	1,500			20	150	170	11.33
Glenn	500		138			138	27.60
Humboldt	1,130	10	300	105		415	36.72
Imperial	726						
Inyo	500						
Kern	1,100	2			100	102	9.27
Kings	500				92	92	18.40
Lake	488		160			160	32.78
Lassen	720		25	25		50	6.94
Los Angeles	1,500	385	1,000			1,085	72.33
Madera	410				30	30	7.31
Marin	809						
Mariposa	355						
Mendocino	1,200						
Merced	450	1	136			137	30.44
Modoc	766		10			10	1.30
Mono	380						
Monterey	600	50	50			100	16.66
Napa	560	3	450			453	80.89
Nevada	600	30				30	5.00
Orange	500		25	5		30	6.00
Placer	775	7				7	.90
Plumas	385		10			10	2.59
Riverside	800	4	48	2		54	6.75
Sacramento	1,500	86	20			106	7.06

TABLE LIII—Continued.

Counties.	Total mileage of all public roads.	Mileage of Improved roads.				Total.	Approximate percentage of road improved.
		Stone.	Gravel.	Sand clay.	Other.		
San Benito	451		160	150		310	68.73
San Bernardino	3840						
San Diego	5,200			450		450	8.65
San Francisco	4						
San Joaquin	990	12	25			37	3.73
San Luis Obispo	1,100		162		1	163	14.82
San Mateo	350	131	65	15	17	228	65.14
Santa Barbara	750	16	45		5	66	8.80
Santa Clara	1,200	20	600	200	6	826	68.83
Santa Cruz	420	12.25	25	6	7	50.25	11.96
Shasta	1,575		66	170		236	14.98
Sierra	525						
Siskiyou	2,625	.5	20	4		24.5	.93
Solano	630	9	25	1		35	5.55
Sonoma	1,260	35	600	120		755	59.92
Stanislaus	470		55			55	11.70
Sutter	350	8	50			58	16.57
Tehama	650	5	60	1		66	10.15
Trinity	200		5			5	2.50
Tulare	2,285				60	60	2.62
Tuolumne	290		52		15	67	23.10
Ventura	700				100	100	14.28
Yolo	680	2.5	360		30	392.5	57.72
Yuba	1,000		15			15	1.50
Totals	48,069	579.25	6,054	1,289	653	18,587.75	17.87
Increase in Five Years.							
Year 1904	46,653	418.5	5,843.5		2,541	8,808	18.87
Year 1909	48,069	579.25	6,054	1,289	653	18,587.75	17.87
Increase	1,416	160.75	210.5	289			

*Includes 12.5 miles of wood puncheon road. *Bituminous—macadam. *This is exclusive of roads in the Mojave Desert, which comprises about 85 per cent of the county. *Included in the city of San Francisco. No county roads in this county.

TABLE LIV.

Cost Data of Roads in 1909.

County.	Average cost per mile.			
	Sand clay.	Gravel.	Macadam.	Bituminous.
Alameda		*\$1 35	*\$1 35	
Del Norte		2,500 00		
Glenn		†89		
Humboldt		*60	*95	
Los Angeles				\$11,000 00
Merced			9,000 00	
Nevada		1,400 00		
Riverside		*14		*76
Sacramento				7,500 00
San Diego	\$625 00			*1 62
San Mateo			*59	*1 73
Santa Barbara				7,800 00
Santa Clara	200 00	1,000 00	6,000 00	8,000 00
Santa Cruz			5,200 00	
Shasta		1,500 00		
Siskiyou		1,000 00		
Sonoma		*1 25	*1 87	
Tehama		850 00	1,300 00	
Yolo		*10	*63	
Average	\$412 00	\$1,375 00	\$5,375 00	\$8,575 00

*Average cost per square yard: Gravel, 69 cents; macadam, \$1.08; bituminous, \$1.37.
†Cost per cubic yard.

PART X.**FINANCE AND TAXATION.**

Tariff Acts 1789-1909; Foreign Trade and California Ports; County Indebtedness and Rates of Taxation. Assessed Value of All Property, 1850-1912.

RESOURCES OF STATE AND NATIONAL BANKS BY COUNTIES.**PUBLIC UTILITIES.**

Steam and Electric Railroads, Water Companies, Electric Light, Gas, and Power Companies, Telephone and Telegraph Companies.

INSURANCE.

Fire, Marine, Life, and Miscellaneous.

TARIFF ACTS.

Tariff Acts Passed by Congress.

(From 1789 to 1909.)

1789. July 4th.	1861. August 5th.
1790. August 10th.	1862. July 14th.
1791. March 3d.	1863. March 3d.
1792. May 2d.	1864. June 30th.
1794. June 7th.	1865. March 3d.
1795. January 29th.	1866. July 28th.
1797. March 3d.	1867. March 2d.
1800. May 13th.	1870. July 14th.
1804. March 27th.	1872. June 6th.
1816. April 27th.	1875. February 8th.
1818. April 20th.	1883. March 3d.
1824. May 22d.	1890. June 10th.
1828. May 19th.	1890. October 1st (McKinley bill).
1832. July 14th.	1894. August 27th (Wilson bill).
1833. March 2d.	1897. July 24th (Dingley bill).
1842. August 30th.	1905. March 3d (Philippine tariff).
1846. July 30th.	1909. August 5th (Paine-Aldrich bill).
1857. March 3d.	1909. August 5th (Philippine tariff).
1861. March 2d.	

In addition to the above 37 acts, there are 224 other miscellaneous acts, proclamations, and joint resolutions, making a total of 261 on the subject of the tariff. A new tariff act is now being framed which reduces the duty on many farm products, and places some on the free list.

Foreign Trade and California Imports and Exports.

Custom districts and ports.	Subports of entry.
San Francisco -----	Oakland, Port Harford, Monterey.
Los Angeles -----	Santa Barbara, Redondo Beach and
	San Pedro.
San Diego -----	-----
Humboldt -----	Eureka.

Imports and Exports of Gold and Silver (Coin and Bullion) from California Ports,
1870-1912, for fiscal year ending June 30.

San Francisco.

Year.	Gold.		Silver.		Total Imports.	Total Exports.
	Imports.	Exports.	Imports.	Exports.		
1870	\$743,272	\$9,489,281	\$5,108,282	\$12,495,262	\$5,851,554	\$21,984,543
1871	839,480	5,218,056	3,567,132	5,396,246	4,406,612	10,614,302
1872	4,024,103	12,650,072	2,084,128	5,241,937	6,108,231	17,892,009
1873	2,622,397	11,419,424	4,120,416	5,841,463	6,742,813	17,260,887
1874	1,107,646	4,644,587	4,405,213	7,333,110	5,512,859	11,977,697
1875	1,536,377	1,042,354	3,483,863	6,222,099	5,020,240	7,264,453
1876	1,497,543	773,354	4,152,810	7,716,713	5,650,353	8,490,067
1877	1,165,462	1,804,703	5,533,952	16,323,843	6,699,414	18,128,546
1878	2,461,568	979,085	3,465,135	16,952,302	5,926,703	17,571,987
1879	1,041,789	571,120	4,893,346	7,735,811	5,935,135	8,306,931
1880	1,540,965	488,753	4,502,601	7,511,220	6,043,566	7,999,973
1881	2,278,330	677,489	4,446,256	6,202,923	6,724,586	6,880,412
1882	6,389,944	600,438	4,252,817	4,641,837	10,642,761	5,242,275
1883	5,181,343	559,346	4,069,905	7,189,264	9,251,248	7,748,610
1884	4,985,213	708,375	3,718,082	10,840,447	8,703,295	11,548,822
1885	1,916,568	1,145,747	4,002,454	17,165,290	5,919,022	18,311,037
1886	6,437,801	980,821	2,848,395	16,565,643	9,286,196	17,546,464
1887	2,402,193	1,288,960	3,602,675	16,313,852	6,094,868	17,602,812
1888	4,943,871	766,330	2,795,346	14,038,956	7,739,217	14,805,286
1889	3,862,226	799,563	3,084,454	18,100,182	6,946,680	18,899,745
1890	4,751,582	1,520,262	3,269,267	13,258,391	8,020,849	14,778,653
1891	6,358,074	1,646,118	3,634,455	5,609,371	9,992,529	7,255,489
1892	9,736,872	803,791	3,066,706	9,458,354	12,823,578	10,262,145
1893	5,508,193	1,110,013	2,661,819	13,870,229	8,170,012	14,980,242
1894	2,693,636	1,202,443	2,126,973	13,142,267	4,820,609	14,344,710
1895	1,858,878	708,293	1,971,768	13,844,012	3,830,646	14,052,305
1896	1,206,234	854,554	2,642,372	11,763,449	3,848,606	12,618,003
1897	9,647,628	1,083,945	2,611,694	9,459,133	12,259,322	10,543,078
1898	25,799,405	1,217,490	2,472,347	9,514,531	28,271,752	10,732,021
1899	32,124,013	1,774,717	2,551,666	4,889,974	34,675,679	6,664,691
1900	10,574,256	2,025,189	3,096,775	7,502,120	13,671,031	9,527,309
1901	24,911,109	364,758	3,738,814	7,927,900	28,649,923	8,292,658
1902	14,338,906	781,826	4,169,221	8,368,761	18,508,127	9,150,587
1903	9,263,674	3,114,023	2,679,547	6,392,414	11,943,221	9,506,437
1904	40,366,770	652,277	3,492,909	4,600,950	43,859,679	5,253,227
1905	15,590,871	5,905,700	3,003,796	6,622,002	18,594,667	12,527,702
1906	4,233,579	5,366,189	2,513,861	9,417,951	6,747,440	14,784,140
1907	14,504,917	22,391	3,414,584	2,410,717	17,919,501	2,433,108
1908	3,759,329	34,539	3,164,428	5,182,657	6,923,757	5,217,196
1909	3,588,424	3,033,975	2,652,954	6,886,849	6,241,378	9,920,824
1910	3,362,104	27,008,324	2,582,352	7,314,954	5,944,456	34,323,278
1911	8,111,108	20,690	1,579,109	9,262,759	9,690,217	9,283,449
1912	4,532,321	7,084,962	1,453,089	9,905,094	5,985,410	16,940,056

Following is a summary of the imports of gold and silver into San Diego and Los Angeles from 1900 to 1911:

Year.	San Diego.		Los Angeles.	
	Gold.	Silver.	Gold.	Silver.
1900	\$62,819	\$948	\$50	-----
1901	67,392	-----	-----	-----
1902	46,690	948	-----	-----
1903	14,233	-----	-----	\$172
1904	16,774	418	-----	25
1905	32,565	-----	-----	-----
1906	9,695	-----	-----	*172
1907	4,915	996	-----	-----
1908	10,553	-----	25	-----
1909	29,066	-----	50	-----
1910	26,688	-----	-----	-----
1911	11,481	-----	-----	-----
1912†	-----	-----	-----	-----

*\$1,000 in silver exported.

†Included under "All other Pacific districts."

Imports and Exports of Foreign and Domestic
(For fiscal year

Year.	San Francisco.		Los Angeles.	
	Imports.	Exports.	Imports.	Exports.
1851*	\$13,531			
1852	4,648,587			
1853	101,312	\$555,453		
1854	8,407,701	3,423,395		
1855	5,951,379	8,224,066		
1856	6,468,193	3,362,915		
1857	5,970,170	2,594,496		
1858	6,510,157	2,395,092		
1859	7,656,622	4,008,142		
1860	7,367,016	4,868,090		
1861	7,215,022	7,359,172		
1862	5,774,729	7,134,851		
1863	7,925,720	8,468,535		
1864	10,849,153	8,262,546		
1865	15,802,226	9,987,516		
1866	15,568,416	30,113,312		
1867†	18,064,911	13,155,187		
1868	15,685,337	14,234,480		
1869	15,117,604	12,935,758		
1870	15,982,549	13,991,781		
1871	15,978,295	13,033,228		
1872	27,222,270	10,190,074		
1873	32,679,791	25,002,231		
1874	26,735,461	25,084,760		
1875	24,677,243	24,070,157		
1876	28,435,128	23,290,941		
1877	29,646,823	29,790,593		
1878	26,575,610	21,791,359		
1879	29,111,744	31,359,302		
1880	35,221,751	32,358,929		
1881	37,943,695	35,096,856		
1882	41,001,636	53,476,356		
1883	45,702,530	44,959,420	\$80,671	\$4,800
1884	35,857,698	37,050,598	216,113	125,212
1885	35,040,350	38,115,624	187,348	252,673
1886	37,142,117	30,228,424	206,957	167,686
1887	40,707,708	32,711,043	341,082	152,630
1888	46,692,905	27,684,891	482,851	34,442
1889	48,425,760	37,673,376	451,628	724
1890	48,751,223	36,876,091	169,955	220
1891	50,943,299	40,168,771	315,226	
1892	47,135,684	40,737,044	398,517	42,535
1893	45,291,099	31,144,180	502,044	
1894	38,146,626	24,903,009	445,966	102,943
1895	36,269,637	24,873,148	657,671	6,696
1896	41,400,317	31,582,910	679,944	30,487
1897	34,375,945	39,647,606	504,028	7,499
1898	42,822,945	41,223,759	476,042	110,440
1899	35,746,577	30,214,904	769,472	4,090
1900	47,869,628	40,368,288	1,011,090	
1901	35,161,753	34,596,792	885,473	30
1902	35,102,981	38,183,755	676,615	80
1903	36,454,283	33,502,616	1,019,481	682
1904	37,542,978	32,547,181	1,292,560	503
1905	46,675,545	49,924,026	810,000	291
1906	44,433,271	39,915,269	827,059	12,105
1907	54,094,570	33,026,664	1,559,322	45,000
1908	48,251,476	28,000,069	1,538,199	187,247
1909	49,998,111	31,669,370	1,305,341	193,221
1910	49,350,643	31,180,760	1,942,647	135,911
1911	53,885,021	40,624,903	2,655,558	86,415
1912	59,235,471	49,249,734	3,225,618	161,735

*For 1851-55 gold and silver are included with merchandise.

†Imports and foreign exports include specie.

NOTE.—The customs district of San Francisco was established September 28, 1850; that of San Diego in 1879; Los Angeles (Wilmington) and Humboldt in 1883.

San Diego.		Humboldt.		Total.	
Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
				\$13,531	
				4,648,587	
				101,812	\$555,453
				8,407,701	3,423,395
				5,951,379	8,224,066
				6,468,193	3,362,915
				5,970,170	2,594,496
				6,510,157	2,895,092
				7,656,662	4,008,142
				7,367,016	4,868,090
				7,215,022	7,359,172
				5,774,729	7,134,851
				7,925,720	8,468,535
				10,849,153	8,262,546
				15,802,226	9,967,516
				15,568,416	30,113,312
				18,064,911	13,155,187
				15,685,387	14,234,480
				15,117,604	12,935,758
				15,982,549	13,991,781
				15,978,295	13,033,228
				27,222,270	10,190,074
				32,679,791	25,002,231
				26,735,461	25,084,760
				24,677,248	24,070,157
				28,435,128	23,290,941
				29,646,823	29,790,593
				26,575,610	21,791,359
				29,170,504	31,366,792
				35,329,288	32,423,812
				38,103,896	35,468,890
				41,680,528	54,007,434
			\$171,123	46,067,789	45,333,891
\$58,760	\$27,490	\$6,873	224,464	36,216,073	37,528,240
107,537	64,883	1,731	201,865	35,300,535	38,636,666
160,203	372,034	5,710	163,295	37,473,957	30,631,712
678,892	531,078	5,744	113,576	41,240,129	33,143,198
284,588	198,548	2,830	142,207	48,006,394	28,237,431
135,889	127,966	4,586	122,757	49,395,988	38,172,781
71,106	66,504	1,549	103,051	49,360,392	37,249,006
119,173	72,307	4,005	154,503	51,800,596	40,718,098
185,595	165,949	3,925	151,553	47,918,906	41,372,332
827,808	375,891	1,571	138,008	46,201,950	31,361,681
514,014	375,924		106,750	38,975,991	25,432,288
437,665	264,644	2,110	106,594	37,275,573	25,031,663
538,066	394,824	1,460	102,440	42,406,186	31,912,256
380,770	441,200	1,183	162,027	35,103,219	40,016,672
407,236	79,443	1,181	146,725	43,498,645	41,972,063
383,399	379,586	2,006	195,678	36,915,170	31,840,533
346,155	45,225	1,528	253,616	49,441,831	43,361,078
324,465	196,419		163,682	36,558,887	35,728,518
222,063	199,540		319,550	36,221,749	30,759,218
196,477	491,139		497,810	37,894,741	34,170,101
397,115	1,425,861		550,436	39,302,431	33,415,950
559,585	2,739,174		140,441	47,762,997	50,385,291
511,661	963,014		737,940	45,729,247	40,964,893
440,239	255,833		677,092	56,306,854	34,558,565
417,557	162,993		759,726	50,522,770	29,788,265
459,786	317,530		894,228	51,843,571	33,154,445
275,631	320,533		1,031,182	52,041,523	33,276,847
464,634	299,579		1,058,615	57,422,542	42,792,414
653,789	809,809		1,231,441	63,545,701	51,735,069
722,359	641,223				
535,257	397,626				

TABLE LV.
Grand Total Value of All Assessed Property in California.
(From the reports of the State Controller's Department.)

Counties.	1880.	1890.	1900.	1910.	1911.	1912.
Alameda	\$49,286,463	\$76,269,176	\$86,922,760	\$199,424,502	\$206,308,270	\$243,043,586
Alpine	366,699	272,784	285,654	509,180	535,819	539,905
Amador	2,872,387	4,171,390	4,405,196	5,877,174	6,187,293	6,081,630
Butte	12,898,094	18,891,862	13,964,209	22,832,012	23,906,913	25,469,997
Calaveras	2,608,316	4,253,875	5,283,215	6,540,979	6,657,802	6,607,594
Colusa	17,876,905	23,676,654	11,981,745	13,373,570	13,626,337	14,685,281
Contra Costa	8,175,682	15,011,291	16,504,307	35,399,378	39,658,989	42,631,665
Del Norte	820,250	1,985,133	1,888,525	4,365,256	4,813,887	4,880,765
El Dorado	2,989,733	3,560,850	4,019,170	6,142,693	6,528,442	6,785,170
Fresno	7,578,189	35,600,640	29,407,665	65,263,906	70,616,735	78,998,660
Glenn			10,381,899	14,088,244	15,888,617	16,980,132
Humboldt	6,606,686	18,030,262	16,877,118	29,149,177	29,716,743	34,958,314
Imperial				12,148,180	16,034,094	17,802,655
Inyo	1,177,662	1,358,353	1,862,400	4,907,480	5,763,912	6,268,862
Kern	5,853,881	10,451,979	15,180,165	52,350,546	65,843,625	73,253,382
Kings			7,127,986	13,160,692	14,283,622	15,356,486
Lake	2,559,404	3,847,353	3,027,168	3,646,189	3,662,007	4,824,106
Lassen	1,303,430	2,504,319	3,880,976	7,272,217	6,990,498	7,431,405
Los Angeles	18,517,566	67,301,180	100,136,070	530,837,659	607,182,762	726,110,668
Madera			6,161,552	10,622,886	11,125,904	14,388,045
Marin	8,924,530	10,853,349	11,994,714	19,709,273	20,285,223	21,003,935
Mariposa	1,465,693	1,891,467	2,029,299	2,491,892	3,480,405	3,567,315
Mendocino	6,374,083	11,305,030	10,603,833	15,699,059	15,617,974	16,334,097
Merced	6,511,326	13,222,341	13,628,173	20,961,031	22,251,637	25,001,574
Modoc	1,843,058	3,083,085	2,885,066	6,135,543	6,488,434	6,691,970
Mono	2,365,550	844,406	1,186,875	1,350,815	1,349,890	1,437,518
Monterey	8,091,240	14,411,126	17,772,018	28,369,676	31,103,836	31,769,895
Napa	9,182,661	13,926,644	11,633,300	16,688,744	17,210,355	17,419,458
Nevada	9,064,090	5,309,275	7,015,505	8,063,262	8,173,371	8,100,054
Orange		9,020,073	10,976,363	30,597,532	35,593,063	44,526,688
Placer	7,999,343	8,190,404	9,015,766	13,275,928	12,959,724	13,379,216
Plumas	2,099,275	2,393,209	2,102,491	6,777,118	7,346,851	8,960,958
Riverside			12,154,013	26,925,831	29,079,084	31,532,687
Sacramento	25,767,203	32,304,439	34,126,720	61,646,032	78,296,179	86,589,795
San Benito	3,937,615	5,982,320	6,015,635	7,879,250	8,365,538	8,184,027
San Bernardino	3,680,744	19,031,295	15,975,127	49,899,287	52,428,789	58,285,281

<i>San Diego</i> -----	4,985,489	27,704,889	20,061,546	44,197,729	53,735,870	59,140,997
<i>San Francisco</i> -----	253,520,326	301,438,040	410,425,849	515,421,025	545,898,908	605,141,664
<i>San Joaquin</i> -----	27,463,315	36,496,107	31,982,021	46,589,011	56,067,807	64,715,657
<i>San Luis Obispo</i> -----	4,678,048	13,082,933	12,298,301	18,285,413	19,995,045	20,207,375
<i>San Mateo</i> -----	7,764,610	13,595,230	14,421,018	27,573,681	30,346,078	30,739,041
<i>Santa Barbara</i> -----	5,507,727	14,787,520	13,607,120	31,141,395	31,911,978	32,722,992
<i>Santa Clara</i> -----	25,514,842	51,063,963	51,971,268	73,144,102	76,283,890	77,987,556
<i>Santa Cruz</i> -----	6,602,587	10,644,065	10,770,352	17,821,451	19,809,398	19,915,174
<i>Shasta</i> -----	2,813,655	5,086,723	9,106,515	16,072,141	16,006,099	15,642,300
<i>Sierra</i> -----	1,741,537	1,530,710	1,494,981	2,429,947	2,381,360	2,394,194
<i>Siskiyou</i> -----	3,715,557	5,307,354	8,808,623	17,615,841	18,516,606	21,583,145
<i>Solano</i> -----	12,130,018	18,200,883	17,519,315	22,822,851	23,718,764	24,941,957
<i>Sonoma</i> -----	18,809,793	28,830,162	25,753,672	36,814,714	39,131,641	40,110,583
<i>Stanislaus</i> -----	9,730,706	15,205,109	12,041,634	24,078,757	25,798,669	29,878,470
<i>Sutter</i> -----	5,202,790	9,284,811	6,425,642	8,163,960	8,583,856	9,184,568
<i>Tehama</i> -----	6,628,363	10,947,811	10,853,700	13,897,891	14,457,968	14,474,792
<i>Trinity</i> -----	1,094,039	1,136,555	1,483,036	2,884,208	3,021,775	3,052,887
<i>Tulare</i> -----	6,411,378	21,736,842	15,335,221	37,545,540	44,672,734	45,397,614
<i>Tuolumne</i> -----	1,976,572	2,894,645	5,845,200	8,485,327	8,805,098	9,885,945
<i>Ventura</i> -----	3,331,979	7,051,253	8,349,118	25,516,650	26,468,131	30,763,999
<i>Yolo</i> -----	12,933,644	19,787,138	16,312,996	20,338,955	20,926,947	22,085,786
<i>Yuba</i> -----	5,035,252	6,670,340	5,512,709	7,721,519	8,520,444	9,493,367
Totals -----	\$666,399,985	\$1,101,137,299	\$1,217,648,863	\$2,372,944,301	\$2,602,344,933	\$2,919,342,889

TABLE LVI.

Grand Total Value of All Assessed Property in California.

(From the reports of the State Controller's Department.)

