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**LABOR CONDITIONS IN THE
TERRITORY OF HAWAII
1929-1930**



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LABOR CONDITIONS IN THE TERRITORY OF HAWAII, 1929-1930

The organic law of the Territory of Hawaii entitled "An act to provide a government for the Territory of Hawaii," approved April 30, 1900, and amended April 8, 1904, reads as follows:

It shall be the duty of the United States Commissioner of Labor to collect, assort, arrange, and present in reports in 1905 and every five years thereafter, statistical details relating to all departments of labor in the Territory of Hawaii, especially in relation to the commercial, industrial, social, educational, and sanitary conditions of the laboring classes, and to all such other subjects as Congress may by law direct. The said commissioner is especially charged to ascertain the highest, lowest, and average number of employees engaged in the various industries in the Territory, to be classified as to nativity, sex, hours of labor, and conditions of employment, and to report the same to Congress.

In compliance with the above statute a survey of labor conditions in Hawaii was made in February, March, and April of 1930 by representatives of the Bureau of Labor Statistics, the results of which are presented in this report. The data for the sugar and pineapple industries are for the industrial season of 1929. The wages, hours of labor, and general information for other industries are as of 1929 or the spring of 1930.

General Economic and Social Conditions

Racial Characteristics of the Population

The Territory of Hawaii consists of 12 principal islands, of which 9 are inhabited and covered by the census enumeration. Only 6 of these, however, are of consequence industrially. The total population of these islands and the number of farms therein as reported by the census of 1930 are as follows:

TABLE 1.—*Population and number of farms in the Territory of Hawaii according to 1930 census, by islands*

Island	Popu- lation	Number of farms	Island	Popu- lation	Number of farms
Oahu.....	202,887	1,174	Niihau.....	136	1
Hawaii.....	73,325	3,422	Midway.....	36	0
Maui.....	48,756	581	Kahoolawe.....	2	0
Kauai.....	35,806	480			
Molokai.....	5,032	275	Total.....	368,336	5,942
Lanai.....	2,356	9			

The Bureau of the Census has not yet published the racial distribution of this population. However, the Governor of Hawaii in his report for 1929 gives an estimated report of the population of the Territory which comes so close to that of the census that, by applying the percentages in the governor's estimate to the figures of the census, a racial grouping is arrived at which probably is sufficiently accurate for all practical purposes. Table 2 gives the estimated population June 30, 1929, the percentage thereof in the various racial groups, of which all or a majority are American citizens, and the number in such racial groups in 1930 based on such percentages:

TABLE 2.—*Population of the Territory of Hawaii in 1930, by racial groups, based on June 30, 1929, estimate*

Racial group	Estimated population June 30, 1929		Number in 1930 based on June 30, 1929, estimate
	Number	Per cent	
Hawaiian.....	20,479	5.73	21,106
Caucasian-Hawaiian.....	16,687	4.66	17,164
Asiatic-Hawaiian.....	10,598	2.96	10,903
Portuguese.....	28,717	8.31	30,609
Porto Rican.....	6,923	1.93	7,109
Spanish.....	1,851	.52	1,915
Other Caucasian.....	38,006	10.03	39,154
Chinese.....	25,211	7.05	25,968
Japanese.....	137,407	38.42	141,515
Korean.....	6,383	1.79	6,593
Filipino.....	63,869	17.86	65,785
Other.....	508	.14	515
Total.....	357,649	100.00	368,336

Accepting the June 30 and December 31, 1929, count made by the Hawaiian Sugar Planters' Association covering the race, sex, and marital condition of all persons on the 41 sugar plantations in that association, we have another line upon the racial distribution of the population of the Territory. The count of 101,115 in June, and also of 99,693 in December, is 27 per cent of the 1930 population of the Islands. (For details of the count see Table 14, p. 19.)

A copy of the pay roll for May, 1929, of the 41 sugar plantations in the association shows the distribution by races and by the islands on which these plantations are located, as given in Table 3. The minors employed are not segregated by race and the adult females are so segregated only as to the Japanese.

The 11,608 male Filipinos on the May, 1929, pay rolls of the plantations on the island of Hawaii were 68.0 per cent of the 17,064 males of all races on the rolls of the plantations on the island in that month, and the 440 females of the Japanese race were 90 per cent of the 489 females on the May, 1929, rolls. In the month there was a total of 52,426 employees on the pay rolls of the plantations on all islands, consisting of 49,890 adult males, 1,636 adult females, and 900 minors. The 34,681 male Filipinos on all islands were 69.5 per cent of the 49,890 adult males of all races on all islands, and the 1,384 adult female Japanese were 84.6 per cent of the 1,636 females of all races on all islands.

TABLE 3.—Number and per cent of employees on pay rolls of sugar plantations, May, 1929, by sex, race, and islands

Sex and race	Hawaii (18 plantations)		Maui (6 plantations)		Oahu (8 plantations)		Kauai (9 plantations)		Total (41 plantations)	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
ADULT MALES										
Filipino.....	11,608	68.0	6,917	66.8	7,887	68.4	8,269	75.6	34,681	69.5
Japanese.....	3,415	20.0	2,063	19.9	2,192	19.0	1,538	14.1	9,208	18.5
Portuguese.....	583	3.4	409	3.9	307	2.7	355	3.2	1,654	3.3
American.....	345	2.0	320	3.1	353	3.1	247	2.3	1,265	2.5
Chinese.....	272	1.6	181	1.7	347	3.0	168	1.5	968	1.9
Porto Rican.....	355	2.1	174	1.7	135	1.2	143	1.3	807	1.6
Hawaiian.....	169	1.0	187	1.8	105	.9	87	.8	548	1.1
Korean.....	228	1.3	73	.7	135	1.2	81	.7	517	1.0
Spanish.....	32	.2	20	.2	8	.07	25	.2	85	.2
All others.....	57	.3	14	.1	59	.5	27	.2	157	.3
Total.....	17,064	100.0	10,358	100.0	11,528	100.0	10,940	100.0	49,890	100.0
ADULT FEMALES										
Japanese.....	440	90.0	319	83.9	415	82.7	210	79.2	1,384	84.6
All others.....	49	10.0	61	16.1	87	17.3	55	20.8	252	15.4
Total.....	489	100.0	380	100.0	502	100.0	265	100.0	1,636	100.0
MINORS										
Males, regular.....	117	-----	73	-----	92	-----	70	-----	352	-----
Females, regular.....	14	-----	-----	-----	3	-----	2	-----	19	-----
Males and females, school ¹	172	-----	124	-----	80	-----	153	-----	529	-----
Total.....	303	-----	197	-----	175	-----	225	-----	900	-----
Total, adult males and females, and minors.....	17,856	-----	10,935	-----	12,205	-----	11,430	-----	52,426	-----

¹ School children who work intermittently.

Another guide to the racial distribution within the industries is that of the pay rolls of two pineapple canneries in Honolulu. One of these at the peak of employment in 1929 had 4,378 workers, of whom 2,355 were males and 2,023 were females. The racial distribution of the 4,378 employees was: Japanese, 30 per cent; Filipinos, 15.2 per cent; Koreans, 4.3 per cent; Chinese, 21.1 per cent; Hawaiians, 17 per cent; and others (which would include all races classified as Caucasian, namely, Americans, Portuguese, Spaniards, etc.), 12.4 per cent. (See Table 36, p. 78.)

Another large cannery in Honolulu, having a somewhat more minute racial distribution of employees, was found to employ 42.1 per cent Japanese, 16.4 per cent Hawaiian, 11.7 per cent Filipino, 9.7 per cent Chinese, 7.6 per cent Portuguese, 6.8 per cent part Hawaiian, 2.6 per cent American, 2.2 per cent Korean, and some other races none of whom, however, constituted more than one-half of 1 per cent of the total. (See Table 31, p. 69.) The figures for the canneries indicate the racial distribution within the city of Honolulu.

As showing the difference between the rural and urban population, particularly as it affects the Filipino, figures collected for two of the larger pineapple plantations, which during the peak period of 1929 employed 4,248 persons, show that 30.5 per cent of them were Japanese, 55 per cent Filipinos, 5.4 per cent Koreans, 4.7 per cent Chinese, only eight-tenths of 1 per cent Hawaiians, and 3.6 per cent other races. (See Table 36, p. 79.)

Living Conditions in Honolulu

The city of Honolulu contains 68 per cent of the population of the island of Oahu upon which it is situated, and 37 per cent of the entire population of the Territory. The industrial, social, and living conditions of the city of Honolulu are therefore a very essential part of any such survey as that undertaken by the Bureau of Labor Statistics.

One is impressed first by the general appearance of cleanliness and roominess. For the most part the streets are wide and are kept exceptionally clean. While the number of automobiles per capita of population is probably as great as that in any city on the mainland, the width of the streets prevents congestion and permits of unusual facilities for parking.

That section of the older part of the city which conforms most closely to what is usually designated as the slum section contains many blocks of severe congestion, but even in these districts not only are the streets kept clean but the interior of even the more congested homes and tenements strikes one as unusually clean and well kept.

The population is essentially oriental, as indicated by the figures of racial distribution shown above, and yet the atmosphere of racial antagonism is most conspicuously absent except for a feeling of unrest among the other races, including the American, toward the growing proportion of Filipinos among the population of the city.

Savings Bank Accounts

A tabulation of savings accounts in a bank in Honolulu, June 30, 1927, 1928, and 1929, by races, is given in Table 4:

TABLE 4.—Savings bank accounts in a bank in Honolulu, June 30, 1927, 1928, and 1929, by races

Race	Estimated population (June 30)		Accounts			Total deposits	
	Number	Per cent	Number	Per cent	Average amount	Amount	Per cent
Japanese:							
1927	132,242	39.6	32,929	29.4	\$152.64	\$5,226,522.81	19.3
1928	134,600	38.6	36,549	29.0	168.31	6,151,387.76	19.6
1929	¹ 141,515	38.4	51,711	34.3	160.03	8,275,376.83	23.4
Chinese:							
1927	25,198	7.5	14,371	12.9	327.34	4,704,261.91	17.4
1928	25,310	7.2	15,150	12.0	338.11	5,122,413.35	16.4
1929	¹ 25,968	7.1	16,269	10.8	328.93	5,351,290.93	15.1
Hawaiian:²							
1927	45,576	13.7	20,062	17.9	98.44	1,974,992.00	7.3
1928	46,704	13.4	20,238	16.1	115.57	2,339,008.18	7.5
1929	¹ 49,173	13.3	16,299	10.8	115.72	1,886,122.90	5.3
Portuguese:							
1927	28,417	8.5	9,506	8.5	346.09	3,290,009.90	12.1
1928	29,117	8.4	10,672	8.4	328.35	3,504,122.03	11.2
1929	¹ 30,609	8.3	10,900	7.2	331.21	3,610,138.87	10.2
Filipino:							
1927	52,124	15.6	7,558	6.8	218.22	1,649,346.91	6.1
1928	60,078	17.2	9,176	7.3	228.34	2,095,269.31	6.7
1929	¹ 65,785	17.9	11,962	7.9	218.32	2,611,507.49	7.4
All others:							
1927	49,863	15.1	27,435	24.5	373.86	10,257,086.35	37.8
1928	52,958	15.2	34,258	27.2	352.22	12,066,233.71	38.6
1929	¹ 55,286	15.0	43,522	28.9	314.55	13,689,757.87	38.6
Total:							
1927	333,420	100.0	111,861	100.0	242.28	27,102,219.88	100.0
1928	348,767	100.0	126,043	100.0	248.16	31,278,434.34	100.0
1929	¹ 368,336	100.0	150,663	100.0	235.12	35,424,194.89	100.0

¹ Based on estimate June 30, 1929.

² Including part Hawaiian.

This table shows a relatively small proportion of money in the savings bank by the Japanese and a relatively large proportion by the Chinese. In this connection a statement furnished this bureau by the postmaster at Honolulu showed that the amount of money orders issued in Hawaii in the last year for which figures were available and payable in Japan was \$306,930.23. The amount of orders issued in Japan and paid at the Honolulu office was \$2,066.25. The amount of money orders issued in Hawaii and payable in China was \$2,849.38. The amount of money orders issued in China and paid at the Honolulu office was \$162.29. This shows that while the Chinese in Hawaii are sending practically no money back to China, the Japanese, on the other hand, are sending very large sums back to Japan.

Recreational Facilities

If one rides in a street car along Waikiki Beach to the Royal Hawaiian Hotel and beyond, the first impression is that the public is excluded from this marvelous beach and that it is reserved for the guests of the hotels fronting on the beach. As a matter of fact, there are at not too frequent intervals narrow pathways, marked more or less distinctly "Public Walk," which lead down to the beach, the use of which is entirely free to the whole population.

In addition to Waikiki Beach, which stretches along the seaside for a very considerable distance, there are four other beaches available to the public. There are 17 parks and playgrounds within the reach of the whole population, and these parks have a total area of approximately 200 acres.

At the request of this bureau a statement was prepared by the parks and public grounds department of the city and county of Honolulu under date of March 17, 1930, listing the parks and beaches, with what are believed to be conservative estimates as to the average daily and yearly patronage of each. The statement follows:

	Attendance	
	Daily	Yearly
PLAYGROUNDS		
Aala.....	200	70, 000
Ala Moana.....	125	43, 500
Mother Waldron.....	350	122, 500
Beretania Street.....	115	40, 000
Dole.....	210	73, 500
Fern.....	100	35, 000
Iwilei (private playground).....	75	26, 250
Kaimuki Park.....	175	71, 250
Kaiulani.....	55	20, 000
Kalihi Hospital.....	48	16, 800
Kalihi-Kai.....	155	54, 500
Kalihi-Waena.....	135	44, 000
Kamamalu.....	240	85, 000
Kauluwela.....	560	195, 000
Pauoa.....	80	28, 000
Moilili.....	75	26, 250
Makiki.....	75	26, 250

	Frontage (feet)	Yearly attendance
BEACHES		
Diamond Head Park Reserve.....	2, 000	5, 000
Public baths (Waikiki).....	1, 000	40, 000
Waikiki Beach along seaside.....	3, 000	109, 500
Kuhio Park Beach (between public baths and seaside).....	250	10, 000
Aala Moana Beach (Kakaako).....	3, 000	43, 500
<i>Note.</i> —Government provides right of way to all the beach frontages on Oahu. Anyone can get to the beach at will.		
ZOO		
Kapiolani Park Zoo (Waikiki).....		150, 000
LILIUOKALANI GARDENS		
Between Kuakini and School Street, Liliha and Nuuanu Avenue—an original "swimmin' 'ole".....		12, 000

In this connection it should be stated that for recreational purposes the city of Honolulu and the Island of Oahu are practically coterminous.

Agricultural Products for Home Consumption

While it is true that the Territory of Hawaii still imports a very considerable percentage of its food, the following figures from a statement compiled by the Agricultural Extension Service of the University of Hawaii covering the agricultural produce raised and consumed during 1929 in the Territory of Hawaii, give a very clear idea of the amount and value of home production.

TABLE 5.—*Agricultural produce raised and consumed during 1929 in the Territory of Hawaii*

[Wholesale market values quoted; estimates based on all available data, both published and first hand]

Crop	Unit	Amount or number	Value
Field crops:			
Sugar (granulated and brown).....	Ton.....	27, 148	\$2, 542, 930
Pineapples.....	Pound.....	1, 100, 000	33, 000
Coffee.....	do.....	1, 500, 000	390, 000
Bananas.....	do.....	10, 500, 000	210, 000
Rice.....	do.....	1, 400, 000	70, 000
Taro.....	do.....	10, 000, 000	200, 000
Corn.....	do.....	12, 000, 000	240, 000
Pigeon peas.....	Ton.....	15, 000	75, 000
Alfalfa.....	do.....	15, 000	150, 000
Sorghums and other soiling crops.....	do.....	30, 000	150, 000
Algaroba.....	do.....	100, 000	750, 000
Sweet potatoes.....	Pound.....	2, 000, 000	30, 000
White potatoes.....	do.....	500, 000	12, 500
Edible canna and cassava, as feed.....	Ton.....	1, 000	10, 000
Cotton.....	Pound.....	75, 000	9, 750
Truck crops (other than above).....			400, 000
Miscellaneous field crops—Para grass, etc.....	Ton.....	5, 000	25, 000
Molasses.....	do.....	10, 000	80, 000
Pineapple bran.....	do.....	7, 891	189, 384
Rice bran.....	do.....	15, 000	60, 000
Pasturage—equivalent in feed value.....			750, 000
Orchard crops:			
Avocados.....	Pound.....	66, 666	100, 000
Papayas.....	do.....	2, 000, 000	50, 000
Citrus.....	do.....	250, 000	5, 000

TABLE 5.—Agricultural produce raised and consumed during 1929 in the Territory of Hawaii—Continued

Crop	Unit	Amount or number	Value
Orchard crops—Continued.			
Macadamia and other nuts.....	Pound.....	5,000	\$2,500
Grapes.....	do.....	1,500,000	150,000
Miscellaneous fruits—figs, lichees, mangoes, breadfruit, etc.....	do.....	300,000	30,000
Watermelons.....	do.....	2,000,000	80,000
Fuel.....	Cord.....	25,000	200,000
Coconuts.....	Bag.....	10,000	27,500
Miscellaneous crops—ginger, mushrooms.....			10,000
Livestock:			
Beef, dairy.....	Pound.....	600,000	2,199,000
Beef, dressed.....	do.....	12,500,000	
Beef, veal.....	Head.....	2,000	1,152,000
Swine.....	Pound.....	6,400,000	
Mutton.....	do.....	147,000	19,110
Milk.....	Quart.....	15,000,000	1,500,000
Butter.....	Pound.....	15,000	7,500
Cheese, cottage.....	do.....	10,000	1,500
Cheese.....	do.....	10,000	5,000
Goats.....	Head.....	5,000	5,000
Poultry:			
Chickens.....	do.....	100,000	200,000
Ducks.....	do.....	50,000	100,000
Turkeys.....	do.....	10,000	50,000
Eggs.....	Dozen.....	1,600,000	960,000
Bees, honey.....	Pound.....	5,000	2,000
Manufactured commodities: Taro—mano, jams, jellies, preserves.....			100,000
Lauhala—woven mats, hats, etc.....			10,000
Total.....			13,343,674

Poultry Products ¹

There are in the Territory over 400 poultry producers, with flocks ranging from 50 to over 9,000 birds. With the smaller producers poultry is usually a side line, while the larger ones raise poultry as a regular business. The industry is not confined to one or two nationalities, as for instance are rice and taro, but is undertaken rather extensively by many races, as is indicated in the following table:

TABLE 6.—Number of producers of poultry and size of flocks, by race of producers

Size of flock	Number of producers	Japanese	Chinese	Hawaiian and part Hawaiian	Caucasian	Portuguese
50 to 100 fowls.....	243	105	89	21	16	12
100 to 200 fowls.....	70	40	14	7	5	4
200 to 500 fowls.....	60	46	4	3	4	3
500 to 1,000 fowls.....	22	9	0	4	7	2
1,000 to 2,000 fowls and over.....	23	3	2	2	15	1
Total.....	418	203	109	37	47	22

The poultry industry, although not so important as some of the other industries, is one which deserves a great deal of thought and consideration. There are in the Territory approximately 200,000 fowls with an annual egg production of over 1,500,000 dozen, valued at over \$900,000, and the industry is rapidly forging ahead. Poultry raising is not confined to any particular locality, as is the Kona coffee industry, for instance, but is undertaken rather extensively on nearly every island in the group. During the last few years the industry

¹ Data on this subject from H. C. Wong, county extension agent.

has witnessed quite a change—the number of birds has increased, the methods of raising are more scientific, and the returns are greater than they were formerly.

Investigations of proper methods of feeding are gradually placing the feeding of the fowls on a rather exact basis. The care and shelter required for a flock is becoming a subject of popular interest and nearly every poultryman is beginning to know the advantage of the care which should be given a flock used in egg production.

The approximate number and value of fowls in the Territory in 1928 and 1929 are shown in Table 7.

TABLE 7.—*Approximate number of fowls and total egg production and value thereof in the Territory of Hawaii, 1928 and 1929*

Islands	Number of fowls		Total egg production		Value of egg production	
	1928	1929	1928	1929	1928	1929
			<i>Doz.</i>	<i>Doz.</i>		
Oahu.....	115,457	129,312	909,230	1,018,719	\$521,173.63	\$583,929.76
Maui.....	34,958	39,153	275,209	308,332	173,077.68	176,735.99
Hawaii.....	19,630	21,984	163,573	173,128	88,059.96	99,237.03
Kauai.....	6,045	6,770	47,600	63,313	27,284.32	30,558.53
Molokai.....	4,101	4,593	32,296	36,181	18,512.18	20,738.38
Total.....	180,191	201,812	1,427,908	1,589,673	828,107.77	911,199.69

Hog Industry on Oahu¹

A survey of the hog industry on the island of Oahu showed that there are approximately 18,000 head available for consumption, valued at nearly \$350,000. The hogs are distributed among 196 piggeries, the latter ranging in size from 20 to 3,000 head. The breeds are so badly mixed among most of the piggeries that it is hard to say which breed is predominant. In the few cases where true breeds or only the first generation crosses are kept, the most popular breeds are the Berkshires and the Duroc Jerseys.

This industry is practically in the hands of the Japanese, who constitute about 90 per cent of the raisers, although there are a few large piggeries owned by persons of other nationalities. Most of the hogs are swill fed, with a few of the larger piggeries using commercial feed for their stock. In the Japanese piggeries the husband usually gets the swill early in the morning and then goes to work for his employer. The wife tends to the rest of the work, cleaning the pens, boiling the swill, and feeding the hogs.

As to market arrangements, most of the piggeries have none. The idea of grade standards is totally disregarded, the weights and prices being largely determined by guesswork. In a few of the larger piggeries, however, the hogs are graded as prime (125 to 175 pounds) and those over 175 pounds.

Practically all of the lands are leased lands, ranging in size from one-fourth to four or more acres. Most of the houses thereon are supplied with running water and electricity. The chief fuel is wood.

¹ Data on this subject from H. C. Wong, county extension agent.

Rice Industry

The rice industry in Hawaii dates as far back as 1859, when Mr. Holstein, of the Hawaiian Agricultural Society, bought a piece of land in Nuuanu Valley on which to carry out some experimental work on various crops, of which rice was one. Rice had been introduced previous to this date, but the first successful attempt was made by Mr. Holstein. His success took the islands by storm, and for several years the people went rice crazy. Taro lands were absorbed by rice planters in rapid succession, and for a time it seemed as if the islands were to have a taro famine. This lasted only for a few years, however, as losses and other discouraging factors began to make their appearance. The taro industry came back with a boom, reaching its height in 1865, when the rice industry made an attempt to regain lost ground. This time it was more successful and remained so until other industries came into being, when the industry began to decline.

Although rice is still believed to be the world's greatest crop (with a normal annual production of over 300,000,000,000 pounds), in Hawaii the industry, instead of increasing, is rapidly declining. Rice is the surest and most regular of the great crops and probably the most staple food of the greatest number of people. At first glance, one would think that with the oriental population of the Territory, the industry should be in a very flourishing condition, but surveys have proved that each year the total acreage in rice cultivation is greatly reduced.

Rice culture began in the unrecorded past, yet the methods of cultivation, in so far as science and technique are concerned, have seen very little change. This is probably the sole reason why it is a dying industry, when the pineapple and sugarcane industries are advancing so rapidly. In 1907 when the pineapple industry was still in its infancy, there were at least 10,000 acres of rice under extensive cultivation, and rice was the second ranking crop in the Territory. But to-day the Territory can not even produce enough for its own local consumption and has to import large quantities from California and Japan.

Almost all of the rice produced here is cultivated by Chinese and Japanese, and as long as it is cultivated under the same crude methods employed by the natives back in the Orient centuries ago, rice will never be on a profit-producing basis.

As things stand, the future of the industry looks very dark. A survey has proved that in the last few years the total acreage has decreased at least 50 per cent, and, as stated above, most of the planters are Chinese and Japanese, ranging in age from 40 to 65 years. The future will present another big problem, that regarding the labor supply. While laborers of oriental descent are absolutely barred from immigrating into the Territory and no other race is in position to take up this work, the younger generation of these oriental producers are not seeing their way clear to follow up the work of their predecessors.

In the following table an attempt is made to show the consumption per capita of each of the oriental races of the Territory as compared with the total consumption of the other races. The figures are based on the home consumption of the students of the University of Hawaii, as in the student body of that university are represented all the oriental races mentioned in the table.

It may be noted that of the oriental races the Filipinos consumed more rice per capita than any other, and the Chinese consumed the least.

TABLE 8.—*Consumption of rice per capita, 1927, by races*

Nationality	Population	Consumption (pounds) per capita	Total pounds consumed	Total value
Japanese.....	131, 071	240	31, 457, 040	\$1, 994, 374. 05
Chinese.....	25, 198	185. 04	4, 672, 638	296, 245. 24
Filipino.....	52, 124	300	15, 637, 200	991, 398. 48
Korean.....	6, 214	199. 92	1, 242, 302	78, 761. 94
Asiatic-Hawaiian.....	9, 437	133. 92	1, 258, 141	79, 766. 14
Other races.....	87, 275	66. 66	5, 817, 751	369, 845. 41

Summary of Average Hours and Earnings in the Territory of Hawaii, 1929-30

Sugar plantations, including sugar mills, and pineapple plantations and canneries are the outstanding industries in the Hawaiian Islands. They are generally looked upon as constituting all of Hawaii's industries. Many other industries are, however, rapidly developing.

In the 1929-30 study of industrial conditions in the Hawaiian Islands by the Bureau of Labor Statistics, wage data covering hours and earnings were collected for 67,802 employees in 21 industries. Based on the 1930 census of the islands, the number included in the study is 18 per cent of the total population of the Territory of Hawaii. It includes practically all employees on the sugar plantations, on steam railways, on street railways, in coffee mills, in slaughtering and meat-packing establishments, in the manufacture of tin cans and of overalls and shirts, more than 85 per cent of the total number of employees on pineapple plantations and in pineapple canneries, and at least 50 per cent of the employees of the other industries included in the study; and it constitutes more than 85 per cent of all wage earners on the islands. All industries of material importance in number of wage earners were covered in the study. The bureau, in studies of industries in the States, usually collects wage figures for from 20 to 50 per cent of the total number of wage earners in each industry.

Average full-time hours per week, earnings per hour, and full-time earnings per week are shown in Table 9 for males in each of the 21 industries, for females in each of the 8 in which they were employed, and also for both sexes combined. Average full-time hours per week are not shown for sugar plantations because of the great variation of hours by kinds of work. (See Table 25, p. 51.) The averages in the table are by industry, presented in the order of importance in number of employees, beginning with sugar plantations with a total of 49,671 and ending with manufacture of overalls and shirts, with only 17 employees.

Adult males on sugar plantations earned in May, 1929, at the basic rates and with bonus for attendance an average of \$1.84 per day. These earnings and those for females do not include the perquisites (estimated at a cost of \$28 per month to the plantations) of houses, fuel, water, and medical and hospital service furnished without charge by the plantations to employees.

The average full-time hours for all the 3,477 employees on the pineapple plantations (3,316 males and 161 females) were 60 per week. The males earned an average of 22.7 cents, the females an average of

11.6 cents, and both sexes together an average of 22.5 cents per hour. Average full-time earnings per week were \$13.62 for males, \$6.96 for females, and \$13.50 per week for males and females combined. The earnings in the table include those at the basic rates and the bonus combined. They do not include the estimated value of perquisites—rental value of houses, value of fuel, water, and medical and hospital service furnished by the plantations to the employees.

The average full-time hours of males ranged by industries from 44 per week in printing and publishing, machine shops, and foundries to 66.4 per week in dairies; and of females ranged from 44 per week in printing and publishing to 60 per week on pineapple plantations, in pineapple canneries, and in tin-can manufacture.

The average earnings per hour of males ranged by industries, excluding plantations, from 17.4 cents in the making of overalls and shirts, to 91.5 cents in printing and publishing; of females, ranged from 14.1 cents in coffee mills to 37.8 cents per hour in printing and publishing; and of both sexes ranged from 21.3 cents in coffee mills to 85.7 cents in printing and publishing.

The average full-time earnings per week of males ranged by industries from \$7.86 in overalls and shirts to \$40.26 in printing and publishing; of females ranged from \$6.96 on pineapple plantations to \$16.63 in printing and publishing; and of both sexes, ranged from \$11.74 in coffee mills to \$37.71 in printing and publishing.

TABLE 9.—Number of employees and average hours and earnings in the Territory of Hawaii, 1929-30, by industry

Industry	Number of employees			Average full-time hours per week			Average earnings per hour			Average full-time earnings per week		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Sugar plantations.....	47,300	1,474	49,671	(?)	(?)	(?)	\$1.84	\$1.30	\$1.82	\$11.04	\$7.80	\$10.92
Pineapple plantations.....	3,316	161	3,477	60.0	60.0	60.0	7.227	7.116	7.225	13.62	6.96	13.50
Pineapple canneries.....	3,937	3,579	7,516	60.0	60.0	60.0	.271	.168	.224	16.26	10.08	13.44
Building construction.....	906	-----	906	49.6	-----	49.6	.506	-----	.506	25.10	-----	25.10
Steam railways.....	660	-----	660	51.1	-----	51.1	.446	-----	.446	22.79	-----	22.79
Road building.....	333	-----	333	49.3	-----	49.3	.506	-----	.506	24.95	-----	24.95
Longshore labor.....	381	-----	381	54.0	-----	54.0	.468	-----	.468	25.27	-----	25.27
Steam laundries.....	102	178	280	54.0	54.0	54.0	.416	.190	.272	22.46	10.26	14.69
Tin-can manufacturing.....	220	48	268	60.0	60.0	60.0	.401	.243	.373	24.06	14.58	22.38
Electricity — Manufacture and distribution.....	256	-----	256	45.1	-----	45.1	.707	-----	.707	31.89	-----	31.87
Street railways.....	236	-----	236	52.5	-----	52.5	.544	-----	.544	26.62	-----	26.62
Printing and publishing: Newspaper and book and job.....	194	24	218	44.0	44.0	44.0	.915	.378	.857	40.26	16.63	37.71
Stock raising.....	191	-----	191	53.0	-----	53.0	.275	-----	.275	14.58	-----	14.58
Machine shops.....	141	-----	141	44.0	-----	44.0	.685	-----	.685	30.14	-----	30.14
Gas — Manufacturing and distribution.....	102	-----	102	48.0	-----	48.0	.478	-----	.478	22.94	-----	22.94
Dry dock.....	94	-----	94	45.0	-----	45.0	.578	-----	.578	26.01	-----	26.01
Dairies.....	84	-----	84	66.4	-----	66.4	.299	-----	.299	19.85	-----	19.85
Coffee mills.....	32	42	74	55.3	55.0	55.1	.307	.141	.213	16.98	7.76	11.74
Foundries.....	66	-----	66	44.0	-----	44.0	.649	-----	.649	28.56	-----	28.56
Slaughtering and meat packing.....	26	-----	26	51.0	-----	51.0	.347	-----	.347	17.70	-----	17.70
Overalls and shirt making.....	1	16	17	45.2	45.2	45.2	.174	.307	.298	7.86	13.88	13.74

¹ Includes 349 male minors, 19 female minors, and 529 minors whose sex was not reported.

² Range, according to kind of work, from 33 to 72—average not computed. (See Table 25, p. 51.)

³ Per day for adults at basic rates and with bonus, but not including perquisites (rental value of houses, value of fuel, water, medical and hospital service for sickness or accidental injury of any kind) furnished to employees by plantations without any charge to employees. The value was estimated at \$28 per month or \$1 per day.

⁴ Per day for adults and minors combined; minors earned an average of 98 cents per day.

⁵ For adults, but not including perquisites. (See note 3.)

⁶ For adults and minors; average for minors \$5.88 per week.

⁷ At basic rates and with bonus, but not including perquisites. (See note 3.)

Sugar Industry

Sugar Production

The principal industry of the Territory of Hawaii is the growing, harvesting, and milling of sugarcane. The annual report of the Governor of Hawaii for the fiscal year ending September 30, 1928, shows 130,968 acres of land in these islands harvested in sugarcane. The tons of cane harvested were 7,710,508, from which 897,396 tons of raw sugar were produced. The tons of cane produced per acre were 58.87 and of raw sugar, 6.85, while the tons of cane per ton of raw sugar were 8.59. The average tonnage of cane per acre as applied to the entire Territory is somewhat misleading, owing to the fact that the island of Hawaii, which is the largest island of the group and contains the largest sugarcane acreage, had a very low yield (49.17 tons) in comparison with the other islands; Oahu, for instance, had an average yield of 79.35 tons of cane per acre, some of the plantations and parts of plantations yielding as much as 100 tons per acre.

Hawaiian production of cane per acre, however, is not comparable with the yield of the other sugar-producing countries of the world. Hawaii's sugarcane producing period of time is nominally 18 months, though in very many instances the period extends to 20 and even 22 months. In all the other sugarcane growing countries of the world the rated output of cane is the number of tons per acre per annum—that is, the yield is calculated on the planted area and not on the harvested acreage, as in Hawaii. The yield of raw sugar per ton of sugarcane, however, is somewhat greater in Hawaii, due both to the development and cultivation of high grades of cane and to the better methods of milling.

The production of cane sugar in Hawaii in 1929 was 913,670 short tons. The production for each of the years from 1837 to 1929 is given in Table 10.

Production in the Hawaiian Islands, which was less than 11,000 short tons each year from 1837 to 1872, reached 57,088 tons in 1882; 108,112 tons in 1886; 221,828 tons in 1896; 289,544 tons in 1900, the year in which the islands were annexed to the United States; 360,038 tons in 1901, an increase of 24 per cent in the first year the islands were a part of the United States; 617,038 tons in 1914, the year of the beginning of the World War; 701,433 tons in 1924; 811,333 tons in 1927; and reached 904,040 short tons in 1928.

TABLE 10.—*Hawaiian sugar production (in tons of 2,000 pounds), 1837 to 1929*

[Source: "Story of Sugar," rev. ed., June, 1929]

Year	Number of tons	Year	Number of tons
1837.....	12	1849.....	327
1838.....	44	1850.....	375
1839.....	50	1851.....	11
1840.....	180	1852.....	350
1841.....	30	1853.....	321
1842-1843.....	572	1854.....	288
1844.....	257	1855.....	145
1845.....	151	1856.....	277
1846.....	150	1857.....	350
1847.....	297	1858.....	602
1848.....	250	1859.....	913

¹ First record of exportation.

TABLE 10.—*Hawaiian sugar production (in tons of 2,000 pounds), 1837 to 1929—*
Continued

Year	Number of tons	Year	Number of tons
1860.....	572	1895.....	147, 627
1861.....	1, 281	1896.....	221, 828
1862.....	1, 508	1897.....	251, 126
1863.....	2, 646	1898.....	229, 414
1864.....	5, 207	1899.....	232, 807
1865.....	7, 659	1900.....	269, 544
1866.....	8, 865	1901.....	360, 038
1867.....	8, 564	1902.....	355, 611
1868.....	9, 106	1903.....	467, 991
1869.....	9, 151	1904.....	467, 475
1870.....	9, 382	1905.....	426, 428
1871.....	10, 880	1906.....	429, 213
1872.....	8, 498	1907.....	440, 017
1873.....	11, 565	1908.....	521, 123
1874.....	12, 283	1909.....	535, 156
1875.....	12, 540	1910.....	518, 127
1876.....	13, 036	1911.....	566, 821
1877.....	12, 788	1912.....	595, 258
1878.....	10, 215	1913.....	546, 798
1879.....	24, 510	1914.....	617, 038
1880.....	31, 792	1915.....	646, 445
1881.....	46, 895	1916.....	593, 483
1882.....	57, 088	1917.....	644, 574
1883.....	57, 053	1918.....	576, 842
1884.....	71, 327	1919.....	603, 583
1885.....	85, 695	1920.....	556, 871
1886.....	108, 112	1921.....	539, 196
1887.....	106, 362	1922.....	609, 077
1888.....	117, 944	1923.....	545, 606
1889.....	121, 083	1924.....	701, 433
1890.....	129, 899	1925.....	776, 072
1891.....	137, 492	1926.....	787, 246
1892.....	131, 308	1927.....	811, 333
1893.....	165, 411	1928.....	904, 040
1894.....	153, 342	1929.....	913, 670

¹ Hawaiian Sugar Planters' Association.

The production of cane sugar on each of the four principal islands (Hawaii, Maui, Oahu, and Kauai) and on the four combined in each of the years from 1920 to 1929 is shown in Table 11:

TABLE 11.—*Tons (2,000 pounds) of raw sugar produced each year, 1920 to 1929, on each island and on all islands*

Name of island	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
Hawaii.....	185, 729	197, 064	228, 954	188, 362	235, 568	269, 125	278, 852	261, 971	299, 623	308, 132
Maui.....	136, 170	115, 599	123, 847	113, 069	155, 364	169, 994	158, 950	172, 043	192, 113	198, 300
Oahu.....	129, 572	125, 462	153, 777	147, 663	188, 532	202, 460	213, 705	224, 004	249, 069	236, 955
Kauai.....	105, 400	101, 071	102, 499	96, 512	121, 969	134, 493	135, 739	153, 315	163, 235	170, 283
All islands....	556, 871	539, 196	609, 077	545, 606	701, 433	776, 072	787, 246	811, 333	904, 040	913, 670

Increase in Output per Man-day or Man-year

The increase during recent years in output per man-day or per man-year throughout all the sugar plantations of Hawaii is remarkable. In so far as this increased production results from the improvement in types of sugar cane now grown over types formerly grown it reaches even to the small growers or farmers who produce only a few acres of cane and sell such cane to the plantations having grinding mills.

A plantation on the island of Oahu, with practically the same labor force, produced 40,000 tons of raw sugar in 1920 and 70,136 tons in

1929. This company in 1922 produced an average of 49.09 tons of cane per acre; in 1928 the average was 94.07 tons per acre, while on many of its separate fields the production was over 100 tons per acre. Measured in tons of 96 degree raw sugar 6.68 tons per acre were produced in 1922 and 12.28 tons in 1928.

Another plantation, on the island of Hawaii, increased its output of raw sugar from 6.7 tons per man-year in 1900 to 24.22 tons per man-year in 1929. This increase was due to several factors. Several years ago a pest or blight of some sort practically destroyed the sugarcane on the island. Since that time the Hawaiian Sugar Planters' Association has built up a most remarkable laboratory for developing types of cane that will be more adapted to Hawaiian soil, more prolific in sugar content or yield, and more immune from pests.

Machinery is used at every stage of production, beginning with the clearing of the ground. Plowing is now done with four, five, and six disk plows, arranged in tandem and drawn by 62-horsepower caterpillar tractors, which plow from 14 to 24 inches deep. The soil is thus put in a condition which would have been impossible formerly and at a great deal less expenditure of man power.

Some of the more striking methods by which greater production has been secured with practically a stationary labor force are the greater use of much better fertilizers; the more systematic and extensive use of irrigation; the practice—quite general though not universal—of burning the blades from the lower part of the stalk instead of stripping it by hand, as formerly; the use of enormous cranes, each one of which, operated by two men, performs the work of 35 men, in loading the cane onto the cars for transportation to the grinding mill; and more efficient methods of laying tracks upon which these cars are conveyed to the mills.

The planters' association has established a bureau which is constantly turning out minor labor-saving devices which in the aggregate do much to increase output of the labor force, if not actually reducing the force.

Irrigation and Fertilization

It is surprising to learn that land so rich as that found for the most part in the Territory of Hawaii should require an enormous amount of fertilizing, and that, with the tremendous amount of rainfall common in most parts of the Territory, irrigation should be necessary. However, when it is realized that from 80 to 90 tons of sugarcane are removed from an acre of land and that 87 per cent of the weight of this cane consists of extractable juice, one is not unprepared to learn that it requires 4,000 tons of water to mature the cane for a ton of sugar. When it is realized that in the fertile fields of Illinois not more than 2½ tons of corn per acre, not counting the stalks—incidentally, neither are the weight of the blade and seed of sugarcane counted—are taken from the soil, as against 90 tons of sugarcane per acre from the soil of Hawaii, one can readily believe that no natural unaided soil fertility could be found anywhere in the world to stand such a strain.

Source of Labor Supply

The source of labor supply for the sugarcane industry in the Territory of Hawaii has shifted many times, being originally the Hawaiian Islands, and subsequently China, Japan, Portugal, Spain, Porto

Rico, and Korea. The present tendency is to depend almost exclusively upon the Philippine Islands as the source of labor supply.

Table 12, secured from the immigration bureau at Honolulu, shows the Filipinos arriving at and departing from Hawaii over a period of years:

TABLE 12.—*Filipinos arriving at and departing from Hawaii, 1922 to 1929*

Fiscal year ending June 30—	Arriving from—		Departing to—		Fiscal year ending June 30—	Arriving from—		Departing to—	
	Orient	Mainland	Orient	Mainland		Orient	Mainland	Orient	Mainland
1922.....	8, 675	38	2, 074	98	1927.....	6, 875	78	3, 671	2, 254
1923.....	6, 530	9	925	937	1928.....	12, 572	132	4, 008	1, 515
1924.....	5, 915	40	2, 694	2, 118	1929.....	9, 593	180	4, 809	2, 374
1925.....	10, 369	93	2, 769	831	Total.....	65, 524	660	23, 665	13, 015
1926.....	4, 995	90	2, 715	2, 888					

Table 13 shows the Filipinos arriving at and departing from Hawaii, by age and sex.

TABLE 13.—*Filipinos arriving at and departing from Hawaii, 1925 to 1929, by age and sex*

Fiscal year ending June 30—	Arriving from—									
	Orient					Mainland				
	Under 16		Over 16		Total	Under 16		Over 16		Total
	Male	Female	Male	Female		Male	Female	Male	Female	
1925.....	219	105	9, 414	631	10, 369	4	6	76	7	93
1926.....	62	10	4, 794	129	4, 995	3	.....	78	9	90
1927.....	60	26	6, 404	385	6, 875	.....	1	75	2	78
1928.....	81	57	12, 254	180	12, 572	3	6	117	6	132
1929.....	76	54	9, 320	143	9, 593	8	15	135	22	180
Total.....	498	252	42, 186	1, 468	44, 404	18	28	481	46	573
July 1 to Dec. 31, 1929.....	35	31	3, 218	87	3, 371	0	3	98	4	105

Fiscal year ending June 30—	Departing to—									
	Orient					Mainland				
	Under 16		Over 16		Total	Under 16		Over 16		Total
	Male	Female	Male	Female		Male	Female	Male	Female	
1925.....	190	198	2, 122	259	2, 769	25	18	751	37	831
1926.....	139	103	2, 208	265	2, 715	85	50	2, 436	317	2, 888
1927.....	352	309	2, 585	425	3, 671	68	83	2, 023	80	2, 254
1928.....	388	405	2, 742	473	4, 008	28	35	1, 405	47	1, 515
1929.....	351	324	3, 787	347	4, 809	31	27	2, 268	48	2, 374
Total.....	1, 420	1, 339	13, 444	1, 769	17, 972	237	213	8, 883	529	9, 862
July 1 to Dec. 31, 1929.....	169	130	2, 130	153	2, 582	0	1	621	16	638

There is much discussion and a considerable feeling as to the advisability of the continuance of this immigration. The rapid development of the pineapple industry makes it no longer solely a sugarcane question. Formerly the sugar growers engaged the Filipino on his native heath and paid for his transportation to Hawaii, but this practice has been abandoned. The Hawaiian Sugar Planters' Association now has its agents in the Philippines engaging labor, but these workers must pay their own way to Hawaii. Upon arrival, they are given a contract or agreement that if they will work on the sugar plantations for a period of three years, their return expense to the Philippines, should they wish to return, will be paid by the sugar planters' association.

From the plantation managers' point of view Filipino labor is reasonably satisfactory, although there is not complete unanimity of opinion among such managers. For instance, a manager of a plantation on the island of Hawaii said to his board of directors:

We were well supplied with labor all through the season and work was kept well in hand. Our Filipinos are a restless lot, changing around from place to place. We trust that the suggested change in the contracts, whereby it is required of them to stay at least one year continuously at the place they are assigned to, will work out to the benefit of all concerned.

The following statement from an official of the association is interesting as bearing upon this question:

With the Filipino labor there is a continuous and from the standpoint of employers undesirable amount of shifting from one plantation to another. Due to the fact that Filipinos have relatives in great numbers and to remote degrees of consanguinity, we find men shifting from one plantation to another, giving as their excuse that they want to be with a cousin, uncle, or brother, or some other connection on a second plantation. In our agreements with the laborer which we make after the arrival of Filipinos in Hawaii, we promise to return them to the Philippines after three years' work on plantations, providing they have complied with the terms of the work agreement. These terms require that they must have worked one year on one plantation and do not prohibit their moving between plantations. We send back as having completed the contract hundreds and even thousands of men whose work record must be secured from two, three, four, and maybe more plantations during the period of employment here. Within the last year we have caused our work agreement to be slightly changed, requiring the man to work the first year on the plantation to which first assigned, but even then a transfer is permitted, providing the man applies for it and it is approved, so that if he has good reason to move he may do so without forfeiting his rights. If he doesn't desire to apply for the transfer, he may move anyhow, but of course under those conditions he wouldn't have the benefits of his work agreement.

A study of length of service in Hawaii of Filipinos who returned to the Philippines for various reasons during the labor year October 1, 1928, to September 30, 1929, discloses the following:

Of 132 cases of sick men reported to the sugar planters' association as being discharged from hospitals but unable to go back to work, and desirous of returning to their homes in the Philippines, the length of service on sugar plantations averaged 51 months; their average stay on the islands was 65 months, and they had worked on an average of 1.7 different plantations.

Of the contract Filipinos who had fulfilled their contracts 1,922 desired to be returned during the year. The average sojourn of these men on the islands was 54 months, their average service on sugar plantations was 53½ months, and they had worked on an average of 1.4 plantations. The required service to secure the right to free return is 36 months of 20 days, or 720 days' work on plantations.

Of 1,366 laborers who paid their passage back to the Philippines, having forfeited their right to free return by "deserting," i. e., jumping their contracts, or by other conduct, the average stay on the islands was 36 months, the average employment on plantations was 27 months, and the average number of plantations on which employed was 1.5.