Year.	Total assessed value of property in California.	Year.	Total assessed value of property in California.
1850	\$57,670,689	1882	\$608,555,960
1851	49,231,052	1883	765,729,430
1852	64,579,375	1884	821,078,767
1853	95,335,646	1885	859,512,384
1854	111,191,630	1886	817,445,729
1855	103,887,193	1887	956,740,805
1856	115,007,440	1888	1,167,952,700
1857	126,059,461	1889	1,111,550,979
1858	125,955,877	1890	1,101,137,290
1859	131,060,279	1891	1,242,300,434
1860	148,193,540	1892	1,275,678,822
1861	147,811,617	1893	1,216,380,398
1862	160,369,071	1894	1,204,347,291
1863	174,104,955	1895	1,132,512,903
1864	179,164,730	1896	1,264,973,043
1865	183,534,312	1897	1,089,373,316
1866	200,368,826	1898	1,132,230,221
1867	212,205,339	1899	1,193,961,761
1868	237,483,175	1900	1,217,648,863
1869	260,563,879	1901	1,241,359,555
1870	277,538,134	1902	1,290,238,964
1871	267,868,126	1903	1,597,944,240
1872	637,232,823	1904	1,545,698,785
1873	428,747,043	1905	1,624,023,172
1874	611,495,197	1906	1,594,231,577
1875	618,083,315	1907	1,879,950,692
1876	595,073,177	1908	1,990,256,945
1877	586,953,022	1909	2,439,566,433
1878	584,578,036	1910	2,372,944,301
1879	549,142,610	1911	2,602,344,933
1880	666,399,985	1912	2,919,342,889
1881	659,835,762		

TABLE LVII.

County Bonded Indebtedness and Rate of Taxation in 1912.

From the reports of the State Controller's Department.

Counties.	County bonds outstanding June 30, 1912.	District bonds outstanding June 30, 1912.	Total bonded indebtedness.	State and county rate of taxation each \$100.	
				Inside.	Outside.
Alameda		\$2,159,800 00	\$2,159,800 00	\$.88 -	\$1.28
Alpine	800 00		800 00		2.00
Amador		2,000 00	2,000 00	1.70 -	2.00
Butte		80,000 00	80,000 00	1.60 -	2.00
Calaveras		1,000 00	1,000 00	1.95 -	2.35
Colusa		68,000 00	68,000 00	1.10 -	1.60
Contra Costa	161,000 00	432,950 00	593,950 00	1.10 -	1.50
Del Norte		1,700 00	1,700 00	1.20 -	1.70
El Dorado	120,000 00		120,000 00	1.60 -	2.00
Fresno		682,751 00	682,751 00	1.18 -	1.58
Glenn	450,000 00	36,900 00	486,900 00	1.20 -	1.60
Humboldt		74,600 00	74,600 00	1.03 -	1.55
Imperial		334,275 00	334,275 00	1.20 -	1.80
Inyo	48,000 00	21,150 00	69,150 00	1.35 -	1.75
Kern	566,000 00	282,514 00	848,514 00	.85 -	1.20
Kings		71,900 00	71,900 00	.99 -	1.52
Lake	37,000 00	2,625 00	39,625 00	1.50 -	1.90
Lassen		8,560 00	8,560 00	1.60 -	2.00
Los Angeles	3,500,000 00	7,613,280 00	11,113,280 00	.80 -	1.30
Madera		92,950 00	92,950 00	1.15 -	1.55
Marin	13,000 00	162,900 00	175,900 00	.90 -	1.25
Mariposa					1.75
Mendocino	67,500 00	51,310 00	118,810 00	1.30 -	1.90
Merced	50,000 00	108,250 00	158,250 00	1.40 -	2.00
Modoc		25,600 00	25,600 00	.85 -	1.20
Mono					2.25
Monterey	62,000 00	88,725 00	150,725 00	1.20 -	1.70
Napa		65,300 00	65,300 00	1.20 -	1.60
Nevada		42,050 00	42,050 00	1.80 -	2.30
Orange	40,000 00	536,700 00	576,700 00	1.05 -	1.45
Placer	12,000 00	42,300 00	54,300 00	1.60 -	2.00
Plumas	135,100 00	16,500 00	151,600 00		1.60
Riverside	150,000 00	601,800 00	751,800 00	1.60 -	2.20
Sacramento	1,505,000 00	361,450 00	1,866,450 00	1.17 -	1.64
San Benito	213,000 00		213,000 00	1.75 -	1.96
San Bernardino		726,000 00	726,000 00	1.35 -	1.95
San Diego	1,188,000 00	784,912 30	1,972,912 30	1.45 -	2.00
San Francisco	22,179,300 00		22,179,300 00	2.094	
San Joaquin	1,890,000 00	397,770 00	2,287,770 00	1.25 -	1.65
San Luis Obispo	82,000 00	69,672 50	151,672 50	1.35 -	1.85
San Mateo	151,000 00	513,700 00	664,700 00	1.00 -	1.60
Santa Barbara		317,175 00	317,175 00	1.40 -	2.00
Santa Clara	300,000 00	634,450 00	934,450 00	1.05 -	1.45
Santa Cruz		71,350 00	71,350 00	1.40 -	2.00
Shasta		25,540 00	25,540 00	1.85 -	2.25
Sierra		7,650 00	7,650 00	1.55 -	2.05
Siskiyou		31,900 00	31,900 00	1.10 -	1.50
Solano	230,000 00	108,500 00	338,500 00	1.20 -	1.60
Sonoma	280,000 00	283,060 01	563,060 01	1.20 -	1.60
Stanislaus		536,264 00	536,264 00	1.40 -	1.80
Sutter		4,750 00	4,750 00	1.60 -	2.00
Tehama	3,000 00	80,183 00	83,183 00	1.35 -	1.75
Trinity					2.50
Tulare		512,583 00	512,583 00	1.10 -	1.70
Tuolumne		64,250 00	64,250 00	1.40 -	1.90
Ventura	420,000 00	162,275 00	582,275 00	1.30 -	1.80
Yolo		196,207 50	196,207 50	.95 -	1.55
Yuba		78,000 00	78,000 00	2.30 -	2.70
Totals	\$33,853,700 00	\$18,993,281 31	\$52,846,981 31		

CALIFORNIA BANKS.

Total resources and liabilities of all reporting banks in California.

519 State banks on June 14, 1912.

231 National banks on September 4, 1912.

750 banks.

Summary of Resources.

STATE BANKS.		
150 commercial banks.	Commercial banks -----	\$199,228,081 33
166 departmental banks.	Savings banks -----	455,756,885 08
132 savings banks.	Trust companies -----	12,013,543 89
64 branch banks.		
7 trust companies.	Total -----	\$666,998,510 30
519	Total national banks -----	501,213,995 00
	Grand total -----	\$1,168,212,505 30
	Postal savings fund -----	464,241 66

NOTE.—In the statement of national banks cents are omitted.

The Banking Resources of California Counties.

The following figures prove the enormous financial resources of the State, and the remarkable totals of some counties with a comparatively small population. The statements of the State and National banks, not being taken on the same day, the combined totals are of necessity, not exact, but for all practical purposes they are close enough to prove the enormous wealth of California.

There are 455 State Banks and 64 branch offices, making a total of 519 banks, which may be classified as follows:

One hundred and fifty are engaged exclusively in commercial banking, and 132 are savings banks only. There are 153 commercial and savings departmental banks; 11 commercial, savings and trust banks, 1 commercial and trust bank and 1 savings and trust bank, making a total of 166 departmental banks and 7 trust companies.

This is the first time that a complete summary of all the banks, State and National, has been compiled by counties, and the results are truly remarkable and exceedingly encouraging.

The total resources of the State Banks on June 14, 1912, amounted to \$666,998,510, and the National Banks on September 4, 1912, \$501,213,995, or a total of \$1,168,212,505.

California stands fifth in point of banking strength among the states, being exceeded only by such old states as New York, Pennsylvania, Massachusetts, and Illinois, in the order named. This holds good whether reference is made to capital and surplus, deposits, or total resources, according to the annual report of the Comptroller of the Currency for 1912. In savings bank deposits alone California outranks Illinois, and is exceeded only by New York, Massachusetts, and Pennsylvania. The average amount to each depositor in the different states varies considerably, Nevada taking the lead, but California being a close second, the figures being as follows:

Nevada -----	\$793 17	Southern states -----	\$230 85
California -----	681 16	Middle Western states -----	360 33
New England states -----	411 88	Western states -----	212 72
Eastern states -----	493 67	Pacific states -----	625 18

The average amount to each depositor for the whole United States is \$44.72.

Among the counties, the two holding the largest amounts are, of course, San Francisco with \$504,600,000, and Los Angeles with \$247,100,000, but other counties also make a striking display of strength, no less than ten having total resources amounting to upwards of ten millions.

Ten Counties With Resources of Over \$10,000,000.

Counties.	Amount.	Counties.	Amount.
Alameda	\$81,600,000	Sonoma	\$17,400,000
Sacramento	37,600,000	Fresno	16,900,000
San Diego	24,300,000	San Bernardino	14,500,000
Santa Clara	23,300,000	Orange	10,900,000
San Joaquin	19,700,000	Santa Barbara	10,700,000

Owing to want of space, the column for "Trust Departments" had to be omitted in the county tables that follow, but the amount is included in the total of the bank or trust company in the last columns.

The names of the companies, and the amounts are as follows:

Trust Companies.

Alameda County:

Berkeley Savings Bank and Trust Company.....	\$233,894 75
Oakland Bank of Savings.....	334,709 77

Total

\$568,604 52

Los Angeles County:

Citizens' Trust and Savings Bank.....	\$273,728 16
*Los Angeles Abstract and Trust Company.....	612,589 01
Los Angeles Trust and Savings Bank.....	467,410 61
Merchants' Bank and Trust Company.....	201,398 06
Security Trust and Savings Bank.....	441,948 14
*Southern Trust Company.....	670,395 13
*Title Guarantee and Trust Company.....	898,459 50
*Title Insurance Company.....	563,872 46

Total

\$4,129,801 07

Orange County:

Orange County Savings and Trust Company.....	\$201,570 13

Sacramento County:

Sacramento Valley Trust Company.....	\$206,228 97

San Francisco County:

Savings Union Bank and Trust Company.....	647,550 21
*California Pacific Title and Trust Company.....	1,418,717 79
Union Trust Company of San Francisco.....	1,530,956 39
*Mercantile Trust Company of San Francisco.....	2,334,815 01
*Central Trust Company of California.....	242,545 06
First Federal Trust Company.....	351,289 57
Anglo-California Trust Company	381,365 17

Total

\$6,907,339 20

Total trust companies

\$12,013,543 89

*Trust companies only.

TABLE LVIII.

Total Resources of California Banks by Counties.

Compiled from the reports of the State Banking Department and the Comptroller of the Currency.)

County.	State banks.				Total June 14, 1912.	National banks.		Grand total National and State banks, 1912
	Number of banks.	Commercial department.	Savings department.	Trust department.		Number of banks.	Total September 4, 1912.	
Alameda -----	33	\$10,115,535 05	\$49,732,335 33	\$568,604 52	\$60,416,474 90	12	\$21,187,351 00	\$81,603,825 90
Alpine -----								
Amador -----	1	998,325 86			998,325 36			998,325 36
Butte -----	7	2,349,929 43	846,897 11		3,196,826 54	3	3,009,129 00	6,205,955 54
Calaveras -----	1	331,854 86	372,017 23		703,872 09			703,872 09
Colusa -----	4	3,231,866 40	191,570 30		3,473,436 70	1	293,814 00	3,767,250 70
Contra Costa -----	12	2,498,667 40	2,758,791 96		5,257,459 36	5	2,116,734 00	7,374,193 36
Del Norte -----	2	315,144 58	34,769 22		349,913 80			349,913 80
El Dorado -----	1	551,126 06			551,126 06			551,126 06
Fresno -----	9	1,972,700 26	2,694,853 26		4,667,553 52	17	12,252,587 00	16,920,140 52
Glenn -----	4	1,878,527 40	169,481 68		2,048,009 08	1	417,699 00	2,465,708 08
Humboldt -----	10	3,533,265 33	3,070,493 33		6,603,758 66	2	1,947,174 00	8,550,932 66
Imperial -----	3	363,530 55	37,056 82		400,587 37	7	1,950,691 00	2,351,278 37
Inyo -----	2	863,083 13	35,275 73		898,358 86			898,358 86
Kern -----	7	4,414,158 20	702,356 88		5,116,515 08	4	2,857,824 00	7,974,339 08
Kings -----	5	1,129,018 31	495,766 35		1,624,784 66	5	3,134,319 00	4,759,103 66
Lake -----	2	512,197 08			512,197 08			512,197 08
Lassen -----	1	466,023 16			466,023 16			466,023 16
Los Angeles -----	68	29,406,670 91	104,954,977 05	4,129,801 07	138,491,449 03	56	108,618,807 00	247,110,256 03
Madera -----	1		129,417 91		129,417 91	2	837,391 00	966,808 91
Marin -----	6	783,307 96	1,658,016 33		2,441,324 29	1	503,152 00	2,944,476 29
Mariposa -----								
Mendocino -----	8	1,754,870 29	382,649 53		2,137,519 82	1	534,664 00	2,672,183 82
Merced -----	5	1,394,346 40	2,753,023 21		4,152,369 61	2	1,017,009 00	5,169,378 61
Modoc -----	3	525,263 19			525,263 19	1	474,629 00	999,892 19
Mono -----								
Monterey -----	8	2,621,673 84	2,210,333 25		4,832,007 09	2	1,362,886 00	6,194,893 09
Napa -----	5	1,807,600 70	1,404,827 17		3,212,427 87	3	1,437,783 00	4,650,210 87
Nevada -----	2	914,842 62	1,419,698 97		2,334,541 59			2,334,541 59
Orange -----	12	770,588 15	2,178,120 92	201,570 13	3,150,279 20	12	7,840,683 00	10,990,962 20
Placer -----	7	1,176,085 27	507,568 92		1,683,654 19	1	137,084 00	1,820,738 19
Plumas -----	2	169,652 06	231,366 20		401,018 26			401,018 26
Riverside -----	12	1,152,448 75	2,480,583 88		3,633,032 63	7	6,123,629 00	9,756,661 63
Sacramento -----	12	1,820,738 09	14,266,515 67	206,228 97	16,293,527 73	4	21,393,466 00	37,686,993 73
San Benito -----	3	1,239,394 55	1,315,738 18		2,555,132 73	1	497,053 00	3,052,185 73

<i>San Bernardino</i> -----	11	1,442,872 88	3,702,497 14	-----	5,145,869 97	12	9,398,483 00	14,543,852 97
<i>San Diego</i> -----	15	4,729,897 16	8,284,585 79	-----	18,013,982 95	8	11,358,440 00	24,372,422 95
<i>San Francisco</i> -----	82	63,067,459 89	193,892,502 30	6,907,339 20	268,837,301 89	9	240,847,983 00	504,685,284 89
<i>San Joaquin</i> -----	12	7,799,430 66	10,202,355 32	-----	18,001,785 98	2	1,797,765 00	19,799,550 98
<i>San Luis Obispo</i> -----	5	2,983,898 37	996,927 44	-----	3,980,825 81	2	749,138 00	4,729,963 81
<i>San Mateo</i> -----	7	700,279 35	1,846,502 01	-----	2,546,781 86	2	1,106,527 00	3,653,308 86
<i>Santa Barbara</i> -----	10	3,964,923 35	4,051,846 29	-----	8,016,769 64	3	2,684,002 00	10,700,771 64
<i>Santa Clara</i> -----	18	7,451,356 26	10,875,259 62	-----	18,326,615 88	4	5,055,840 00	23,382,455 88
<i>Santa Cruz</i> -----	7	998,925 99	5,129,699 45	-----	6,128,625 44	3	2,544,193 00	8,672,818 44
<i>Shasta</i> -----	3	125,799 15	722,716 28	-----	848,515 43	2	1,215,879 00	2,064,394 43
<i>Sierra</i> -----	1	70,194 13	-----	-----	70,194 13	-----	-----	70,194 13
<i>Siskiyou</i> -----	7	1,726,288 87	197,402 56	-----	1,923,690 93	2	816,968 00	2,740,658 93
<i>Solano</i> -----	8	2,998,247 79	1,215,654 95	-----	4,213,902 74	4	1,637,745 00	5,851,647 74
<i>Sonoma</i> -----	17	5,360,119 82	5,556,854 19	-----	10,916,974 01	6	6,560,222 00	17,477,196 01
<i>Stanislaus</i> -----	12	3,176,401 05	2,429,082 68	-----	5,605,483 73	4	2,259,887 00	7,865,370 73
<i>Sutter</i> -----	2	280,955 93	201,056 55	-----	482,012 48	-----	-----	482,012 48
<i>Tehama</i> -----	2	2,300,052 58	-----	-----	2,300,052 58	1	359,710 00	2,659,762 58
<i>Trinity</i> -----	1	151,716 32	42,415 69	-----	194,132 01	-----	-----	194,132 01
<i>Tulare</i> -----	7	756,163 88	1,249,814 05	-----	2,005,977 43	11	6,823,704 00	8,829,681 43
<i>Tuolumne</i> -----	1	-----	517,608 26	-----	517,608 26	1	976,417 00	1,494,025 26
<i>Ventura</i> -----	9	1,999,142 69	1,589,191 54	-----	3,588,334 23	4	4,219,399 00	7,807,733 23
<i>Yolo</i> -----	6	8,151,837 92	2,918,359 61	-----	6,070,197 53	2	856,135 00	6,926,332 53
<i>Yuba</i> -----	4	3,087,990 56	1,846,108 99	-----	4,934,099 55	-----	-----	4,934,099 55
Totals -----	*519	\$199,228,081 83	\$455,756,885 08	\$12,013,543 89	\$666,998,510 30	231	\$501,213,995 00	\$1,168,212,505 30

Postal Savings Banks, \$464,241.66.

*455 banks and 64 branches.

NOTE.—Three counties, Alpine, Mariposa, and Mono, have no banks.

ALAMEDA COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Alameda:				
Alameda Savings	Jan. 17, 1890	-----	\$2,569,770 19	\$2,569,770 19
Citizens' Savings Bank of Alameda	Mar. 6, 1906	-----	532,294 32	532,294 32
Alvarado:				
Bank of Alameda County..	Feb. 20, 1902	\$623,276 85	-----	623,276 85
Berkeley:				
Berkeley Savings Bank and Trust Company	Jan. 27, 1892	157,865 82	3,813,506 70	14,205,267 27
Homestead Savings Bank..	May 26, 1909	-----	392,667 72	392,668 72
South Berkeley Bank.....	Mar. 5, 1903	233,925 42	287,338 03	521,263 45
University Savings Bank..	Mar. 19, 1902	-----	636,715 39	636,715 39
West Berkeley Bank.....	Mar. 5, 1903	130,251 97	201,156 44	331,408 41
Centerville:				
Bank of Centerville.....	June 13, 1905	630,213 18	-----	630,213 18
Haywards:				
Bank of Haywards.....	Feb. 26, 1891	301,376 70	-----	301,376 70
Farmers and Merchants' Bank of Haywards.....	Nov. 21, 1905	-----	488,816 44	488,816 44
Haywards Bank of Savings	Jan. 2, 1906	-----	368,726 66	368,726 66
Livermore:				
Livermore Savings Bank..	Sept. 2, 1905	-----	341,781 51	341,781 51
Livermore Valley Savings Bank	Oct. 6, 1905	-----	352,429 43	352,429 43
Niles:				
Niles State Bank.....	Sept. 24, 1906	110,409 81	-----	110,409 81
Oakland:				
Bank of Fruitvale.....	July 17, 1906	182,346 80	124,990 42	307,337 22
Bank of Germany, Oakland	Sept. 6, 1907	218,218 56	168,354 40	386,572 96
Central Savings Bank of Oakland	Sept. 8, 1891	-----	6,632,413 70	6,632,413 70
Farmers and Merchants' Bank	Nov. 12, 1892	-----	1,850,790 13	1,850,790 13
Bank of Commerce.....	Oct. 31, 1907	241,376 88	85,656 13	327,033 01
First Trust and Savings Bank	Mar. 12, 1908	264,087 24	2,942,948 59	3,207,035 83
Home Bank	May 2, 1907	310,811 82	59,805 28	370,617 10
Oakland Bank of Savings..	Aug. 21, 1867	3,866,073 21	19,498,556 69	23,699,339 67
Security Bank and Trust Company	Mar. 5, 1903	868,277 27	597,755 64	1,466,032 91
State Savings Bank.....	Mar. 24, 1893	-----	1,410,553 79	1,410,553 79
Telegraph Avenue Savings Bank of Central Oakland	Aug. 27, 1908	-----	110,180 31	110,180 31
The Citizens' Bank of Fruitvale	July 26, 1906	186,533 83	168,240 96	354,824 79
Twenty-third Ave. Bank....	Feb. 24, 1909	88,347 19	43,993 70	132,340 89
Union Savings Bank.....	June 17, 1869	1,070,975 81	4,643,069 72	5,714,045 53
West Oakland Bank and Trust Company	Mar. 5, 1903	99,096 48	82,942 49	182,038 97
Pleasanton:				
Bank of Pleasanton.....	Feb. 3, 1893	202,091 15	255,815 45	457,906 60
San Leandro:				
Bank of San Leandro.....	Feb. 24, 1893	193,050 48	994,298 45	1,187,348 93
San Leandro State Bank....	Sept. 18, 1911	136,878 53	76,766 65	213,645 23
Totals	-----	\$10,115,535 05	\$49,732,335 33	\$60,416,474 90

Including \$233,894.75 in trust department. See page 273.

National Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Alameda, Alameda	Aug. 17, 1908			\$767,633 00
Alameda, Citizens'	Mar. 1, 1912			568,888 00
Berkeley, Berkeley	July 29, 1905			1,171,749 00
Berkeley, First	May 29, 1900			2,945,170 00
Emeryville, First	May 18, 1909			277,016 00
Haywards, First	May 23, 1911			262,513 00
Livermore, First	Dec. 11, 1905			357,339 00
Livermore, Farmers' and Merchants'	Jan. 3, 1911			466,255 00
Oakland, First	Apr. 10, 1875			4,539,068 00
Oakland, Central	Aug. 12, 1909			9,169,062 00
Pleasanton, First	Dec. 5, 1910			186,209 00
San Leandro, First	June 28, 1910			476,349 00
Total				\$21,187,351 00
Alameda County state banks				60,416,474 90
Grand total				\$81,603,825 90

Including \$334,709.77 in trust department. See page 273.

AMADOR COUNTY.

State Banks.

Jackson: Bank of Amador County	Nov. 23, 1896	\$998,325 36		\$998,325 36

BUTTE COUNTY.

State Banks.

Biggs: Sacramento Valley Bank	Dec. 16, 1891	\$325,806 98		\$325,806 98
Chico: Bank of Chico	Jan. 4, 1873	585,467 00		585,467 00
Butte County Savings Bank	Aug. 14, 1905		\$707,496 78	707,496 78
Gridley: The Gridley State Bank	May 14, 1906	86,296 17		86,296 17
Oroville: Bank of Rideout, Smith & Co.	May 31, 1888	1,210,622 59		1,210,622 59
Bank of Oroville	June 28, 1892		139,400 33	139,400 33
Stirling City: The Stirling City Bank	Oct. 16, 1903	141,736 69		141,736 69
Totals		\$2,349,929 43	\$846,897 11	\$3,196,826 54

National Banks.

Chico, First	July 17, 1907			\$811,344 00
Chico, Butte County	Dec. 14, 1908			1,408,666 00
Oroville, First	Aug. 11, 1903			789,119 00
Total				\$3,009,129 00
Butte County state banks				3,196,826 54
Grand total				\$6,205,955 54

CALAVERAS COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Angels Camp: Calaveras County Bank....	Apr. 3, 1900	\$331,854 86	\$372,017 23	\$703,872 09

COLUSA COUNTY.

State Banks.

Arbuckle: Bank of Arbuckle.....	June 24, 1901	\$291,718 55	-----	\$291,718 55
Colusa: Colusa County Bank.....	Sept. 15, 1870	2,439,474 99	-----	2,439,474 99
First Savings Bank of Colusa	Feb. 13, 1902	-----	\$191,570 30	191,570 30
Williams: Bank of Williams.....	June 17, 1892	550,672 86	-----	550,672 86
Totals	-----	\$3,281,866 40	\$191,570 30	\$3,473,436 70

National Banks.

Colusa, First	Aug. 29, 1911	-----	-----	\$293,814 00
Colusa County state banks..	-----	-----	-----	3,473,436 70
Grand total	-----	-----	-----	\$3,767,250 70

CONTRA COSTA COUNTY.

State Banks.

Antioch: The Antioch Bank of Sav- ings	Nov. 12, 1910	-----	\$98,854 47	\$98,854 47
Bank of Antioch.....	Sept. 14, 1891	\$334,636 61	281,413 82	616,050 43
Concord: Bank of Concord.....	Feb. 26, 1910	120,026 98	173,441 58	293,468 56
Martinez: Bank of Martinez.....	Oct. 7, 1873	417,731 05	565,652 28	983,383 33
Pinole: Bank of Pinole.....	Oct. 28, 1905	272,595 34	149,743 07	422,338 41
Pittsburg: Contra Costa County Bank	Nov. 30, 1903	149,693 29	169,046 26	318,739 55
Richmond: The Mechanics' Bank of Richmond	Aug. 3, 1907	147,058 82	62,936 01	209,994 83
Bank of Richmond.....	Apr. 17, 1902	312,491 74	-----	312,491 74
Richmond Savings Bank....	June 12, 1911	-----	172,221 49	172,221 49
Vallejo: Vallejo Commercial Bank..	May 17, 1889	341,835 70	628,223 82	970,059 52
Vallejo First Savings Bank	July 23, 1909	-----	445,904 84	445,904 84
Walnut Creek: San Ramon Valley Bank...	June 28, 1907	230,376 38	183,575 81	413,952 19
Totals	-----	\$2,498,667 40	\$2,758,791 96	\$5,257,459 36

National Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Antioch, First -----	Nov. 22, 1910	-----	-----	\$96,514 00
Concord, First -----	Mar. 9, 1911	-----	-----	219,405 00
Martinez, First of Contra Costa County -----	May 16, 1907	-----	-----	425,164 00
Richmond, First -----	Apr. 21, 1910	-----	-----	552,455 00
Vallejo, First -----	Nov. 1, 1909	-----	-----	823,196 00
Total -----	-----	-----	-----	\$2,116,734 00
Contra Costa County state banks -----	-----	-----	-----	5,257,459 36
Grand total -----	-----	-----	-----	\$7,374,193 36

DEL NORTE COUNTY.

State Banks.

Crescent City: -----	Nov. 10, 1910	\$99,584 85	\$34,769 22	\$134,354 07
Bank of Crescent City -----	Mar. 12, 1900	215,559 73	-----	215,559 73
Del Norte County Bank -----	-----	-----	-----	-----
Totals -----	-----	\$315,144 58	\$34,769 22	\$349,913 80

EL DORADO COUNTY. •

State Banks.

Placerville: -----	July 2, 1902	\$551,126 06	-----	\$551,126 06
A. Nierson Banking Co. -----	-----	-----	-----	-----

FRESNO COUNTY.

State Banks.

Coalinga: -----	May 12, 1905	\$552,634 88	\$182,068 94	\$734,703 82
Bank of Coalinga -----	-----	-----	-----	136,390 59
Clovis: -----	Aug. 6, 1904	136,390 59	-----	985,896 29
First State Bank of Clovis -----	-----	-----	-----	451,270 18
Fresno: -----	Feb. 26, 1887	985,896 29	451,270 18	49,594 92
Bank of Central California -----	Mar. 16, 1910	-----	-----	1,770,294 04
Fresno Savings Bank -----	-----	-----	-----	130,267 85
The Industrial Bank of Fresno (Japanese) -----	Feb. 13, 1908	49,594 92	1,770,294 04	246,016 19
The Peoples' Savings Bank of Fresno -----	Dec. 10, 1890	-----	-----	213,619 64
Kingsburg: -----	Feb. 2, 1911	96,835 25	33,432 60	-----
Kingsburg Bank -----	-----	-----	-----	-----
Selma: -----	May 20, 1903	201,848 83	44,167 86	-----
Farmers' Bank of Selma -----	June 22, 1905	-----	213,619 64	-----
Selma Savings Bank -----	-----	-----	-----	-----
Totals -----	-----	\$1,972,700 26	\$2,694,853 26	\$4,667,553 52

FRESNO COUNTY—Continued.

National Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Coalinga, First	Jan. 21, 1909	-----	-----	\$505,887 00
Clovis, First	June 21, 1912	-----	-----	51,228 00
Fowler, First	Sept. 6, 1904	-----	-----	276,511 00
Fresno, First	Mar. 16, 1885	-----	-----	3,903,448 00
Fresno, Farmers	Dec. 27, 1898	-----	-----	2,411,616 00
Fresno, Fresno	Apr. 20, 1888	-----	-----	1,660,740 00
Fresno, Union	May 31, 1907	-----	-----	1,191,778 00
Kerman, First	Sept. 9, 1908	-----	-----	133,478 00
Kingsburg, First	Oct. 18, 1906	-----	-----	249,435 00
Laton, First	July 21, 1910	-----	-----	159,981 00
Parlier, First	Jan. 4, 1912	-----	-----	97,437 00
Reedley, First	Sept. 5, 1907	-----	-----	265,558 00
Reedley, Reedley	Mar. 5, 1910	-----	-----	324,697 00
Riverdale, First	May 18, 1912	-----	-----	106,040 00
Sanger, First	Jan. 2, 1909	-----	-----	276,139 00
Selma, First	June 4, 1900	-----	-----	638,616 00
Total	-----	-----	-----	\$12,252,587 00
Fresno County state banks	-----	-----	-----	4,667,553 52
Grand total	-----	-----	-----	\$16,920,140 52

GLENN COUNTY.

State Banks.

Orland:				
Orland Savings Bank	Mar. 1, 1911	-----	\$70,148 82	\$70,148 82
The Bank of Orland	Mar. 29, 1887	\$283,886 52	-----	283,886 52
Willows:				
Bank of Willows	Sept. 2, 1880	1,440,573 73	-----	1,440,573 73
Glenn County Savings Bank	Apr. 28, 1911	154,067 15	99,332 86	253,400 01
Totals	-----	\$1,878,527 40	\$169,481 68	\$2,548,009 08

National Banks.

Willows, First	Mar. 28, 1910	-----	-----	\$417,699 00
Glenn County state banks	-----	-----	-----	2,548,009 08
Grand total	-----	-----	-----	\$2,465,708 08

HUMBOLDT COUNTY.

State Banks.

Areata:				
The Bank of Arcata	Sept. 11, 1886	\$592,216 47	-----	\$592,216 47
Eureka:				
Bank of Eureka	Oct. 4, 1889	1,113,814 35	-----	1,113,814 35
Home Savings Bank	Oct. 21, 1889	-----	\$1,290,485 25	1,290,485 25
Humboldt County Bank	Mar. 13, 1873	960,690 96	-----	960,690 96
The Savings, Humboldt Co	Oct. 4, 1889	-----	1,653,934 18	1,653,934 18
Ferndale:				
Ferndale Bank	Feb. 17, 1893	504,963 34	-----	504,963 34
Russ Williams Banking Co.	Nov. 17, 1909	169,359 67	-----	169,359 67
Fortuna:				
Bank of Fortuna	Mar. 2, 1906	128,705 61	117,078 90	245,779 51
Loleta:				
Bank of Loleta	Sept. 7, 1910	63,514 98	-----	63,514 98
Totals	-----	\$3,533,265 33	\$3,070,493 33	\$6,603,758 66

National Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Eureka, First	Oct. 7, 1901			
Scotia, First	June 16, 1910			\$1,694,632 00
				252,542 00
Total				
Humboldt Co. state banks				\$1,947,174 00
				\$6,603,753 67
Grand total				\$8,919,962 67

IMPERIAL COUNTY.

State Banks.

Brawley:				
Imperial Valley Savings Bank	Mar. 3, 1903	\$141,043 45	\$26,558 59	\$167,602 04
Holtville:				
The Holtville Bank	Dec. 23, 1910	108,676 24		108,676 24
Imperial:				
Farmers and Merchants' Bank of Imperial	Feb. 12, 1907	113,810 86	10,498 23	124,309 09
Totals		\$363,530 55	\$37,056 82	\$400,587 37

National Banks.

Brawley, First	Feb. 24, 1910			\$236,416 00
Callexico, First	Mar. 3, 1910			128,281 00
Callexico, Callexico	Mar. 21, 1910			216,121 00
El Centro, El Centro	Feb. 17, 1909			288,096 00
El Centro, First	Feb. 25, 1909			388,217 00
Holtville, First	June 4, 1910			296,332 00
Imperial, First	Nov. 19, 1901			397,228 00
Total				\$1,950,691 00
State banks				400,587 37
Grand total				\$2,351,278 37

INYO COUNTY.

State Banks.

Bishop:				
Inyo County Bank	Dec. 22, 1911	\$703,849 32		\$703,849 32
Owens Valley Bank	July 13, 1910	159,233 81	\$35,275 73	194,509 54
Totals		\$863,083 13	\$35,275 73	\$898,358 86

KERN COUNTY.

State Banks.

Bakersfield:				
Bank of Bakersfield	Oct. 6, 1890	\$1,702,959 81		\$1,702,959 81
First Bank of Bakersfield	Apr. 3, 1901	376,772 54	\$258,815 54	635,588 08
Producers' Savings Bank	Mar. 17, 1892	980,239 73		980,239 73
Security Trust Co.	Oct. 7, 1910	969,962 30	432,463 14	1,402,425 44
Maricopa:				
Bank of Maricopa	Jan. 3, 1911	140,688 65	11,078 20	151,766 85
Tehachapi:				
Bank of Tehachapi	Sept. 16, 1892	211,601 43		211,601 43
Wasco:				
Bank of Wasco	May 10, 1912	32,533 74		32,533 74
Totals		\$4,414,158 20	\$702,356 88	\$5,116,515 08

KERN COUNTY—Continued.

National Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Bakersfield, First	Dec. 11, 1901	-----	-----	\$1,919,696 00
Delano, First	July 16, 1908	-----	-----	328,452 00
Maricopa, First	Mar. 21, 1911	-----	-----	214,630 00
Taft, First	Sept. 26, 1911	-----	-----	395,046 00
Total	-----	-----	-----	\$2,857,824 00
State banks	-----	-----	-----	5,116,515 08
Grand total	-----	-----	-----	\$7,974,339 08

KINGS COUNTY.

State Banks.

Corcoran:				
The First Bank of Corcoran	Jan. 13, 1910	-----	\$34,275 45	\$34,275 45
Hanford:				
Hanford Savings Bank.....	Oct. 8, 1891	-----	311,134 55	311,134 55
The Old Bank.....	Nov. 26, 1901	\$668,445 55	-----	668,445 55
The Peoples' Savings Bank.....	Oct. 15, 1908	-----	150,356 35	150,356 35
Lemoore:				
Bank of Lemoore.....	Dec. 31, 1891	460,572 76	-----	460,572 76
Totals	-----	\$1,129,018 31	\$495,766 35	\$1,624,784 66

National Banks.

Corcoran, First	Sept. 23, 1909	-----	-----	\$212,309 00
Hanford, First	June 17, 1901	-----	-----	1,551,748 00
Hanford, Farmers and Merchants'	Mar. 24, 1905	-----	-----	850,247 00
Hanford, Hanford	July 8, 1903	-----	-----	293,323 00
Lemoore, First	June 9, 1905	-----	-----	226,692 00
Totals	-----	-----	-----	\$3,134,319 00
State banks	-----	-----	-----	1,624,784 66
Grand total	-----	-----	-----	\$4,759,103 66

LAKE COUNTY.

State Banks.

Lakeport:				
The Bank of Lakeport.....	Mar. 19, 1874	\$180,245 54	-----	\$180,245 54
Farmers' Savings Bank.....	Dec. 14, 1874	331,951 54	-----	331,951 54
Totals	-----	\$512,197 08	-----	\$512,197 08

LASSEN COUNTY.

State Banks.

Susanville:				
Bank of Lassen County.....	Oct. 29, 1892	\$466,023 16	-----	\$466,023 16

LOS ANGELES COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Alhambra: Alhambra Savings Bank	Sept. 22, 1906		\$242,744 31	\$242,744 31
Azusa: Azusa Valley Savings Bank	Aug. 20, 1891		177,115 58	177,115 58
Burbank: Burbank Savings Bank	Dec. 26, 1911		63,450 03	63,450 03
Compton: Citizens' Savings Bank of Compton	Mar. 7, 1906		87,038 95	87,038 95
Covina: Covina Valley Savings Bank	Apr. 1, 1901		195,791 95	195,791 95
Downey: Bank of Downey (private)		\$52,183 73		52,183 73
Los Nietos Valley Bank	July 20, 1891	375,006 13		375,006 13
Eagle Rock: Eagle Rock Bank	Feb. 20, 1907	88,321 94		88,321 94
El Segundo: El Segundo State Bank	Jan. 27, 1912	34,796 05	16,834 80	51,630 85
Gardena: Gardena Bank & Trust Co.	Mar. 22, 1905	217,590 46		217,590 46
Glendale: Bank of Glendale	May 19, 1902	262,288 50		262,288 50
Glendora: Bank of Glendora	Dec. 8, 1884	275,995 06		275,995 06
The First Savings Bank of Glendora	Jan. 13, 1908		71,379 92	71,379 92
Huntington Park: Bank of Huntington Park	Nov. 24, 1905	123,968 95		123,968 95
Inglewood: Citizens' Savings Bank of Inglewood	Nov. 21, 1910		87,810 81	87,810 81
Lankershim: Bank of Lankershim	July 18, 1910	75,227 30		75,227 30
Long Beach: Farmers and Merchants' Bank of Long Beach	Nov. 21, 1907	742,112 09	158,890 66	901,002 75
Long Beach Savings and Trust Co.	Feb. 1, 1902		1,895,703 65	1,895,703 65
Los Angeles: All Night and Day Bank	Aug. 24, 1908	1,849,799 50	1,210,909 84	3,060,709 34
American Savings Bank	Sept. 27, 1877	887,303 31	2,202,650 78	3,089,954 09
Bank of San Pedro	Mar. 26, 1888	316,798 82		316,798 82
California Savings Bank of Los Angeles	Mar. 3, 1903	1,377,572 79	1,638,546 05	3,016,118 84
Citizens' Savings Bank of San Pedro	Aug. 14, 1903		301,155 52	301,155 52
Citizens' Trust & Savings Bank	May 18, 1911		2,904,158 90	2,904,158 90
City and County Bank	Sept. 23, 1908	423,728 77	239,247 18	662,975 95
Federal Bank of Los Angeles	Mar. 3, 1903	308,180 61	258,253 67	566,434 28
German-American Savings Bank	Aug. 21, 1890		21,144,654 60	21,144,654 60
Globe Savings Bank	Oct. 5, 1906	1,120,915 56	1,133,547 55	2,254,463 11
Harbor City Savings Bank of San Pedro	Mar. 15, 1906		170,456 59	170,456 59
Highland Park Bank	Mar. 26, 1910	178,599 43	59,161 11	237,760 54
Home Savings Bank	Mar. 15, 1904		2,825,219 97	2,825,219 97
International Savings and Exchange Bank	Feb. 9, 1903	806,931 37	1,566,257 01	2,373,188 38
Los Angeles Abstract and Trust Co.	Jan. 24, 1901			612,589 01
Los Angeles Hibernia Savings Bank	Dec. 6, 1909	431,811 90	834,334 06	1,266,145 96
Los Angeles Trust and Savings Bank	Jan. 17, 1902	7,034,124 94	11,144,150 81	18,645,686 36

Including \$273,728.16 in trust department.

Including \$467,410.61 in trust department.

LOS ANGELES COUNTY—Continued.

State Banks—Continued.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912
Los Angeles:				
Merchants' Bank and Trust Co.	Sept. 11, 1908	\$1,267,542 25	\$436,180 06	*\$1,905,120 37
Oil and Metals Bank and Trust Co.	Mar. 5, 1903	506,554 25	-----	506,554 25
Park Bank of Los Angeles..	Mar. 26, 1908	987,913 34	791,356 56	1,779,269 90
Security Trust and Savings Bank	Jan. 11, 1889	4,582,065 70	43,091,206 22	*48,115,220 06
Southern Trust Co.	Oct. 24, 1904	-----	-----	670,395 13
State Bank of San Pedro....	Jan. 7, 1901	314,129 74	101,232 36	415,362 10
Title Guarantee and Trust Company	Oct. 26, 1895	-----	-----	898,459 50
Title Insurance Co.	Dec. 22, 1893	-----	-----	563,872 46
Traders' Bank of Los Angeles	Aug. 10, 1908	974,431 35	570,213 16	1,544,644 51
Hollywood:				
Citizens' Savings Bank....	Jan. 13, 1906	-----	241,394 21	241,394 21
Hollywood Savings Bank....	Dec. 19, 1904	-----	199,908 99	199,908 99
Moneta:				
Moneta Commercial and Savings Bank	Nov. 25, 1910	121,907 64	-----	121,907 64
Monrovia:				
Granite Savings Bank....	July 27, 1903	-----	180,790 50	180,790 50
Monrovia Savings Bank....	July 27, 1888	-----	511,904 12	511,904 12
Norwalk:				
Bank of Norwalk.....	Mar. 12, 1906	152,734 21	-----	152,734 21
Ocean Park:				
Ocean Park Bank.....	Mar. 26, 1902	499,009 82	183,372 46	682,382 28
Pasadena:				
American Bank & Trust Co.	May 29, 1905	54,449 80	613,700 94	668,150 74
State Bank of Pasadena....	Apr. 15, 1907	211,997 21	-----	211,997 21
Union Trust and Savings Bank of Pasadena.....	Feb. 1, 1895	-----	3,068,858 26	3,068,858 26
Pasadena Savings & Trust Company	Sept. 14, 1901	-----	2,460,123 63	2,460,123 63
South Pasadena Savings Bank	Feb. 23, 1904	46,496 40	196,278 59	242,774 99
Pomona:				
Savings Bank & Trust Co. of Pomona	July 7, 1904	-----	374,606 99	374,606 99
State Bank of Pomona....	Mar. 30, 1906	750,375 43	-----	750,375 43
Redondo Beach:				
Redondo Savings Bank....	July 22, 1905	-----	119,084 13	119,084 13
Rivera:				
Rivera State Bank.....	May 5, 1910	94,464 03	-----	94,464 03
San Dimas:				
San Dimas Savings Bank....	July 3, 1911	-----	69,360 48	69,360 48
Santa Monica:				
Merchants' Commercial and Savings Bank of Ocean Park	May 6, 1911	152,625 75	24,883 29	177,509 04
Bank of Santa Monica....	Apr. 14, 1893	883,962 44	375,710 14	1,259,672 58
Sawtelle:				
Citizens' State Bank of Sawtelle	Sept. 20, 1906	295,257 62	-----	295,257 62
Sherman:				
Bank of Sherman.....	Aug. 28, 1906	125,237 23	-----	125,237 23
Tropico:				
Bank of Tropico.....	Apr. 16, 1910	126,530 90	-----	126,530 90
Venice:				
Bank of Venice.....	July 1, 1905	270,276 06	-----	270,276 06
Whittier:				
Home Savings of Whittier..	Oct. 31, 1903	5,452 51	309,192 58	314,645 09
The Whittier Savings Bank	Aug. 14, 1903	-----	406,155 08	406,155 08
Totals		\$29,406,670 91	\$104,954,977 05	\$138,491,449 03

*Including \$201,398.06 in trust department.
See page 273.

*Including \$441,948.14 in trust department.

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National Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Alhambra, First	Jan. 2, 1907			
Alhambra, National	Mar. 24, 1911			\$357,754 00
Artesia, First	Jan. 25, 1906			344,669 00
Azusa, First	Jan. 27, 1906			238,769 00
Azusa, United States	Feb. 1, 1906			454,375 00
Burbank, First	Nov. 8, 1911			213,829 00
Claremont, First	July 1, 1909			174,698 00
Compton, First	Feb. 10, 1906			252,493 00
Covina, First	May 22, 1901			370,637 00
Covina, Covina	May 14, 1906			598,888 00
El Monte, First	Oct. 12, 1903			306,266 00
Glendora, First	Apr. 19, 1907			276,170 00
Glendale, First	Nov. 27, 1905			203,776 00
Hollywood, First	Jan. 4, 1905			369,030 00
Hollywood, Hollywood	June 24, 1905			443,641 00
Hynes, First	Jan. 17, 1911			572,715 00
Inglewood, First	Apr. 4, 1908			98,720 00
Long Beach, First	June 26, 1900			288,648 00
Long Beach, City	Sept. 11, 1907			1,305,252 00
Long Beach, Exchange	Jan. 10, 1907			799,421 00
Long Beach, National	Apr. 20, 1903			1,208,168 00
Lordsburg	Dec. 3, 1909			1,786,998 00
Los Angeles, First	Aug. 16, 1880			158,496 00
Los Angeles, Central	Aug. 8, 1907			22,687,858 00
Los Angeles, Citizens'	July 31, 1901			3,213,214 00
Los Angeles, Commercial	July 1, 1903			12,824,008 00
Los Angeles, Farmers and Merchants'	Feb. 7, 1903			3,166,917 00
Los Angeles, Merchants'	July 22, 1886			19,823,995 00
Los Angeles, National Bank of California	Aug. 21, 1889			9,051,809 00
Los Angeles National Bank of Commerce*	Mar. 2, 1906			6,292,446 00
Los Angeles, United States	Mar. 6, 1905			1,428,336 00
Monrovia, First	July 2, 1887			1,548,585 00
Monrovia, American	Apr. 22, 1905			752,247 00
Ocean Park, First	Apr. 14, 1905			337,263 00
Pasadena, First	May 10, 1886			515,494 00
Pasadena, Crown City	Mar. 19, 1909			2,322,757 00
Pasadena, National Bank of Commerce	Sept. 20, 1911			972,763 00
Pasadena, Pasadena	Oct. 11, 1886			486,079 00
Pasadena, Security	Mar. 25, 1912			2,105,436 00
Pasadena, Union	May 1, 1908			528,011 00
Pomona, First	June 10, 1886			2,565,654 00
Pomona, American	Dec. 10, 1891			1,643,377 00
Puente, First	Nov. 26, 1910			658,610 00
Redondo, First	Mar. 19, 1906			166,041 00
Redondo, Farmers and Merchants'	Aug. 31, 1905			280,964 00
San Dimas, First	Aug. 17, 1911			342,705 00
San Fernando, First	Nov. 3, 1909			334,686 00
San Pedro, First	Dec. 9, 1903			181,011 00
Santa Monica, Merchants'	Sept. 4, 1903			383,632 00
Sierra Madre, First	May 23, 1907			493,419 00
South Pasadena, First	Feb. 14, 1907			173,452 00
Van Nuys, First	Mar. 28, 1912			232,149 00
Venice, First	July 24, 1912			204,228 00
Whittier, First	Oct. 2, 1900			310,747 00
Whittier, Whittier	Dec. 7, 1905			755,250 00
Wilmington, First	Aug. 23, 1909			791,302 00
Total				220,949 00
State banks				\$108,618,807 00
Grand total				138,491,449 00

*Since gone into liquidation.

MADERA COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Madera: Madera Savings Bank.....	Feb. 29, 1912	-----	\$129,417 91	\$129,417 91

National Banks.

Madera, First	July 13, 1904	-----	-----	\$374,394 00
Madera, Commercial	May 16, 1912	-----	-----	462,997 00
Total	-----	-----	-----	\$837,391 00
State banks	-----	-----	-----	129,417 91
Grand total	-----	-----	-----	\$966,808 91

MARIN COUNTY.

State Banks.

Mill Valley: Bank of Mill Valley.....	June 6, 1907	\$114,368 42	\$149,037 07	\$263,405 49
San Anselmo: The First Bank of San Anselmo	Oct. 13, 1909	102,008 57	55,952 50	157,961 07
San Rafael: Bank of San Rafael.....	Dec. 23, 1910	306,228 12	261,434 18	567,662 30
Marin County Bank.....	Jan. 30, 1899	-----	618,793 41	618,793 41
Sausalito: Bank of Sausalito.....	July 18, 1907	102,205 47	136,233 19	238,438 66
Tomaes: Bank & Trust Co. of Tomaes	Mar. 12, 1900	158,497 88	436,565 98	595,063 36
Totals	-----	\$783,307 96	\$1,658,016 33	\$2,441,324 29

National Banks.