Unquestionably the sugar plantations of Hawaii are a great boon to the individual Filipinos who take advantage of the higher wages paid. Whether or not the Philippine Islands are the better for this drawing off of their younger and more physically fit male population raises a question this bureau does not feel called upon to answer.

The social question created in Hawaii is, however, quite distinct from the problem of labor supply for any one or two or all of its industries. Employees of the former immigrations were at the outset single men, or men immigrating for the purpose of severing marital obligations they no longer cared to carry. The Chinese, however, were accepted by the native Hawaiians, and considerable intermarriage of Chinese men with Hawaiian women occurred. The Americans had set the example in intermarriage with Hawaiian women even back in the missionary days. Later on a considerable number of Chinese women immigrated and became the wives of the Chinese workers. The Japanese were able in the course of time more or less to remedy the social situation so far as they were concerned through the "picture bride" device.

This large excess and continuing large importation of single men creates a social question which in the long run must become a bigger problem than either the sugar or pineapple industry or both. A labor policy more comprehensive than merely securing plenty of labor for the sugar and pineapple industries will sooner or later force itself upon Hawaii.

There is a social side of the labor problems that will eventually override the purely industrial side, especially when industry is narrow either in its scope or ownership. It must happen—indeed is now happening—that the employers will have the conviction forced upon them that married men are better and ultimately cheaper plantation labor, as well as safer and better citizens. It is not within the power of industry to ignore over a long period of time the fact that man is a social being.

It is neither socially, industrially, nor economically wise for Hawaii to import such a proportion of its total food supply as it does now. The tendency in 1-crop or in 2-crop districts to ignore everything but the principal industry is not of course confined to Hawaii. Cuba, another sugarcane country, imports from the United States fruits which grow wild in Cuba. The distance between Hawaii and the mainland of the United States, or any other country for that matter, is so great that importations of articles necessary for the sustenance of life and the ordinary comforts of living add so greatly to the cost of these things that eventually these livings costs will defeat the purposes of a cheap labor supply drawn from no matter where.

Census of Sugar Plantations

The Hawaiian Sugar Planters' Association, which includes all except a very few small and unimportant plantations on the Hawaiian Islands, takes a census of the plantations and camps thereon as of June 30 and December 31 each year.

The census figures in Table 14 show the number of persons in the "married group," and in the "single group," and also in both of these groups combined, of each race on the plantations on each island and on all the islands, and also the number of houses owned by the plantations, the number rented by the plantations, and the total number furnished by them to employees and families for use as homes. No rental was charged by the plantations for the use of the houses. An official of the association estimated the average cost to the employer of furnishing the houses to employees at \$20 per month per house.

On June 30, 1929, the married group of Japanese employees on the plantations on the island of Hawaii included 2,680 men, 2,557 women, and 7,654 children, a total of 12,891 persons of that race. They were housed in 1,907 homes owned by the plantations and 403 rented for them by the plantations. On June 30, 1929, there were 50,045 men, 14,129 women, and 36,941 children, or a total of 101,115 persons of all races on the plantations on all the islands, and they were housed in 18,637 buildings owned by the plantations and 951 houses rented by the plantations.

The great majority of the Filipinos on the plantations are single men. On the island of Hawaii 10,237, or 79 per cent of the total of 12,957, of that race were single men; on Maui, 6,226 or 67 per cent were single men; on Oahu, 5,938 of the total of 11,207 were single men; and on Kauai, 7,408 of the total of 9,989 on that island were single men. On all islands, 29,809 or 68.6 per cent of the 43,433 Filipinos on all plantations were single men.

TABLE 14.—Census of persons (employees and families) and houses on 41 sugar plantations in the Territory of Hawaii, June 30, and December 31, 1929, by island, race, and marital condition

Island, race, and marital condition	June 30, 1929							December 31, 1929						
	Number of persons				Number of houses furnished to employees and families			Number of persons				Number of houses furnished to employees and families		
	Men	Women	Children	Total	Owned by plantations	Rented by plantations	Total furnished by plantations	Men	Women	Children	Total	Owned by plantations	Rented by plantations	Total furnished by plantations
HAWAII														
Japanese:														
Married group.....	2,680	2,557	7,654	12,891	1,907	403	2,310	2,536	2,441	7,510	12,487	1,955	348	2,303
Single group.....	1,117	130	49	1,296	453	66	519	1,082	146	46	1,274	430	47	477
Total.....	3,797	2,687	7,703	14,187	2,360	469	2,829	3,618	2,587	7,556	13,761	2,385	395	2,780
Filipino:														
Married group.....	666	611	1,441	2,718	492	12	504	650	594	1,413	2,657	484	17	501
Single group.....	10,237	1	1	10,239	1,683	45	1,728	10,271	4	3	10,278	1,730	46	1,776
Total.....	10,903	612	1,442	12,957	2,175	57	2,232	10,921	598	1,416	12,935	2,214	63	2,277
Chinese:														
Married group.....	46	40	165	251	39	5	44	41	40	157	238	35	7	42
Single group.....	262	4	-----	266	86	6	92	257	3	-----	260	89	7	96
Total.....	308	44	165	517	125	11	136	298	43	157	498	124	14	138
Korean:														
Married group.....	56	50	174	280	45	2	47	48	48	187	283	46	2	48
Single group.....	185	1	1	187	65	3	68	159	1	7	167	53	3	56
Total.....	241	51	175	467	110	5	115	207	49	194	450	99	5	104
Porto Rican:														
Married group.....	191	174	456	821	150	4	154	201	180	479	860	154	4	158
Single group.....	109	7	2	118	43	6	49	105	11	4	120	48	3	51
Total.....	300	181	458	939	193	10	203	306	191	483	980	202	7	209

TABLE 14.—Census of persons (employees and families) and houses on 41 sugar plantations in the Territory of Hawaii, June 30, and December 31, 1929, by island, race, and marital condition—Continued

Island, race, and marital condition	June 30, 1929						December 31, 1929							
	Number of persons				Number of houses furnished to employees and families			Number of persons				Number of houses furnished to employees and families		
	Men	Women	Children	Total	Owned by plantations	Rented by plantations	Total furnished by plantations	Men	Women	Children	Total	Owned by plantations	Rented by plantations	Total furnished by plantations
HAWAII—continued														
Portuguese:														
Married group.....	489	487	1,371	2,347	366	53	419	518	510	1,365	2,393	385	48	433
Single group.....	147	46	10	203	55	13	68	152	35	5	192	56	12	68
Total.....	636	533	1,381	2,550	421	66	487	670	545	1,370	2,585	441	60	501
Hawaiian:														
Married group.....	117	115	302	534	86	23	109	112	107	314	533	75	26	101
Single group.....	53	1	2	56	20	12	32	61	7	2	70	30	9	39
Total.....	170	116	304	590	106	35	141	173	114	316	603	105	35	140
American:														
Married group.....	163	157	230	550	149	7	156	158	157	222	537	158	5	163
Single group.....	78	7		85	56		56	82	11		93	53		53
Total.....	241	164	230	635	205	7	212	240	168	222	630	211	5	216
All other:														
Married group.....	37	31	76	144	28		28	32	32	72	136	26	1	27
Single group.....	43	1		44	30		30	50			50	35	1	36
Total.....	80	32	76	188	58		58	82	32	72	186	61	2	63
All races:														
Married group.....	4,445	4,222	11,869	20,526	3,262	509	3,771	4,296	4,109	11,719	20,124	3,318	458	3,776
Single group.....	12,231	198	65	12,494	2,491	151	2,642	12,219	218	67	12,504	2,524	128	2,652
Total.....	16,676	4,420	11,934	33,030	5,753	660	6,413	16,515	4,327	11,786	32,628	5,842	586	6,428

MAUI

Japanese:														
Married group	1,682	1,661	5,345	8,688	1,599	77	1,676	1,729	1,679	5,269	8,677	1,548	96	1,644
Single group	781	114	-----	895	249	15	264	640	91	4	735	247	25	272
Total	2,463	1,775	5,345	9,583	1,848	92	1,940	2,369	1,770	5,273	9,412	1,795	121	1,916
Filipino:														
Married group	839	704	1,500	3,043	644	6	650	870	656	1,424	2,950	596	7	603
Single group	6,226	11	-----	6,237	1,090	13	1,103	6,601	5	-----	6,606	1,164	17	1,181
Total	7,065	715	1,500	9,280	1,734	19	1,753	7,471	661	1,424	9,556	1,760	24	1,784
Chinese:														
Married group	35	29	108	172	27	6	33	39	35	110	184	27	6	33
Single group	198	2	-----	200	90	7	97	191	2	-----	193	79	8	87
Total	233	31	108	372	117	13	130	230	37	110	377	106	14	120
Korean:														
Married group	50	51	183	284	51	-----	51	48	48	179	275	47	-----	47
Single group	70	-----	-----	70	33	1	34	72	-----	-----	72	32	1	33
Total	120	51	183	354	84	1	85	120	48	179	347	79	1	80
Porto Rican:														
Married group	143	127	361	631	115	2	117	151	123	367	641	118	1	119
Single group	59	14	-----	73	23	1	24	52	11	-----	63	26	-----	26
Total	202	141	361	704	138	3	141	203	134	367	704	144	1	145
Portuguese:														
Married group	414	429	1,434	2,277	389	14	403	415	428	1,393	2,236	379	14	393
Single group	113	71	-----	184	22	2	24	106	53	-----	159	27	1	28
Total	527	500	1,434	2,461	411	16	427	521	481	1,393	2,395	406	15	421
Hawaiian:														
Married group	158	158	430	746	119	22	141	156	154	418	728	129	19	148
Single group	55	7	-----	62	15	2	17	35	11	-----	46	17	1	18
Total	213	165	430	808	134	24	158	191	165	418	774	146	20	166
American:														
Married group	106	104	140	350	102	2	104	110	117	149	376	109	2	111
Single group	37	15	-----	52	18	-----	18	37	23	-----	60	23	-----	23
Total	143	119	140	402	120	2	122	147	140	149	436	132	2	134
All other:														
Married group	61	53	156	270	55	1	56	50	47	126	223	43	2	45
Single group	10	15	-----	25	7	-----	7	7	5	-----	12	3	-----	3
Total	71	68	156	295	62	1	63	57	52	126	235	46	2	48

TABLE 14.—Census of persons (employees and families) and houses on 41 sugar plantations in the Territory of Hawaii, June 30, and December 31, 1929, by island, race, and marital condition—Continued

Island, race, and marital condition	June 30, 1929							December 31, 1929						
	Number of persons				Number of houses furnished to employees and families			Number of persons				Number of houses furnished to employees and families		
	Men	Women	Children	Total	Owned by plantations	Rented by plantations	Total furnished by plantations	Men	Women	Children	Total	Owned by plantations	Rented by plantations	Total furnished by plantations
MAUI—continued														
All races:														
Married group.....	3,488	3,316	9,657	16,461	3,101	130	3,231	3,568	3,287	9,435	16,290	2,996	147	3,143
Single group.....	7,549	249	-----	7,798	1,547	41	1,588	7,741	201	4	7,946	1,618	53	1,671
Total.....	11,037	3,565	9,657	24,259	4,648	171	4,819	11,309	3,488	9,439	24,236	4,614	200	4,814
OAHU														
Japanese:														
Married group.....	1,651	1,617	4,819	8,087	1,542	33	1,575	1,589	1,579	4,764	7,932	1,406	32	1,438
Single group.....	711	142	3	856	156	2	158	744	140	-----	884	186	8	194
Total.....	2,362	1,759	4,822	8,943	1,698	35	1,733	2,333	1,719	4,764	8,816	1,592	40	1,632
Filipino:														
Married group.....	1,734	1,121	2,390	5,245	1,219	13	1,232	1,649	1,098	2,457	5,204	1,239	14	1,253
Single group.....	5,938	21	3	5,962	879	2	881	5,782	21	-----	5,803	1,019	2	1,021
Total.....	7,672	1,142	2,393	11,207	2,098	15	2,113	7,431	1,119	2,457	11,007	2,258	16	2,274
Chinese:														
Married group.....	44	34	109	187	40	2	42	43	32	100	175	40	1	41
Single group.....	347	-----	1	348	74	4	78	290	-----	-----	290	72	1	73
Total.....	391	34	110	535	114	6	120	333	32	100	465	112	2	114
Korean:														
Married group.....	64	55	221	340	74	-----	74	63	52	207	322	65	-----	65
Single group.....	72	1	-----	73	13	1	14	54	3	-----	57	20	-----	20
Total.....	136	56	221	413	87	1	88	117	55	207	379	85	-----	85

Porto Rican:														
Married group	107	93	291	491	85	1	86	108	98	270	476	87	2	89
Single group	44	14		58	11		11	44	13	57	12			12
Total	151	107	291	549	96	1	97	152	111	270	533	99	2	101
Portuguese:														
Married group	290	271	770	1,331	257	2	259	258	250	680	1,188	240	1	241
Single group	75	18	1	94	9		9	90	19	109	21			21
Total	365	289	771	1,425	266	2	268	348	269	680	1,297	261	1	262
Hawaiian:														
Married group	56	53	125	234	49	9	58	48	47	115	210	49	1	50
Single group	33	2		35	10		10	40	3	43	13		1	14
Total	89	55	125	269	59	9	68	88	50	115	253	62	2	64
American:														
Married group	155	155	243	553	150	1	151	146	149	208	503	138	1	139
Single group	59	14		73	30		30	63	14	77	30			30
Total	214	169	243	626	180	1	181	209	163	208	580	168	1	169
All other:														
Married group	25	24	36	85	23		23	25	22	38	85	22		22
Single group	18	1		19	4		4	19	5	4	28	11		11
Total	43	25	36	104	27		27	44	27	42	113	33		33
All races:														
Married group	4,126	3,423	9,004	16,553	3,439	61	3,500	3,929	3,327	8,839	16,095	3,286	52	3,338
Single group	7,297	213	8	7,518	1,186	9	1,195	7,126	218	4	7,348	1,384	12	1,396
Total	11,423	3,636	9,012	24,071	4,625	70	4,695	11,055	3,545	8,843	23,443	4,670	64	4,734
	KAUAI													
Japanese:														
Married group	1,196	1,147	3,330	5,673	1,032	18	1,050	1,161	1,158	3,304	5,593	1,027	21	1,048
Single group	464	44	54	562	251	8	259	492	69	33	594	290	15	305
Total	1,660	1,191	3,384	6,235	1,283	26	1,309	1,653	1,197	3,337	6,187	1,317	36	1,353
Filipino:														
Married group	696	606	1,270	2,572	541		541	685	579	1,320	2,584	527		527
Single group	7,408	2	7	7,417	1,022	8	1,030	7,174	2	2	7,178	1,027	1	1,028
Total	8,104	608	1,277	9,989	1,563	8	1,571	7,859	581	1,322	9,762	1,554	1	1,555

TABLE 14.—Census of persons (employees and families) and houses on 41 sugar plantations in the Territory of Hawaii, June 30, and December 31, 1929, by island, race, and marital condition—Continued

Island, race, and marital condition	June 30, 1929							December 31, 1929						
	Number of persons				Number of houses furnished to employees and families			Number of persons				Number of houses furnished to employees and families		
	Men	Women	Children	Total	Owned by plantations	Rented by plantations	Total furnished by plantations	Men	Women	Children	Total	Owned by plantations	Rented by plantations	Total furnished by plantations
KAUAI—continued														
Chinese:														
Married group.....	14	12	39	65	11		11	16	14	40	70	13		13
Single group.....	217	1	2	220	64		64	191	1	2	194	71		71
Total.....	231	13	41	285	75		75	207	15	42	264	84		84
Korean:														
Married group.....	24	23	76	123	23		23	22	21	81	124	21		21
Single group.....	64	1		65	25		25	56			57	27		27
Total.....	88	24	76	188	48		48	78	22	81	181	48		48
Porto Rican:														
Married group.....	92	83	254	429	77		77	92	88	251	431	81		81
Single group.....	44	3	1	48	19	1	20	44	6		50	20	1	21
Total.....	136	86	255	477	96	1	97	136	94	251	481	101	1	102
Portuguese:														
Married group.....	294	285	802	1,381	248	12	260	311	285	769	1,365	248	11	259
Single group.....	65	27	19	111	20		20	63	33	14	110	23	1	24
Total.....	359	312	821	1,492	268	12	280	374	318	783	1,475	271	12	283
Hawaiian:														
Married group.....	73	70	193	336	66		66	77	72	149	298	74	2	76
Single group.....	24	1	4	29	12	2	14	25	3	3	31	12		12
Total.....	97	71	197	365	78	2	80	102	75	152	329	86	2	88

American:																	
Married group.....	130	131	182	443	122	1	123	131	132	178	441	124		124			
Single group.....	39	14		53	30		30	28	15		43	22		22			
Total.....	169	145	182	496	152	1	153	159	147	178	484	146		146			
All other:																	
Married group.....	53	55	105	213	44		44	50	50	108	208	46		46			
Single group.....	12	3		15	4		4	10	5		15	4		4			
Total.....	65	58	105	228	48		48	60	55	108	223	50		50			
All races:																	
Married group.....	2,572	2,412	6,251	11,235	2,164	31	2,195	2,545	2,369	6,200	11,114	2,161	34	2,195			
Single group.....	8,337	96	87	8,520	1,447	19	1,466	8,083	135	54	8,272	1,496	18	1,514			
Total.....	10,909	2,508	6,338	19,755	3,611	50	3,661	10,628	2,504	6,254	19,386	3,657	52	3,709			
	ALL ISLANDS																
Japanese:																	
Married group.....	7,209	6,982	21,148	35,339	6,080	531	6,611	7,015	6,827	20,847	34,689	5,936	497	6,433			
Single group.....	3,073	430	106	3,609	1,109	91	1,200	2,958	446	83	3,487	1,153	95	1,248			
Total.....	10,282	7,412	21,254	38,948	7,189	622	7,811	9,973	7,273	20,930	38,176	7,089	592	7,681			
Filipino:																	
Married group.....	3,935	3,042	6,601	13,578	2,896	31	2,927	3,854	2,927	6,614	13,395	2,846	38	2,884			
Single group.....	29,809	35	11	29,855	4,674	68	4,742	29,828	32	5	29,865	4,940	66	5,006			
Total.....	33,744	3,077	6,612	43,433	7,570	99	7,669	33,682	2,959	6,619	43,260	7,786	104	7,890			
Chinese:																	
Married group.....	139	115	421	675	117	13	130	139	121	407	667	115	14	129			
Single group.....	1,024	7	3	1,034	314	17	331	929	6	2	937	311	16	327			
Total.....	1,163	122	424	1,709	431	30	461	1,068	127	409	1,604	426	30	456			
Korean:																	
Married group.....	194	179	654	1,027	193	2	195	181	169	654	1,004	179	2	181			
Single group.....	391	3	1	395	136	5	141	341	5	7	353	132	4	136			
Total.....	585	182	655	1,422	329	7	336	522	174	661	1,357	311	6	317			
Porto Rican:																	
Married group.....	533	477	1,362	2,372	427	7	434	552	489	1,367	2,408	440	7	447			
Single group.....	286	38	3	297	96	8	104	245	41	4	290	106	4	110			
Total.....	789	515	1,365	2,669	523	15	538	797	530	1,371	2,698	546	11	557			

TABLE 14.—*Census of persons (employees and families) and houses on 41 sugar plantations in the Territory of Hawaii, June 30, and December 31, 1929, by island, race, and marital condition—Continued*

Island, race, and marital condition	June 30, 1929							December 31, 1929						
	Number of persons				Number of houses furnished to employees and families			Number of persons				Number of houses furnished to employees and families		
	Men	Women	Children	Total	Owned by plantations	Rented by plantations	Total furnished by plantations	Men	Women	Children	Total	Owned by plantations	Rented by plantations	Total furnished by plantations
ALL ISLANDS—continued														
Portuguese:														
Married group.....	1,487	1,472	4,377	7,336	1,260	81	1,341	1,502	1,473	4,207	7,182	1,252	74	1,326
Single group.....	400	162	30	592	106	15	121	411	140	19	570	127	14	141
Total.....	1,887	1,634	4,407	7,928	1,366	96	1,462	1,913	1,613	4,226	7,752	1,379	88	1,467
Hawaiian:														
Married group.....	404	396	1,050	1,850	320	54	374	393	380	996	1,769	327	48	375
Single group.....	165	11	6	182	57	16	73	161	24	5	190	72	11	83
Total.....	569	407	1,056	2,032	377	70	447	554	404	1,001	1,959	399	59	458
American:														
Married group.....	554	547	795	1,896	523	11	534	545	555	757	1,857	529	8	537
Single group.....	213	50		263	134		134	210	63		273	128		128
Total.....	767	597	795	2,159	657	11	668	755	618	757	2,130	657	8	665
All other:														
Married group.....	176	163	373	712	150	1	151	157	151	344	652	137	3	140
Single group.....	83	20		103	45		45	86	15	4	105	53	1	54
Total.....	259	183	373	815	195	1	196	243	166	348	757	190	4	194
All races:														
Married group.....	14,631	13,373	36,781	64,785	11,966	731	12,697	14,338	13,092	36,193	63,623	11,761	691	12,452
Single group.....	35,414	756	160	36,330	6,671	220	6,891	35,169	772	129	36,070	7,022	211	7,283
Total.....	50,045	14,129	36,941	101,115	18,637	951	19,588	49,507	13,864	36,322	99,693	18,783	902	19,685



FIGURE 1.—FURROWING OUT CONTOUR LINES FOR PLANTING



FIGURE 2.—CUTTING SEED FROM STALKS OF CANE FOR PLANTING



FIGURE 3.—DROPPING SEED



FIGURE 4.—COVERING SEED

Methods of Cultivation

The growing of a crop of sugarcane on a sugar plantation in the Hawaiian Islands requires from 18 to 24 months, or from 4 to 12 months longer than on a plantation in any other of the principal cane-sugar producing localities in the world. On a Hawaiian plantation there may at certain periods in each year be plowing, harrowing, and fertilizing in one or more fields; planting cane in other fields; cultivating in still other fields; and cutting, piling, loading, and hauling cane to sugar mills from still other fields.

Sugarcane raising in Hawaii is "factoryized" agriculture. Piece or contract work is general, and the work processes are specialized to make this method of labor remuneration possible. The processes are divided into sections so as to form a basis for a piece rate. The ultimate purpose, or objective, of the piece-rate system is to enable the plantation management to determine in advance, as nearly as possible, the final labor cost of a short ton of clean cane at the grinding mill.

The ground is plowed from 14 to 24 inches deep. The first plowing on the larger plantations is usually with tractors, and where conditions permit, it is done on the basis of from 60 to 75 cents per acre, according to conditions. The subsequent harrowing is made another piece-rate unit. The furrowing for planting, another unit, may be paid for by the acre or the row (fig. 1). The first fertilization is upon the basis of an acre, a row, or a bag of fertilizer. Planting consists of placing cuttings of selected cane stalks in the furrows. These cuttings, which consist of three joints to each piece, are placed in the bottom of the furrow and covered with two or three inches of soil. After a preliminary irrigation, the cultivator contractor takes charge of the field (figs. 2, 3, 4, and 5).

In the cultivation of the crop during the growing of the cane, beginning with the first hoeing or weeding after the appearance of the tender shoots from the eyes or buds of the cuttings that were placed in furrows in newly planted fields or "ratoons" (shoots) from the buds on the short stubs of old stalks of the preceding crop, and continuing to maturity when the cane is ready for cutting, the work is done either by "short-term" or "long-term" contract.

A short-term contract applies to a piece of work, such as the hoeing of one or more fields of a certain number of acres, or the irrigating or fertilizing of the same, at a specified rate per acre.

The long-term contract covers all of the cultivation of the cane on one or more fields from the beginning to maturity. Such contractors are paid a certain rate per ton of cane produced on the field or fields, the rate being based on the known number of tons of cane produced in preceding years or crops. Rates per ton vary from field to field.

Long-Term Cultivation Contracts

In order to understand the operation of the cultivation contract, or the so-called "long-term" contract, it is necessary to go back a little in the working methods. First, a plantation is divided into fields. The size of these fields may vary on the same plantation from 50 to 280 acres, and only one-half of the fields are harvested each year. One plantation, for instance, with 11,350 acres actually producing cane is divided into 77 fields. Each field is carried separately on the company's books and represents a single long-term

contract. When the preliminary work has been done, a contract is let to a person who, with the assistance of the company in making his selections, organizes a cultivating gang, usually one man for each 10 acres in the field. These men agree to weed, irrigate, and fertilize this field—bring the cane to the point of cutting or harvesting (fig. 6). The payment for this is based upon the ton of clean cane delivered from the particular field at the grinding mill. Since this cultivation contract may extend over a period of from 18 to 22 months, advance payments must be made on the contract. These advance payments are uniform, amounting to \$1 per day per man for the work actually performed in the field, and are made monthly on the basis of 30 days per month. The advances are increased 10 per cent for attendance of 23 or more days per month. If a man works 23 days in a month, he is paid \$23 plus \$2.30 for attendance, or \$25.30. Final settlement is made when the cane is harvested and weighed at the mill, complete records of days worked per man and per gang being kept. The men of the crew are paid the difference between the number of tons produced times the tonnage rate and the amount advanced during the time of the contract. The amount paid as a bonus for attendance is not deducted.

Productivity of the soil, type of cane, and difficulties met with in cultivation or irrigation influence the setting of the piece or tonnage rate for the long-term contract men or cultivators. Thus on one plantation where the average tonnage yield per acre for the 1929 crop was 86.88 and the average tonnage contract price for cultivation was \$1.009 per ton of clean cane, there were certain fields where the price was 95 cents per ton, but the yield for that field was 109.85 tons per acre.

The days of cultivation per acre also vary, as one field may be more weedy than others and require more man-days' work per acre. On a plantation where the average number of man-days worked per acre for the entire plantation was 32.44, the lowest number of man-days per acre for the fields was 20.86 and the highest, 41.48.

All of these conditions must be considered in fixing a piece rate that will enable the men to earn about the same amount of money per day on final settlement and at the same time keep a fairly uniform labor cost per ton of cane, or ultimately per ton of raw sugar.

Some gangs are unable to keep up with the work, or get temporarily behind, say, with weeding. The management then furnishes a few extra men for a brief period, charging this up to the contract, except that in the case of temporary sickness of a man or two additional assistance is sometimes furnished without charge. Men sometimes quit or "desert" after the work is started, usually in the early period of the contract; but these men forfeit their share in the final settlement, but of course have had their \$1 a day advance plus bonus of 10 cents per day for 23 or more days' attendance in month. This \$1 per day, therefore, is not only an advance payment on contract to enable the men to live during the production of the crop, but is also a guaranteed minimum wage.

When the crop is raised, the next step is to burn over the fields to destroy as far as possible the blades which grow near the ground and hinder the work of cutting (fig. 7). The burning also destroys insects, and really benefits the cane if the cutting is done within 72 hours after the burning. Cane may, however, be cut without burning, but in



FIGURE 5.—IRRIGATING



FIGURE 6.—MATURE CROP READY FOR HARVEST



FIGURE 7.—BURNING CANE



FIGURE 8.—CUTTING CANE



FIGURE 9.—PILING CANE



FIGURE 10.—LOADING CANE ON CARS



FIGURE 11.—TRAINLOAD OF CANE MOVING TO SUGAR MILL



FIGURE 12.—PACKING CANE TO FLUME

such case the piece rate for cutting is higher, and the piling rate is also higher because the excess leaves or blades litter the ground and make it more difficult to pick out the pieces of cane for piling. Cutting is done by gangs or by individuals. When gangs are employed the piece rate is based upon a ton of clean cane at the mill, but individual cutting is paid for by the row. The cutting is done with a broad, thin-blade machete, which has a hook on the end of the blade, weighs two or three pounds, and is kept very sharp. Sugarcane stalks, which grow 18 to 20 feet high in good soil, must not only be cut off at the ground but each stalk must be cut in two, the lengths being eight or nine feet, the cutter throwing the cane on the ground behind him (fig. 8).

The piling of the cane is another process and forms a separate piece-rate unit (fig. 9). The piles are of given dimensions, each pile containing from 2,000 to 2,200 pounds. When the cutting is done by gangs tickets are placed upon each pile showing the cultivator's contract number, the cutter gang number, and the piler gang number. Where cutting is done by the row, the piles are not ticketed for the cutter.

Loading is done by hand upon cars or by machines (mechanical loaders—see fig. 10). Hand loading is very hard work. The cars hold approximately 4 tons of cane. Usually the cars are hauled by mules on temporary tracks to the permanent tracks upon which small engines operate in moving cane to sugar mill (fig. 11). The temporary tracks are laid in the field by track-laying crews, which also work at piece rates.

The cane tops are cut for feed for the mules. This, too, is piece-work, paid at the rate of 1 cent a bundle.

Where the cane is transported from the field to the grinding mills by means of flumes, the cane is tied into bundles weighing from 60 to 80 pounds each; these are carried to the edge of the flume but not placed in the flume itself by the cutters (figs. 12 and 13). The following statement by the manager of a "flume plantation" describes the operation:

Forty-five cents a ton is paid for cutting and piling yellow Caledonian cane alongside flumes—47 and 49 cents for yellow-tip cane because this weighs less than yellow Caledonian. Price varies because of field conditions. The cane cut from two rows by two men is piled into one row.

It is tied into bundles weighing 60 to 80 pounds. All cane on this plantation is carried from the fields to the sugar mill by the water flowing in the flumes. The flume is a long V-shaped, continuous trough made of planks. A section of the flume will last for the carrying of four or five crops of cane. That part of the flume system near the sugar mill is of permanent construction and is not V-shaped, but is a much larger trough in which a stronger current of water flows. The cane is flumed by "day" labor. The day force receives \$43 and the night force \$45 per month, plus the "turnout" bonus of 10 per cent to those who turn out for work 23 or more days in the month. The "day" men also act as guards for the flumes to see that the floating sections of cane stalks do not clog the flume. They also pick up any pieces of cane that may fall from the flume. A "day" man may act as a guard one day and flume cane the next.

Another statement from a manager of a plantation on another island follows. While there is some repetition, these statements from those immediately in charge give a good picture of the situation:

In 1929 this company had an average of 3,114 employees on its pay roll, 203 of whom were skilled, the great majority of the remainder being unskilled, though some were semiskilled. There were 185 women and boys. The women

are engaged on the lighter kinds of work. Japanese women usually work part time, helping their husbands. Most of the boys work on Saturdays and during school vacation.

Eighty-three per cent of the men have been on the plantation one year or longer. The labor turnover in 1929 was 27 per cent, a reduction from 80 per cent in 1923. The heaviest turnover is among the single men.

An effort is made to seasonalize operations on the plantation so as to bring about employment the year round. Ninety-five per cent of the field work is done on the piece-price basis. The long-term sugar cane crop requires from 20 to 24 months, though the agreement is for 18 months because most of the work is completed within that period. No charge is made for fertilizer used on contract work. Each man in a crew of workers is paid according to the number of days he works. There is a minimum guaranty of \$1 per day, but less than 5 per cent of the men fail to earn more than the minimum. A "turnout" of 23 days in a month entitles an employee to a bonus of 10 per cent of earnings. Men on a long contract may at slack times work on a short contract. The cane is cut and bundled by hand, but is loaded mostly by machine. Efficiency has been increased 20 per cent by machine loading. An official of another company has stated that each loading machine saves the work of 35 men. There are usually five in a loading crew, one to man and watch the machine with four on the ground.

Each field has a foreman. A gang of 25 has a foreman and assistant foreman. They share in the earnings of the gang and in addition they are paid a bonus based upon the earnings of the group. A gang of 25 men is expected to cultivate 250 acres.

The company owns all the houses in which its employees live. In fact, it is the company's policy not to sell houses to its employees. There is no charge for rent, light, fuel, or water. One-family houses are the rule, though there are some exceptions. There are still some barracks occupied by single men who themselves take care of their quarters. It is the policy of the company to get away from housing employees in barracks.

The company provides free hospitalization, with a resident physician-surgeon, and five nurses. There are few serious accidents.

Cost of production items in order of importance are: (1) Labor; (2) water; and (3) fertilizer.

One hundred and thirty-five million gallons of water are required daily to irrigate the 11,000 acres on this plantation. The tunnels are cut through the mountains from the windward or wet side of the island (the side on which the rainfall is heavy), in order to provide ample water supply. Between \$6,000,000 and \$7,000,000 has been invested for this purpose. The water is pumped to a height of 350 feet. Some gravity water is also available on this plantation.

On plantations where flumes are not used for floating the cane to the sugar mill, it is necessary to construct permanent as well as temporary railway tracks. There are 65 miles of main line tracks on this plantation.

Notwithstanding the fertile land on this plantation, great quantities of fertilizer are used. This not only brings about an increased crop for the particular year, but conserves the fertility of the soil for future years. It is maintained that the company puts into the soil more than it takes out and that the productivity is greater now than it was some years ago.

The work, except on one plantation in the Hawaiian Islands, ends with the bagging and shipping of raw sugar from the sugar mills to refineries in California (figs. 14 and 15).

Wage Rates

Piece rates for the cutting of cane, whether based upon a ton of clean cane at the grinding mill or upon a row of cane in the field, are further based or rather perhaps differentiated upon the basis of the character of the cane itself and upon the quantity of work performed by the gang. For instance, H-109 is very heavy cane, with large stalks and comparatively thin rind, and does not break and lie on the ground to the same extent as some of the other canes. The general rate for cutting this cane is 18¼ cents per ton where the field has been burned over, thus clearing away the blades and rubbish for the cutter; where fields are poorly burned, the rate is 21½ cents. This rate is increased on a quantity basis; on some plantations the production



FIGURE 13.—FLUMING CANE

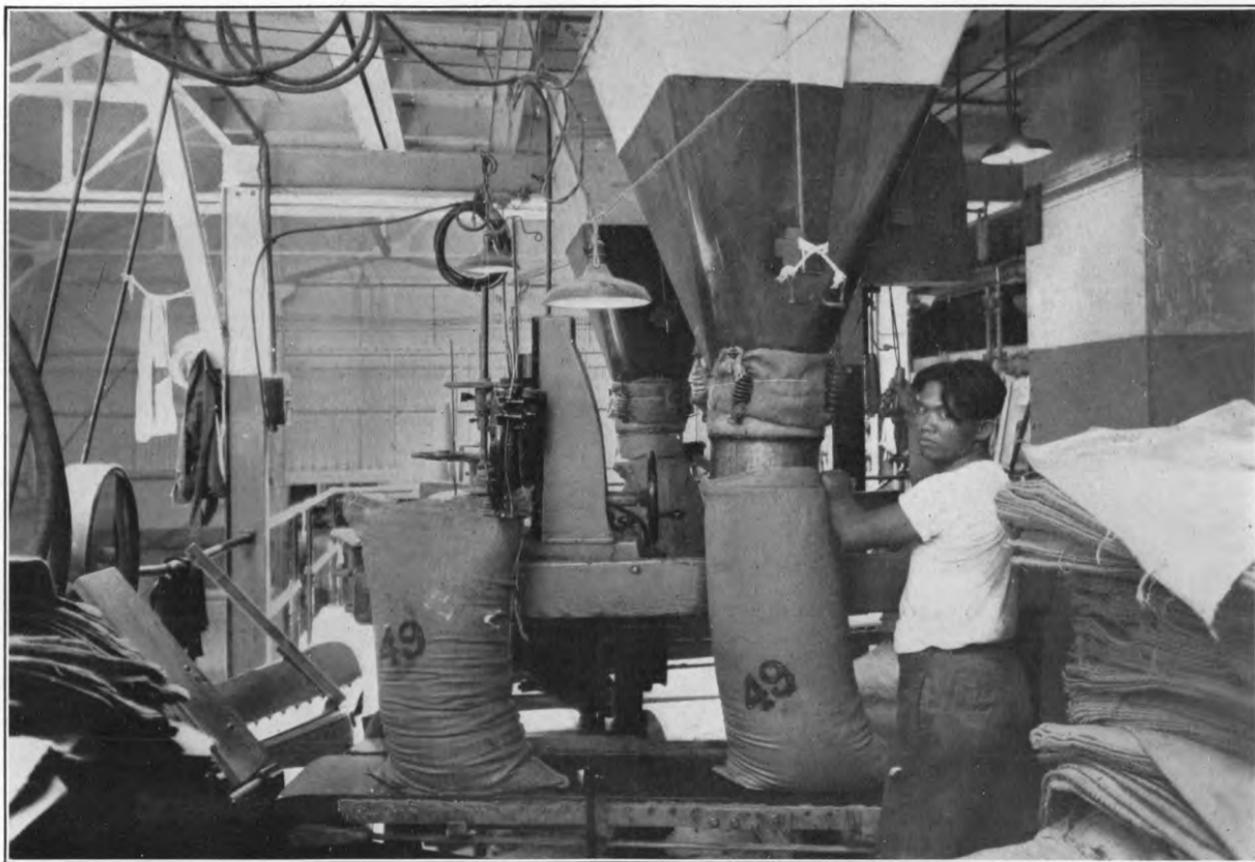


FIGURE 14.—BAGGING RAW SUGAR AT SUGAR MILL

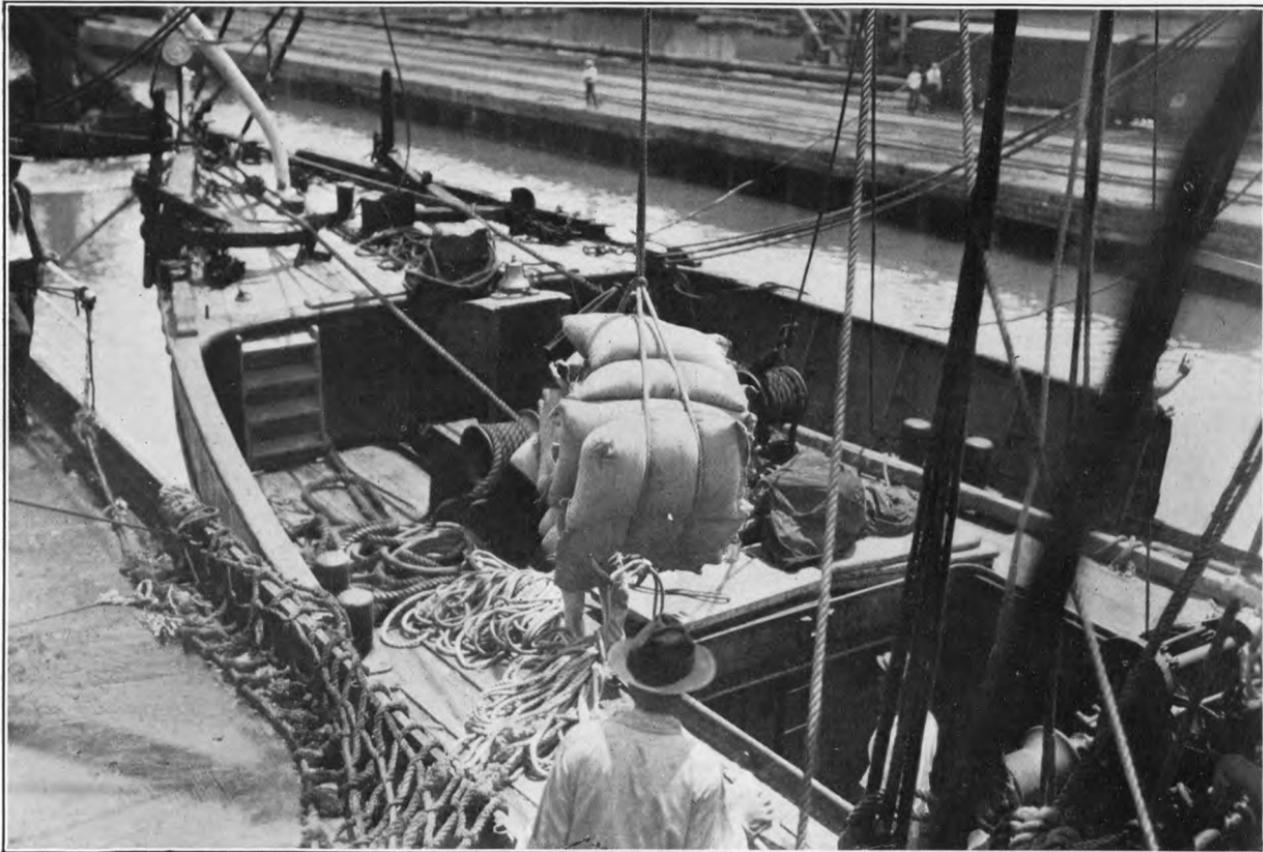


FIGURE 15.—UNLOADING RAW SUGAR FROM SHIP TO SUGAR REFINERY AT CROCKETT, CALIF.



FIGURE 16.—ATTRACTIVE HOMES OF PLANTATION LABORERS.

bonus applies when 140 tons or more are cut per man per month, and on other plantations when 200 tons or more are cut per man per month. The type of cane known as D-1135 has a smaller stalk, and hence takes more strokes of the machete to cut a ton. It has a harder rind than H-109 and requires a harder blow. The principal types of cane in use are H-109, D-1135, Badilla, Caledonia, Yellow Tip, POJ-36 and H-456, each with a different piece rate for cutting. The different cutting rates for burned and unburned fields constitute a standardized differential rate.

To indicate the extent to which piecework is applied, the harvesting rates for the crop of 1930, as given by one of the plantations, follows:

Harvesting rates on one plantation for the sugar crop of 1930

	Rate per ton (cents)
Cutting cane:	
Lahaina burned cane.....	} 1 20
H-109 burned cane.....	
Str. Mexican burned cane.....	
Green cane.....	1 27
Half burned cane.....	1 22
Loading cane:	
Up to and including 200 tons.....	25
For every additional ton over 200 tons.....	35
Picking up cane:	
Camp 1 and camp 5.....	110
Kihei.....	65
Railroad pick ups.....	40
"Pile up".....	18
Operating loading machine.....	4
Piling cane for machine:	
Up to and including 200 tons.....	18
Every additional ton over 200 tons.....	28
Hauling cane:	
Hand-loaded fields.....	7½
Machine-loaded fields.....	5.6

Long-term contract rates—1930

	Per ton
Plant cane up to 7½ acres per man.....	² \$1. 10
Ratoon cane up to 8½ acres per man.....	² 1. 15

The rates of pay for more or less skilled labor on the same plantation are as follows:

	Per month		Per month
Machinists.....	} ³ \$6. 00—\$6. 25	Policeman.....	\$140. 00
Blacksmiths.....		⁴ 4. 50	Timekeepers.....	175. 00
Welders.....	⁵ 185. 00	Electricians.....	175. 00—270. 00
Carpenters.....	³ 10. 00	Chemist.....	200. 00
Locomotive engineers.....	³ 2. 50—4. 00	Head chemist.....	300. 00
Nurses.....	110. 00—125. 00	Pump engineer and electrician.....	600. 00
Steam-plow engineers.....	125. 00—135. 00	Head carpenter.....	400. 00
Sugar boiler.....	75. 00	Assistant carpenter.....	190. 00
	200. 00		

Attendance Bonus and Other Wage Supplements

Based on the total number of days worked in 1929 by all employees on the 41 plantations covered, long and short term contractors repre-

¹ Five cents additional for every ton in excess of 140 tons cut per man per month.

² Deduction of 5 cents per ton for each acre exceeding limit specified.

³ Rate per day.

⁴ Minimum rate per day.

⁵ Maximum rate.

sent 48 per cent and day laborers 52 per cent of the total employees. Based on money earned, including bonus, contractors represent 56 per cent and day laborers 44 per cent of the total.

In addition to the earnings there is an attendance bonus, known generally in the industry as a "turnout bonus," of 10 per cent which applies to all workers whether or not they are pieceworkers. The male worker who shows up for duty 23 days or more and the female worker for 15 days or more out of the possible working time during the month has 10 per cent added to his piece-rate earnings or his day-rate wages. The possible working-days, or days that the plant was in operation, therefore, becomes a very essential element, and is shown for all plantations, by islands, in Table 15.

TABLE 15.—Number of possible plantation working-days, 1929, by months and islands

Month	Number of working-days in plantations in—				
	Hawaii	Maui	Oahu	Kauai	All islands
January.....	24	26	26	26	25
February.....	24	24	24	24	24
March.....	26	26	25	26	26
April.....	26	26	26	26	26
May.....	27	27	27	27	27
June.....	25	25	25	25	25
July.....	26	26	26	26	26
August.....	27	27	27	27	27
September.....	24	25	24	25	24
October.....	25	26	27	27	26
November.....	23	24	24	24	24
December.....	23½	24	23	23	23
Total.....	300½	306	304	306	303
Average.....	25	25½	25⅓	25½	25¼

The figures in Table 16 show for the 41 sugar plantations the number of adult males of each race, the number of adult females of the Japanese race and of all other races, and the number of minors of each sex and all races, on the May, 1929, pay rolls for each and for all islands. It also shows for each sex and race the per cent which, by attendance at work on 23 or more days in May by males and 15 or more by females, qualified for or earned the attendance bonus of 10 per cent. For example, an employee who worked on 23 or more days in a month earned at his basic rate \$39 plus a bonus of 10 per cent of such earnings—\$3.90—or a total of \$42.90. Had he worked 22 days or less he would not have earned the bonus of \$3.90.

There was only one American adult male on the pay rolls of the plantations on the island of Hawaii in May, 1929. He did not work on as many as 23 days in the month, and therefore the percentage of Americans qualifying for the bonus was 0.0. Forty-six, or 86.8 per cent, of the 53 Americans on Maui; 6, or 27.3 per cent, of the 22 on Oahu; 9, or 81.8 per cent, of the 11 on Kauai; and 61, or 70.1 per cent, of the 87 Americans on all islands qualified for the bonus.

By working 23 or more days in May, 1929, 79.4 per cent of the adult males on the island of Hawaii; 80.5 per cent of those on Maui; 89.2 per cent on Oahu; 85.2 per cent on Kauai; and 83.1 per cent of

the 47,300 on all islands earned the attendance bonus. In the month 81.3 per cent of the 1,474 adult females, 82.8 per cent of the 349 male minors, 84.2 per cent of the 19 female minors, and 83.1 per cent of the 49,142 men, women, and minors earned the bonus.