San Rafael, Marin County.....	Apr. 15, 1912	-----	-----	\$508,152 00
State banks	-----	-----	-----	2,441,324 29
Grand total	-----	-----	-----	\$2,944,476 29

MENDOCINO COUNTY.

State Banks.

Fort Bragg: Fort Bragg Commercial Bank	Mar. 28, 1912	\$68,284 57	-----	\$68,284 57
The First Savings Bank of Fort Bragg	Jan. 11, 1910	-----	\$119,612 14	119,612 14
Mendocino: Mendocino Bank of Commerce	Sept. 1, 1905	167,037 43	-----	167,037 43
Point Arena: Bank of Point Arena.....	June 9, 1905	106,679 72	-----	106,679 72
Ukiah: Bank of Ukiah.....	Jan. 10, 1874	639,687 88	-----	639,687 88
Commercial Bank of Ukiah.....	Dec. 18, 1903	343,928 25	-----	343,928 25
Savings Bank of Mendocino County	Nov. 28, 1903	89,865 76	263,037 39	352,903 15
Willits: Bank of Willits.....	Apr. 11, 1904	339,386 68	-----	339,386 68
Totals	-----	\$1,754,870 29	\$382,649 53	\$2,137,519 82

National Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Fort Bragg, First	Jan. 5, 1910			\$534,664 00
State banks				2,137,519 82
Grand total				\$2,672,183 82

MERCED COUNTY.

State Banks.

Dos Palos:				
Bank of Dos Palos	Sept. 12, 1911	\$67,651 73		\$67,651 73
Los Banos:				
Bank of Los Banos	Aug. 3, 1905	562,814 34	\$178,411 05	741,225 39
Merced:				
The Commercial Savings Bank of Merced	June 8, 1909		965,836 74	965,836 74
Merced Security Savings Bank	Mar. 11, 1875	715,426 11	1,593,667 90	2,309,094 01
Planada:				
Bank of Planada	Apr. 2, 1912	48,454 22	20,113 52	68,567 74
Totals		\$1,394,346 40	\$2,758,023 21	\$4,152,369 61

National Banks.

Los Banos, First	Feb. 11, 1911			\$187,104 00
Merced, First	June 8, 1909			829,905 00
Total				\$1,017,009 00
State banks				4,152,369 61
Grand total				\$5,169,378 61

MODOC COUNTY.

State Banks.

Alturas:				
Bank of Modoc County	May 24, 1902	\$87,367 46		\$87,367 46
Cedarsville:				
Surprise Valley Bank	Apr. 18, 1905	203,003 30		203,003 30
Fort Bidwell:				
Bank of Fort Bidwell	Aug. 13, 1907	234,892 43		234,892 43
Totals		\$525,263 19		\$525,263 19

National Banks.

Alturas, First	Apr. 20, 1904			\$474,629 00
State banks				525,263 19
Grand total				\$999,892 19

MONTEREY COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Gonzales:				
The Bank of Gonzales.....	Jan. 20, 1894	\$233,146 50	-----	\$233,146 50
Monterey:				
Bank of Monterey.....	Dec. 31, 1891	\$543,765 35	-----	543,765 35
Monterey Savings Bank....	May 19, 1911	-----	226,257 82	226,257 82
Pacific Grove:				
Bank of E. Cooke Smith of Pacific Grove.....	Jan. 8, 1907	188,278 25	84,287 31	272,565 54
Bank of Pacific Grove.....	Nov. 17, 1903	271,158 22	166,532 34	437,690 56
Salinas:				
Salinas City Bank.....	May 10, 1873	783,627 88	465,413 78	1,249,041 66
Monterey County Bank....	Oct. 17, 1890	601,697 64	542,820 70	1,144,518 34
Salinas Valley Savings Bank.....	Jan. 28, 1905	-----	725,021 30	725,021 30
Totals	-----	\$2,621,673 84	\$2,210,333 25	\$4,832,007 09

National Banks.

Monterey, First	Dec. 9, 1903	-----	-----	\$446,569 00
Salinas, First	June 14, 1897	-----	-----	916,317 00
Total	-----	-----	-----	\$1,362,886 00
State banks	-----	-----	-----	4,832,007 09
Grand total	-----	-----	-----	\$6,194,893 09

NAPA COUNTY.

State Banks.

Napa:				
Bank of Napa.....	Sept. 14, 1871	\$767,874 35	\$557,879 00	\$1,325,753 35
Jas. H. Goodman & Co. Bank	June 11, 1889	838,902 60	-----	838,902 60
Napa Savings Bank.....	Mar. 5, 1903	-----	364,018 64	364,018 64
St. Helena:				
Bank of St. Helena.....	Aug. 9, 1882	200,823 75	257,446 01	458,269 76
The Savings Bank of St. Helena	Jan. 29, 1892	-----	225,483 52	225,483 52
Totals	-----	\$1,807,600 70	\$1,404,827 17	\$3,212,427 87

National Banks.

Oalistoga, Oalistoga	Oct. 1, 1909	-----	-----	\$154,311 00
Napa, First	Mar. 18, 1904	-----	-----	975,516 00
St. Helena, Carver.....	July 23, 1887	-----	-----	307,956 00
Total	-----	-----	-----	\$1,437,783 00
State banks	-----	-----	-----	3,212,427 87
Grand total	-----	-----	-----	\$4,650,210 87

NEVADA COUNTY.

State Banks.

Grass Valley:				
Nevada County Bank.....	Oct. 12, 1900	\$386,314 34	\$819,666 30	\$1,205,980 64
Nevada City:				
Citizens' Bank	Sept. 21, 1876	528,528 28	600,632 67	1,128,560 95
Totals	-----	\$914,842 62	\$1,419,698 97	\$2,334,541 59

ORANGE COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Anaheim:				
American Savings Bank of Anaheim -----	May 8, 1905		\$162,872 28	\$162,872 28
German-American Bank -----	Oct. 30, 1905	\$242,992 41	142,932 02	385,924 43
Brea:				
La Habra Valley Bank -----	Mar. 27, 1912	42,182 53		42,182 53
Fullerton:				
Fullerton Savings Bank -----	June 14, 1906		209,457 44	209,457 44
Garden Grove:				
The Bank of Garden Grove -----	July 9, 1909	118,919 61		118,919 61
Huntington Beach:				
Savings Bank of Huntington Beach -----	July 1, 1905		60,971 46	60,971 46
Newport Beach:				
State Bank of Newport -----	Oct. 12, 1906	81,009 16		81,009 16
Orange:				
Orange Savings Bank -----	Mar. 16, 1906		364,728 67	364,728 67
Security Savings Bank of Orange -----	Dec. 26, 1906		191,374 75	191,374 75
Santa Ana:				
Home Savings Bank of Santa Ana -----	Dec. 1, 1905		297,022 98	297,022 98
Orange County Savings & Trust Company -----	Apr. 12, 1889	285,484 44	384,960 60	1,872,015 17
The Santa Ana Savings Bank -----	Mar. 25, 1902		363,800 72	363,800 72
Totals -----		\$770,588 15	\$2,178,120 92	\$3,140,279 20

National Banks.

Anaheim, First -----	Nov. 7, 1902			\$746,974 00
Anaheim, Anaheim -----	July 17, 1912			140,055 00
Fullerton, First -----	Dec. 26, 1900			498,386 00
Fullerton, Farmers and Merchants' -----	Sept. 13, 1909			299,359 00
Huntington Beach, First -----	Aug. 11, 1905			224,637 00
Orange, First -----	Apr. 18, 1906			259,832 00
Orange, National -----	Oct. 25, 1910			523,977 00
Placentia, Placentia -----	Oct. 10, 1911			134,912 00
Santa Ana, First -----	June 15, 1886			2,414,937 00
Santa Ana, California -----	Dec. 15, 1910			543,303 00
Santa Ana, Farmers and Merchants' -----	Nov. 17, 1905			1,942,161 00
Tustin, First -----	Jan. 31, 1912			112,150 00
Total -----				\$7,840,633 00
State banks -----				3,140,279 20
Grand total -----				\$10,990,962 20

PLACER COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Auburn:				
Placer County Bank.....	Oct. 5, 1887	\$419,896 69	\$177,636 21	\$597,532 90
Auburn Savings Bank.....	Sept. 16, 1898		228,013 45	228,013 45
Colfax:				
Colfax Bank	Aug. 12, 1907	103,569 18		103,569 18
Dutch Flat:				
W. P. Nicholls' Bank (private)		61,710 29		61,710 29
Lincoln:				
Bank of Lincoln.....	Mar. 31, 1902	315,912 89		315,912 89
Newcastle:				
Bank of Newcastle.....	July 6, 1907	116,344 71		116,344 71
Roseville:				
Roseville Banking & Trust Company	Mar. 5, 1903	153,651 51	101,919 26	260,570 77
Totals		\$1,176,085 27	\$507,568 92	\$1,683,654 19

National Banks.

Auburn, First	Aug. 25, 1908			\$137,084 00
State banks				1,683,654 19
Grand total				\$1,820,738 19

¹Including \$201,570.13 in trust department. See page 273.

PLUMAS COUNTY.

State Banks.

Greenville:				
Indian Valley Bank.....	Dec. 12, 1911		\$123,096 85	\$123,096 85
Quincy:				
Plumas County Bank.....	Sept. 2, 1903	\$169,652 06	108,269 35	277,921 41
Totals		\$169,652 06	\$231,366 20	\$401,018 26

RIVERSIDE COUNTY.

State Banks.

Beaumont:				
Bank of Beaumont.....	May 13, 1908	\$151,675 17		\$151,675 17
Blythe:				
Palo Verde Valley Bank.....	June 9, 1910	61,523 08		61,523 08
Corona:				
Citizens' Bank	Nov. 5, 1890		\$135,424 01	135,424 01
Elsinore:				
Consolidated Bank of Elsinore	Aug. 18, 1887	105,453 54		105,453 54
Hemet:				
Bank of Hemet.....	May 12, 1899	262,490 76	95,561 90	358,052 66
Farmers & Merchants' Bank	May 15, 1907	133,496 53	35,857 32	169,353 85
Highgrove:				
Bank of Highgrove.....	Jan. 7, 1909	81,689 97		81,689 97
Perris:				
Bank of Perris.....	Nov. 20, 1908	143,050 91		143,050 91
Riverside:				
Citizens' Bank of Arlington	Sept. 27, 1907	213,068 84		213,068 84
Riverside Savings Bank & Trust Co.	Sept. 10, 1890		1,409,881 80	1,409,881 80
Security Savings Bank of Riverside	June 5, 1907		740,906 64	740,906 64
San Jacinto:				
First Savings Bank of San Jacinto	July 21, 1911		62,952 21	62,952 21
Totals		\$1,152,448 75	\$2,480,583 88	\$3,633,032 63

National Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Banning, First	June 23, 1909	-----	-----	\$240,733 00
Corona, First	Aug. 11, 1905	-----	-----	445,409 00
Corona, Corona	Nov. 20, 1906	-----	-----	217,964 00
Riverside, First	June 3, 1885	-----	-----	2,416,095 00
Riverside, Citizens'	Oct. 5, 1907	-----	-----	1,438,135 00
Riverside, National	Sept. 24, 1906	-----	-----	876,970 00
San Jacinto, First	Dec. 6, 1905	-----	-----	488,323 00
Total	-----	-----	-----	\$6,123,629 00
State banks	-----	-----	-----	3,633,032 63
Grand total	-----	-----	-----	\$9,756,661 63

SACRAMENTO COUNTY.

State Banks.

Elk Grove:				
Bank of Elk Grove	Aug. 23, 1910	\$106,649 51	-----	\$106,649 51
Fair Oaks:				
Fair Oaks Bank	Apr. 27, 1909	66,767 05	-----	66,767 05
Folsom:				
Bank of Folsom	Nov. 14, 1910	97,197 13	\$25,198 56	122,395 69
Galt:				
Bank of Galt	Apr. 5, 1912	51,880 50	-----	51,880 50
Sacramento:				
The Capital Banking and Trust Company	Dec. 28, 1893	-----	452,775 97	452,775 97
Farmers-Mechanics' Savings Bank	Sept. 20, 1890	-----	1,561,572 25	1,561,572 25
Peoples' Savings Bank	May 28, 1879	-----	4,260,253 66	4,260,253 66
Sacramento Bank	Feb. 4, 1875	-----	7,330,368 74	7,330,368 74
Citizens' Bank of Oak Park	Oct. 30, 1909	80,250 77	13,946 81	94,197 58
The Sacramento Valley Trust Company	Mar. 31, 1910	1,054,065 18	622,399 68	1,882,693 83
The Nippon Bank	Sept. 19, 1907	94,244 83	-----	94,244 83
Walnut Grove:				
Bank of Alex. Brown (private)	-----	269,728 12	-----	269,728 12
Totals	-----	\$1,820,783 09	\$14,266,515 67	\$16,293,527 73

National Banks.

Sacramento, National Bank of D. O. Mills & Co.	July 16, 1872	-----	-----	\$7,071,047 00
Sacramento, California	Jan. 5, 1907	-----	-----	10,236,961 00
Sacramento, Capital	Nov. 28, 1911	-----	-----	1,018,255 00
Sacramento, Fort Sutter	June 8, 1905	-----	-----	3,067,203 00
Total	-----	-----	-----	\$21,393,466 00
State banks	-----	-----	-----	16,293,527 73
Grand total	-----	-----	-----	\$37,686,993 73

SAN BENITO COUNTY.
State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Hollister:				
Bank of Hollister.....	Oct. 21, 1875	\$1,239,394 55	-----	\$1,239,394 55
Savings and Loan Bank of San Benito County.....	Jan. 28, 1892	-----	\$897,659 56	897,659 56
Hollister Savings Bank.....	Feb. 11, 1892	-----	418,078 62	418,078 62
Totals	-----	\$1,239,394 55	\$1,315,738 18	\$2,555,132 73

National Banks.

Hollister, First	Apr. 5, 1909	-----	-----	\$497,053 00
State banks	-----	-----	-----	2,555,132 73
Grand total	-----	-----	-----	\$3,052,185 73

*Including \$206,228.97 in trust department. See page 273.

SAN BERNARDINO COUNTY.
State Banks.

Chino:				
Chino State Bank.....	July 6, 1903	\$211,847 32	-----	\$211,847 32
Highland:				
First State Bank of Highland	Mar. 28, 1904	177,877 65	\$41,253 49	219,131 14
Needles:				
Bank of Needles.....	July 31, 1907	182,882 37	-----	182,882 37
Monaghan & Murphy Bank.....	July 8, 1905	205,931 38	-----	205,931 38
Ontario:				
Euclid Savings Bank.....	Mar. 17, 1890	15,140 33	104,805 51	119,945 84
Redlands:				
Savings Bank of Redlands.....	June 19, 1891	-----	714,111 20	714,111 20
Union Savings Bank of Redlands	Apr. 7, 1904	-----	759,346 18	759,346 18
San Bernardino:				
California State Bank of San Bernardino	Aug. 2, 1901	649,193 78	-----	649,193 78
Savings Bank of San Bernardino	Dec. 2, 1889	-----	408,853 62	408,853 62
The San Bernardino County Savings Bank	Apr. 27, 1903	-----	1,554,614 19	1,554,614 19
Uplands:				
Citizens' Savings Bank of Upland	May 11, 1906	-----	119,512 95	119,512 95
Totals	-----	\$1,442,872 83	\$3,702,497 14	\$5,145,369 97

National Banks.

Colton, First	Oct. 18, 1886	-----	-----	\$522,655 00
Colton, Colton	Mar. 25, 1907	-----	-----	287,638 00
Oucamonga, First	Feb. 29, 1904	-----	-----	256,960 00
Ontario, First	May 22, 1902	-----	-----	630,154 00
Ontario, Ontario	Feb. 24, 1911	-----	-----	321,959 00
Redlands, First	May 29, 1888	-----	-----	1,292,612 00
Redlands, Citizens'	Feb. 1, 1906	-----	-----	1,023,447 00
Redlands, Redlands	May 16, 1904	-----	-----	1,538,336 00
Rialto, First	June 27, 1907	-----	-----	306,292 00
San Bernardino, Farmers' Exchange	Mar. 29, 1907	-----	-----	794,226 00
San Bernardino, San Bernardino	Nov. 26, 1887	-----	-----	1,637,385 00
Upland, First	June 13, 1906	-----	-----	331,766 00
Upland, Commercial	Oct. 29, 1909	-----	-----	454,983 00
Total	-----	-----	-----	\$9,398,483 00
State banks	-----	-----	-----	5,145,369 97
Grand total	-----	-----	-----	\$14,543,852 97

SAN DIEGO COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Chula Vista:				
Chula Vista State Bank.....	Apr. 27, 1912	\$62,798 16	-----	\$62,798 16
Peoples' State Bank.....	Oct. 17, 1890	172,372 15	-----	172,372 15
El Cajon:				
Cuyamaca State Bank.....	Nov. 5, 1907	133,930 96	-----	133,930 96
Escondido:				
Home Savings Bank of Escondido.....	Apr. 21, 1909	-----	\$114,910 28	114,910 28
Escondido Savings Bank.....	Mar. 28, 1905	-----	188,625 89	188,625 89
Fallbrook:				
The Citizens' Commercial Bank.....	Oct. 19, 1910	76,147 49	-----	76,147 49
La Mesa:				
Bank of Mesa.....	Jan. 14, 1909	148,567 80	-----	148,567 80
Oceanside:				
The Bank of Oceanside.....	June 9, 1887	137,477 19	-----	137,477 19
Ramona:				
The State Bank of Ramona.....	Aug. 9, 1911	51,461 98	-----	51,461 98
San Diego:				
Bank of Commerce and Trust Company.....	Sept. 13, 1907	1,987,047 36	1,820,616 34	3,807,663 70
Blochman Banking Company (private).....	-----	463,554 45	167,519 55	631,074 00
Citizens' Savings Bank of San Diego.....	Jan. 16, 1888	-----	798,066 71	798,066 71
Southern Trust & Savings Bank.....	June 8, 1907	1,240,297 44	1,154,051 32	2,394,348 76
The San Diego Savings Bank.....	Apr. 15, 1889	-----	3,839,105 18	3,839,105 18
University Avenue Bank.....	Sept. 27, 1907	255,742 18	201,690 52	457,432 70
Total	-----	\$4,729,397 16	\$8,284,585 79	\$13,013,982 95

National Banks.

Escondido, First.....	June 23, 1905	-----	-----	\$389,336 00
Escondido, Escondido.....	Jan. 10, 1906	-----	-----	326,321 00
National City, Peoples'.....	Aug. 13, 1909	-----	-----	328,203 00
Oceanside, First.....	Jan. 29, 1906	-----	-----	146,052 00
San Diego, First.....	Sept. 18, 1883	-----	-----	3,770,935 00
San Diego, American.....	Oct. 1, 1904	-----	-----	2,168,324 00
San Diego, Marine.....	July 20, 1909	-----	-----	1,250,025 00
San Diego, Merchants'.....	Mar. 13, 1893	-----	-----	2,979,244 00
Total	-----	-----	-----	\$11,358,440 00
State banks	-----	-----	-----	13,013,982 96
Grand total	-----	-----	-----	\$24,372,422 95

SAN FRANCISCO COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Hibernia Savings and Loan Society -----	Sept. 6, 1864	-----	\$57,092,806 37	\$57,092,806 37
Bank of British North America -----	By R. C. 1840	1,768,128 90	-----	1,768,128 90
Savings Union Bank and Trust Company -----	June 18, 1862	1,818,359 30	33,638,289 68	36,104,299 19
The German Savings and Loan Society -----	Feb. 15, 1868	4,507,562 01	46,120,408 88	50,627,970 89
Donohoe-Kelly Banking Company -----	Mar. 2, 1891	3,454,383 15	-----	3,454,383 15
Humboldt Savings Bank -----	Nov. 25, 1869	640,158 66	6,944,227 80	7,584,386 46
California Pacific Title and Trust Company -----	Feb. 9, 1886	-----	-----	1,418,717 79
The Yokohama Specie Bank, Ltd. -----	Feb. 28, 1880	2,073,086 65	-----	2,073,086 65
Security Savings Bank -----	Mar. 4, 1871	-----	4,636,645 92	4,636,645 92
French-American Bank of Savings -----	Feb. 1, 1860	1,398,881 15	5,021,609 37	6,420,490 52
Mutual Savings Bank of San Francisco -----	Nov. 21, 1889	-----	9,509,607 96	9,509,607 96
Marine Trust and Savings Bank -----	Nov. 24, 1890	157,820 27	465,743 52	623,563 79
Columbus Savings and Loan Society -----	Jan. 18, 1893	-----	2,527,083 29	2,527,083 29
Union Trust Company of San Francisco -----	Feb. 6, 1893	14,093,081 67	8,816,687 54	*24,440,725 60
Swiss-American Bank -----	Aug. 10, 1909	-----	2,871,047 49	2,871,047 49
The Mission Bank -----	Feb. 7, 1903	2,017,256 31	-----	2,017,256 31
The Bank of Italy -----	Aug. 10, 1904	3,689,728 74	5,689,683 05	9,379,411 79
Mercantile Trust Company of San Francisco -----	Apr. 18, 1899	-----	-----	2,334,815 01
Canadian Bank of Commerce -----	*May 15, 1867	6,179,067 61	-----	6,179,067 61
Central Trust Company of California -----	Jan. 29, 1903	-----	-----	242,545 06
The International Banking Corporation -----	June 14, 1901	3,149,210 51	642,563 79	3,791,774 30
Italian-American Bank -----	Mar. 16, 1899	2,169,439 95	3,222,995 29	5,392,435 24
The Mission Savings Bank -----	Aug. 3, 1906	-----	1,547,897 83	1,547,897 83
Fugazi Banca Popolare Operaia Italiana -----	Nov. 3, 1906	473,146 93	3,036,700 21	3,509,847 14
Portuguese-American Bank of San Francisco -----	Nov. 29, 1905	699,713 17	791,243 13	1,490,956 30
First Federal Trust Co. -----	Aug. 23, 1907	5,106,232 41	-----	*5,457,521 98
Canton Bank of San Francisco -----	Oct. 1, 1907	1,107,927 69	-----	1,107,927 69
Anglo-California Trust Co. -----	Apr. 12, 1909	6,858,164 27	1,317,261 18	*8,556,790 62
Honkong and Shanghai Banking Corporation -----	July 20, 1867	305,531 94	-----	305,531 94
Western Metropolis Savings Bank -----	Sept. 19, 1910	-----	-----	-----
Bank of Daniel Meyer -----	Jan. 24, 1912	1,370,578 60	-----	1,370,578 60
Totals -----	-----	\$63,037,459 89	\$193,892,502 30	\$263,837,301 39

National Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
San Francisco, First.....	Nov. 30, 1870	-----	-----	\$22,414,097 00
San Francisco, American.....	Sept. 17, 1902	-----	-----	8,605,985 00
San Francisco, Anglo and London, Paris.....	June 30, 1908	-----	-----	40,577,359 00
San Francisco, Bank of California National Ass'n.....	Feb. 5, 1910	-----	-----	62,804,470 00
San Francisco, Crocker.....	Sept. 9, 1886	-----	-----	28,901,778 00
San Francisco, Mercantile.....	Mar. 2, 1910	-----	-----	17,086,541 00
San Francisco, Merchants'.....	Oct. 31, 1910	-----	-----	8,455,489 00
San Francisco, Seaboard.....	May 22, 1908	-----	-----	2,586,998 00
San Francisco, Wells-Fargo, Nevada.....	Dec. 27, 1897	-----	-----	49,415,266 00
Total				\$240,847,963 00
State banks				264,150,052 54
Grand total				\$504,998,035 54

*By Royal Charter.

†No report.

‡Including \$647,550.21 in trust department.

§Including \$1,530,956.39 in trust department.

||Including \$351,289.57 in trust department.

¶Including \$381,365.17 in trust department.

See page 273.

SAN JOAQUIN COUNTY.

State Banks.

Lodi:				
Central Savings Bank of Lodi	Apr. 9, 1907	-----	\$224,318 45	\$224,318 45
Bank of Lodi.....	June 7, 1888	\$549,269 09	96,201 37	645,470 46
Manteca:				
The First State Bank of Manteca	Nov. 28, 1911	72,523 99	-----	72,523 99
Ripon:				
Bank of Ripon.....	May 2, 1910	107,186 60	-----	107,186 60
Stockton:				
Commercial and Savings Bank of Stockton.....	June 26, 1903	1,011,536 20	1,407,164 87	2,418,703 07
Farmers and Merchants' Bank of Stockton.....	Oct. 17, 1888	1,377,464 85	726,910 68	2,104,375 53
The San Joaquin Bank.....	Mar. 26, 1868	1,815,498 07	2,536,000 21	4,351,498 28
The Stockton Savings and Loan Society	Aug. 13, 1867	1,267,323 08	3,634,840 91	4,902,163 99
The Stockton Savings Bank	July 10, 1882	879,422 52	1,059,893 51	1,939,316 03
Union Safe Deposit Bank.....	Apr. 21, 1897	390,876 73	214,544 11	605,420 84
Tracy:				
Bank of Tracy.....	June 11, 1909	232,682 67	195,673 30	428,355 97
West Side Bank of Tracy.....	Nov. 12, 1910	95,644 86	106,907 91	202,452 77
Total		\$7,799,430 66	\$10,202,355 32	\$18,001,785 98

National Banks.

Lodi, First	May 3, 1905	-----	-----	\$536,537 00
Stockton, First	Feb. 20, 1879	-----	-----	1,211,228 00
Total				\$1,797,765 00
State banks				18,001,785 98
Grand total				\$19,799,550 98

SAN LUIS OBISPO COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Arroyo Grande: Bank of Arroyo Grande.....	Nov. 7, 1903	\$203,136 48	\$114,417 62	\$317,554 10
Cambria: Bank of Cambria.....	Jan. 29, 1903	237,892 96	-----	237,892 96
Paso Robles: Citizens' Bank of Paso Robles	Apr. 21, 1892	458,260 61	-----	458,260 61
San Luis Obispo: Andrews Banking Co. of San Luis Obispo.....	Dec. 13, 1893	735,258 22	-----	735,258 22
Commercial Bank of San Luis Obispo	Mar. 20, 1888	1,349,350 10	882,569 82	2,231,859 92
Total		\$2,983,898 37	\$996,927 44	\$3,980,825 81

National Banks.

Paso Robles, First.....	Sept. 10, 1910	-----	-----	\$145,897 00
San Luis Obispo, Union.....	Aug. 22, 1905	-----	-----	603,241 00
Total		-----	-----	\$749,138 00
State banks		-----	-----	3,980,825 81
Grand total		-----	-----	\$4,729,963 81

SAN MATEO COUNTY.

State Banks.

Burlingame: Bank of Burlingame.....	Sept. 27, 1907	\$81,579 87	\$115,801 61	\$197,381 48
Half Moon Bay: Bank of Half Moon Bay.....	May 6, 1905	53,302 74	103,423 06	156,725 80
Redwood City: San Mateo County Savings Bank	Dec. 28, 1903	-----	704,759 01	704,759 01
The Redwood City Commercial Bank	Oct. 10, 1904	149,131 63	-----	149,131 63
The Savings and Trust Co. of San Mateo County.....	Mar. 11, 1904	201,518 16	-----	201,518 16
San Mateo: Bank of San Mateo.....	July 9, 1894	294,063 25	543,657 45	837,720 70
South San Francisco: Bank of South San Francisco	May 27, 1905	122,201 86	177,342 72	299,544 58
Total		\$700,279 35	\$1,846,502 01	\$2,546,781 36

National Banks.

Redwood City, First of San Mateo County	May 31, 1904	-----	-----	\$774,743 00
San Mateo, National.....	June 1, 1909	-----	-----	331,784 00
Total		-----	-----	\$1,106,527 00
State banks		-----	-----	2,546,781 36
Grand total		-----	-----	\$3,653,308 36

SANTA BARBARA COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Carpinteria:				
The Commercial and Sav- ings Bank of Carpinteria	June 2, 1911	\$54,633 93	\$12,812 30	\$67,446 23
Lompoc:				
Bank of Lompoc	June 5, 1890	425,276 22	-----	425,276 22
Lompoc Valley Bank	Apr. 1, 1905	291,309 86	-----	291,309 86
Lompoc Valley Savings Bank	Apr. 1, 1905	-----	336,336 48	336,336 48
Farmers and Merchants' Savings Bank	May 4, 1905	-----	359,761 98	359,761 98
Santa Barbara:				
The Commercial Bank	Aug. 17, 1887	1,226,990 74	-----	1,226,990 74
Santa Barbara Savings & Loan Bank	Mar. 19, 1891	-----	2,585,851 01	2,585,851 01
The Central Bank	Mar. 4, 1903	272,757 67	391,266 90	664,024 57
Santa Maria:				
The Bank of Santa Maria	May 7, 1890	1,693,954 93	-----	1,693,954 93
Valley Savings Bank	Aug. 31, 1901	-----	365,817 62	365,817 62
Total	-----	\$3,964,923 35	\$4,051,846 29	\$8,016,769 64

National Banks.

Santa Barbara, First	May 7, 1873	-----	\$1,177,318 00
Santa Barbara, Santa Bar- bara County	Feb. 21, 1880	-----	978,669 00
Santa Maria, First	Nov. 18, 1904	-----	528,015 00
Total	-----	-----	\$2,684,002 00
State banks	-----	-----	8,016,769 64
Grand total	-----	-----	\$10,700,771 64

SANTA CLARA COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Campbell: The Bank of Campbell.....	July 13, 1896	\$169,766 26	\$168,765 01	\$338,531 27
Gilroy: The Bank of Gilroy.....	May 10, 1912	420,452 88	362,180 50	782,633 38
Los Gatos: The Bank of Los Gatos.....	Nov. 9, 1883	442,756 71	229,239 37	671,996 08
Mayfield: Mayfield Bank and Trust Company	Dec. 30, 1904	64,826 36	74,621 69	139,448 05
Milpitas: Bank of Milpitas.....	Aug. 4, 1911	52,851 67	26,942 38	79,794 05
Morgan Hill: Bank of Morgan Hill.....	Oct. 14, 1905	211,109 46	-----	211,109 46
Mountain View: Farmers and Merchants' State Bank	Sept. 16, 1905	515,650 26	-----	515,650 26
Palo Alto: The Bank of Palo Alto.....	Oct. 18, 1892	462,216 59	403,176 11	865,392 70
San Jose: Bank of San Jose.....	Apr. 4, 1912	1,160,821 19	1,981,644 34	3,092,465 53
Farmers' Union	May 13, 1874	274,471 65	-----	274,471 65
Garden City Bank and Trust Company	June 26, 1893	1,023,044 99	1,699,396 82	2,722,441 81
Bank of James A. Costa & Co. (private).....	-----	25,823 29	-----	25,823 29
The San Jose Safe Deposit Bank of Savings.....	Apr. 29, 1885	1,328,263 70	4,017,430 97	5,345,694 67
Security Savings Bank of San Jose	June 23, 1891	-----	1,481,256 93	1,481,256 93
Security State Bank of San Jose	Mar. 24, 1902	725,945 17	-----	725,945 17
Santa Clara: Mission Bank of Santa Clara	July 23, 1910	96,844 64	104,699 19	201,543 83
Santa Clara Valley Bank	May 31, 1893	355,135 95	288,522 40	643,658 35
Sunnyvale: Bank of Sunnyvale.....	Dec. 8, 1905	121,375 39	87,383 91	208,759 30
Totals	-----	\$7,451,856 26	\$10,875,259 62	\$18,326,615 88

National Banks.

Gilroy, First	Mar. 25, 1912	-----	-----	\$86,553 00
Los Gatos, First.....	Oct. 10, 1911	-----	-----	108,998 00
Palo Alto, First.....	Dec. 17, 1903	-----	-----	563,481 00
San Jose, First.....	July 21, 1874	-----	-----	4,296,808 00
Total	-----	-----	-----	\$5,055,840 00
State banks	-----	-----	-----	18,326,615 88
Grand total	-----	-----	-----	\$23,382,455 88

SANTA CRUZ COUNTY.**State Banks.**

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1913.
Santa Cruz:				
City Savings Bank.....	Dec. 6, 1887		\$1,528,522 02	\$1,528,522 02
Peoples' Bank	Feb. 11, 1892	\$313,815 73		313,815 73
Peoples' Savings Bank.....	Apr. 26, 1892		584,112 40	584,112 40
Santa Cruz Bank of Savings and Loan.....	Mar. 10, 1870		1,277,545 42	1,277,545 42
Watsonville:				
Bank of Watsonville.....	May 11, 1874	685,110 26		685,110 26
Pajaro Valley Savings Bank	July 18, 1888		882,840 39	882,840 39
Watsonville Savings Bank	Dec. 8, 1890		856,679 22	856,679 22
Total		\$998,925 99	\$5,129,699 45	\$6,128,625 44

National Banks.

Santa Cruz, First	Oct. 16, 1906			\$813,791 00
Santa Cruz, Santa Cruz County	May 2, 1910			794,428 00
Watsonville, Pajaro Valley	Dec. 30, 1909			935,974 00
Total				\$2,544,193 00
State banks				6,128,625 44
Grand total				\$8,672,818 44

SHASTA COUNTY.**State Banks.**

Anderson:				
Bank of Anderson.....	Mar. 31, 1905	\$67,907 21	\$136,252 47	\$204,159 68
Redding:				
Redding Savings Bank.....	Mar. 23, 1910		290,437 87	290,437 87
The First Savings Bank of Shasta County.....	Nov. 28, 1911	57,891 94	296,025 94	353,917 88
Total		\$125,799 15	\$722,716 28	\$848,515 33

National Banks.

Bedding, Northern California	Nov. 9, 1911			\$515,426 00
Bedding, Redding	Aug. 24, 1911			700,453 00
Total				\$1,215,879 00
State banks				848,515 33
Grand total				\$2,064,394 43

SIERRA COUNTY.**State Banks.**

Loyalton:				
Sierra Valley Bank.....	Sept. 1, 1906	\$70,194 13		\$70,194 13

SISKIYOU COUNTY.**State Banks.**

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Dorris:				
Butte Valley State Bank...	June 26, 1908	\$82,171 80	-----	\$82,171 80
Dunsmuir:				
State Bank of Dunsmuir...	Apr. 2, 1904	118,916 23	-----	118,916 23
Fort Jones:				
Mount Shasta Banking Co.	Dec. 19, 1910	37,764 98	\$19,894 18	57,659 16
Scott Valley Bank.....	Feb. 4, 1902	475,126 31	-----	475,126 31
Montague:				
Montague Banking Co.....	Dec. 26, 1906	196,763 67	-----	196,763 67
Yreka:				
First Savings Bank of Siskiyou	Sept. 27, 1909	-----	177,507 38	177,507 38
Siskiyou County Bank.....	Sept. 6, 1882	815,545 88	-----	815,545 88
Total		\$1,726,288 87	\$197,402 56	\$1,923,690 93

National Banks.

McCloud, McCloud	July 14, 1909	-----	-----	\$583,058 00
Weed, First	Oct. 18, 1910	-----	-----	-----
Total		-----	-----	\$816,968 00
State banks		-----	-----	1,923,690 93
Grand total		-----	-----	\$2,740,658 93

SOLANO COUNTY.**State Banks.**

Benicia:				
Peoples' Bank of Benicia...	June 15, 1904	\$223,698 79	\$54,314 47	\$278,013 26
Dixon:				
Bank of Dixon.....	Oct. 30, 1873	572,297 28	315,378 83	887,676 11
Northern Solano Savings Bank	Jan. 2, 1912	83,856 63	-----	83,856 63
Rio Vista:				
Bank of Rio Vista.....	Apr. 12, 1904	423,317 65	35,938 97	459,256 62
Suisun:				
Bank of Suisun	Feb. 7, 1876	1,040,114 30	507,935 04	1,548,049 34
Solano County Savings Bank	Apr. 3, 1905	-----	167,594 91	167,594 91
Vacaville:				
Bank of Vacaville.....	Apr. 23, 1883	654,963 14	-----	654,963 14
The Vacaville Savings Bank	Oct. 26, 1910	-----	134,492 73	134,492 73
Total		\$2,998,247 79	\$1,215,654 95	\$4,213,902 74

National Banks.

Dixon, First	Jan. 2, 1912	-----	-----	\$193,357 00
Suisun, First	Feb. 28, 1912	-----	-----	416,304 00
Vacaville, First	June 23, 1910	-----	-----	204,888 00
Vallejo, First	Nov. 1, 1909	-----	-----	823,196 00
Total		-----	-----	\$1,637,745 00
State banks		-----	-----	4,213,902 74
Grand total		-----	-----	\$5,851,647 74

STANISLAUS COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Ceres:				
Bank of Ceres.....	Mar. 28, 1911	\$83,945 53	\$19,757 48	\$103,703 01
Hughson:				
The Bank of Hughson.....	Nov. 9, 1910	94,141 85		94,141 85
Modesto:				
Farmers and Merchants' Bank.....	Mar. 25, 1903	289,771 24		289,771 24
Modesto Savings Bank.....	Mar. 8, 1905		640,110 02	640,110 02
The Modesto Bank.....	Oct. 28, 1878	811,555 38		811,555 38
Security Savings Bank of Stanislaus County.....	May 15, 1905		190,513 85	190,513 85
Union Savings Bank.....	Apr. 29, 1889	187,846 08	608,358 18	796,204 26
Newman:				
Bank of Newman.....	May 4, 1903	551,141 67	328,806 67	879,948 34
Oakdale:				
Stanislaus County Savings Bank.....	Jan. 23, 1905		335,359 51	335,359 51
Patterson:				
Bank of Patterson.....	May 28, 1911	145,222 50		145,222 50
Turlock:				
Commercial Bank of Turlock.....	Feb. 27, 1907	721,296 55	306,176 97	1,027,473 52
Peoples' State Bank.....	May 6, 1907	291,480 25		291,480 25
Total		\$3,176,401 05	\$2,429,082 68	\$5,605,483 73

National Banks.

Crows Landing, First	June 1, 1910			\$148,684 00
Modesto, First	Mar. 7, 1884			1,200,287 00
Newman, First	May 25, 1910			323,879 00
Oakdale, First	Dec. 5, 1904			587,037 00
Total				\$2,259,887 00
State banks				5,605,483 73
Grand total				\$7,865,370 73

SUTTER COUNTY.

State Banks.

Yuba City:				
Savings Bank of Sutter Co.	May 15, 1912		\$201,056 55	\$201,056 55
Sutter County Bank.....	May 15, 1912	\$280,955 93		280,955 93
Total		\$280,955 93	\$201,056 55	\$482,012 48

TEHAMA COUNTY.

State Banks.

Corning:				
The Bank of Corning (private).....		\$201,390 24		\$201,390 24
Red Bluff:				
The Bank of Tehama.....	Sept. 5, 1874	2,098,662 34		2,098,662 34
Total		\$2,300,052 58		\$2,300,052 58

National Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Red Bluff, Red Bluff.....	Dec. 11, 1911	-----	-----	\$359,710 00
State banks	-----	-----	-----	2,300,052 58
Grand total	-----	-----	-----	\$2,659,762 58

TRINITY COUNTY.

State Banks.

Weaverville: Trinity County Bank.....	Sept. 13, 1900	\$151,716 32	\$42,415 69	\$194,132 01

TULARE COUNTY.

State Banks.

Dinuba: Dinuba Savings Bank.....	June 19, 1911	-----	\$71,392 78	\$71,392 78
Exeter: Citrus Bank	Mar. 7, 1912	\$33,083 78	-----	38,083 78
Lindsay: The Lindsay Savings Bank	Mar. 3, 1910	-----	124,716 99	124,716 99
Porterville: Pioneer Bank	Apr. 18, 1889	507,366 42	136,750 70	644,117 12
Visalia: Citizens' Bank of Visalia...	May 24, 1907	210,713 18	24,944 69	235,657 87
Producers' Savings Bank...	Dec. 30, 1905	-----	267,441 25	267,441 25
The Visalia Savings Bank...	Jan. 27, 1891	-----	624,567 64	624,567 64
Totals	-----	\$756,163 38	\$1,249,814 05	\$2,005,977 42

National Banks.

Dinuba, First	June 4, 1908	-----	-----	\$426,351 00
Dinuba, United States.....	June 3, 1908	-----	-----	191,305 00
Exeter, First	Mar. 27, 1909	-----	-----	301,127 00
Lindsay, First	Oct. 27, 1905	-----	-----	594,321 00
Lindsay, Lindsay	Mar. 25, 1910	-----	-----	211,113 00
Porterville, First	June 1, 1903	-----	-----	1,363,334 00
Terra Bella, First.....	Nov. 18, 1910	-----	-----	132,202 00
Tulare, First	Apr. 2, 1907	-----	-----	672,448 00
Tulare, National	May 18, 1912	-----	-----	625,323 00
Visalia, First	Dec. 12, 1903	-----	-----	1,088,863 00
Visalia, National	June 24, 1908	-----	-----	1,267,317 00
Total	-----	-----	-----	\$6,823,704 00
State banks	-----	-----	-----	2,005,977 42
Grand total	-----	-----	-----	\$8,829,681 42

TUOLUMNE COUNTY.**State Banks.**

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Sonora: Tuolumne County Bank...	May 12, 1898	-----	\$517,608 26	\$517,608 26

National Banks.

Sonora, First	Apr. 6, 1904	-----	-----	\$976,417 00
State banks	-----	-----	-----	517,608 26
Grand total	-----	-----	-----	\$1,494,025 26

VENTURA COUNTY.**State Banks.**

Fillmore: Fillmore State Bank.....	Oct. 13, 1905	\$254,446 40	-----	\$254,446 40
Hueneme: Bank of Hueneme.....	Feb. 28, 1889	170,498 77	-----	170,498 77
Nordhoff: Ojai State Bank.....	Jan. 8, 1907	275,016 56	-----	275,016 56
Oxnard: Bank of A. Levy (incor- porated)	July 20, 1905	1,043,987 23	\$194,792 34	1,238,779 57
Oxnard Savings Bank.....	Oct. 4, 1904	-----	324,008 27	324,008 27
Santa Paula: Santa Paula Savings Bank	Nov. 28, 1905	-----	141,699 70	141,699 70
Farmers & Merchants' Bank	Dec. 20, 1905	255,193 73	42,970 53	298,164 26
Ventura: Ventura Savings Bank.....	Dec. 31, 1900	-----	594,314 76	594,314 76
Home Savings Bank of Ventura	Sept. 10, 1904	-----	291,405 94	291,405 94
Totals	-----	\$1,999,142 69	\$973,777 33	\$3,588,334 23

National Banks.

Oxnard, First	July 19, 1909	-----	-----	\$1,297,883 00
Santa Paula, First.....	Sept. 13, 1889	-----	-----	784,557 00
Ventura, First	Apr. 13, 1904	-----	-----	946,845 00
Ventura, National	Mar. 2, 1910	-----	-----	1,190,114 00
Total	-----	-----	-----	\$4,219,399 00
State banks	-----	-----	-----	3,588,334 23
Grand total	-----	-----	-----	\$7,807,733 23

YOLO COUNTY.

State Banks.

Town and name of bank.	Date of incorporation.	Commercial department.	Savings department.	Total resources June 14, 1912.
Winters:				
Citizens' Bank of Winters.....	June 13, 1907	\$264,935 62	\$106,854 73	\$371,290 35
Savings Bank of Winters.....	Nov. 23, 1911	-----	99,091 13	99,091 13
Woodland:				
Home Savings Bank of Woodland.....	June 22, 1909	-----	818,242 35	818,242 35
The Bank of Woodland.....	Nov. 19, 1868	1,607,618 65	-----	1,607,618 65
The Bank of Yolo.....	Jan. 27, 1888	1,279,283 65	511,345 64	1,790,629 29
Yolo County Savings Bank	Dec. 9, 1891	-----	1,883,825 76	1,883,825 76
Totals	-----	\$3,151,837 92	\$2,918,859 61	\$6,070,197 53

National Banks.

Winters, First	Jan. 29, 1912	-----	-----	\$360,181 00
Woodland, First	July 31, 1909	-----	-----	495,954 00
Total	-----	-----	-----	\$856,135 00
State banks	-----	-----	-----	6,070,197 53
Grand total	-----	-----	-----	\$6,926,332 53

YUBA COUNTY.

State Banks.

Marysville:				
Decker-Jewett & Co.....	Nov. 12, 1888	\$707,787 89	-----	\$707,787 89
Northern California Bank of Savings	Dec. 7, 1889	-----	\$1,846,108 99	1,846,108 99
The Rideout Bank.....	Nov. 1, 1890	2,198,233 24	-----	2,198,233 24
Wheatland:				
The Farmers' Bank of Wheatland	Oct. 21, 1874	181,969 43	-----	181,969 43
Totals	-----	\$3,087,990 56	\$1,846,108 99	\$4,934,099 55

Bank Clearings of Eight Cities, 1905-1912.

SAN FRANCISCO.		SACRAMENTO.	
Year.	Clearings.	Year.	Clearings.
1905	\$1,834,549,788 51	1905	
1906	1,998,400,779 46	1906	
1907	2,133,883,625 80	1907	
1908	1,757,141,850 08	1908	\$44,628,760 60
1909	1,979,872,570 06	1909	54,562,493 31
1910	2,323,772,870 99	1910	69,447,281 94
1911	2,427,075,543 46	1911	78,376,700 21
1912	2,677,561,952 27	1912	92,747,060 69

LOS ANGELES.		FRESNO.	
Year.	Clearings.	Year.	Clearings.
1905	\$478,985,298 40	1905	
1906	578,635,516 82	1906	
1907	581,803,982 00	1907*	
1908	505,588,756 02	1908	
1909	673,165,728 81	1909	\$29,324,258 30
1910	811,387,487 47	1910	37,980,473 07
1911	922,914,526 09	1911	39,782,776 05
1912	1,168,941,700 02	1912	51,400,594 73

OAKLAND.		STOCKTON.	
Year.	Clearings.	Year.	Clearings.
1905		1905	
1906*		1906	
1907	140,416,038 98	1907*	
1908	76,847,792 99	1908	\$24,415,671 88
1909	96,527,688 09	1909	28,301,936 22
1910	157,380,388 13	1910	32,277,582 57
1911	172,484,561 60	1911	40,350,889 35
1912	192,570,346 29	1912	44,891,763 06

SAN DIEGO.		SAN JOSE.	
Year.	Clearings.	Year.	Clearings.
1905*		1905*	
1906	\$36,218,236 32	1906	\$10,969,524 94
1907	49,194,870 02	1907	15,504,767 53
1908	37,771,349 22	1908	23,246,315 12
1909	52,094,521 82	1909	25,320,894 50
1910	67,173,976 93	1910	27,828,978 64
1911	86,724,333 47	1911	29,877,754 37
1912	131,894,087 37	1912	35,882,473 55

*Clearing house only organized this year, so the figures for the twelve months are not available.

PUBLIC UTILITIES.

46 Steam Railroads.

Gross earnings within the State.....	\$87,865,526 00
Total operating expenses.....	51,027,517 00
Net revenue.....	35,738,008 00
Cost of construction and equipment.....	1,456,069,985 00
Increase during the year.....	167,683,735 00
Average freight revenue per mile of road.....	4,493 19
Average passenger revenue per mile of road.....	3,216 64
Number of passengers carried.....	43,002,909

22 Electric Railways.

22 electric railways reported their capitalization as.....	\$194,463,158 00
Total assets of water companies as reported.....	201,137,923 00
Total assets of electric light, gas and power companies as reported.....	294,853,587 00

Total assets of the above as reported to the California Railroad Commission\$2,570,073,422 00

NOTE.—This does not include the assets of the electric railways, nor many of the street railways, nor many utilities which have not yet filed their reports. It serves merely as an indication of the enormous amount of capital invested in the public utilities in the State of California.