TABLE 16.—Number of employees¹ of sugar plantations on each and all islands, and per cent qualifying for bonus, May, 1929, by sex and race

Sex and race	Hawaii		Maui		Oahu		Kauai		All islands	
	Number on pay rolls	Per cent qualifying for bonus	Number on pay rolls	Per cent qualifying for bonus	Number on pay rolls	Per cent qualifying for bonus	Number on pay rolls	Per cent qualifying for bonus	Number on pay rolls	Per cent qualifying for bonus
ADULT MALES										
American.....	1	0.0	53	86.8	22	27.3	11	81.8	87	70.1
Spanish.....	28	57.1	20	95.0	5	80.0	23	95.7	76	80.3
Portuguese.....	452	89.8	312	92.6	193	92.2	272	91.2	1,229	91.2
Japanese.....	3,254	77.7	1,963	88.1	2,005	92.2	1,446	86.6	8,668	84.9
Filipino.....	11,583	80.0	6,904	77.8	7,817	89.6	8,255	85.0	34,559	82.9
Hawaiian.....	138	79.7	149	81.9	66	59.1	61	93.4	414	79.2
Korean.....	227	83.3	73	75.3	122	87.7	80	76.3	502	82.1
Porto Rican.....	342	69.0	171	80.7	128	82.0	141	89.4	782	77.4
Chinese.....	254	71.7	176	78.4	334	77.5	161	69.6	925	74.7
All others.....	1	100.0	13	76.9	26	46.2	18	77.8	58	63.8
Total.....	16,280	79.4	9,834	80.5	10,718	89.2	10,468	85.2	47,300	83.1
ADULT FEMALES										
Japanese.....	415	76.6	299	84.9	382	86.6	201	86.1	1,297	83.0
All others.....	43	55.8	31	67.7	57	78.9	46	69.6	177	68.9
Total.....	458	74.7	330	83.3	439	85.6	247	83.0	1,474	81.3
MINORS										
Male.....	117	74.4	73	87.7	89	84.3	70	90.0	349	82.8
Female.....	14	85.7	---	---	3	100.0	2	50.0	19	84.2
Grand total.....	16,869	79.3	10,237	80.6	11,249	89.0	10,787	85.1	49,142	83.1

¹ Does not include employees on monthly basis.

Because the money paid as attendance bonus is reported on the books of the company in lump sum only it is impossible to distribute it among the 83.1 per cent who qualified for the bonus. The necessity of distributing it over all of the employees has the result, therefore, of slightly decreasing the pay of the 83.1 per cent while slightly increasing the pay of the 16.9 per cent who did not earn the attendance bonus. That this result does not materially alter the daily earnings is evidenced by the fact that inclusion of the nonbonus-earning workers (16.9 per cent) reduces the per cent of bonus paid on the actual pay roll in May to 7.47 instead of 10, the per cent added to the pay of those earning the bonus.

In addition to the money wages the employees are furnished with a house, rent free, and with free fuel and light and water. Hospital treatment and medical care are also given free of charge. Some of the companies have separate hospitals of their own, while the Hawaiian Sugar Planters' Association has a very fine hospital in Honolulu.

The character of the houses has improved very much during recent years, and is constantly improving as the old types of shacks become uninhabitable and are replaced by houses of modern construction. Although too many shacks still exist and clubhouses or bachelor quarters are in some instances badly crowded, it can be said that practically all of the managers of these plantations realize that good living conditions make more efficient workers, that sanitary conditions mean fewer lost days from sickness, and that the better the home conditions the less the labor turnover; the latter, of course, is to be avoided as far as possible. (See fig. 16.)

Deserters

During the period of the long-term contracts of a representative sugar plantation in the islands one or more of the men of some of the crews left before the completion of the contract. Such men were called "deserters." Table 17 shows for each of the years from 1925 to 1929, the number of deserters; the aggregate and average number of man-days worked by them; the number of fields cultivated; and the number of fields in which there were no deserters.

The number of deserters decreased from 426 in 1925 to 338 in 1926 and from year to year to only 71 in 1929. The decrease between 1925 and 1926 was 21 per cent and between 1925 and 1929 was 83 per cent. The number of fields in which there were no deserters increased from only 1 of the 38 in 1925 to 15 of the 41 in 1929.

TABLE 17.—*Number of deserters,¹ aggregate and average man-days worked by them, and number of fields in crop and number having no deserters, for one representative sugar plantation, 1925 to 1929*

Year	Number of deserters	Aggregate man-days worked by deserters	Average man-days worked	Number of fields in crop	Number of fields with no deserters
1925	426	21,551.56	50.59	38	1
1926	338	12,044.46	35.63	41	2
1927	140	4,698.61	33.56	40	11
1928	98	3,091.00	31.54	40	16
1929	71	2,068.50	29.13	41	15

¹ Workers leaving before completion of contract.

Short-term Contract Rates

The piece rates for so-called short-term contracts are even more minutely worked out than for the long-term cultivation contracts. In this connection it should be said that the so-called "short-term" contract is a misnomer. There is no signed contract in these cases—the jobs are simple piecework ones, which may last one or a number of days or even less than a day. A statement of rates in 1929 follows:

Short-term contract rates, 1929

Boxes, irrigating, per acre.....										\$1. 25
Special, per acre.....	\$2. 00,	\$2. 50,	\$3. 00,	\$6. 00						\$0. 50
Repairs, each.....	\$0. 20,									\$0. 50
Cane tops, per bundle.....										\$0. 01
Clearing land, per acre.....	\$0. 50,	\$1. 00,	\$1. 25,	\$1. 50,	\$1. 75,	\$6. 50				\$0. 03
Ditching, per foot.....	\$0. 005,	\$0. 0075,	\$0. 01,	\$0. 015,	\$0. 025,	\$0. 03				\$1. 25
Fertilizing, per acre.....	\$0. 50,	\$0. 60,	\$1. 10,	\$1. 15,	\$1. 20,	\$1. 25				\$0. 30
Special, per bag.....						\$0. 30				\$1. 75
Fertilizing: Spreading and covering, per acre.....	\$1. 10,	\$1. 20,	\$1. 25,	\$1. 50,		\$1. 75				\$3. 00
Experiment, per acre.....						\$3. 00				\$2. 25
Fertilizing: Trenching, spreading, and covering, per acre.....	\$1. 60,	\$2. 00,				\$2. 25				\$2. 50
Fertilizing: Weighing, mixing, spreading, and covering (experiment), per acre.....						\$2. 50				\$0. 90
Gates, large.....						\$0. 90				\$0. 35
Repairs.....						\$0. 35				\$0. 40
Gates, small.....						\$0. 40				\$0. 20
Repairs.....						\$0. 20				\$4. 00,
Hilling up, per acre.....	\$2. 25,	\$3. 00,	\$3. 50,	\$4. 00,		\$4. 00				\$9. 00
\$4. 50, \$5. 00, \$5. 25, \$5. 50, \$6. 00, \$6. 50, \$7. 00, \$8. 00, \$9. 00										\$0. 75,
Irrigating, per acre.....						\$0. 75,				\$3. 50
\$0. 80, \$1. 00, \$1. 25, \$1. 50, \$1. 75, \$2. 00, \$2. 50, \$3. 00, \$3. 50										\$1. 25
Nitrate, rebagging, per 100 bags.....						\$1. 25				\$0. 25
Nitrate, unloading, per ton.....						\$0. 25				\$0. 25
Pipes.....						\$0. 25				\$6. 00
Special.....						\$6. 00				\$9. 00
Planting, per acre.....	\$7. 00,	\$7. 50,	\$8. 00,	\$8. 50,		\$9. 00				\$3. 50,
Raking out, per acre.....	\$2. 25,	\$3. 00,	\$3. 25,	\$3. 50,		\$3. 50				\$9. 00
\$4. 00, \$4. 50, \$5. 00, \$6. 00, \$6. 50, \$7. 00, \$8. 00, \$8. 50, \$9. 00										\$0. 15
Rock, loading, per ton.....						\$0. 15				\$0. 50
Sand, loading, per car.....						\$0. 50				\$0. 12
Seed, cutting, per bag.....						\$0. 04½				\$0. 62½
Seed, dipping, per 100 bags.....						\$0. 62½				\$2. 00
Tramways, digging, per acre.....	\$0. 25,	\$0. 50,	\$1. 00,	\$1. 25,	\$1. 50,	\$2. 00				\$1. 50
Trenching, per acre.....	\$0. 60,	\$0. 75,	\$1. 00,	\$1. 25,	\$1. 50					\$2. 50,
Weeding, per acre.....	\$1. 00,	\$1. 50,	\$2. 00,	\$2. 25,	\$2. 50,	\$2. 50,				\$8. 00
\$3. 00, \$3. 50, \$4. 00, \$4. 50, \$5. 00, \$5. 50, \$7. 00, \$7. 50, \$8. 00										\$1. 65
Wood, cutting, per cord.....	\$1. 25,	\$1. 40,				\$1. 65				\$0. 35
Wood, loading, per cord.....	\$0. 20,	\$0. 25,				\$0. 35				\$0. 10
Wood, unloading, per cord.....						\$0. 10				

Short-term contract piecework rates which were paid in 1930 by a representative sugar plantation for certain kinds of contract work are shown in Table 18.

The rates paid for cutting, piling, or loading cane by hand increased with the increase in each classified group of average tons handled per man in a month by each gang or group. Example: A rate of 18½ cents per ton was paid for cutting burned cane when the average per man ranged from 1 to 119 tons per month; of 19 cents for an average from 120 to 139 tons per month; of 20 cents for an average from 140 to 159 tons per month; of 21 cents for an average from 160 to 179 tons per month; and of 22 cents for an average of 180 or more tons per month. Burned cane is cane in a field fired for the purpose of burning the blades from the stalk, thus reducing the amount of work and making it possible to handle more units per man-day. Higher rates were paid for unburned cane and for a variety generally known as D-1135 than for burned cane. Fields are usually burned before cutting, except when wet weather or other causes make it impossible.

For installing portable track the rates were 20 cents for one rail and 40 cents for one switch.

TABLE 18.—*Short-term contract piecework rates on a representative sugar plantation*

Kind of work and amount done per man per month	Rates paid for—		
	Burned cane	Unburned cane	D-1135 cane
Cutting cane (tons per month per man):	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
1 to 119.....	18. 25	24. 25	20. 00
120 to 139.....	19. 00	25. 00	20. 75
140 to 159.....	20. 00	26. 00	21. 75
160 to 179.....	21. 00	27. 00	22. 75
180 or more.....	22. 00	28. 00	23. 75
Loading cane, by hand (tons per month per man):			
1 to 89.....	25. 00	27. 00	27. 00
90 to 99.....	25. 25	27. 25	27. 25
100 to 119.....	25. 50	27. 50	27. 50
120 to 129.....	25. 75	27. 75	27. 75
130 to 149.....	26. 00	28. 00	28. 00
150 to 159.....	26. 25	28. 25	28. 25
160 to 169.....	26. 50	28. 50	28. 50
170 to 189.....	26. 75	28. 75	28. 75
190 to 199.....	27. 00	29. 00	29. 00
200 to 229.....	27. 50	29. 50	29. 50
230 or more.....	28. 00	30. 00	30. 00
Piling cane for loading machines (man-days per month):			
1 to 89.....	20. 00	22. 00	22. 00
90 to 99.....	20. 25	22. 25	22. 25
100 to 119.....	20. 50	22. 50	22. 50
120 to 129.....	20. 75	22. 75	22. 75
130 to 149.....	21. 00	23. 00	23. 00
150 to 159.....	21. 25	23. 25	23. 25
160 to 169.....	21. 50	23. 50	23. 50
170 to 189.....	21. 75	23. 75	23. 75
190 to 199.....	22. 00	24. 00	24. 00
200 to 229.....	22. 50	24. 50	24. 50
230 or more.....	23. 00	25. 00	25. 00
Hauling cane in field (per ton).....	3. 50-5. 00	3. 50-5. 00	3. 50-5. 00
Picking up scattered cane in field (per ton).....	40. 00	45. 00	50. 00
Picking up scattered cane along main line railroad (per ton).....	50. 00	50. 00	50. 00

Labor Cost

Table 19 shows for each of five representative sugar plantations and for the five combined the labor cost per ton of cane and per ton of raw sugar in 1928, by kinds of work.

The kinds of work are: Clearing and plowing (clearing, steam plowing, steam-plow repairs, furrowing, mule plowing and harrowing, and repairs to mule plows); preparing and planting (preparing and ditching, cutting seed, hauling seed, seed cane, cane planting and replanting); water supply (pump expense, pump repairs, pump-pipeline maintenance, supply-ditch maintenance, and transmission line repairs); cultivating (irrigating, hilling up (hand), weeding and hoeing, cutting back, insect extermination, hilling up plowing); fertilizing (applying fertilizers and manuring); harvesting and delivering cane to sugar mill (cutting cane (hand and mechanical), loading cane, hauling cane, fluming cane, mechanical cane loading); manufacturing of raw sugar from cane and bagging it for shipment (mill expense, mill repairs and maintenance, containers and twine, mill electric power, fuel).

In addition the table shows the total labor cost to the time the cane is ready for cutting; the total labor cost of cane up to delivery at the sugar mill; the total cost of raw sugar in bags; the general repair cost, including sundry expense and accounts, sanitation, salaries and other expense; salaries alone; general repairs, sanitation, and sundry expense accounts, excluding salaries; and the grand total cost per ton of cane and of sugar.

The labor cost of clearing and plowing ranged from 9.7 cents per ton of cane and 91 cents per ton of sugar on plantation No. 5 to 17.8 cents per ton of cane and \$1.332 per ton of sugar on plantation No. 2. The average cost for the five plantations combined was 14.5 cents per ton of cane and \$1.102 per ton of sugar.

The cost of preparing and planting ranged from 7.2 cents per ton of cane and 50.7 cents per ton of sugar on plantation No. 1 to 15.4 cents per ton of cane and \$1.447 per ton of sugar on plantation No. 5. The average for the five plantations was 11.4 cents per ton of cane and 86.6 per ton of sugar.

The cost of cultivating ranged from \$1.02 per ton of cane and \$9.552 per ton of sugar on plantation No. 5 to \$1.689 per ton of cane and \$12.668 per ton of sugar on plantation No. 2.

The total average labor cost for the five plantations was \$3.745 per ton of cane and \$28.389 per ton of raw sugar. The labor cost of clearing and plowing was 3.9 per cent of the total labor cost; the cost of preparing and planting, 3 per cent; the water supply expense, 4.6 per cent; the cost of cultivating, 39.5 per cent, of fertilizing, 1.4 per cent, and of harvesting, 23.9 per cent; the sugar-mill expense, 9 per cent; salaries, 4 per cent; and general repairs, sanitation, etc., 10.7 per cent.

TABLE 19.—Labor cost, tons of cane and sugar produced, and labor cost per ton of cane and sugar on five sugar plantations, 1928, by kind of work

Kind of work, and plantation number	Labor cost	Tons produced		Labor cost per ton of—	
		Cane	Sugar	Cane	Sugar
Clearing and plowing:					
Plantation No. 1.....	\$66,299.38	502,659.48	71,720.00	\$0.132	\$0.924
Plantation No. 2.....	60,549.89	340,012.68	45,326.00	.178	1.332
Plantation No. 3.....	27,811.17	186,306.96	25,246.07	.149	1.102
Plantation No. 4.....	27,752.35	172,311.86	20,122.65	.161	1.379
Plantation No. 5.....	15,157.29	156,025.91	16,652.00	.097	.910
Total.....	197,370.08	1,357,316.89	179,066.72	.145	1.102
Preparing and planting:					
Plantation No. 1.....	36,335.75	502,659.48	71,720.00	.072	.507
Plantation No. 2.....	46,983.55	340,012.68	45,326.00	.138	1.037
Plantation No. 3.....	21,282.45	186,306.96	25,246.07	.114	.843
Plantation No. 4.....	26,296.88	172,311.86	20,122.65	.153	1.307
Plantation No. 5.....	24,094.78	156,025.91	16,652.00	.154	1.447
Total.....	154,993.41	1,357,316.89	179,066.72	.114	.866
Water supply:					
Plantation No. 1.....	84,137.62	502,659.48	71,720.00	.167	1.173
Plantation No. 2.....	63,035.49	340,012.68	45,326.00	.185	1.391
Plantation No. 3.....	21,903.46	186,306.96	25,246.07	.118	.868
Plantation No. 4.....	41,737.44	172,311.86	20,122.65	.242	2.074
Plantation No. 5.....	25,529.09	156,025.91	16,652.00	.164	1.533
Total.....	236,343.10	1,357,316.89	179,066.72	.174	1.320
Cultivating:					
Plantation No. 1.....	741,943.87	502,659.48	71,720.00	1.476	10.345
Plantation No. 2.....	574,185.42	340,012.68	45,326.00	1.689	12.668
Plantation No. 3.....	303,423.32	186,306.96	25,246.07	1.629	12.019
Plantation No. 4.....	228,432.88	172,311.86	20,122.65	1.326	11.352
Plantation No. 5.....	159,061.21	156,025.91	16,652.00	1.020	9.552
Total.....	2,007,046.70	1,357,316.89	179,066.72	1.479	11.208
Fertilizing:					
Plantation No. 1.....	26,890.44	502,659.48	71,720.00	.054	.375
Plantation No. 2.....	21,112.28	340,012.68	45,326.00	.062	.466
Plantation No. 3.....	11,448.15	186,306.96	25,246.07	.061	.454
Plantation No. 4.....	6,195.28	172,311.86	20,122.65	.036	.308
Plantation No. 5.....	5,466.60	156,025.91	16,652.00	.035	.328
Total.....	71,112.75	1,357,316.89	179,066.72	.052	.397

TABLE 19.—Labor cost, tons of cane and sugar produced, and labor cost per ton of cane and sugar on five sugar plantations, 1928, by kind of work—Continued

Kind of work, and plantation number	Labor cost	Tons produced		Labor cost per ton of—	
		Cane	Sugar	Cane	Sugar
Total—All kinds of work listed above:					
Plantation No. 1.....	\$955,607.06	502,659.48	71,720.00	\$1.901	\$13.324
Plantation No. 2.....	765,666.63	340,012.68	45,326.00	2.252	16.892
Plantation No. 3.....	385,868.55	186,306.96	25,246.07	2.071	15.284
Plantation No. 4.....	330,414.83	172,311.86	20,122.65	1.918	16.420
Plantation No. 5.....	229,308.97	156,025.91	16,652.00	1.470	13.771
Total.....	2,666,866.04	1,357,316.89	179,066.72	1.965	14.893
Harvesting:					
Plantation No. 1.....	423,260.68	502,659.48	71,720.00	.842	5.902
Plantation No. 2.....	306,568.61	340,012.68	45,326.00	.902	6.704
Plantation No. 3.....	249,482.60	186,306.96	25,246.07	1.339	9.882
Plantation No. 4.....	129,252.17	172,311.86	20,122.65	.750	6.423
Plantation No. 5.....	104,013.75	156,025.91	16,652.00	.667	6.246
Total.....	1,212,577.81	1,357,316.89	179,066.72	.893	6.772
Total—All kinds of work listed above (up to and including harvesting):					
Plantation No. 1.....	1,378,867.74	502,659.48	71,720.00	2.742	19.226
Plantation No. 2.....	1,072,235.24	340,012.68	45,326.00	3.154	23.656
Plantation No. 3.....	635,351.15	186,306.96	25,246.07	3.410	25.166
Plantation No. 4.....	459,667.00	172,311.86	20,122.65	2.668	22.843
Plantation No. 5.....	333,322.72	156,025.91	16,652.00	2.136	20.017
Total.....	3,879,443.85	1,357,316.89	179,066.72	2.858	21.665
Manufacturing raw sugar:					
Plantation No. 1.....	182,733.24	502,659.48	71,720.00	.364	2.548
Plantation No. 2.....	112,164.49	340,012.68	45,326.00	.330	2.475
Plantation No. 3.....	73,336.38	186,306.96	25,246.07	.394	2.905
Plantation No. 4.....	42,194.66	172,311.86	20,122.75	.245	2.097
Plantation No. 5.....	45,594.46	156,025.91	16,652.00	.292	2.738
Total.....	456,023.23	1,357,316.89	179,066.72	.336	2.547
Total—All kinds of work listed above (up to and including the making of raw sugar):					
Plantation No. 1.....	1,561,600.98	502,659.48	71,720.00	3.107	21.774
Plantation No. 2.....	1,184,399.73	340,012.68	45,326.00	3.483	26.131
Plantation No. 3.....	708,687.53	186,306.96	25,246.07	3.804	28.071
Plantation No. 4.....	50,861.66	172,311.86	20,122.65	2.913	24.940
Plantation No. 5.....	378,917.18	156,025.91	16,652.00	2.429	22.755
Total.....	4,335,367.08	1,357,316.89	179,066.72	3.194	24.211
General repairs and sundry expense accounts:					
Plantation No. 1.....	187,999.34	502,659.48	71,720.00	.374	2.621
Plantation No. 2.....	236,725.83	340,012.68	45,326.00	.696	5.223
Plantation No. 3.....	119,075.58	186,306.96	25,246.07	.639	4.717
Plantation No. 4.....	118,654.66	172,311.86	20,122.65	.689	5.897
Plantation No. 5.....	85,513.73	156,025.91	16,652.00	.548	5.135
Total.....	747,969.14	1,357,316.89	179,066.72	.551	4.177
Salaries:					
Plantation No. 1.....	58,510.08	502,659.48	71,720.00	.116	.816
Plantation No. 2.....	50,333.41	340,012.68	45,326.00	.148	1.111
Plantation No. 3.....	41,151.41	186,306.96	25,246.07	.221	1.630
Plantation No. 4.....	30,957.99	172,311.86	20,122.65	.180	1.539
Plantation No. 5.....	22,204.41	156,025.91	16,652.00	.142	1.333
Total.....	203,157.30	1,357,316.89	179,066.72	.150	1.135
General repairs, sanitation, and sundry expense accounts (not including salaries):					
Plantation No. 1.....	129,489.26	502,659.48	71,720.00	.258	1.805
Plantation No. 2.....	186,392.42	340,012.68	45,326.00	.548	4.112
Plantation No. 3.....	77,924.17	186,306.96	25,246.07	.418	3.087
Plantation No. 4.....	87,696.67	172,311.86	20,122.65	.509	4.358
Plantation No. 5.....	63,309.32	156,025.91	16,652.00	.406	3.802
Total.....	544,811.84	1,357,316.89	179,066.72	.401	3.043
Grand total:					
Plantation No. 1.....	1,749,600.32	502,659.48	71,720.00	3.481	24.395
Plantation No. 2.....	1,421,125.56	340,012.68	45,326.00	4.180	31.353
Plantation No. 3.....	827,763.11	186,306.96	25,246.07	4.443	32.788
Plantation No. 4.....	620,516.32	172,311.86	20,122.65	3.601	30.837
Plantation No. 5.....	464,430.91	156,025.91	16,652.00	2.977	27.890
Total.....	5,083,436.22	1,357,316.89	179,066.72	3.745	28.389

It is considered worth while to include a summary of the record (Table 20) of a year's crop as harvested by a plantation, showing the segregation of the plantation into fields for cultivating purposes, the nationality of the contractors, the size of the contracting gangs, the number of acres allotted to each field or contractor, and all of the significant items of expense, by fields, that go into the production of a crop of sugar cane from the time the seed is planted—at which time the so-called long-term contractor takes possession—up to the time the cane is ready to cut, which is not a part of the long-term contractor's work.