RAILROADS IN CALIFORNIA.

June 30, 1911.

(Compiled from the reports of the State Railroad Commission.)

Name of company.	General office.	Track mileage operated.	Capital stock, mortgages, bonds, etc., outstanding.	Cost of construction and equipment.
Amador Central	Martell	13.75	\$713,812	\$682,452
Arcata and Mad River.....	Arcata	28.00	192,521	388,099
Atchison, Topeka & Santa Fe ⁷	Los Angeles	1,968.05	633,596,993	597,219,311
Bakersfield and Ventura.....	Denver, Col.	21.00	150,500	.....
Bay Point and Clayton.....	San Francisco.....	8.82	150,000	.....
Boca and Loyalton.....	San Francisco.....	63.62	1,990,330	1,908,441
Bucksport and Elks River.....	Eureka	8.74	500,053	214,810
Butte County	Chico	33.24	84,466	.....
California Western Railroad and Navigation Co.....	San Francisco.....	40.73	1,696,121	1,340,436
Cement, Tolenas and Tidewater Railroad ¹⁰	San Francisco.....	4	.....	.....
Colusa and Lake.....	Colusa	26	150,500	.....
Crescent City and Smith River ⁸	Colusa .....	.....	.....	.....
Diamond and Calder.....	Oakland	35.45	550,611	475,551
Eureka and Fresh Water.....	San Francisco.....	.95	26,233	25,000
Holton Interurban.....	Redlands	19.87	383,212	809,335
Iron Mountain	San Francisco.....	14	120,000	.....
Klamath Lake	Thrall	17.7	1,296,743	621,559
Lake Tahoe Rail and Transportation Co.....	Tahoe	18	1,076,597	1,144,310
Los Angeles & San Diego Beach	San Diego	20.71	862,851	837,706
McCloud River	San Francisco.....	92.73	2,434,759	2,626,375
Mill Valley and Mount Tamalpais	Mill Valley	10.62	347,904	278,061
Nevada, California, Oregon.....	Reno, Nev.....	159.92	3,267,018	3,317,675
Nevada County Narrow Gauge.....	Grass Valley.....	27.85	468,492	713,053
Northwestern Pacific	San Francisco.....	485.25	54,748,965	51,436,589
Ocean Shore ⁹	San Francisco.....	65.88	.....	.....
Oregon and Eureka.....	Eureka	56.21	142,094	252,026

RAILROADS IN CALIFORNIA—Continued.

Leased lines.	General office.	Track mileage operated.	Capital stock, mortgages, bonds, etc., outstanding.	Cost of construction and equipment.
Pacific Coast -----	Seattle -----	110.14	3,397,771	2,723,005
Pajaro Valley Consolidated -----	San Francisco. -----	50.33	1,105,835	599,389
Placerville and Lake Tahoe ^o -----	San Francisco. -----	8.30	1,088,027	1,057,210
Quincy Western Railroad -----	Quincy -----	5.64	27,290	53,546
Richmond Belt Railway -----	San Francisco. -----	8.86	445,658	567,665
Sacramento Valley & Eastern -----	Winthrop -----	15.5	501,253	547,504
Sierra Railway Co. of California -----	Jamestown -----	84.24	5,503,193	5,610,437
Sierra Valley Railway -----	Reno, Nev. -----	38.55	1,350,489	228,338
San Diego and Arizona -----	San Diego -----	17.89	3,524,287	3,127,093
San Diego Southern -----	San Diego -----	64.96	1,526,186	1,559,640
San Diego and Cuyamaca -----	San Diego -----	28.97	2,016,697	2,000,405
San Juan Pacific ^o -----	San Diego -----			
San Pedro, Los Angeles & Salt Lake -----	Los Angeles -----	524.67	78,896,238	70,369,314
Southern Pacific Co. -----	San Francisco. -----	5,812.21	545,755,817	37,685,767
South San Francisco Belt -----	San Francisco. -----	7	84,985	18,311
Stockton Terminal and Eastern -----	Stockton -----	17.4	349,425	204,534
Sugar Pine Railway -----	Sonora -----	24.58	1,267,798	1,253,409
Sunset Railroad -----	San Francisco. -----	80.78	1,121,408	908,275
Tonopah and Tidewater -----	Oakland -----	152.83	5,241,802	4,201,861
Western Pacific -----	San Francisco. -----	473.40	149,925,000	97,677,903
Yosemite Valley -----	Merced -----	86.06	11,570,296	9,187,744
Yreka Railroad Co. -----	San Francisco. -----	7.90	142,312	130,877
Arizona and California ¹ ² -----			10,093,945	7,939,191
Barnwell and Searchlight Railroad ¹ ³ -----			282,781	282,781
California Eastern ⁴ -----			1,433,599	1,282,823
Fresno County Railroad ⁵ -----			85,000	80,156
Fullerton and Richfield ⁶ -----			192,591	192,591
Kings River Railway Co. -----			206,712	206,712
Laton and Western -----			229,300	80,168
Oakdale Western ⁷ -----			96,332	96,332
Perris and Lakeview ⁸ -----			29,350	29,350
Randsburg Railway ⁹ -----			844,074	844,074
Ohico and Northern ⁴ -----			2,520,000	1,491,481
California Northeastern ¹ ⁵ -----			10,601,491	5,161,926
Central California ⁶ -----			3,120,026	3,120,026
Central Pacific ¹ ⁵ -----			247,055,357	227,661,396
Coast Line ⁶ -----			673,150	682,079
Inter-California ¹ ⁵ -----			1,828,128	1,849,369
Nevada and California ¹ ⁵ -----			7,036,723	6,684,686
Sacramento Southern ⁶ -----			2,299,774	2,299,774
San Francisco and Napa ⁵ -----			55,000	308,057
Southern Pacific Railr'd Co. ¹ ⁵ -----			303,692,069	3,855,278
Southern Pacific Coast Co. ⁵ -----			11,500,000	11,500,000
Sunset Western ⁶ -----			417,444	416,748
Total -----				\$1,456,069,985

NOTE.—Cents are omitted for want of space.

¹Entire line. ²No statistics reported. ³Leased to Atchison, Topeka & Santa Fe. ⁴Leased to Butte County Railroad Co. ⁵Leased to Southern Pacific Co. ⁶Leased to Sunset Railroad Co. ⁷Capitalization per mile of road reported on basis of entire system. ⁸No report received. ⁹Not operated in 1911. ¹⁰No capital stock; part of the assets of Pacific Portland Cement Co.

ELECTRIC RAILWAYS OF CALIFORNIA.

(June 30, 1911.)

Name of company.	Mileage operated.	Capital stock, mortgages, etc.
California Railway	16.35	\$633,885
Central California Traction	75.808	6,027,250
East Shore and Suburban	18.79	1,585,200
Fresno Traction	18.24	5,789,775
Los Angeles Interurban	357.64	23,625,145
Los Angeles Pacific	187.43	36,770,044
Los Angeles and Redondo	95.02	10,971,923
Monterey and Pacific Grove	6.19	---
Nevada County Traction	5.7	231,138
Northern Electric	133.23	19,927,706
Oakland Traction	176.39	30,513,967
Ontario and San Antonio Heights	15.79	1,420,430
Pacific Electric	197.31	45,323,951
Peninsular Railway	58.7	15,085,085
Petaluma and Santa Rosa	36.98	2,025,218
Redlands Central Railway	3.1	1,136,057
Riverside and Arlington	12.73	406,193
San Bernardino Interurban	---	1,109,541
San Bernardino Valley Traction	40.46	2,597,769
San Francisco, Oakland and San Jose Consolidated Railway	28.69	15,354,713
San Francisco, Vallejo and Napa Valley	35.44	3,635,447
South San Francisco	4.02	55,742
Visalia Electric	43.56	2,238,115
Watsonville Railway and Navigation	5.3	---
Total	1,572	\$226,464,303

NOTE.—Cents are omitted in above figures.

WATER COMPANIES OF CALIFORNIA.*

(Abstract from annual balance sheet, mostly December 31, 1911.)

Name of company.	Total assets.	Name of company.	Total assets.
American Canyon Water Co.	\$898,572	Felton Water Co.	10,167
Angiola Water Co.	*	Fort Bragg Water Co.	20,000
Antelope Creek and Red Bluff Water Co.	162,000	Fortuna Water Co.	12,196
Arrowhead Reservoir and Power Co.	6,500,000	Fresno Canal and Irrigation Co.	2,833,162
Bakersfield Water Co.	118,106	Fresno City Water Co.	754,810
Banning Water Co.	661,853	Fullerton Domestic Water Co.	95,419
Bay Cities Water Co.	12,067,066	Glendale Consolidated Water Co.	1,858,146
Bay Point Light and Water Co.	22,688	Glendora Water Co.	33,328
Bear Gulch Water Co.	781,113	Golden View Land and Water Co.	12,000
Bell Water Co.	25,000	Gold Mountain Water Co.	103,500
Benicia Water Co.	518,657	Gridley Land and Irrigation Co.	100,000
Calistoga Water Co.	75,000	Hallwood Irrigation Co.	27,486
Campbell Water Co.	12,630	Hanford Water Co.	129,310
Cherry Canyon Water Co.	204,923	Happy Valley Land and Water Co.	251,826
Chico Water Supply Co.	192,418	Hawthorne Water Co.	59,151
Citizens' Land and Water Co. of Upland.	51,846	Hawthorne Electric and Water Co.	66,879
Citizens' Light and Water Co. of Claremont.	90,750	Hemet Town Water Co.	45,364
Citizens' Water Co. of Niles	8,213	Hercules Water Co.	173,369
Citizens' Water Co. of San Jacinto	1,614,730	Hermosa Beach Water Co.	96,869
City Water Co. of Ocean Park	432,715	Highland Domestic Water Co.	*
Claremont Co-operative Water Co.	37,870	Hollister Water Co.	155,529
Coalinga Consolidated Water Co.	348,938	Hollywood Water Co.	261,281
Compton Water and Lighting Co.	8,548	Hornbrook Water Co.	*
Coneland Water Co.	158,800	Huntington Beach Co.†	51,646
Consolidated Canal Co.	832,071	Hyde Park Water Co.	22,555
Consumers' Water Co.	25,000	Inglewood Water Co.	303,305
Copper, J. B. H. Water Co.	10,000	Kern Valley Water Co.	*
Corcoran Water and Gas Co.	13,683	King City Water, Light and Power Co.	39,912
Corona City Water Co.	140,338	Kings River and Fresno Canal Co.	111,174
Coronado Water Co.	626,464	Knapp Water Co.	*
Cosumnes Irrigation Co.	255,218	Laguna Blanca Water Co.	1,000,556
Covina City Water Co.	297,125	Laguna Cliffs Water Co.	21,641
Crescent City Light, Water and Power Co.	*	Lake Hemet Water Co.	604,908
Crocker-Huffman Land and Water Co.	4,491,595	Livermore Water and Power Co.	347,467
Crown Water Co.	*	Lone Oak Canal Co.	*
Cucamonga Water Co.	422,800	Loon Lake Water and Power Co.	339,080
Cuyamaca Water Co.†	241,070	Los Altos Water Co.	31,203
Del Mar Water, Light and Power Co.	245,019	Lytle Creek Water Co.	72,908
Del Norte Water Co.	25,000	Madera Electric Water Co.	53,018
Eagle Rock Water Co.	104,916	Marin Water and Power Co.	1,348,337
East Sacramento Water Co.	257,578	Marysville Water Co.	277,772
East Side Canal and Irrigation Co.	*	Miradero Water Co.	46,147
Euclid Avenue Water Co.	34,315	Mokelumne River Power and Water Co.	1,895,994
Eureka Water Co.	287,910	Monache Water Co.	16,319
Excelsior Water and Mining Co.	3,080,322	Montebello Land and Water Co.	*
Fairview Land and Water Co.	157,883	Monterey County Water Co.	92,526
Fall River Mills Water Co.	5,280	Monterey County Water Works Co.	2,203,225
		Morgan Hill Water Co.	26,500

*No report received.

†Not incorporated.

NOTE.—Cents are omitted in above figures.

WATER COMPANIES—Continued.

Name of company.	Total assets.	Name of company.	Total assets.
Mountain Springs Water Co.-----	111,872	San Pedro Water Co.-----	301,926
Mountain Water Co.-----	17,000	Santa Clara Water and Irrigation Co.-----	296,506
Mount Jackson Water and Power Co.-----	15,470	Santa Clara Valley Water Co.-----	106,525
Mountain View Water Co.-----	49,803	Stratton Water Co.-----	*
Napa City Water Co.-----	301,665	Saticov Water Co.-----	36,999
Natomas Water Co.-----	5,008,357	Santa Cruz Water Co.-----	*
Newman Water Works Co.-----	40,357	Santa Maria Water Co.-----	102,529
North Coast Water Co.-----	370,729	Santa Paula Water Works-----	188,191
North Moneta Garden Lands Water Co.-----	54,246	Santa Rosa Water Works-----	247,455
North Pasadena Land and Water Co.-----	233,935	Second Extension Water Co.-----	107,794
Northern Water and Power Co.-----	6,181,000	Sierra Madre Water Co.-----	132,323
Oak Park Water Co.-----	*	Sierra Water Supply Co.-----	6,344,453
Oak Water Co.-----	9,203	Signal Hill Water Co.-----	32,431
Occidental Investment Co.-----	402,552	Sisson Development Co.-----	25,000
Ocean Park Water Co.-----	53,626	Snow Mountain Water Power Co.-----	1,983,806
Ocean View Land and Water Co.-----	84,665	Soledad Land and Water Co.-----	12,967
Orange Home Water Co.-----	6,140	Sonoma Valley Water, Light and Power Co.-----	100,000
Palm Valley Water Co.-----	600,000	Southern California Mountain Water Co.-----	5,497,809
Peoples' Water Co. of Palms-----	*	South Feather Land and Water Co.-----	278,244
Pasadena Land and Water Co.-----	511,847	South Los Angeles Water Co.-----	158,208
Pasadena Lake, Vineyard Land and Water Co.-----	863,868	South San Francisco Water Co.-----	154,626
Peninsular Water Co.-----	408,265	Spring Valley Water Co.-----	53,128,929
Peoples' Water Co.-----	42,645,416	Stockton and Mokelumne Canal Co.-----	352,215
Petaluma Power and Water Co.-----	415,574	Summit Lake Irrigation Co.-----	103,583
Placerville Water Co.-----	16,184	Sunnyvale Water Co.-----	15,173
Pleasant Valley Water Co.-----	71,976	Sweetwater Water Co.-----	2,529,475
Port Costa Water Co.-----	899,228	Tropico Water Co.-----	62,640
Puente City Water Co.-----	14,881	Tulare City Water Co.-----	106,600
Redlands Lugonia and Craffton Domestic Water Co.-----	482,491	Ukiah Water and Improvement Co.-----	99,360
Redondo Water Co.-----	1,531,835	Union Hollywood Water Co.-----	1,731,533
Redwood City Water Co.-----	25,426	Union Water Co. of Arcata-----	44,900
Rialto Domestic Water Co.-----	130,433	Union Water Co. of California-----	6,075,554
Riverside Artesia Water Co.-----	313,419	Vacaville Water and Light Co.-----	41,541
Riverside Highland Water Co.-----	479,264	Valley Water Co. of Hanford-----	38,771
Riverside Water Co.-----	1,703,018	Verdugo Pipe and Reservoir Co.-----	18,378
Reedley Water Works-----	14,404	Vermont Square Water Co.-----	79,332
St. Helena Water Co.-----	108,908	Vineyard Ditch Co.-----	7,072
San Antonio Water Co.-----	2,399,767	Visalia City Water Co.-----	128,045
San Benito County Land and Water Co.-----	93,300	Washington Water and Light Co.-----	12,150
San Gabriel Valley Water Co.-----	2,586,353	West Redlands Water Co.-----	132,702
San Gorgonia Water Co.-----	201,675	Willits Water and Power Co.-----	46,983
San Joaquin and Kings River Canal and Irrigation Co.-----	1,508,790	Yolo County Consolidated Water Co.-----	1,253,169
San Jose Water Co.-----	1,445,535	Yorba Linda Water Co.-----	497,000
San Juan Valley Irrigation Co.-----	9,771	Yuba City Water Co.-----	
San Lorenzo Water Co.-----	52,391		

*Mutual companies are not included in the above; also others that have not yet rendered their reports.

ELECTRIC LIGHT, GAS, AND POWER COMPANIES OF CALIFORNIA.*

Name of company.	Total assets.	Name of company.	Total assets.
Alturas Electric Power Co.	\$329,654	Imperial Valley Gas Co.	611,159
Amador Electric Light and Power Co.	139,192	Indian Valley Electric Light & Power Co.	*
Bakersfield Gas and Electric Light Co.	*	Invincible Mines Consolidated	272,742
Banning Gas and Lighting Co.	29,632	Lassen Electric Co.	51,702
Barstow Utility Co.	60,555	Lompoc Light & Power Co.	66,673
Bishop Light & Power Co.	36,985	Long Beach Consolidated Gas Co.	1,286,975
Boulder Creek Electric Light & Water	87,924	Los Angeles Gas & Electric Corporation	16,284,577
Branham, James	1,339	Los Gatos Ice, Gas & Electric Co.	198,010
Butte County Power, Light & Water Co.	370,358	Marysville & Nevada Power & Water Co.	14,262
Butte & Tehama Power Co.	1,000,000	Mendocino Electric Light & Power Co.	44,598
California Electric Generating Co.	12,622,811	Modesto, Gas, Light, Coal & Coke Co.	144,946
California Natural Gas Co.	379,852	Mokelumne River Power Co.	12,248,272
California Coke & Gas Co.	1,750,124	Mountain Power Co.	*
California-Oregon Power Co.	177,264	Mount Konocti Light & Power Co.	24,571
Calistoga Electric Co.	25,000	Mount Shasta Power Corporation	10,002,564
Central Natural Gas Co.	*	Mount Whitney Power & Electric Co.	4,442,023
Central Oakland Light & Power Co.	1,963,068	Municipal Light & Power Co.	*
City Electric Co.	11,220,644	Mutual Electric Light Co.	1,449,235
Clear Lake Power & Irrigation Co.	*	Napa Valley Electric Co.	*
Oloverdale Light & Power Co.	132,884	Nevada-California Power Co.	9,528,702
Coalinga Gas & Power Co.	*	Nevada Mines Power Co.	1,000,000
Coalinga Water & Electric Co.	2,194,380	Northern California Power Co. Consolidated	15,812,967
Coast Counties Gas & Electric Co.	3,135,886	North Sacramento Light & Water Co.	51,947
Coast Valleys Gas & Electric Co.	6,061,401	Novato Light & Power Co.	15,000
Consolidated Heat, Light & Power Co.	566,834	Oakland Gas, Light & Heat Co.	*
Consumers' Light & Power Co.	541,008	Oceanside Electric & Gas Co.	32,360
Corona Gas & Electric Light Co.	72,984	Ontario Power Co.	1,144,055
Downey Light, Power & Water Co.	75,000	Ontario Upland Gas Co.	132,936
Economic Gas Co.	2,196,009	Oro Water, Light & Power Co.	4,985,716
Electric Power Co.	1,064,641	Oro Electric Corporation	20,148,752
Equitable Light & Power Co.	1,441,822	Oroville Light & Power Co.	233,329
Exchequer Mining & Power Co.	128,388	Pacific Gas & Electric Co.	152,692,280
Fort Bragg Electric Co.	158,485	Pacific Light & Power Corporation	65,821,366
Gilroy Gas Works	79,140	Pacific Power Co.	1,871,282
Glendora Light & Power Co.	24,049	Palo Alto Gas Co.	323,043
Glendale Light & Power Co.	*	Rialto Light, Power & Water Co.	*
Great Western Power Co.	54,269,650	Rochester Oil Co. (natural gas)	68,759
Hanford Gas & Power Co.	165,539	Sacramento Natural Gas Co.	1,012,277
Hemet-San Jacinto Gas Co.	*	Sacramento Valley Power Co.	2,379,777
Holton Power Co.	2,031,490	San Benito Light & Power Co.	475,255
Home Gas & Electric Co. of Newport Beach	*		
Home Gas Co. of Porterville	58,700		
Huntington Beach Light & Power Co.	34,249		

*There are a number of other companies which have not yet filed their reports.

SIGHT AND POWER COMPANIES—Continued.

Name of company.	Total assets.	Name of company.	Total assets.
San Bernardino Valley Gas Co.....	2,317,569	Truckee River General Electric Co.....	4,531,667
San Diego Consolidated Gas & Electric Co.....	5,806,033	Tulare County Power Co....	1,300,432
San Francisco Gas & Electric Co.....	33,644,926	Tuolumne Electric Co.....	394,258
San Joaquin Light & Power Corporation.....	25,799,150	Tuolumne Transmission Co.....	49,457
Santa Barbara Gas & Electric Co.....	1,495,672	Turlock Gas Co.....	75,000
Santa Maria Electric & Gas Co.....	315,271	Ukiah Gas Co.....	45,139
Santa Maria Gas & Power Co.....	566,911	United Light & Power Co..	9,510,028
Sierra & San Francisco Power Co.....	34,986,878	United Light, Fuel & Power Co.....	51,706
Southern California Edison Co.....	28,202,138	United Water & Power Co. of California.....	*
Southern California Gas Co.....	16,832,931	Universal Electric & Gas Co.....	*
Southern Counties Gas Co..	1,422,388	Vallejo Electric Light & Power Co.....	167,427
Southern Sierra Power Co..	2,395,505	Valley Gas & Fuel Co.....	706,922
South Side Light & Power Co.....	1,627,892	Ventura County Power Co..	3,812,907
Surprise Valley Electric Light & Power Co.....		Weaverville Electric Co..	14,325
Truckee Electric Light & Power Co.....		Western Fuel, Gas & Power Co.....	106,697
		Western States Gas & Electric Co.....	9,097,215
		West Sacramento Electric Co.....	*
		Yosemite Power Co.....	3,771,622

*No report received.

NOTE.—Cents are omitted in above figures.

TELEPHONE AND TELEGRAPH COMPANIES OF CALIFORNIA.*

(Abstract of annual balance sheets.)

Name of company.	Total assets.	Name of company.	Total assets.
Adelaide Rural Telephone Co.....	\$5,000	Clear Lake Consolidated Telephone & Telegraph Co.....	649,024
Arizona, California & Nevada Telephone Co.....	*	Coachella Valley Home Telephone & Telegraph Co.....	15,799
Alpaugh Telephone & Telegraph Co.....	1,287	Colusa County Telephone Co.....	*
Barnickel, B.....	*	Consolidated Utilities Co..	51,440
Bass & Rolison Telephone Co.....	*	Danner Co., J. C.....	*
Bodie & Hawthorne Telephone and Telegraph Co..	554	Delano Linns Valley Telephone Co.....	2,725
Butts, Wm.....	*	Del Norte Peoples' Telephone Co.....	10,968
Cain, J. W.....	*	Dos Palos Telephone Co....	4,801
California Northern Telephone & Telegraph Co.....	93,466	Downey Home Telephone & Telegraph Co.....	48,304
California & Oregon Telegraph Co.....	37,957	Ducor California Hot Springs Telephone & Telegraph Co.....	10,674
California Telephone & Light Co.....	*	Eckel, T. L.....	*
Campo Seco Telephone Co..	*	Eel River & Southern Telephone Co.....	12,126
Chetco Southern Telephone Co.....	9,268	Farmers' Union Telephone Co. of Turlock.....	2,604
Chinese Camp, Jamestown & Sonora Telegraph Co..	1,200		

NOTE.—Cents are omitted in above figures.

*No report received.

TELEPHONE AND TELEGRAPH COMPANIES—Continued.

Name of company.	Total assets.	Name of company.	Total assets.
Federal Telegraph Co.....	236,944	Postal Telegraph Cable Co.	266,958
Fowler Independent Telephone Co.....	*	Placer County Telephone Co.....	*
Gilroy Telephone Co.....	13,735	Redding, Ingot & Wengler Telephone Co.....	*
Glenn County Telephone Co.....	129,657	Redlands Home Telephone & Telegraph Co.....	222,746
Healdsburg Telephone Co.....	65,581	Riverside Home Telephone & Telegraph Co.....	308,109
Home Telephone & Telegraph Co. of Los Angeles.....	11,486,413	Redondo Home Telephone Co.....	72,285
Home Telephone Co. of Colusa County.....	1,602	Rio Vista Telephone Co.....	30,000
Home Telephone Co. of Covina.....	142,127	Roseville Home Telephone Co.....	6,033
Home Telephone & Telegraph Co. of Pasadena.....	1,205,845	San Diego Home Telephone Co.....	3,135,792
Home Telephone & Telegraph Co. of Santa Barbara.....	588,480	San Fernando Valley Home Telephone Co.....	46,607
Home Telephone & Telegraph Co. of Santa Barbara County.....	391,765	San Gabriel Valley Home Telephone Co.....	359,010
Home Telephone & Telegraph Co. of Corona.....	100,987	Santa Monica Bay Home Telephone Co.....	399,576
Huntington Beach Co.....	10,368	Siskiyou Telephone Co.....	14,155
Inch Shelley.....	9,777	Sierra Madre Telephone & Telegraph Co.....	29,499
Imperial Telephone Co.....	71,493	Sierra Telegraph Co.....	12,400
Inyo Telephone Co.....	59,771	Smeltzer Home Telephone & Telegraph Co.....	24,033
Klamath Telephone & Telegraph Co.....	18,712	Southwestern Home Telephone Co.....	872,155
Kerman Telephone Co.....	38,192	Sunland Rural Telephone Co.....	2,164
Lindsay Home Telephone & Telegraph Co.....	32,200	San Diego Telephone Herald Co.....	*
Los Gatos Telephone Co.....	21,887	Santa Paula Home Telephone Co.....	95,768
Lost Hills Telephone & Telegraph Co.....	75,333	Shaw, H. C.....	*
Monrovia Telephone & Telegraph Co.....	141,867	Tulare Home Telephone & Telegraph Co.....	26,956
Montague Butte Valley Telephone Co.....	*	Turlock Home Telephone & Telegraph Co.....	16,800
Northwestern Long Distance Telephone Co.....	*	Tehama County Telephone Co.....	70,000
Nevada, California & Oregon Telephone & Telegraph Co.....	208,101	Tower, J. A.....	*
New Freeport Telephone & Telegraph Co.....	42,152	Union Home Telephone & Telegraph Corporation.....	7,496,235
Northern Trinity Telephone & Telegraph Co.....	*	United States Long Distance Telephone & Telegraph Co.....	3,917,060
Oxnard Home Telephone Co.....	120,968	Upper Dry Creek Telephone Co.....	3,562
Ontario & Upland Telephone Co.....	174,432	Western Union Telegraph Co.....	175,860,143
Otto, Geo.....	*	Whittier Home Telephone & Telegraph Co.....	144,537
Paso Robles & Shandon Telephone Co.....	10,600	Willits Telephone & Telegraph Co.....	6,530
Pacific Coast Telephone Co.....	*	Wood, L. N.....	*
Pomona Valley Telephone & Telegraph Union.....	135,313	Wrigglesworth, Jas.....	*
Pacific Telephone & Telegraph Co.....	85,214,319		

*This list is not exhaustive as some companies have not yet filed their reports.

INSURANCE.

FIRE AND MARINE, LIFE, AND MISCELLANEOUS.

The total number of insurance companies, (except 52 fraternal benefit societies, authorized to transact business in the State of California during 1911 was 258, of which number 176 were companies in other states, 40 California, and 42 foreign. Of these 114 were fire insurance companies and 41 life and the remainder marine and miscellaneous companies. The following summary shows the total capital stock, total admitted assets, total liabilities, total net surplus and surplus as regards policyholders of California companies, companies of other states and foreign companies.

During the twenty-seven years, 1884-1911, the fire insurance companies have received in premiums in California \$231,265,439.49, and paid out in losses \$236,221,011.79, or \$4,955,572.30 more than they received in premiums during that period. This result was due to the San Francisco fire of 1906, in which year the premiums received amounted to \$13,368,350.87, and the losses paid to \$146,306,376.92 or a difference of \$132,938,026.05; in addition to which some losses were paid during the years 1907 and 1908.

During the same period above named the marine insurance companies received \$45,797,876.12 and paid losses amounting to \$27,948,414.76, and the life insurance companies received premiums amounting to \$117,803,879.15 and paid losses and endowments amounting to \$73,313,257.89.

Premiums Received and Losses Paid During the Year 1911.

Companies.	Premiums received.	Losses paid.
Fire, stock	\$16,074,851 27	\$4,598,654 61
Fire, mutual	34,938 83	10,564 58
Fire, inter-insurance	45,112 91	
Fire, county mutual	66,103 20	31,854 69
Marine (including team and vehicle)	2,321,318 35	1,375,225 59
Life (ordinary)	14,811,167 84	5,719,644 03
Life (industrial)	1,466,605 96	354,320 28
Life (assessment)	274,780 77	222,294 31
Accident	1,268,899 84	528,944 12
Liability	1,268,886 67	390,930 82
Fidelity and Surety	795,967 08	173,388 58
Miscellaneous companies	1,553,729 40	254,913 99
Totals	\$39,981,861 57	\$13,655,735 10

California Companies.

	Fire and marine.	Life.	Miscellaneous.	Totals.
Capital stock (paid up in cash)	\$2,109,000 00	\$3,600,000 00	\$3,342,000 00	\$9,051,000 00
Total admitted assets	10,274,867 87	27,887,357 81	6,587,447 38	44,749,673 06
Total liabilities (except capital)	5,291,893 88	25,583,465 08	1,464,702 28	29,340,061 19
Net surplus	2,783,974 04	1,703,892 73	1,780,745 10	6,358,611 87
Surplus as regards policyholders	4,982,974 04	5,308,892 73	5,122,745 10	15,409,611 87

Companies of Other States.

	Fire and marine.	Life.	Miscellaneous.	Totals.
Capital stock (paid up in cash)-----	\$62,481,904 00	\$13,445,350 00	\$26,105,100 00	\$102,032,354 00
Total admitted assets -----	391,854,703 13	3,774,872,611 97	95,116,795 15	4,261,844,110 25
Total liabilities (except capital)--	200,566,728 15	3,553,045,576 04	45,227,886 52	3,798,840,190 71
Net surplus -----	128,806,070 98	207,473,929 48	23,783,808 63	360,063,809 09
Surplus as regards policyholders ----	191,287,974 98	220,919,279 48	49,888,908 63	462,096,163 09

Companies of Foreign Countries.

	Fire and marine.	Miscellaneous.	Totals.
Deposit capital -----	\$11,561,900 00	\$1,000,000 00	\$12,561,900 00
Total admitted assets-----	100,749,188 56	10,836,798 35	111,585,916 91
Total liabilities (except capital)--	61,659,469 35	7,959,501 63	69,618,970 98
Net surplus -----	27,527,749 21	1,877,296 72	29,405,045 93
Surplus as regards policyholders in United States.-----	39,089,649 21	2,877,296 72	41,966,945 93

Summary.

	California companies.	Companies of other states.	Companies of foreign countries.	Totals.
Capital stock (paid up in cash)-----	\$9,051,000 00	\$102,032,354 00	\$12,561,900 00	\$123,645,254 00
Total admitted assets -----	44,749,673 06	4,261,844,110 25	111,585,916 91	4,418,179,700 22
Total liabilities (except capital)--	29,340,061 19	3,798,840,190 71	69,618,970 98	3,897,799,222 88
Net surplus -----	6,358,611 87	360,063,809 09	29,405,045 93	395,827,466 89
Surplus as regards policyholders ----	15,409,611 87	462,096,163 09	41,966,945 93	519,472,720 89

APPENDIX A.

CALIFORNIA STATE BOARD OF AGRICULTURE

State Boards of Agriculture and Agricultural Experiment Stations in the United States.

STALLION REGISTRATION BOARDS.

California State Agricultural Society (Incorporated May 13, 1854). State Board of Agriculture (Appointed March 12, 1863).

There are 43 official bodies or organizations in the United States charged with the promotion of agriculture. Of these 20 are "State Boards of Agriculture"; 19 are governed by a "Commissioner of Agriculture"; 3, Georgia, Minnesota and California, have a "State Agricultural Society," and Pennsylvania a "Secretary of Agriculture." Of the above, California is the only one with a dual title, that of the "State Agricultural Society" and "State Board of Agriculture." The former title is misleading, as there are no longer any members, membership being discontinued in 1905. There are also 60 Agricultural Experiment Stations, conducted, in most cases, under the authority of the state universities.

The first Agricultural Experiment Stations, now sixty in number, were formed some forty years ago, one of the pioneers being that of the State University at Berkeley in 1873. They were subsequently reorganized under the Hatch Act of 1887, which largely extended the number of these most valuable institutions.

The first law regulating the registration of stallions was passed by the state of Wisconsin in 1906, since which time seventeen other states have taken this important step to improve the breed of their horses.

The California State Agricultural Society was one of the first to be organized, and ranks as fifth in the United States.

The first State Fair was held in the Music Hall at San Francisco from the 4th to about the 12th of October, 1854, and the stock show was held on the Pioneer race course. A fair has been held annually ever since—in 1855 at Sacramento, 1856 at San Jose, 1857 at Stockton, 1858 at Marysville, and since 1859 at Sacramento.

The amount distributed in premiums and purses for the promotion of agriculture, the encouragement of live stock breeding and of other California industries, during this period is upwards of \$1,580,000.

CALIFORNIA STATE FAIRS. 1854-1913.

Year.	Place.	Date.	Premiums.	Races.	Total.	Presidents.
1854	San Fran.	Oct. 4.	\$4,660		\$4,660	F. W. Macondray, San Fran.
1855	Sacramento	Sept. 25-Oct. 1.	6,550		6,550	O. T. Hutchinson, Sac'to.
1856	San Jose	Oct. 7-10.	6,746		6,746	E. L. Beard, Alameda.
1857	Stockton	Sept. 29-Oct. 2.	7,991		7,991	O. M. Weber,* Stockton.
1858	Marysville	Aug. 23-28.	7,435		7,435	John C. Fall, Marysville.
1859	Sacramento	Sept. 13-23.	8,139		8,139	O. T. Hutchinson, Sac'to.
1860	Sacramento	Sept. 19-26.	8,827		8,827	T. J. Phelps, San Mateo.
1861	Sacramento	Sept. 16-21.	7,231		7,231	Jerome C. Davis, Yolo co.
1862	Sacramento	Aug. 31-Sept. 4.			5,000	A. Haraszthy, Sonoma.
1863	Sacramento	Sept. 25-Oct. 3.	4,894		4,894	Judge Isaac Davis, Yolo co.
1864	Sacramento	Oct. 17-22.	6,105		6,105	C. F. Reed, Grafton, Yolo co.
1865	Sacramento	Sept. 18-23.	10,658		10,658	C. F. Reed, Grafton, Yolo co.
1866	Sacramento	Sept. 10-15.	9,742		9,742	C. F. Reed, Grafton, Yolo co.
1867	Sacramento	Sept. 9-14.	9,954		9,954	C. F. Reed, Grafton, Yolo co.
1868	Sacramento	Sept. 15-25.			10,000	C. F. Reed, Grafton, Yolo co.
1869	Sacramento	Sept. 6-11.				C. F. Reed, Grafton, Yolo co.
1870	Sacramento	Sept. 12-17.			30,000	C. F. Reed, Grafton, Yolo co.
1871	Sacramento	Sept. 18-23.			40,000	C. F. Reed, Grafton, Yolo co.
1872	Sacramento	Sept. 19-23.			20,000	C. F. Reed, Grafton, Yolo co.
1873	Sacramento	Sept. 15-20.	8,925	14,200	23,125	R. S. Carey, Yolo.
1874	Sacramento	Sept. 21-28.	9,619	15,950	25,569	R. S. Carey, Yolo.
1875	Sacramento	Sept. 15-26.	9,214	13,330	22,544	R. S. Carey, Yolo.
1876	Sacramento	Sept. 18-23.				R. S. Carey, Yolo.
1877	Sacramento	Sept. 17-22.				Marion Biggs, Butte.
1878	Sacramento	Sept. 16-21.	10,965	13,775	24,740	Marcus D. Baruck, San Fran.
1879	Sacramento	Sept. 8-13.		12,260	12,260	Hugh M. Larue, Sacramento.
1880	Sacramento	Sept. 20-25.	6,502	14,885	21,387	Hugh M. Larue, Sacramento.
1881	Sacramento	Sept. 19-24.	6,603	12,525	19,128	J. M. McShafter, San Fran.
1882	Sacramento	Sept. 11-16.	8,651	14,262	22,913	Hugh M. Larue, Sacramento.
1883	Sacramento	Sept. 10-15.	8,915	14,005	22,920	P. A. Fingan, Alameda.
1884	Sacramento	Sept. 8-20.	11,467	23,165	34,632	P. A. Fingan, Alameda.
1885	Sacramento	Sept. 10-19.	13,612	25,145	38,757	Jesse D. Carr, Salinas.
1886	Sacramento	Sept. 9-18.	13,370	22,900	36,270	Jesse D. Carr, Salinas.
1887	Sacramento	Sept. 15-24.	14,538	23,470	38,008	L. U. Shippee, Stockton.
1888	Sacramento	Sept. 6-15.	14,256	25,560	38,816	L. U. Shippee, Stockton.
1889	Sacramento	Sept. 12-21.	17,056	30,860	47,916	Christopher Green, Sac'to.
1890	Sacramento	Sept. 11-20.	15,761	27,016	42,777	Christopher Green, Sac'to.
1891	Sacramento	Sept. 8-19.	17,628	30,081	47,709	Frederick Cox, Sacramento.
1892	Sacramento	Sept. 5-17.	17,106	29,950	47,056	Frederick Cox, Sacramento.
1893	Sacramento	Sept. 4-16.	13,244	32,715	45,959	John Boggs, Princeton, Colusa co.
1894	Sacramento	Sept. 3-15.	13,447	29,220	42,667	John Boggs, Princeton, Colusa co.
1895	Sacramento	Sept. 2-14.	11,416	32,880	44,296	O. M. Chase, San Francisco.
1896	Sacramento	Sept. 1-19.	12,971	47,222	60,193	O. M. Chase, San Francisco.
1897	Sacramento	Sept. 6-18.	20,252	35,247	55,499	O. M. Chase, San Francisco.
1898	Sacramento	Sept. 5-17.	20,163	28,170	48,333	A. B. Spreckels, San Fran.
1899	Sacramento	Sept. 4-16.	10,529	38,745	49,274	A. B. Spreckels, San Fran.
1900	Sacramento	Sept. 3-15.	9,768	38,745	48,513	A. B. Spreckels, San Fran.
1901	Sacramento	Sept. 2-14.	8,974	30,355	39,329	A. B. Spreckels, San Fran.
1902	Sacramento	Sept. 8-20.	15,000	40,280	55,280	A. B. Spreckels, San Fran.
1903	Sacramento	Aug. 31-Sept. 12.	15,000	31,435	46,435	Benjamin F. Rush, Suisun.
1904	Sacramento	Aug. 22-Sept. 3.	15,000	28,597	43,957	Benjamin F. Rush, Suisun.
1905	Sacramento	Sept. 2-9.	6,656	24,419	31,075	Benjamin F. Rush, Suisun.
1906	Sacramento	Aug. 25-Sept. 1.	7,598	10,640	18,640	Benjamin F. Rush, Suisun.
1907	Sacramento	Sept. 2-14.	11,153	14,914	26,067	Benjamin F. Rush, Suisun.
1908	Sacramento	Aug. 29-Sept. 5.	11,277	13,410	24,687	H. A. Jastro, Bakersfield.
1909	Sacramento	Aug. 28-Sept. 4.	14,183	14,665	28,848	H. A. Jastro, Bakersfield.
1910	Sacramento	Sept. 3-10.	14,465	6,930	21,395	H. A. Jastro, Bakersfield.
1911	Sacramento	Aug. 26-Sept. 2.	14,790	26,300	41,090	A. L. Scott, San Francisco.
1912	Sacramento	Sept. 14-21.	20,000	17,000	37,000	A. L. Scott, San Francisco.
1913	Sacramento	Sept. 13-20.	25,000	37,000	62,000	A. L. Scott, San Francisco.

*Resigned March 10. Wm. Garrard appointed.

Many of the books and records of the Society were destroyed by a disastrous flood on the 9th of December, 1861, and 9th of January, 1862, caused by a break in the levee on the north side of Sacramento.

STATE BOARDS OF AGRICULTURE AND DEPARTMENTS OF AGRICULTURE
IN THE UNITED STATES (43).

State.	Description and location.	Organized.
Alabama -----	Commissioner of Agriculture, Montgomery.....	1898
Arkansas -----	Commissioner of Agriculture, Little Rock (Society) -----	1898
California -----	State Board of Agriculture.....	1854
Colorado -----	State Board of Agriculture, Fort Collins.....	1877
Connecticut -----	Commissioner of Agriculture, Hartford.....	1866
Delaware -----	State Board of Agriculture, Dover.....	1901
Florida -----	Commissioner of Agriculture, Tallahassee.....	1889
Georgia -----	Georgia State Agriculture Society, Experiment	1846
Georgia -----	Commissioner of Agriculture, Atlanta.....	1874
Idaho -----	Commissioner of Immigration, Labor and Sta- tistics, Boise -----	1900
Illinois -----	State Board of Agriculture, Springfield.....	1853
Indiana -----	State Board of Agriculture, Indianapolis.....	1851
Iowa -----	State Board of Agriculture, Des Moines.....	1900
Kansas -----	State Board of Agriculture, Topeka.....	1862
Kentucky -----	Commissioner of Agriculture, Frankfort.....	1892
Louisiana -----	Commissioner of Agriculture, Baton Rouge.....	1880
Maine -----	Commissioner of Agriculture, Augusta.....	1855
Massachusetts -----	State Board of Agriculture, Boston.....	1852
Michigan -----	State Board of Agriculture, East Lansing.....	1881
Minnesota -----	State Agricultural Society, Hamline.....	1854
Mississippi -----	Commissioner of Agriculture, Jackson.....	1907
Missouri -----	State Board of Agriculture, Columbia.....	1865
Montana -----	Commissioner of Agriculture (Bureau of Agri- culture, Labor, Industry and Publicity), Helena -----	1889
Nebraska -----	State Board of Agriculture, Lincoln.....	1858
Nevada -----	State Board of Agriculture, Carson City.....	1870
New Hampshire -----	State Board of Agriculture, Concord.....	1873
New Jersey -----	State Board of Agriculture, Trenton.....	1893
New York -----	Commissioner of Agriculture, Albany.....	1877
North Carolina -----	Commissioner of Agriculture, Raleigh.....	1889
North Dakota -----	Commissioner of Agriculture, Bismark.....	1846
Ohio -----	State Board of Agriculture, Columbia.....	1907
Oklahoma -----	State Board of Agriculture, Stillwater.....	1861
Oregon -----	State Board of Agriculture, Salem.....	1895
Pennsylvania -----	Secretary of Agriculture, Harrisburg.....	1892
Rhode Island -----	State Board of Agriculture, Providence.....	1904
South Carolina -----	Commissioner of Agriculture, Columbia.....	1884
South Dakota -----	State Board of Agriculture, Huron.....	1875
Tennessee -----	Commissioner of Agriculture, Nashville.....	1906
Texas -----	Commissioner of Agriculture, Austin.....	1872
Vermont -----	Commissioner of Agriculture, Plainfield.....	1888
Virginia -----	Commissioner of Agriculture, Richmond.....	1891
West Virginia -----	Commissioner of Agriculture, Charleston.....	1897
Wisconsin -----	State Board of Agriculture, Madison.....	

AGRICULTURAL EXPERIMENT STATIONS (60*).

State.	Description and location.	Date of original organization.	Organized under Hatch Act of March 2, 1887.
Alabama -----	(College) Auburn -----	1872	Feb. 24, 1888
Alabama -----	(Canebrake) Uniontown -----	1885	Apr. 1, 1888
Alabama -----	(Tuskegee Institute) Tuskegee -----	Feb. 15, 1897	-----
Arizona -----	(State University of Tucson) -----	1885	1890
Arkansas -----	Fayetteville -----	-----	Mar. 7, 1889
California -----	(State University) Berkeley -----	1873	Mar., 1888
Colorado -----	Fort Collins -----	-----	Feb., 1888
Connecticut -----	(State) New Haven -----	Mar. 21, 1877	May 18, 1887
Connecticut -----	(Storrs) Storrs -----	-----	May 18, 1887
Delaware -----	Newark -----	-----	Feb. 21, 1888
Florida -----	Gainesville -----	-----	1888
Georgia -----	Experiment -----	1888	July 1, 1889
Idaho -----	Moscow -----	-----	Feb. 26, 1892
Illinois -----	Urbana -----	-----	Mar. 21, 1888
Indiana -----	Lafayette -----	-----	Jan. 1, 1888
Iowa -----	Ames -----	-----	Feb. 17, 1888
Kansas -----	Manhattan -----	-----	Feb. 8, 1888
Kentucky -----	Lexington -----	Sept. 25, 1885	Apr., 1888
Louisiana -----	(Sugar) New Orleans -----	Sept., 1886	1888
Louisiana -----	(State) Baton Rouge -----	Apr., 1887	
Louisiana -----	(North) Calhoun -----	May, 1887	July 1, 1909
Louisiana -----	(Rice) Crowley -----	-----	
Maine -----	Orono -----	Mar., 1885	Oct. 1, 1887
Maryland -----	College Park -----	-----	Mar. 9, 1888
Massachusetts -----	Arnherst -----	1882	Mar. 2, 1888
Michigan -----	East Lansing -----	-----	Feb. 26, 1888
Minnesota -----	(University Farm) St. Paul -----	Mar. 7, 1885	1888
Mississippi -----	(Agricultural College) -----	-----	Jan. 27, 1888
Missouri -----	(College) Columbia -----	-----	Jan., 1888
Missouri -----	(Fruit) Mountain Grove -----	Feb. 1, 1900	-----
Montana -----	Bozeman -----	-----	Feb. 16, 1893
Nebraska -----	Lincoln -----	Dec. 16, 1884	June 14, 1887
Nevada -----	Reno -----	-----	Dec., 1887
New Hampshire -----	Durham -----	-----	Aug. 4, 1887
New Jersey -----	(State) New Brunswick -----	Mar. 10, 1880	-----
New Jersey -----	(College) New Brunswick -----	-----	Apr. 26, 1888
New Mexico -----	(College of Agriculture) State -----	-----	Dec. 14, 1889
New York -----	College -----	-----	
New York -----	(State) Geneva -----	Mar. 1, 1882	-----
New York -----	(Cornell University) Ithaca -----	1879	Apr. 1, 1888
North Carolina -----	(College) West Raleigh -----	Mar. 12, 1877	Mar. 7, 1887
North Carolina -----	(State) Raleigh -----	July 1, 1907	-----
North Dakota -----	(Agricultural College) -----	-----	Mar., 1890
Ohio -----	Wooster -----	Apr. 25, 1882	Apr. 2, 1888
Oklahoma -----	Stillwater -----	-----	1891
Oregon -----	Corvallis -----	-----	July, 1888
Pennsylvania -----	(State College) -----	-----	June 30, 1887
Pennsylvania -----	Institute of Animal Nutrition -----	-----	July 1, 1907
Rhode Island -----	Kingston -----	-----	July 30, 1888
South Carolina -----	(Clemson College) -----	-----	Jan., 1888
South Dakota -----	Brookings -----	-----	Mar. 13, 1887
Tennessee -----	Knoxville -----	June 8, 1882	Aug. 4, 1887
Texas -----	(College Station) -----	-----	Jan. 25, 1888
Utah -----	Logan -----	-----	Apr., 1890
Vermont -----	Burlington -----	-----	Feb. 28, 1888
Virginia -----	(College) Blacksburg -----	-----	Oct. 16, 1888
Virginia -----	(Truck) Norfolk -----	Feb., 1907	-----
Washington -----	Pullman -----	-----	1892
West Virginia -----	Morgantown -----	-----	1887
Wisconsin -----	Madison -----	1883	1887
Wyoming -----	(State University) Laramie -----	-----	Mar. 1, 1891

States Having Stallion Registration Laws.