In explanation of Table 20, which shows the settlements made with contract cultivators, it will be noted that column 1 gives the nationality of the contractors; columns 2, 3, and 4 give the area in acres, and whether planted or in ratoons (under long or short term cultivator contracts); column 5 gives the average number of men in the gang which cultivated the field; column 6 gives the number of acres cultivated per man (column 4 divided by column 5); column 7 shows the average number of cultivator man-days per acre (column 19 divided by column 4); column 8 gives the tons of cane and seed produced (seed is cane cut to lengths and used in planting) and column 9 the average tons produced per acre (column 8 divided by column 4); in column 10 is the contract price per ton of cane; column 11 shows the amount earned by contractors (column 8 multiplied by column 10); columns 12 and 13 give the number of shares (man-days⁶ of plantation labor—not contract workers) and the amount of earnings, while columns 14 and 15 show the number of shares (man-days) and amount of earnings withheld because of deserters (members of gang leaving service before completion of contract); column 16 gives the monthly cash advances during the period of cultivation (\$1 for each man-day worked, see columns 19 and 20); column 17 shows the settlements on completion of contract (amount earned as shown in column 11 less amount earned by plantation labor as shown in column 13, amount withheld for deserters as shown in column 15, and amount advanced as shown in column 16); column 18 shows the number of cultivator man-days paid off; in column 19 the cultivator man-days are the total days worked in cultivating the fields by contractors; in columns 20, 21, and 22, the cash payments per man-day show the amount advanced for each man-day worked during the period of cultivation, the additional amount paid on completion of contract and the total amount for each man-day worked; column 23 gives the total number of shares or man-days (cultivator man-days worked, column 19, plus plantation labor, column 12); and column 24 gives the tons of cane per share or man-day (column 8 divided by column 23).

⁶ A share or man-day is a day's work, the length of the day varying according to the usual number of hours for the various kinds of work.

TABLE 20.—Statement of settlements made with contract cultivators on a sugar plantation crop of 1929

Field	Race of contractors (1)	Area in acres			Average number of men in gang (5)	Acres cultivated per man (6)	Cultivator man-days per acre (7)
		Plant (2)	Ratoons (long-term) (3)	Total (4)			
No. 1.....	Japanese and Filipino..		161.00	161.00	16.00	10.00	39.60
No. 2.....	Filipino.....		163.00	163.00	16.00	10.00	37.83
No. 3.....	do.....		103.15	103.15	9.00	11.47	33.92
No. 4.....	Japanese and Filipino..		174.78	174.78	16.00	10.92	35.16
No. 5.....	Filipino.....		121.70	121.70	12.00	10.14	38.42
No. 6.....	do.....		126.50	126.50	12.00	10.54	37.43
No. 7.....	Japanese and Filipino..	184.20		184.20	20.00	9.21	41.48
No. 8.....	do.....		169.00	169.00	16.75	10.08	34.19
No. 9.....	do.....		196.00	196.00	18.00	10.90	32.33
No. 10.....	do.....		121.10	121.10	11.75	10.30	35.08
No. 11.....	Filipino.....		120.00	120.00	12.00	10.00	37.43
No. 12.....	Japanese.....		54.25	54.25	5.00	10.85	31.59
No. 13.....	do.....		47.98	47.98	4.00	12.00	26.43
No. 14.....	do.....		12.20	12.20			
No. 15.....	do.....		134.60	134.60	11.00	13.34	20.86
No. 16.....	Japanese and Filipino..		177.66	177.66	15.00	11.84	27.14
No. 17.....	do.....		202.42	202.42	17.00	11.90	27.10
No. 18.....	do.....	149.25		149.25	13.50	11.06	34.66
No. 19.....	do.....		123.20	123.20	12.00	10.26	36.42
No. 20.....	Filipino and Korean		134.80	134.80	13.00	10.00	37.40
No. 21.....	Korean and Filipino		98.64	98.64	10.00	9.86	32.70
No. 22.....	Japanese and Filipino..		271.72	271.72	24.00	11.32	28.30
No. 23.....	do.....		188.63	188.63	15.50	12.16	31.47
No. 24.....	do.....	65.60	65.97	131.57	13.00	10.12	37.33
No. 25.....	Filipino.....		161.59	161.59	14.25	11.33	30.45
No. 26.....	do.....	125.79		125.79	13.00	9.68	38.79
No. 27.....	do.....		172.77	172.77	15.00	11.50	36.23
No. 28.....	do.....		228.74	228.74	20.00	11.43	34.36
No. 29.....	Japanese.....		141.00	141.00	11.50	12.26	29.81
No. 30.....	Japanese and Filipino..		182.00	182.00	17.00	10.70	30.00
No. 31.....	do.....		110.70	110.70	10.25	10.80	31.76
No. 32.....	do.....	3.75	112.00	115.75	10.50	11.00	31.03
No. 33.....	Korean.....		131.16	131.16	12.00	11.00	34.04
No. 34.....	Japanese and Filipino..	115.15		115.15	12.00	9.60	36.73
No. 35.....	do.....		187.00	187.00	17.00	11.00	32.00
No. 36.....	do.....		218.13	218.13	20.00	10.96	34.61
No. 37.....	do.....		163.00	163.00	15.00	10.87	30.86
No. 38.....	do.....		174.35	174.35	15.00	11.62	29.59
No. 39.....	do.....		155.72	155.72	13.25	11.75	27.55
No. 40.....	do.....		125.47	125.47	11.25	11.15	28.03
No. 41.....	do.....		242.60	242.60	21.50	11.28	27.94
Total:							
1929 crop.....		643.74	5,474.53	6,118.27	561.00	10.90	32.44
1928 crop.....		896.92	5,242.36	6,139.28	556.29	11.03	30.40
1927 crop.....		810.88	5,250.91	6,061.79	562.91	10.77	33.35
1926 crop.....		1,257.08	4,867.57	6,124.65	583.25	10.51	30.20
1925 crop.....		2,118.94	3,981.51	6,100.45	594.75	10.25	31.90

- ¹ Short-term ratoon contract.
² Includes 861.14 acres short term.
³ Includes 850.65 acres short term.
⁴ Includes 843.44 acres short term.
⁵ Includes 1,041.36 acres short term.
⁶ Includes 800.44 acres short term.

TABLE 20.—Statement of settlements made with contract cultivators on a sugar plantation crop of 1929—Continued

Field	Cane and seed produced		Contract price per ton of cane	Amount earned by contractor	Plantation labor		Withheld because of deserters	
	Total (tons)	Average per acre (tons)			Number of shares (man-days)	Earnings	Number of shares (man-days)	Earnings
No. 1.....	14,450.65	89.60	\$1.05	\$15,173.17	122.25	\$285.42	-----	-----
No. 2.....	13,565.30	82.77	1.05	14,243.55	167.75	377.25	-----	-----
No. 3.....	9,305.75	90.17	1.08	10,051.83	89.00	249.33	104.25	\$187.80
No. 4.....	15,823.44	88.93	1.00	15,916.60	175.50	442.00	-----	-----
No. 5.....	9,930.50	81.50	1.00	9,934.57	95.00	197.82	-----	-----
No. 6.....	11,957.74	94.44	1.00	11,957.74	108.50	267.84	-----	-----
No. 7.....	19,843.52	106.43	.95	18,851.35	533.50	1,273.35	160.25	208.35
No. 8.....	16,968.03	99.33	1.00	16,969.34	83.75	242.39	25.50	48.30
No. 9.....	17,832.07	90.69	1.00	17,832.07	89.00	246.97	188.75	334.95
No. 10.....	11,502.42	94.63	1.00	11,502.42	57.50	153.62	-----	-----
No. 11.....	9,526.03	78.71	1.05	10,002.33	81.75	178.83	-----	-----
No. 12.....	4,186.65	76.83	1.10	4,605.32	39.25	103.17	17.75	28.90
No. 13.....	5,044.59	105.14	1.00	5,044.59	40.75	157.04	-----	-----
No. 14.....	1,099.45	90.12	1.00	1,099.45	8.50	25.70	-----	-----
No. 15.....	11,769.32	86.73	1.00	11,769.32	61.00	259.42	13.75	44.70
No. 16.....	16,543.99	92.18	1.00	16,545.33	101.00	339.53	104.00	245.55
No. 17.....	17,673.14	86.78	1.00	17,673.14	95.75	303.07	-----	-----
No. 18.....	16,082.02	105.80	.98	15,762.27	304.75	876.87	119.75	224.80
No. 19.....	13,341.98	108.30	1.00	13,341.98	94.50	275.23	84.50	161.55
No. 20.....	13,040.28	96.74	1.02	13,301.08	141.50	363.08	259.25	405.90
No. 21.....	8,743.99	88.64	1.05	9,181.19	106.00	292.14	176.50	309.95
No. 22.....	17,069.50	62.82	1.00	17,069.50	1,419.75	2,660.80	124.50	108.80
No. 23.....	11,765.72	62.37	1.00	11,765.72	1,053.25	2,146.62	-----	-----
No. 24.....	12,696.11	95.92	1.00	12,696.11	296.25	722.21	15.50	22.30
No. 25.....	15,141.28	93.37	1.00	15,141.28	288.50	838.48	106.25	202.50
No. 26.....	13,902.05	109.85	.95	13,215.16	71.25	190.21	-----	-----
No. 27.....	14,949.65	86.53	1.05	15,697.13	109.00	268.73	20.00	29.30
No. 28.....	20,037.92	87.50	1.00	20,037.92	122.75	308.12	12.00	18.15
No. 29.....	11,188.29	78.70	1.00	11,188.29	111.25	288.54	128.25	204.30
No. 30.....	17,240.60	94.72	1.00	17,240.60	76.00	236.65	226.00	477.75
No. 31.....	10,344.04	93.10	1.00	10,344.04	54.50	157.89	-----	-----
No. 32.....	9,949.22	85.68	1.00	9,949.22	55.25	150.72	3.75	6.50
No. 33.....	13,675.45	103.91	1.00	13,675.45	175.00	515.80	-----	-----
No. 34.....	11,323.15	96.34	.95	10,756.97	81.00	202.12	10.00	14.95
No. 35.....	17,945.75	95.25	1.00	17,945.75	120.50	354.30	-----	-----
No. 36.....	22,153.68	101.16	1.00	22,153.68	808.50	2,142.48	54.00	89.10
No. 37.....	11,124.03	68.25	1.05	11,680.23	742.75	1,502.58	27.00	27.60
No. 38.....	11,272.02	64.60	1.05	11,835.62	543.00	1,380.07	57.00	87.85
No. 39.....	9,948.79	62.85	1.05	10,446.80	527.50	1,143.80	1.00	1.15
No. 40.....	8,905.81	70.90	1.05	9,351.10	577.75	1,319.30	13.00	16.70
No. 41.....	15,445.07	63.66	1.05	16,217.32	831.75	1,772.77	16.00	18.10
Total:								
1929 crop.....	534,308.99	86.88	1.009	539,166.91	10,712.00	25,212.26	2,068.50	3,525.80
1928 crop.....	579,485.21	94.38	1.006	583,270.42	6,007.25	17,946.62	3,091.00	6,142.60
1927 crop.....	529,869.24	87.41	1.013	537,150.98	5,870.00	14,496.13	4,698.61	6,910.40
1926 crop.....	465,767.56	74.58	1.005	468,097.68	5,008.75	10,545.27	12,044.46	17,105.84
1925 crop.....	475,419.88	77.93	1.009	479,644.15	5,850.15	14,297.67	21,551.56	28,197.63

TABLE 20.—Statement of settlements made with contract cultivators on a sugar plantation crop of 1929—Continued

Field	Monthly cash advances	Settlements on contract basis	Cultivator man-days		Cash payments per man-day			Total shares (man-days)	Tons of cane per share (man-day)
			Number paid off	Total worked	In advance	On settlement	Total		
	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
No. 1	\$6,376.25	\$8,511.50	6,376.25	6,376.25	\$1.00	\$1.33	\$2.33	6,498.50	2.22
No. 2	6,166.25	7,700.05	6,166.25	6,166.25	1.00	1.25	2.25	6,334.00	2.14
No. 3	3,498.75	6,115.95	3,394.50	3,498.75	1.00	1.80	2.80	3,587.75	2.59
No. 4	6,145.60	9,329.00	6,145.60	6,145.60	1.00	1.52	2.52	6,321.06	2.50
No. 5	4,676.25	5,060.50	4,676.25	4,676.25	1.00	1.08	2.08	4,771.25	2.08
No. 6	4,735.75	6,954.15	4,735.75	4,735.75	1.00	1.47	2.47	4,844.25	2.46
No. 7	7,641.05	9,728.60	7,480.81	7,641.06	1.00	1.30	2.30	8,194.56	2.42
No. 8	5,779.20	10,899.45	5,753.75	5,779.25	1.00	1.89	2.89	5,863.00	2.89
No. 9	6,337.60	10,912.55	6,148.87	6,337.62	1.00	1.77	2.77	6,426.62	2.77
No. 10	4,248.45	7,100.35	4,248.50	4,248.50	1.00	1.67	2.67	4,306.00	2.67
No. 11	4,491.75	5,331.75	4,491.75	4,491.75	1.00	1.19	2.19	4,573.50	2.08
No. 12	1,713.75	2,759.50	1,696.00	1,713.75	1.00	1.63	2.63	1,753.00	2.39
No. 13	1,298.25	3,619.30	1,268.25	1,268.25	1.00	2.85	3.85	1,309.00	3.85
No. 14	355.55	718.20	355.55	355.55	1.00	2.02	3.02	364.05	3.02
No. 15	2,795.95	8,758.25	2,693.18	2,706.93	1.00	3.25	4.25	2,767.93	4.25
No. 16	4,821.20	11,139.05	4,717.25	4,821.25	1.00	2.36	3.36	4,922.25	3.36
No. 17	5,488.35	11,822.10	5,488.31	5,488.31	1.00	2.16	3.16	5,584.06	3.16
No. 18	5,173.20	9,487.40	5,053.56	5,173.31	1.00	1.87	2.87	5,478.06	2.93
No. 19	4,487.25	8,417.95	4,402.75	4,487.25	1.00	1.91	2.91	4,581.75	2.91
No. 20	5,042.50	7,489.60	4,783.25	5,042.50	1.00	1.57	2.57	5,184.00	2.51
No. 21	3,225.25	5,353.85	3,048.75	3,225.25	1.00	1.76	2.76	3,331.25	2.63
No. 22	7,688.25	6,611.65	7,563.75	7,688.25	1.00	.87	1.87	9,108.00	1.87
No. 23	4,854.15	4,764.95	4,854.25	4,854.25	1.00	.98	1.98	5,937.50	1.98
No. 24	4,911.75	7,039.85	4,896.25	4,911.75	1.00	1.44	2.44	5,208.00	2.43
No. 25	4,921.50	9,178.80	4,815.25	4,921.50	1.00	1.91	2.91	5,210.00	2.91
No. 26	4,880.00	8,144.95	4,880.00	4,880.00	1.00	1.67	2.67	4,951.25	2.80
No. 27	6,259.50	9,139.60	6,239.50	6,259.50	1.00	1.46	2.46	6,368.50	2.84
No. 28	7,860.25	11,831.40	7,848.25	7,860.25	1.00	1.51	2.51	7,983.00	2.51
No. 29	4,203.50	6,491.95	4,075.25	4,203.50	1.00	1.59	2.59	4,314.75	2.59
No. 30	5,460.75	11,065.45	5,234.75	5,460.75	1.00	2.11	3.11	5,536.75	3.11
No. 31	3,516.15	6,670.00	3,516.06	3,516.06	1.00	1.90	2.90	3,570.56	2.89
No. 32	3,592.65	6,199.35	3,588.81	3,592.56	1.00	1.73	2.73	3,647.81	2.72
No. 33	4,464.75	8,694.90	4,464.75	4,464.75	1.00	1.95	2.95	4,639.75	2.94
No. 34	4,230.00	6,309.90	4,220.00	4,230.00	1.00	1.69	2.69	4,311.00	2.62
No. 35	5,933.00	11,608.45	5,933.00	5,933.00	1.00	1.94	2.94	6,103.50	2.94
No. 36	7,551.55	12,370.55	7,497.62	7,551.62	1.00	1.65	2.65	8,360.12	2.65
No. 37	5,031.00	5,119.05	5,003.93	5,030.93	1.00	1.02	2.02	5,773.68	1.93
No. 38	4,113.80	6,253.90	4,058.81	4,113.81	1.00	1.54	2.54	4,656.75	2.42
No. 39	4,290.45	5,011.40	4,282.45	4,290.43	1.00	1.17	2.17	4,818.00	2.06
No. 40	3,517.35	4,497.75	3,504.37	3,517.37	1.00	1.28	2.28	4,095.25	2.17
No. 41	6,777.30	7,649.15	6,761.18	6,777.18	1.00	1.13	2.13	7,608.93	2.03
Total:									
1929 crop	198,486.80	311,942.05	196,418.34	198,486.84	1.00	1.59	2.59	209,198.84	2.55
1928 crop	186,623.10	372,558.10	183,532.80	186,623.80	1.00	2.03	3.03	192,631.05	3.00
1927 crop	202,206.20	313,535.25	197,511.99	202,210.60	1.00	1.59	2.59	208,080.60	2.55
1926 crop	184,984.55	255,462.10	172,846.97	184,991.43	1.00	1.47	2.47	190,005.75	2.45
1925 crop	194,650.90	242,497.95	173,097.18	194,648.74	1.00	1.39	2.39		

Labor Turnover, 1929

Table 21 shows the number of adult males, adult females, minors, and the total of these three classes of employees on the pay rolls of 41 sugar plantations in each month in 1929, and the average per month for the year. It also shows the turnover rate per month and for the year of accessions and of separations (the per cent that the number added to the pay rolls in each month was of the number on the pay rolls in the month, and also the per cent that the number dropped from the pay rolls in each month was of the number on the rolls in the month).

In January, 1929, there were 46,985 adult males on the pay rolls of these plantations. In the month 1,947, or 4.14 per cent, were added

to the rolls and 1,088, or 2.32 per cent, were dropped from the rolls. There were 1,426 adult females on the rolls in the month and 176, or 12.34 per cent, were added and 67, or 4.7 per cent, were dropped from the rolls. There were 445 minors on the rolls in the month and 61, or 13.71 per cent, were added and 46, or 10.34 per cent, were dropped from the rolls in the month. The accessions in the month of men, women, and minors together were 4.47 per cent of the 48,856 on the rolls and the separations were 2.46 per cent.

The accessions of adult males in 1929 were 31.58 per cent of the average number on the rolls in the year; of adult females, 73.35 per cent; of minors, 111.67 per cent; of all three classes combined, 33.55 per cent. The separations of adult males were 33.13 per cent of the average number of the men; of adult females, 78.65 per cent of the women; of the minors, 171.37 per cent of the minors; and of men, women, and minors together were 35.76 per cent of the average for all three classes combined.

TABLE 21.—Labor turnover on sugar plantations, 1929, by sex and months

Month	Adult males			Adult females			Minors			Total		
	Number	Turnover rate		Number	Turnover rate		Number	Turnover rate		Number	Turnover rate	
		Ac- ces- sion	Sepa- ration		Ac- ces- sion	Sepa- ration		Ac- ces- sion	Sepa- ration		Ac- ces- sion	Sepa- ration
January.....	46,985	4.14	2.32	1,426	12.34	4.70	445	13.71	10.34	48,856	4.47	2.46
February.....	47,123	2.76	2.21	1,499	7.27	3.34	446	4.71	4.48	49,068	2.92	2.27
March.....	47,219	2.48	2.22	1,513	6.15	4.43	447	17.45	11.63	49,179	2.73	2.38
April.....	47,392	3.05	2.59	1,492	5.23	5.09	405	5.43	16.79	49,289	3.13	2.78
May.....	47,300	2.43	2.79	1,474	3.53	4.27	368	4.62	5.98	49,142	2.48	2.56
June.....	47,000	2.49	2.89	1,569	9.24	3.57	458	21.83	4.37	49,027	2.89	2.92
July.....	46,490	2.10	3.12	1,517	5.41	6.33	618	4.69	3.88	48,625	2.24	3.23
August.....	46,017	1.76	2.84	1,452	3.10	3.06	476	5.88	6.93	47,945	1.84	3.04
September.....	45,106	1.60	3.55	1,280	3.05	14.92	476	7.56	80.25	46,862	1.70	4.64
October.....	44,572	2.15	3.26	1,201	3.41	10.66	408	2.70	17.40	46,181	2.18	3.58
November.....	44,071	2.24	3.15	1,150	4.96	8.43	421	7.36	6.65	45,642	2.35	3.31
December.....	45,072	4.32	2.27	1,180	9.07	7.63	478	15.27	2.51	46,730	4.56	2.41
1929.....	146,196	31.58	33.13	1,396	73.35	78.65	1454	111.67	171.37	148,046	33.55	35.76

¹ Average for year.

Table 22 shows for each month in 1929 the number of men, women, boys, and the total number of all employees on a representative sugar plantation in the Hawaiian Islands and also the averages per month for the year; the number of days the plantation was in operation; the aggregate and average days worked; and the per cent that the average days worked were of the days the plantation was in operation.

In January there were 2,982 men, 177 women, and 23 boys, or a total of 3,182 employees on the plantation. The plantation was in operation 26 days in the month. The men worked an average of 23.3 days in the month, or 89.6 per cent of the 26 days the plantation was in operation. The women worked an average of only 16 days in the month, or 61.5 per cent of the 26 days of operation. The boys worked an average of 22.7 days in the month, or 87.3 per cent of the 26 days of operation. The 3,182 men, women, and boys together worked a total of 72,749.8 days in the month, or an average of 22.9 days, or

88.1 per cent of the 26 days of operation. In the month the men worked an average of 2.7 days less than full time, the women an average of 10 days, the boys an average of 3.3 days, and all together worked an average of 3.1 days less than the 26 days of operation. The difference between the days the plantation was in operation and the average days worked in the month was due to various causes, such as sickness or other disability, voluntary absence, entering service anywhere from 1 to 25 days after the plantation had been in operation, or leaving service one or more days before the end of the month.