State.	Name and location.	Date of organization
California -----	Stallion Registration Board, Sacramento.	Aug. 1, 1911
Colorado -----	State Board of Stock Inspection Commissioners, Denver	Aug. 5, 1911
Idaho -----	Stallion Registration Board, Moscow.	Mar. 15, 1909
Illinois -----	Stallion Registration Board, Springfield.	Jan. 1, 1910
Iowa -----	Stallion Registration Board, Des Moines.	Mar. 30, 1907
Kansas -----	State Livestock Registry Board, Manhattan	Apr. 3, 1910
Michigan -----	Agricultural College, East Lansing.	Aug. 1, 1911
Minnesota -----	Stallion Registration Board, St. Paul.	Apr. 25, 1907
Montana -----	Bureau of Agriculture, Labor, Industry, and Publicity, Helena.	Mar. 8, 1909
Nebraska -----	Stallion Registration Board, Lincoln.	July 7, 1911
New Jersey -----	Stallion Registration Board, New Brunswick	Sept. 1, 1908
North Dakota -----	Stallion Registration Board, Fargo.	Jan. 1, 1910
Oregon -----	Stallion Registration Board, Corvallis.	May 20, 1911
Pennsylvania -----	Stallion Registration Board, Harrisburg.	Jan. 1, 1908
South Dakota -----	Stallion Registration Board, Brookings.	Mar. 9, 1909
Utah -----	Stallion Registration Board, Logan.	May 13, 1907
Washington -----	Stallion and Jack Registration Office, State College, Pullman.	June 8, 1910
Wisconsin -----	Stallion Registration Board, Madison.	Jan. 1, 1906

APPENDIX B.

AGRICULTURAL AND OTHER ASSOCIATIONS AND CO-OPERATIVE ORGANIZATIONS IN CALIFORNIA.

Horses.

Pacific Coast Trotting Horse Breeders' Association ----- Pacific Bldg., San Francisco, Cal.
 Pacific Coast Saddle Horse Breeders' Association ----- Oakland, Cal.

Cattle, Dairy and Poultry.

California Live Stock Breeders' Association ----- No. 628 Montgomery street, San Francisco, Cal.
 California Jersey Breeders' Association, J. E. Thorp, Secretary ----- Rural Route No. 6, Stockton, Cal.
 California Holstein-Friesian Association, Jas. W. McAllister, Secretary ----- Chino, San Bernardino County, Cal.
 Poultry Keepers' Association ----- Petaluma, Cal.
 Southern California Poultrymen's Association, Jos. Davis, Secretary ----- Los Angeles, Cal.
 California Woolgrowers' Association, A. Ellenwood Secretary ----- Red Bluff, Cal.
 California Creamery Operative Association, F. H. Daniels, Secretary ----- No. 1223 Park street, Alameda, Cal.
 Humboldt County Dairyemen's Association ----- Ferndale, Cal.

Associations of Breeders of Purebred Dairy Animals in the United States.

The interests of the different breeders of dairy cattle are in charge of organizations of breeders, which determine purity of breeding, verify pedigrees, register eligible animals, and publish herdbooks. They also establish standards of excellence. The names of the various associations and the addresses of the secretaries are as follows:

Ayrshire Breeders' Association, C. M. Winslow, Secretary ----- Brandon, Vt.
 Brown Swiss Cattle Breeders' Association, Ira Inman, Secretary ----- Beloit, Wis.
 Dutch Belted Cattle Association of America, G. G. Gibbs, Secretary ----- Marksboro, N. J.
 American Guernsey Cattle Club, William H. Caldwell, Secretary ----- Peterboro, N. H.
 Holstein-Friesian Association of America, F. L. Houghton, Secretary ----- Brattleboro, Vt.
 American Jersey Cattle Club, R. M. Gow, Secretary ----- 324 West Twenty-third Street, New York, N. Y.

American Kerry and Dexter Cattle Club, Prof. C. S. Plumb, Secretary-----
 -----Ohio State University, Columbus, Ohio
 In addition to the strictly dairy cattle named above, some breeds, primarily developed
 for beef production, are occasionally bred and used as dairy cattle. Their associations
 are as follows:
 American Devon Cattle Club, L. P. Sisson, Secretary-----Charlottesville, Va.
 American Polled Durham Breeders' Association, J. H. Martz, Secretary-----
 -----Greenville, Ohio
 Red Polled Cattle Club of America, H. A. Martin, Secretary-----Gotham, Wis.
 American Shorthorn Breeders' Association, John W. Groves, Secretary-----
 -----13 Dexter Park Avenue, Union Stock Yards, Chicago, Ill.
 The following breeds are of practical dairy value, although not yet officially certified
 as purebred:
 The American Polled Jersey Cattle Club, Charles S. Hatfield, Secretary-----
 -----R. F. D. 4, Springfield, Ohio
 American Milk Goat Record Association, J. C. Darst, Secretary-----Dayton, Ohio
 American Angora Goat Breeders' Association-----Lawrence, Kansas
 American Aberdeen-Angus Breeders' Association-----
 -----817 Exchange Ave., Chicago, Ill.
 American Shire Horse Association-----Bushnell, Ill.
 American Hackney Horse Society-----Hempstead, N. Y.
 Percheron Society of America-----Stockyards, Chicago, Ill.

Swine.

National Duroc Jersey Record Association-----Peoria, Ill.
 National O. T. C. Chester White Record Association-----Hastings, Nebraska

Citrus Fruit Associations.

Name.	Address.
Citrus Protective League of California-----	Los Angeles, Cal.
Co-operative Fruit Growers' Association-----	Riverside, Cal.
Anaheim Fruit Association-----	Anaheim, Cal.
California Citrus Union-----	Lindsay, Cal.
Citrus Association-----	Covina, Los Angeles County, Cal.
Citrus Association-----	Porterville, Cal.
Los Angeles Olive Growers' Association-----	Los Angeles, Cal.
Fresno Citrus Association, H. V. Rudy, President-----	Fresno, Cal.
Hemet Orange Growers' Association-----	Hemet, Riverside Cal.
Lindsay Citrus Association-----	Lindsay, Tulare County, Cal.
Mutual Orange Distributors-----	Redlands, Cal.
Placentia Orange Growers' Association-----	Placentia, Orange County, Cal.
Porterville Citrus Association-----	Porterville, Tulare County, Cal.
Redlands Orange Growers' Association-----	Redlands, San Bernardino County, Cal.
Santa Paula Citrus Association-----	Santa Paula, Ventura County, Cal.
Tulare County Citrus Fruit Exchange-----	Porterville, Tulare County, Cal.

Other Fruit Associations.

California Fruit Exchange-----	Sacramento, Cal.
California Fruit Distributors-----	Sacramento, Cal.
California Cured Fruit Exchange-----	J. P. Dargitz, Sacramento, Cal.
California Fruit Growers' Exchange-----	Los Angeles, Cal.
California Associated Raisin Company-----	Fresno, Cal.
California Raisin Exchange-----	Fresno, Cal.
Deciduous Protective League, T. W. Jeffrey, Secretary-----	Sacramento, Cal.
Humboldt Apple Growers' Association-----	Eureka, Cal.
Watsonville Apple Annual Association-----	Watsonville, Cal.
Bloomington Fruit Association-----	Bloomington, Cal.
Los Angeles Olive Growers' Association-----	Los Angeles, Cal.
Corning Olive Growers' and Producers' Exchange-----	Corning, Cal.
Deciduous Fruit Growers' Protective League-----	Sacramento, Cal.
Dried Fruit Association-----	Ventura, Cal.
Fruit Growers' Association-----	Kerman, Fresno County, Cal.
Grape Growers' Association of California-----	45 Kearny St., San Francisco, Cal.
Highgrove Fruit Exchange-----	Highgrove, Riverside County, Cal.
Imperial Valley Melon Growers' Association-----	El Centro, Cal.
Lima Bean Growers' Association-----	Oxnard, Cal.
Newcastle Fruit Growers' Association-----	Newcastle, Placer County, Cal.
Orange County Dried Fruit Association-----	Santa Ana, Orange County, Cal.
Pajaro Valley Orchardists' Association-----	Watsonville, Santa Cruz County, Cal.
San Antonio Fruit Exchange-----	Pomona, Los Angeles County, Cal.
San Joaquin County Grape Growers' Protective League-----	Lodi, Cal.
Sebastopol Apple Growers' Union-----	Sebastopol, Sonoma County, Cal.
Sebastopol Berry Growers' Association-----	Sebastopol, Sonoma County, Cal.
Vacaville Fruit Growers' Association-----	Vacaville, Solano County, Cal.
Ventura County Dried Fruit Association-----	Ventura, Cal.

West Side Fruit Growers' Association of Santa Clara Valley.....
 Winters Dried Fruit Company.....Cupertino, Santa Clara County, Cal.
 Winters Fruit Growers' Association.....Winters, Yolo County, Cal.
 Winters Fruit Growers' Association.....Winters, Yolo County, Cal.

Nut Growers' Associations.

California Almond Growers' Exchange.....Sacramento, Cal.
 Banning Almond Growers' Association.....Banning, Riverside County, Cal.
 California Walnut Growers' Association...No. 313 Fay Bldg., Los Angeles, Cal.
 Santa Ana Valley Walnut Growers' Association...Santa Ana, Orange Co., Cal.
 Santa Barbara County Walnut Growers' Association.....Santa Barbara, Cal.
 Santa Paula Walnut Growers' Association...Santa Paula, Ventura County, Cal.

Bees and Honey.

State Beekeepers' Association...No. 1146 Title Insurance Bldg., Los Angeles, Cal.
 Northern California Beekeepers' Association....Fair Oaks, Sacramento Co., Cal.
 California National Honey Producers' Association.....Los Angeles, Cal.
 Central California Beekeepers' Association.....Hanford, Cal.
 Tulare County Beekeepers' Association.....Tulare, Cal.
 Consolidated Honey Producers of California...A. B. Shaffner, Los Angeles, Cal.

Miscellaneous.

California Development Board.....Ferry Bldg., San Francisco, Cal.
 Fish and Game Commission.....Mills Bldg., San Francisco, Cal.
 Delta Association of California.....Col. John P. Irish, Oakland, Cal.
 California State Grange, E. T. Pettit, Master.....Cupertino, Cal.
 California Association of Nurserymen...No. 237 Franklin st., Los Angeles, Cal.
 California Farmers' Institutes.....University of California, Berkeley, Cal.
 California Farmers' Union.....Fresno, Cal.
 San Joaquin Water Problems Association, John Fairweather, President.....
 Sacramento Valley Development Association.....Fresno, Cal.
 Sacramento Poultry Association.....Sacramento, Cal.
 California Vegetable Union...San Francisco, Los Angeles and Sacramento, Cal.
 Celery Growers' Association.....Santa Ana, Orange County, Cal.
 Imperial Valley Cotton Growers' Exchange.....El Centro, Cal.
 Lompoc Seed Growers' Association.....Lompoc, Santa Barbara County, Cal.

*Agricultural Newspapers.**

Pacific Rural Press (W.).....San Francisco, Cal.
 California Fruit Grower (W.).....San Francisco, Cal.
 Orchard and Farm (M.).....San Francisco, Cal.
 California Cultivation (W.).....Los Angeles, Cal.
 Rural Californian (M.).....Los Angeles, Cal.
 California Fruit World (W.).....Los Angeles, Cal.
 Western Empire (M.).....Los Angeles, Cal.
 The Business Farmer and Irrigationist (W.).....Stockton, Cal.
 California Farmer.....San Jose, Cal.
 Desert Farmer.....El Centro, Cal.
 Pacific Dairy Review (W.).....San Francisco, Cal.
 Live Stock and Dairy Journal (M.).....Sacramento, Cal.
 California Oil World (W.).....Bakersfield, Cal.
 California Derrick (M.).....San Francisco, Cal.
 California Oil and Mining Digest (S.M.).....Los Angeles, Cal.
 Oil Record (W.).....Coalinga, Cal.
 Oil Age (W.).....Los Angeles, Cal.

*W., published weekly; M., monthly; S.M., semi-monthly.

NOTE.—Applications are often received for the names and addresses of agricultural and similar organizations, but it is a difficult matter to obtain this information. Any additions or corrections to the above list will be appreciated.

APPENDIX C.

CALIFORNIA STATE, COUNTY, AND DISTRICT FAIRS AND SHOWS.

Name of fair, exhibition, or association.	Place where held.	Time when usually held.	Description of exhibit.
California State Agricultural Society.....	Sacramento	Sept. 13th to 20th, 1913..	General agriculture, live stock, general products, machinery, etc.
California Apple Show.....	Watsonville	October 6-11	Apples.
California Land Show.....	San Francisco	October 11-25, 1913.....	Soil and agriculture.
Agricultural Association No. 34.....	Alturas	Bet. September 15 and 20	General agriculture.
District Fair No. 16.....	Arroyo Grande	September	General agriculture.
Kern County Agricultural Association.....	Bakersfield .....	.....	General agriculture.
West Side Live Stock and Agricultural Shown Ass'n.....	Berkeley .....	.....	General agriculture.
Cloverdale Citrus Fair Association.....	Cloverdale	February	Citrus fruits, etc.
Del Monte Kennel Club.....	Del Monte .....	.....	Dogs.
District Agricultural Association No. 45.....	El Centro	November	Cotton and general agr.
Escondido Valley Poultry Association.....	Escondido	December or January.....	Poultry.
San Diego County Fair Association.....	Escondido	September or October.....	General agriculture.
El Dorado County Bartlett Pear Show.....	Placerville	August 28-30, 1913.....	Fruit.
Eureka Fair Association.....	Eureka .....	.....	General agriculture.
Fresno County Agricultural Association.....	Fresno	Sept. 30-Oct. 4, 1913.....	General agriculture.
Fresno Poultry, Pigeon and Pet Stock Association.....	Fresno	2d week in December.....	Poultry, etc.
Ferndale Agricultural Fair Association.....	Ferndale	2d week in September.....	General agriculture.
Healdsburg Harvest Festival Association.....	Healdsburg	September or October.....	General agriculture.
Kings County Fair Association.....	Kings County	October 6-11, 1913.....	General agriculture.
Los Angeles Fair.....	Los Angeles	October 5-9, 1913.....	General agriculture.
Long Beach Poultry and Pet Stock Association.....	Long Beach	Aug. and Dec. or Jan.....	Poultry, etc.
Poultry Breeders' Association of Southern California.....	Los Angeles	1st or 2d week in Jan	Poultry.
Pacific Land and Products Exposition.....	Los Angeles	March	General agriculture.
Napa County Poultry Association.....	Napa	Between Dec. 18 and 23.....	Poultry.
Oroville, Orange and Olive Exposition.....	Oroville	1st or 2d week in Dec.....	Citrus fruits and olives.
Pleasanton Fair	Pleasanton	September 22-27, 1913.....	Agriculture.
Pasadena Kennel Club.....	Pasadena	March	Dogs.
Rose Carnival	Pasadena	January 1st	Agriculture.
Northern California Kennel Club.....	Sacramento	Fall	Dogs.
National Orange Show Association.....	San Bernardino	February	Citrus fruits.
San Diego County Fair.....	San Diego	October, 1913	General agriculture.
San Diego Poultry Association.....	San Diego County .....	.....	Poultry.
Santa Clara County Fair.....	San Jose	September	General agriculture.

<i>Santa Clara Valley Poultry Association</i>	San Jose	1st week in October.....	Poultry.
<i>St. Helena Vintage Fair</i>	St. Helena	September 6-9, 1913.....	Wine and agriculture.
<i>Orange County Poultry Show Association</i>	Santa Ana .....	.....	Poultry.
<i>Santa Barbara Poultry Association</i>	Santa Barbara	About January 1st.....	Poultry.
<i>Santa Rosa Carnival Association</i>	Santa Rosa	September 1-6, 1913.....	Floriculture.
<i>Gravenstein Apple Show Association</i>	Sebastopol	August 18-20	Apples.
<i>San Joaquin County Fair</i>	Stockton	September 23-28	General agriculture.
<i>San Joaquin County Poultry Association</i>	Stockton .....	.....	Poultry.
<i>Tulare County Agricultural Fair Association</i>	Visalia .....	.....	General agriculture.
<i>Walnut Creek Fair Association</i>	Walnut Creek .....	.....	General agriculture.
<i>Yolo County Fair</i>	Woodland	August 20-23	Agriculture.

REPORT OF THE STATE STATISTICIAN.

APPENDIX D.

SUMMARY OF WEATHER CONDITIONS, TEMPERATURE, RAINFALL AND SNOW IN EACH COUNTY.

(Compiled from the Reports of the United States Weather Bureau, San Francisco.)

Counties	County seat or observation station	Elevation, feet	Year	Temperature		Rainfall, inches	Snowfall, inches
				Highest	Lowest		
Alameda	Oakland*	86	1911	85	32	27.52	0
			1912	94	34	13.78	0
Alpine	Tamarack ¹	8,000	1911	86	-26	79.61	781.0
			1912	80	-22	36.13	263.5
Amador	Ione	287	1911	108	18	28.76	0
			1912	106	20	15.89	0
Butte	Oroville*	250	1911	112	25	29.14	0
			1912	108	26	24.78	0
Calaveras	Mokelumne Hill ²	1,550	1911	103	27	44.60	12.0
			1912	100	30	23.92	0
Colusa	Colusa*	60	1911	105	23		
			1912	103	24	10.23	0
Contra Costa	Antioch ³	46	1911	102	27	16.13	0
			1912	100	25	7.35	0
Del Norte	Crescent City ^{2*}	50	1911				
			1912				
El Dorado	Placerville*	1,875	1911	114	18	51.01	0
			1912	98	20	27.11	0
Fresno	Fresno*	298	1911	111	24	11.25	T.
			1912	109	24	7.32	0
Glenn	Willows*	136	1911	109	23	18.42	0.5
			1912	112	22	16.06	0
Humboldt	Eureka*	64	1911	73	30	29.85	0.1
			1912	71	30	46.59	0
Imperial	Brawley ²	-105	1911	114	20	0	0
			1912	111	25	1.55	0
Inyo	Independence*	3,907	1911	100	4	5.56	4.5
			1912	100	12	3.47	T.
Kern	Bakersfield*	404	1911	105	30		0
			1912	106	27	9.54	0
Kings	Hanford*	249	1911	100	21	6.39	0
			1912	101	20	23.13	3.5
Lake	Upper Lake ²	1,850	1911	108	13	25.68	0
			1912	105	19	22.09	170.0
Lassen	Susanville*	4,175	1911	96	-7		
			1912				
Los Angeles	Los Angeles*	293	1911	95	38	17.85	0
			1912	100	33	9.78	0
Madera	Storey ⁴	296	1911	110	17	10.02	0
			1912	109	21	6.23	T.
Marin	Point Reyes	490	1911	87	37	15.62	0
			1912	85	38	14.99	82.1
Mariposa	Yosemite ²	8,945	1911	98	-1	33.30	48.0
			1912	100	1	20.49	0.5
Mendocino	Ukiah*	620	1911	111	21	34.71	0
			1912	104	22	36.25	0
Merced	Merced*	173	1911	105	24	16.37	0
			1912	107	22	7.60	63.0
Modoc	Alturas*	4,400	1911	101	-21	10.13	44.5
			1912	99	-26	11.03	
Mono	Bodie ³		1911				0
			1912				0
Monterey	Salinas*	40	1911	90	25	17.97	0
			1912	97	18	10.40	0
Napa	Napa*	20	1911	98	24	29.64	0
			1912	104	24	22.40	52.5
Nevada	Nevada City*	2,580	1911	102	13	64.97	13.0
			1912	98	12	37.56	
Orange	Irvine Ranch ³	200	1911				7.5
			1912				0
Placer	Auburn*	1,360	1911	106	24	35.15	130.0
			1912	102	23	16.61	19.5
Plumas	Quincy*	3,400	1911	95	-5	46.94	0
			1912	94	-14	24.82	0
Riverside	Riverside*	851	1911	110	21	11.81	0
			1912	106	26	7.31	0
Sacramento	Sacramento*	71	1911	100	30	21.11	0
			1912	105	29	11.01	0
San Benito	Hollister*	284	1911	94	22	14.68	0
			1912	100	23	8.73	0
San Bernardino	San Bernardino*	1,054	1911	109	19	18.01	0
			1912	105	24	12.09	0
San Diego	San Diego*	93	1911	93	34	11.77	0
			1912	94	39	10.56	

SUMMARY OF WEATHER CONDITIONS—Continued.

Counties	County seat or observation station	Elevation, feet	Year	Temperature		Rainfall, inches	Snowfall, inches
				Highest	Lowest		
San Francisco	San Francisco*	207	1911	87	38	23.00	T.
			1912	94	40	15.62	0
San Joaquin	Stockton*	23	1911	96	25	19.50	0
			1912	105	20	10.05	0
San Luis Obispo	San Luis Obispo*	201	1911	95	28	26.81	0
			1912	94	30	13.89	0
San Mateo	San Mateo	22	1911	87	28	28.33	0
			1912	98	32	13.93	0
Santa Barbara	Santa Barbara*	130	1911	94	32	30.74	0
			1912	102	35	14.09	0
Santa Clara	San Jose*	95	1911	91	25	24.41	0
			1912	99	26	9.21	0
Santa Cruz	Santa Cruz*	20	1911	93	26	35.41	T.
			1912	95	27	18.65	0
Shasta	Redding*	552	1911	108	25	28.76	6.8
			1912	112	20	38.84	0
Sierra	Sierraville ²	5,000	1911	93	-30	33.03	200.0
			1912	95	-23	17.80	37.0
Siskiyou	Dunsmuir ²	2,285	1911	111	12	50.43	87.5
			1912	106	21	57.36	11.0
Solano	Vacaville ²	175	1911	106	22	29.27	0
			1912	107	25	16.18	0
Sonoma	Santa Rosa*	181	1911	96	23	29.12	0
			1912	101	23	23.08	0
Stanislaus	Modesto*	90	1911	102	15	11.44	0
			1912	102	27	5.58	0
Sutter	Yuba City*	57	1911	107	21	25.54	0
			1912	106	25	15.46	0
Tehama	Red Bluff*	307	1911	112	26	22.69	3.1
			1912	109	26	21.79	0
Trinity	Weaverville ⁴ *	2,043	1911				
			1912				
Tulare	Visalia*	334	1911	107	20	9.51	0
			1912				
Tuolumne	Sonora*	1,825	1911	104	21	42.21	11.5
			1912	100	24	19.68	0
Ventura	Mono Ranch ²	3,210	1911	95	16	51.01	13.0
			1912	93	17	19.02	10.0
Yolo	Davis ²	51	1911	110	17	22.37	0
			1912	107	18	11.04	0
Yuba	Marysville*	67	1911	107	21	25.54	0
			1912	106	25	15.46	0

*County seat.

¹The snowfall at this station was the heaviest in the State, both in 1910 and 1911; in the former year it amounted to 302 inches, and in the latter year no less than 786 inches, or 65½ feet. Summit, in Placer County, was second in 1911, with 616 inches. ²Observation station. ³Rainfall station only. ⁴Rainfall stations only, details not available.

Note.—The snowfall in the mountains is more or less heavy; it rarely falls in the Sacramento and San Joaquin valleys. In a few cases where there is no observation station at the county seat, the name of the place where the observations were taken is given.

In 1911 the rainfall was below the average, and the snowfall unusually heavy. In 1912 the deficient rainfall did not exceed 70 per cent of the normal, and the snowfall was light.

There are no observation stations in Del Norte, Mono, or Trinity counties. Blank spaces denote that there are no records.

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