TABLE 22.—Number of employees, days of operation, and days worked each month for a representative sugar plantation, 1929

Month	Number of employees				Aggregate days worked in month by—			
	Men	Wom- en	Boys	Total	Men	Women	Boys	Total
January.....	2,982	177	23	3,182	69,403.5	2,824.8	521.5	72,749.8
February.....	3,010	172	24	3,206	62,337.8	2,577.0	491.5	65,406.3
March.....	3,132	163	27	3,322	69,322.0	2,874.0	510.5	72,706.5
April.....	3,069	165	30	3,264	72,458.3	2,806.5	561.5	75,826.3
May.....	3,073	159	27	3,259	76,569.5	2,957.0	592.0	80,118.5
June.....	3,020	153	97	3,270	70,192.0	2,673.8	1,403.8	74,269.6
July.....	2,911	181	82	3,174	66,106.0	2,730.5	1,453.0	70,289.5
August.....	2,766	145	62	2,973	65,894.3	2,783.0	1,378.0	70,055.3
September.....	2,689	139	30	2,858	56,424.0	2,381.0	566.3	59,371.3
October.....	2,712	131	29	2,872	62,458.0	2,385.8	660.0	65,503.8
November.....	2,722	125	30	2,877	51,082.8	1,731.5	494.8	53,309.1
December.....	2,917	136	34	3,087	57,881.8	1,817.8	605.3	60,304.9
Average per month.....	2,919	154	41	3,115	65,010.8	2,545.2	769.9	68,325.9

Month	Average days worked in month by—				Planta- tion days of opera- tion	Per cent average days worked in month are of plantation days of operation			
	Men	Wom- en	Boys	Total		Men	Wom- en	Boys	Total
January.....	23.3	16.0	22.7	22.9	26	89.6	61.5	87.3	88.1
February.....	20.7	15.0	20.5	20.4	24	86.3	62.5	85.4	85.0
March.....	22.1	17.6	18.9	21.9	25	88.4	70.4	75.6	87.6
April.....	23.4	17.0	18.7	23.0	26	90.0	65.4	71.9	88.5
May.....	24.9	18.6	21.9	24.6	27	92.2	68.9	81.1	91.1
June.....	23.2	17.5	14.5	22.7	25	92.8	70.0	58.0	90.8
July.....	22.7	15.1	17.7	22.1	26	87.3	58.1	68.1	85.0
August.....	23.8	19.2	22.2	23.6	27	88.1	71.1	82.2	87.4
September.....	21.0	17.1	18.9	20.8	23	91.3	74.3	82.2	90.4
October.....	23.0	18.2	22.8	22.8	27	85.2	67.4	84.4	84.4
November.....	18.8	13.9	16.5	18.5	24	78.3	57.9	68.8	77.1
December.....	19.8	13.4	17.8	19.5	25	79.2	53.6	71.2	78.0
Average per month.....	22.3	16.5	18.7	21.9	25.4	87.8	65.0	73.6	86.2

Employees, Days of Operation and Days Worked, and Earnings, 1929

In May, 1929, the 41 sugar plantations of the Hawaiian Sugar Planters' Association had a total of 52,426 employees, including 49,890 adult males, 1,636 adult females, 352 male minors, 19 female minors, and 529 school minors⁷ whose sex was not reported. These plantations include all on the Hawaiian Islands of importance in number of employees and in number of tons of sugar produced.

⁷ School children who work intermittently.

The days worked and earnings in May, 1929, were available for 49,671 employees who were *not* on a monthly basis, including 47,300 adult males, 1,474 adult females, 349 male minors, 19 female minors, and 529 school minors whose sex was not reported. Similar data were also available for employees *not* on a monthly basis in each month in 1929, data for whom are included in this report.

The days worked in May for 2,755 employees who were on a monthly basis (paid monthly rates or salaries) were not of record and available. These employees include 2,590 adult males, 162 adult females and 3 male minors, and include plantation officials, office force of clerks, bookkeepers, storekeepers, foremen, etc. Data for them are *not* included in this report.

Table 23 presents figures for May, 1929, in comparison with those for the entire year, for each of the 41 plantations included in this report—for 18 plantations on the island of Hawaii, 6 on Maui, 8 on Oahu, and 9 on Kauai—for the total of those given for each island, and also for the 41 plantations on all four islands combined.

This table shows: (1) The number of employees that were on the pay rolls in May and the average number per month in 1929; (2) the number of days the plantations were in operation in May and in 1929; (3) the total number of days that were worked by employees in May and in 1929; (4) the average number of days per month that the plantations were in operation in 1929; (5) the average number of days that employees worked per month in May and in 1929; (6) the per cent that the days worked by employees in May and in 1929 were of the days that the plantations were in operation in May and in 1929; (7) the average amount, including bonus, that was earned per day and per month per employee in May and in 1929; (8) the amount that was paid to employees in May and in 1929 as a bonus for working 23 or more days per month; (9) the per cent that the bonus was of the earnings at basic rates in May and in 1929.

Plantation No. 1 on the island of Hawaii had a total of 1,218 employees, "not on a monthly basis," on its pay rolls in May, 1929, and an average of 1,262 employees per month in 1929. The plantation was in operation 27 days in May and 309 days in 1929. This and all other plantations were on a 6-day week basis. The 1,218 on the rolls in May worked a total of 25,786 days, or an average of 21.2 days in the month. This average was 78.52 per cent of the 27 (full-time) days that the plantation was in operation in the month. The employees on the plantation in 1929 worked a total of 305,943 days. Based on the average of 1,262 employees per month and the days worked by employees in the year, an average of 20.2 days per month was worked in 1929. The plantation was in operation 309 days in 1929 or an average of 25.8 days per month. The average of 20.2 days per month worked by employees was 78.29 per cent of the average of 25.8 (full-time) days per month that the plantation was in operation in 1929.

Average earnings as given in this table include the earnings of employees at basic rates, and also a bonus of 10 per cent of such earnings which was paid monthly to each employee who worked 23 or more days in the month. In May the bonus amounted to \$2,838 or 8.37 per cent of the amount earned by the 1,218 employees at basic rates. In 1929 the bonus amounted to \$32,784 or 8.07 per cent of the amount

earned by all employees on the pay rolls of this plantation in that year. Including the bonus, average earnings on the plantation were \$1.42 per day in May and \$1.44 per day in 1929 and \$30.16 per month in May and \$29 per month in 1929.

The 49,671 employees on the pay rolls on the 41 plantations in May earned, including the bonus, an average of \$1.82 per day and \$43.31 per month. Averages in 1929 were \$1.66 per day and \$36.24 per month. Average earnings ranged by plantations from \$1.33 to \$2.78 per day in May and from \$1.14 to \$2.16 per day in 1929; also from \$29.24 to \$67.84 per month in May and from \$22.58 to \$46.75 in 1929. In May the bonus amounted to \$149,573 or 7.47 per cent of the earnings at basic rates. The amount paid as bonus in 1929 was \$1,452,499 or 7.24 per cent of the earnings in the year at basic rates.

The earnings per day and per month as shown in Table 23 do not include the rental value of the clean, sanitary, and comfortable homes, each of three or four rooms, nor the value of fuel, water, medical and hospital service for sickness or accidental injury of any kind furnished by the plantations to all employees and families. (See Table 14 for number of houses owned and furnished to employees without rental charge; see also fig. 16.) An official of the Hawaiian Sugar Planters' Association estimated that the cost per month to the plantations per home for families was \$20; of fuel and water, \$4; of medical and hospital service, \$4; or a total of \$28 per month. Single employees were also housed—some three, four, or five to a house, in houses like those furnished to families and others in boarding houses. Medical and hospital service were also furnished to single employees at an estimated cost to the plantations of \$2 per month per person.

The rate for overtime on all plantations was the same as for regular working time, and the rate for Sunday and holidays for day laborers was one and one-half times their regular rate.

TABLE 23.—Number of employees, days of operation, and days worked, average earnings, and attendance bonus, on sugar plantations, May, 1929, and year 1929

[Data for 2,755 employees who were paid monthly rates not included]

Island and plantation	Number of employees		Number of days plantation was in operation		Number of days worked by employees		Average days per month plantation was in operation, 1929	Average days worked by employees per month		Per cent average days worked per month were of average days of operation		Average earnings per day including bonus		Average earnings per month including bonus		Attendance bonus		Per cent bonus was of earnings at basic rates			
	May, 1929	Average per month in 1929	May, 1929	1929	May, 1929	1929		May, 1929	1929	May, 1929	1929	May, 1929	1929	May, 1929	1929	May, 1929	1929	May, 1929	1929	May, 1929	1929
HAWAII																					
No. 1	1,218	1,262	27.0	309.0	25,786	305,943	25.8	21.2	20.2	78.52	78.29	\$1.42	\$1.44	\$30.16	\$29.00	\$2,838	\$32,784	8.37	8.07		
No. 2	594	601	27.0	300.5	14,211	154,782	25.0	23.9	21.5	88.52	86.00	1.53	1.42	36.72	30.52	1,839	17,901	9.21	8.85		
No. 3	1,016	1,046	27.0	300.0	22,644	254,990	25.0	22.3	20.3	82.59	81.20	1.61	1.50	35.88	30.48	2,921	28,255	8.71	7.97		
No. 4	945	948	27.0	301.0	21,958	233,094	25.1	23.2	20.5	85.93	81.67	1.51	1.44	35.11	29.44	2,701	25,140	8.86	8.12		
No. 5	1,575	1,634	27.0	302.0	36,483	423,589	25.2	23.2	21.6	85.93	85.71	1.67	1.63	38.57	35.30	4,685	49,522	8.36	7.71		
No. 6	747	734	27.0	294.0	17,664	186,801	24.5	23.6	21.2	87.41	86.53	1.48	1.40	35.08	29.78	2,194	20,993	9.14	8.70		
No. 7	603	594	27.0	292.0	15,018	160,824	24.3	24.9	22.6	92.22	93.00	1.72	1.63	42.75	36.87	1,983	19,623	8.33	8.07		
No. 8	1,520	1,487	27.0	307.0	34,046	375,627	25.6	22.4	21.1	82.96	82.42	1.43	1.35	32.14	28.35	3,794	38,398	8.42	8.21		
No. 9	884	917	27.0	306.0	19,298	218,183	25.5	21.8	19.8	80.74	77.65	1.34	1.14	29.24	22.58	966	9,820	3.88	4.12		
No. 10	947	924	27.0	301.0	22,709	241,321	25.1	24.0	21.8	88.89	86.85	1.58	1.50	37.97	32.69	2,825	26,923	8.53	8.02		
No. 11	668	664	27.0	301.0	15,878	173,393	25.1	23.8	21.8	88.15	86.85	1.74	1.61	41.30	35.01	1,974	20,273	7.71	7.84		
No. 12	891	863	27.0	308.0	20,135	214,202	25.7	22.6	20.7	83.70	80.54	1.65	1.49	37.27	30.89	2,246	22,257	7.25	7.48		
No. 13	671	626	27.0	274.0	16,260	160,002	22.8	24.2	21.3	89.63	93.42	1.58	1.56	38.17	33.32	1,978	18,471	8.37	7.97		
No. 14	679	715	27.0	299.0	15,946	182,050	24.9	23.5	21.2	87.04	85.14	1.58	1.52	37.05	32.15	1,985	21,089	8.57	8.28		
No. 15	303	301	27.0	308.0	6,444	74,406	25.7	21.3	20.6	78.89	80.16	1.41	1.40	29.96	28.94	718	7,841	8.59	8.11		
No. 16	431	417	27.0	298.0	9,932	106,162	24.8	23.0	21.2	85.19	85.48	1.66	1.57	38.26	33.22	1,287	12,908	8.46	8.42		
No. 17	867	872	27.0	308.0	20,237	226,920	25.7	23.3	21.7	86.30	84.44	1.61	1.50	37.65	32.59	2,376	23,202	7.85	7.80		
No. 18	2,482	2,545	27.0	307.0	64,807	629,191	25.6	22.1	20.6	81.85	80.47	1.70	1.61	37.46	33.17	7,542	81,397	8.58	8.74		
Total	17,041	17,150	27.0	300.9	389,456	4,321,480	25.1	22.9	21.0	84.81	83.67	1.58	1.50	36.05	31.39	46,852	476,795	8.26	7.97		
MAUI																					
No. 19	197	211	27.0	308.0	4,912	57,419	25.7	24.9	22.7	92.22	88.33	1.33	1.56	33.11	35.40	499	5,745	8.29	6.85		
No. 20	3,577	3,558	27.0	306.0	87,379	968,242	25.5	24.4	22.7	90.37	89.02	2.04	1.80	49.74	40.75	11,077	103,359	6.64	6.32		
No. 21	536	537	27.0	308.0	12,332	138,402	25.7	23.0	21.5	85.19	83.66	1.45	1.43	33.40	30.76	1,336	14,278	8.07	7.76		
No. 22	2,339	2,306	27.0	305.0	54,584	608,256	25.4	23.3	22.0	86.30	86.61	2.15	1.88	50.13	41.30	7,550	71,475	6.88	6.67		
No. 23	1,271	1,274	26.0	304.0	28,687	322,406	25.3	22.6	21.1	86.92	83.40	1.86	1.73	42.06	36.50	3,408	36,247	6.81	6.95		
No. 24	2,441	2,398	27.0	302.0	66,570	603,705	25.2	23.2	21.0	85.93	83.23	2.26	2.02	52.26	42.33	7,711	66,488	6.43	5.77		
Total	10,361	10,284	26.8	305.5	244,464	2,698,430	25.5	23.6	21.9	88.06	85.88	2.05	1.83	48.32	40.09	31,581	297,592	6.73	6.40		

TABLE 23.—Number of employees, days of operation, and days worked, average earnings, and attendance bonus, on sugar plantations, May, 1929, and year 1929—Continued

Island and plantation	Number of employees		Number of days plantation was in operation		Number of days worked by employees		Average days per month plantation was in operation, 1929	Average days worked by employees per month		Per cent average days worked per month were of average days of operation		Average earnings per day including bonus		Average earnings per month including bonus		Attendance bonus		Per cent bonus was of earnings at basic rates	
	May, 1929	Average Per month in 1929	May, 1929	1929	May, 1929	1929		May, 1929	1929	May, 1929	1929	May, 1929	1929	May, 1929	1929	May, 1929	1929	May, 1929	1929
OAHU																			
No. 25.....	836	870	27.0	302.0	20,940	237,538	25.2	25.0	22.8	92.59	90.48	\$1.99	\$1.67	\$49.85	\$38.01	\$2,749	\$28,800	7.06	7.83
No. 26.....	481	508	27.0	303.0	11,472	131,006	25.3	23.9	21.5	88.52	84.98	2.39	1.62	56.98	34.89	1,373	13,749	5.27	6.91
No. 27.....	3,054	2,910	27.0	305.0	74,658	756,886	25.4	24.1	21.7	90.37	85.43	2.78	2.16	67.84	46.75	11,975	101,995	6.13	6.66
No. 28.....	404	463	26.0	302.0	10,260	120,026	25.2	22.4	21.5	85.00	85.32	1.41	1.36	31.07	29.30	1,267	14,758	9.63	9.92
No. 29.....	545	532	27.0	307.0	13,353	148,372	25.6	24.5	23.2	90.74	90.63	1.53	1.56	37.53	36.27	1,641	17,131	8.72	7.99
No. 30.....	2,032	1,991	27.0	298.5	51,297	515,870	24.9	24.6	21.6	91.11	86.75	2.38	2.09	58.54	45.14	8,322	67,618	7.33	6.69
No. 31.....	2,070	2,028	27.0	303.0	52,768	551,707	25.3	25.5	22.7	94.44	89.72	2.14	1.88	54.65	42.69	7,923	70,073	7.53	7.23
No. 32.....	1,797	1,818	26.0	303.0	42,239	490,208	25.3	23.5	22.5	90.38	88.93	1.92	1.80	45.05	40.41	4,002	43,451	5.20	5.18
Total.....	11,329	11,122	26.8	302.9	276,987	2,951,613	25.2	24.4	22.1	91.04	87.70	2.26	1.91	55.35	42.23	39,252	357,575	6.68	6.77
KAUAI																			
No. 33.....	132	145	27.0	307.0	3,421	40,076	25.6	25.9	23.0	95.93	89.84	1.72	1.51	44.70	34.86	469	4,470	8.63	7.95
No. 34.....	1,743	1,699	26.0	307.0	42,906	473,027	25.6	24.6	23.6	94.62	92.10	1.64	1.51	40.41	35.60	5,808	57,248	8.99	8.73
No. 35.....	492	526	27.0	306.0	10,497	130,301	25.5	21.3	20.6	78.89	80.78	1.46	1.48	31.13	30.60	1,136	13,276	8.01	7.38
No. 36.....	1,929	1,859	27.0	307.0	45,004	516,160	25.6	24.9	23.1	92.22	90.23	1.41	1.37	35.12	31.65	4,984	47,569	7.94	7.22
No. 37.....	1,523	1,516	27.0	310.0	36,065	409,473	25.8	23.7	22.5	87.78	87.21	1.87	1.81	44.20	40.66	4,528	45,386	7.21	6.54
No. 38.....	1,794	1,831	27.0	307.0	45,479	517,525	25.6	25.4	23.6	94.07	92.19	1.43	1.46	36.37	34.40	5,315	54,284	8.87	7.74
No. 39.....	895	913	27.0	300.0	21,411	246,140	25.6	23.9	22.5	88.52	87.89	1.48	1.44	35.43	32.36	2,490	25,802	8.52	7.85
No. 40.....	1,987	2,028	27.0	300.0	48,302	534,855	25.0	24.3	22.0	90.00	88.00	1.46	1.47	35.42	32.29	5,893	58,193	9.14	8.00
No. 41.....	445	455	27.0	305.0	10,354	125,640	25.4	24.4	23.0	90.37	90.55	1.40	1.40	34.26	32.25	1,285	14,309	9.05	8.85
Total.....	10,940	10,942	26.9	306.2	266,939	2,993,197	25.5	24.4	22.8	90.71	89.41	1.53	1.50	37.41	34.15	31,888	320,537	8.45	7.70
Grand total.....	49,671	49,498	26.9	303.1	1,177,846	12,964,720	25.3	23.7	21.8	88.10	86.17	1.82	1.66	43.31	36.24	149,573	1,452,499	7.47	7.24

Average Daily Earnings, 1929, by Kinds of Work

Average earnings per day in 1929, including the attendance bonus, are presented in Table 24 for the various kinds of work, for adult males, adult females, and minors, and also for all employees combined on 41 sugar plantations in the Hawaiian Islands. The bonus amounted to about $7\frac{1}{4}$ per cent of the earnings at basic rates.

The employees on sugar plantations are of three classes—short-term contractors, long-term contractors, and day laborers.

Short-term contractors may work at one or more of the 10 different kinds of work listed in the table under this classification. The contracts are for short periods and apply to "planting cane," "fertilizing," "irrigating," "cutting," or "loading," etc., on one or more fields at a contract price per acre, per ton, etc.

Long-term contractors cultivate cane during the entire growing period of many months. They are paid for the number of tons of cane produced at a specified contract rate per ton.

Day laborers, as the term implies, are time workers. They are paid for the number of units of time (days) worked at any one or more of the five different kinds of work listed in the table under "Day laborers."

The average earnings of short-time contractors doing the work of planting cane on the plantations in 1929 were \$1.40 per day for adult males, \$1.16 for adult females, 92 cents for minors, and \$1.38 per day for men, women, and minors combined.

The average earnings of the males doing the different kinds of short-term contract work ranged from \$1.40 per day for planting cane to \$2.93 per day for "portable track" contract work. Portable tracks are temporary railway lines used in hauling cane from the fields to permanent tracks leading to the sugar mills. The portable tracks are moved from field to field and reconstructed for use as needed.

The average earnings of those doing all short-term contract work was \$1.85 per day for adult males, \$1.43 for adult females, \$1.06 for minors, and \$1.83 per day for all employees.

The average earnings of long-term contractors were \$2.07 per day for adult males, \$1.55 for adult females, 85 cents for minors, and \$2.05 per day for all employees.

The average earnings of day laborers ranged by kinds of work, from \$1.08 to \$3.53 per day for adult males; from 68 cents to \$2.87 per day for adult females; from 61 cents to \$2.33 per day for minors; and from 90 cents to \$3.53 per day for all day laborers.

The above rates do not include the rental value of homes, nor the value of fuel, water, medical and hospital services furnished by the plantations without cost to the employees.

TABLE 24.—Average earnings per day, including bonus, of men, women, and minors on 41 sugar plantations, 1929, by kind of work

Kind of work	Adult males	Adult females	Minors	Total
Short-term contracts:				
Planting cane.....	\$1.40	\$1.16	\$0.92	\$1.38
Fertilizing.....	1.71	1.25	1.12	1.66
Irrigating.....	1.43	1.22	1.09	1.42
Cutting cane.....	1.73	1.27	1.12	1.73
Loading cane.....	2.11	1.68	1.23	2.09
Hauling or fluming cane.....	2.09	1.36	1.12	2.06
Cultivating (short term).....	1.40	1.12	.97	1.38
Construction work.....	2.62	1.40	1.52	2.62
Other contracts.....	1.93	1.31	1.31	1.89
Portable track.....	2.93	2.14	1.76	2.90
Total, short-term contractors.....	1.85	1.43	1.06	1.83
Long-term contractors.....				
	2.07	1.55	.85	2.05
Day laborers:				
Day laborers, field hands.....	1.10	.83	.70	1.05
Basic-rate day laborers, other.....	1.08	.68	.61	.90
Other unskilled.....	1.37	.79	.97	1.36
Semiskilled.....	1.89	.86	1.66	1.89
Skilled.....	3.53	2.87	2.33	3.53
Total, day laborers.....	1.51	.88	.75	1.46
Grand total.....	1.68	1.19	.79	1.66

Regular Full-Time Hours, 1929, per Day and Week

The regular hours of operation per day and per week in 1929, as established by a regular time of beginning and of quitting work on each day per week, less the regular time off duty for the midday dinner or lunch, were obtained for each of the several kinds of work on the sugar plantations in the Hawaiian Islands, and such hours per day and week are shown in Table 25.

The regular full-time hours per day ranged from 5½ for the employees on one plantation who were engaged in loading cane to 12 for the employees on 4 plantations who were employed at hauling or fluming cane, and also for the sugar-mill workers on 23 plantations. The 10-hour day was more frequent than any other, the next in order being the 9-hour day.

Regular full-time hours per week ranged from 33 for the employees on one plantation who did the work of loading cane to 72 per week for employees on 3 plantations who worked at hauling or fluming cane, and also for the sugar-mill workers on 19 plantations. On many plantations the hours per day were less on one of the 6 days per week than on the other 5.

TABLE 25.—Number of sugar plantations having specified full-time hours per day and per week, by kinds of work

Full-time hours	Number of plantations having each specified full-time hours for—											
	Planting cane	Fertilizing	Irrigating	Cultivating		Cutting cane	Loading cane	Hauling or fluming cane	Construction work	Portable track	Sugar mill	Other work
				Long-term contracts	Short-term contracts							
Per day:												
5½							1					
6		1										
6½		1										
7		1					4	1				
7¼							1					
7½							1					
7¾							1	1				
8	2	7		1	4	8	11	1	3	3		1
8¼	1	2		1	1	1	1	1		1		
8½	4	3		2	5	5	4	4	3	5		3
8¾	1	1		1	1	2	2	2		2		1
9	14	11	4	6	8	16	8	5	5	9		9
9¼	2	1			1	1		1	1	1		2
9½					1	1		1	2			
9¾	1	1	1	1	1	1	1	1	1			1
10	14	8	14	16	8	4	4	11	17	5	5	19
10¼	1	1	1	2								
10½											1	1
11								1			6	
11¼											2	
12								4			23	
Total	40	39	22	28	30	39	38	32	32	26	37	37
Per week:												
33							1					
35							1	1				
36		1										
39		1										
41							1					
42		1					2					
43½							1					
45		1					1					
46½							2	1				
47							1					
47½						1	1		1	1		
48	2	7		1	4	7	8	1	2	2		1
49¼	1	2		1	1	2		2	1	2		
50	2	1		1	2							1
50½				1	1	1	1	1	1	1		
51	2	2		1	2	3	3	2	1	3		2
52		1		1	1	1	1		1	1		1
52½	2	1		1	1	2	2	1		1		
53	4	3	1	1	1	4	1		2	3		2
53½	2	1		2	2	3	1		2	2		1
54	7	6	2	4	4	8	5	2	2	4		6
55½	2	1	2		1	1		1	1	1		2
56									1			
56½			1						1			
57					1	1		1				
58				1					1			
58½	1	1		1	1	1	1	1	1			1
59	5	4	6	6	3	1	1	3	4	1	2	5
59½	1	1	2	2	1	1	1		1			3
60	8	3	6	8	4	3	3	9	12	4	5	11
61	1	1										
61½				1								
62											1	1
65								1				
65¼											1	
65½											1	
66											3	
67½											1	
70											1	
70½											1	
70¾			1	1							1	
71											1	
71¼											1	
72								3			19	
Total	40	39	22	28	30	39	38	32	32	26	37	370

¹ Mostly women on 1 plantation.

Pineapple Industry

In number of wage earners, in amount paid as wages, and in value of products, the pineapple industry in the Hawaiian Islands is second to the sugar industry and includes both the growing and the canning of pineapples.

Pineapples were introduced and cultivated in the islands to a rather limited extent during the period from 1886 to 1900, but canning did not begin until 1901 when about 2,000 cases of 24 cans each were canned and placed on the market. The Smooth Cayenne variety is generally grown, because those engaged in the industry consider it superior in flavor and less fibrous than others. The number of cases increased from year to year to approximately 50,000 in 1905; to 625,000 in 1910; to 1,700,000 in 1913, the year before the beginning of the World War; and to more than 9,000,000 cases in 1929, thus showing the rapid growth and the present importance of the industry.

In a folder published by one of the companies engaged in the growing and canning of pineapples, it is stated that "Hawaii is the pineapple's paradise, for here it thrives best and attains that sweetness and lusciousness of flavor not present in pineapples grown in other lands." After one has visited plantations on the islands and eaten the ripe fruit immediately after it has been picked, one is not inclined to question the accuracy of this statement.

Pineapple Plantations

Description of Work and Definition of Occupations

Pineapple plantations in the islands have an estimated area, as stated by the Governor of Hawaii in his report for the fiscal year ending June 30, 1929, of 88,000 acres, or 137½ square miles, with 49,356 acres in actual cultivation in that year. The estimated area is conservative. Plantations are divided into plots of land called "fields." After cultivation and picking of two or three crops each field is left uncultivated for a time to rest and recuperate.

The growing of pineapples is highly developed, with production in some fields of as much as 36 tons of fruit per acre. The plantations, as well as the canneries, are equipped with modern labor-saving machinery, a great deal of which is automatic and of a highly specialized type, particularly in the canneries.

Various types of tractors are used in clearing the land of cactus and stone, and in plowing (fig. 17), subsoiling, and harrowing. In this report the employees who operate the tractors are classified as "tractor drivers," and those helping them are classified as "tractor drivers' helpers."

After being plowed and harrowed fields are laid out in parallel rows from 4 to 6 feet in width. After the rows are given the necessary application of fertilizer they are generally covered with an asphalt-treated mulch paper three feet in width (fig. 18). The paper is used to prevent the growth of weeds near the plants, to hold moisture, attract heat, and thus make available all the fertilizer and productive soil in the rows for the development and growth of the fruit producing plants.

The ground is now ready for planting. Holes are made through the paper and to the proper depth in the soil, equal distances apart. A



FIGURE 17.—PLOWING



FIGURE 18.—LAYING MULCH PAPER

M.P.CO 23



FIGURE 19.—PLANTING THROUGH PAPER



FIGURE 20.—STARTING OF A PINEAPPLE PLANTATION

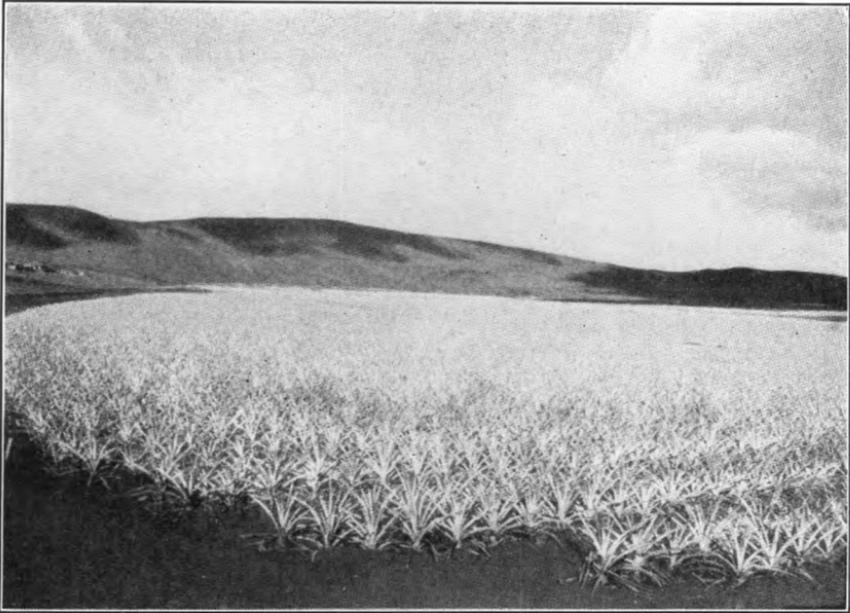


FIGURE 21.—TWELVE MONTHS AFTER PLANTING



H. P. Co
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FIGURE 22.—SPRAYING WITH IRON SULPHATE



FIGURE 23.—FIELD OF RIPE PINEAPPLES



FIGURE 24.—HARVESTING AND CRATING THE PINEAPPLES



FIGURE 25.—CUTTING OFF CROWNS



FIGURE 26.—TRAINLOAD TO CANNERY

certain part of a ripe pineapple ("crown") or of the pineapple plant ("slip" or "sucker") is then placed in each hole and firmly set in the ground (fig. 19). The "crown" is the top of the fruit; the "slip" is the part of the plant which grows in clusters at the base of the stalk supporting the fruit, and the "sucker" sprouts through the leaves of the plant. The crowns, slips, and suckers used in planting are carefully selected and gathered from healthy and productive plants (figs. 20 and 21).

The following employees usually change from one kind of work to another as needed and are generally called "field hands" or "laborers": Employees who apply the fertilizer to the rows; cover the rows with mulch paper; set the pineapple crowns or parts of plants in the ground; hoe, weed, and cultivate the ground between the strips or rows of paper during the growing season; pick the ripe fruit from the plants; cut the crowns from the fruit; sort the fruit into three grades according to size in diameter; fill empty boxes with fruit; load trucks and trailers attached to the trucks with boxes of fruit for delivery to canneries or to barges for transfer from one harbor to another and finally to the canneries; and trim crowns, slips and suckers used in planting for the growing of pineapples. In this report they are classified as "laborers, field, men"; "laborers, field, women"; "laborers, field, minors, male"; and "laborers, field, minors, female." On some plantations the work of trimming crowns, slips, and suckers is frequently done by women. Other plantation occupations for which hours and earnings are shown in the report are lunas (foremen), truck drivers, truck driver's helpers, and teamsters.

"Luna" is the usual occupational term applied to a plantation employee who is in charge of a small group of employees. Such an employee may or may not work along with the others in the group in addition to supervising the work. On some plantations or in different departments on the same plantation he may be called foreman, field luna, overseer, station luna, or team luna.

"Truck drivers" operate auto trucks used in the construction and maintenance of roads on the plantations, in the delivery of supplies to the plantations and of pineapples to railroad cars or boats for transportation to canneries, in delivery of fruit directly to canneries, and in other plantation work.

"Truck drivers' helpers" assist truck drivers.

"Teamsters" drive horses or mules hitched to vehicles used in light hauling on the plantation.

During the growing of the pineapple plants, machine sprayers apply a tonic of iron sulphate to the plants when and as needed (fig. 22). The employees who operate the machine sprayers were included in the group designated in the report as "other employees" because they were too few in number to warrant tabulation as a separate occupation and because they do other field work when not spraying plants (figs. 23 to 26).

When the boxes are filled with fruit only a single grade is placed in a box. Each empty box weighs about 13 pounds and each one filled with fruit weights approximately 75 pounds.

Each plantation has a well-equipped shop for the repair of tractors, trucks, and other machinery, and also employees to repair plantation buildings of various kinds, including the houses owned by the plantation and occupied by employees and families without rental charge,

stores, etc. (figs. 27 and 28). The occupations of the shop for which figures are shown separately are blacksmiths, blacksmiths' helpers, carpenters, carpenters' helpers, painters, plumbers, plumbers' helpers, and repairers (auto mechanics). Employees in other occupations in the shop too few in number to warrant tabulation as a separate occupation are included in a miscellaneous group designated as "other employees" in the report.

Hours and Earnings, 1929

The average number of days on which employees worked in a pay period of one month in 1929, the average full-time hours per week and month and the average hours that were actually worked in the pay period, the per cent that the hours actually worked were of the average full-time hours, the average earnings per hour, the average full-time earnings per week and in the pay period, and the average actual earnings in the pay period are presented in Table 26 for the employees in each of the important occupations on pineapple plantations on the islands of Maui and of Oahu, and on both islands combined. Like figure are also shown for a miscellaneous group of "other employees." This group includes a considerable number of employees in other occupations, each too few in number of employees to warrant separate tabulation as an occupation.

The averages in the table are for 3,316 males and 161 females on 4 of the largest plantations—2 on the Island of Maui and 2 on Oahu—and are shown separately so that comparison may be made, one island with the other.

The regular full-time hours per week in 1929 of employees in each occupation on each plantation, except those included in the group of "other employees," were 10 per day or 60 per week. The hours of a small number of "other employees" on one or two plantations were more than 10 per day and 60 per week. These employees were too few in number to affect materially the average full-time hours per week of any plantation as a whole, or the average hours of all employees included in this study. The averages for the 28 "other employees, male," on the island of Maui were 61.4; for the 134 "other employees, male," on Maui and Oahu combined were 60.3; for males and also for all males and females combined on Maui were 60.1 per week.

The 2,289 "laborers, field, adult males," the most important occupation on the plantations in number of employees, worked an average of 16.6 days and 160.7 hours in one month and earned an average of \$31.51 in the month and an average of 19.6 cents per hour. Had they worked their average full time of 264.1 hours at the same hourly rate that was earned in the 160.7 hours in the pay period they would have earned an average of \$51.76, or had they worked a full-time week of 60 hours the earnings would have averaged \$11.76. The 160.7 hours actually worked in the month was 60.8 per cent of the average of 264.1 full-time hours in the pay period of one month. The 271 adult male field laborer on the plantations on Maui earned an average of 19.2 cents per hour and, had they worked their average full time of 270 hours at the same rate per hour, they would have earned an average of \$51.84 in the one-month pay period, while the 2,018 on the plantations on Oahu earned an average of 19.7 cents per hour and had they worked a full-time month of 263.3 hours at the same rate would have earned \$51.87.



FIGURE 27.—SOME OF THE MOST ATTRACTIVE HOMES OF PLANTATION LABORERS



FIGURE 28.—CITY CAMP OF ONE LARGE PLANTATION

The 500 males in all occupations on the plantations on Maui worked an average of 19 days and 193.1 hours in the pay period of one month and earned an average of \$42.74 or 22.1 cents per hour. For the 2,816 males on the plantations on Oahu the averages are 18.5 days, 183.6 hours, \$41.83, and 22.8 cents, respectively. The 36 females on Maui worked an average of 12.4 days and 120.7 hours in the one-month pay period and earned an average of \$10.33 in the month or 8.6 cents per hour. For the 125 females on Oahu the averages are 6.9 days, 64 hours, \$8.48, and 13.3 cents, respectively. The industry total at the end of the table shows that the 3,477 employees on the 4 plantations that were included in the study worked an average of 18.1 days and 180 hours in a pay period of one month and earned an average of \$40.43 or 22.5 cents per hour.

The rate for overtime and for work on Sunday and holidays on two plantations was the same as for regular working time and applied to all employees, and on two other plantations was one and one-half times the regular rate and applied to all employees.

TABLE 26.—Average days worked, average full-time and actual hours and earnings in one month, per cent of full time actually worked, and average earnings per hour on pineapple plantations, 1929, by occupation, sex, and island

Occupation, sex, and island	Number of establishments	Number of employees	Average number of days on which employees worked in month	Average full-time hours—		Average hours actually worked in month	Per cent of full time worked in month	Average earnings per hour	Average full-time earnings—		Average actual earnings in month
				Per week	Per month				Per week	Per month	
Blacksmiths, male:											
Maui.....	2	2	26.5	60.0	270.0	262.5	97.2	\$0.407	\$24.42	\$109.89	\$106.94
Oahu.....	2	6	26.3	60.0	260.0	261.4	100.5	.399	23.94	103.74	104.33
Total.....	4	8	26.4	60.0	262.5	261.7	99.7	.401	24.06	105.26	104.98
Blacksmiths' helpers, male:											
Maui.....	2	2	22.0	60.0	270.0	221.5	82.0	.213	12.78	57.51	47.15
Oahu.....	2	4	24.3	60.0	260.0	242.4	93.2	.341	20.46	88.66	82.58
Total.....	4	6	23.5	60.0	263.3	235.4	89.4	.301	18.06	79.25	70.77
Carpenters, male:											
Maui.....	2	13	19.4	60.0	270.0	195.3	72.3	.383	22.98	103.41	74.79
Oahu.....	2	9	23.1	60.0	265.6	262.6	85.3	.410	24.60	108.90	92.87
Total.....	4	22	20.9	60.0	268.2	208.1	77.6	.395	23.70	105.94	82.18
Carpenters' helpers, male:											
Maui.....	1	2	22.0	60.0	270.0	238.3	88.3	.252	15.12	68.04	59.94
Oahu.....	2	6	19.5	60.0	263.3	193.3	73.4	.313	18.78	82.41	60.47
Total.....	3	8	20.1	60.1	265.0	204.6	77.2	.295	17.70	78.18	60.34
Laborers, field, adult, male:¹											
Maui.....	2	271	17.0	60.0	270.0	164.0	60.7	.192	11.52	51.84	31.51
Oahu.....	2	2,018	16.5	60.0	263.3	160.3	60.9	.197	11.82	51.87	31.51
Total.....	4	2,289	16.6	60.0	264.1	160.7	60.8	.196	11.76	51.76	31.51

¹ Includes planters, cultivators, fertilizers, fruit pickers, plant gatherers, cultivator contractors, cleaners-up, etc.

TABLE 26.—Average days worked, average full-time and actual hours and earnings in one month, per cent of full time actually worked, and average earnings per hour on pineapple plantations, 1929, by occupation, sex, and island—Continued

Occupation, sex, and island	Number of establishments	Number of employees	Average number of days on which employees worked in month	Average full-time hours—		Average hours actually worked in month	Per cent of full time worked in month	Average earnings per hour	Average full-time earnings—		Average actual earnings in month
				Per week	Per month				Per week	Per month	
Laborers field, minors, male:²											
Maui.....	2	52	15.9	60.0	270.0	154.3	57.1	\$0.085	\$5.10	\$22.95	\$13.09
Oahu.....	1	3	9.7	60.0	270.0	89.2	33.0	.077	4.62	20.79	6.88
Total.....	3	55	15.6	60.0	270.0	150.8	55.8	.085	5.10	22.95	12.75
Laborers, field, adult, female:²											
Maui.....	2	19	6.8	60.0	270.0	65.5	24.3	.111	6.66	29.97	7.28
Oahu.....	2	116	6.5	60.0	265.2	59.6	22.5	.141	8.46	37.39	8.38
Total.....	4	135	6.5	60.0	265.9	60.4	22.7	.136	8.16	36.16	8.22
Laborers, field, minors, female:²											
Maui.....	1	17	18.8	60.0	270.0	182.4	67.6	.075	4.50	20.25	13.74
Oahu.....	1	9	12.6	60.0	270.0	120.2	44.5	.082	4.92	22.14	9.82
Total.....	2	26	16.6	60.0	270.0	160.8	59.6	.077	4.62	20.79	12.38
Lunas or foremen, or field lunas or overseers, male:											
Maui.....	2	20	24.2	60.0	270.0	239.4	88.7	.332	19.92	89.64	79.57
Oahu.....	2	165	27.5	60.0	265.5	274.7	103.5	.331	19.86	87.88	90.83
Total.....	4	185	27.1	60.0	266.0	270.8	101.8	.331	19.86	88.05	89.61
Painters, male:											
Maui.....	1	3	17.7	60.0	270.0	176.7	65.4	.371	22.26	100.17	65.48
Oahu.....	1	1	8.0	60.0	270.0	80.0	29.6	.307	18.42	82.89	24.53
Total.....	2	4	15.3	60.0	270.0	152.5	56.5	.362	21.72	97.74	55.25
Plumbers, male:											
Maui.....	1	1	26.0	60.0	270.0	267.0	98.9	.411	24.66	110.97	109.73
Oahu.....	2	2	26.5	60.0	260.0	253.0	97.3	.532	31.92	138.32	134.65
Total.....	3	3	26.3	60.0	263.3	257.7	97.9	.490	29.40	129.02	126.34
Repairers (auto mechanic), male:											
Maui.....	2	6	24.5	60.0	270.0	247.7	91.7	.316	18.96	85.32	78.25
Oahu.....	2	13	25.6	60.0	265.4	258.9	97.6	.435	26.10	115.45	112.68
Total.....	4	19	25.3	60.0	266.8	255.4	95.7	.399	23.94	106.45	101.80
Teamsters, male:											
Maui.....	2	19	22.3	60.0	270.0	223.7	82.9	.254	15.24	68.58	56.89
Oahu.....	2	243	21.7	60.0	263.1	224.3	85.3	.247	14.82	64.99	55.36
Total.....	4	262	21.7	60.0	263.6	224.2	85.1	.247	14.82	65.11	55.47
Tractor drivers, male:											
Maui.....	2	11	25.7	60.0	270.0	296.3	109.7	.298	17.88	80.46	88.26
Oahu.....	2	38	23.1	60.0	264.7	263.4	99.5	.315	18.90	83.38	82.85
Total.....	4	49	23.7	60.0	265.9	270.8	101.8	.310	18.60	82.43	84.06
Tractor drivers' helpers, male:											
Maui.....	2	9	24.9	60.0	270.0	278.6	103.2	.222	13.32	59.94	61.90
Oahu.....	2	39	24.5	60.0	268.5	275.5	102.6	.245	14.70	65.78	67.62
Total.....	4	48	24.5	60.0	268.8	276.1	102.7	.241	14.46	64.78	66.54

² Includes plant and slip gatherers, hoers, and weeders.

TABLE 26.—Average days worked, average full-time and actual hours and earnings in one month, per cent of full time actually worked, and average earnings per hour on pineapple plantations, 1929, by occupation, sex, and island—Continued

Occupation, sex, and island	Number of estab- lish- ments	Number of em- ploy- ees	Average number of days on which employ- ees worked in month	Average full- time hours—		Average hours actually worked in month	Per cent of full time worked in month	Average earn- ings per hour	Average full- time earnings—		Average actual earn- ings in month
				Per week	Per month				Per week	Per month	
Truck drivers, male:											
Maui.....	2	17	25.2	60.0	270.0	306.2	113.4	\$0.317	\$19.02	\$85.59	\$97.03
Oahu.....	2	66	24.0	60.0	266.4	255.8	96.0	.301	18.06	80.19	77.03
Total.....	4	83	24.2	60.0	267.1	266.2	99.6	.305	18.30	81.47	81.13
Truck drivers' help- ers, male:											
Maui.....	2	44	21.0	60.0	270.0	250.0	92.6	.209	12.54	56.43	52.18
Oahu.....	2	97	20.3	60.0	261.3	213.4	81.7	.228	13.68	59.58	48.69
Total.....	4	141	20.5	60.0	264.0	224.8	85.2	.221	13.26	58.34	49.77
Other employees, male:											
Maui.....	2	28	23.5	61.4	275.7	243.1	88.2	.269	16.52	74.16	65.39
Oahu.....	2	106	23.8	60.0	260.2	240.5	92.4	.244	14.64	63.49	58.80
Total.....	4	134	23.7	60.3	263.4	241.1	91.5	.250	15.08	65.85	60.18
All employees, male:											
Maui.....	2	500	19.0	60.1	270.3	193.1	71.4	.221	13.28	59.74	42.74
Oahu.....	2	2,816	18.5	60.0	263.4	183.6	69.7	.228	13.68	60.06	41.83
Total.....	4	3,316	18.6	60.0	264.5	185.1	70.0	.227	13.62	60.04	41.96
All employees, fe- male:											
Maui.....	2	36	12.4	60.0	270.0	120.7	44.7	.086	5.16	23.22	10.33
Oahu.....	2	125	6.9	60.0	265.5	64.0	24.1	.133	7.98	35.31	8.48
Total.....	4	161	8.1	60.0	266.5	76.6	28.8	.116	6.96	30.91	8.89
All employees, male and female:											
Maui.....	2	536	18.5	60.1	270.3	188.2	69.6	.216	12.98	58.38	40.57
Oahu.....	2	2,941	18.0	60.0	263.5	178.5	67.7	.226	13.56	59.55	40.41
Total.....	4	3,477	18.1	60.0	264.6	180.0	68.0	.225	13.50	59.54	40.43

Average earnings per month and per day.—Table 27 shows for each of two of the most important pineapple plantations in the Hawaiian Islands the per cent that the number of employees on the pay rolls in each month in 1929 was of the average number per month on the rolls in the year; the average number of days that were worked per employee each month in the year and the per cent that the average for each month was of the average for the year; the average earnings per employee per month and per day and the per cent that the average per month or per day for each month was of the average per month or day for the year.

Employment—that is, the number of persons on the pay rolls—was 35 per cent higher in July on plantation A and 28.4 per cent higher on plantation B than the average per month for the year; 25.8 per cent higher in August on plantation A and 40.8 per cent on plantation B; 17.7 per cent higher in September on plantation A and

49.9 per cent on plantation B. During these months more than 85 per cent of the annual crop of pineapples ripen, are picked, sorted as to size, and delivered to the canneries.

In April employment on plantation A was only 78.2 per cent, and in January on plantation B only 57.8 per cent, of the average per month for the year.

TABLE 27.—Per cent of employees, average number and per cent of days worked, and average earnings per month and per day and per cent thereof, 1929, by month and plantation

Plantation and month	Em- p- loy- ees—per cent of average for 1929	Average days worked		Average earnings per month		Per day	
		Num- ber	Per cent of average for 1929	Amount	Per cent of average for 1929	Amount	Per cent of average for 1929
PLANTATION A							
January.....	87.0	21.5	109.7	\$50.08	102.7	\$2.33	93.6
February.....	82.1	15.0	76.5	36.80	75.5	2.45	98.4
March.....	79.1	20.8	106.1	49.37	101.2	2.38	95.6
April.....	78.2	20.4	104.1	48.94	100.3	2.40	96.4
May.....	78.6	20.7	105.6	50.49	103.5	2.44	98.0
June.....	108.1	22.0	112.2	57.83	118.6	2.63	105.6
July.....	135.0	21.6	110.2	58.83	120.6	2.73	109.6
August.....	125.8	20.3	103.6	51.82	106.3	2.55	102.4
September.....	117.7	19.6	100.0	50.49	103.5	2.58	103.6
October.....	106.4	20.8	106.1	50.80	104.2	2.44	98.0
November.....	101.8	16.0	81.6	36.51	74.9	2.29	92.0
December.....	100.5	15.9	81.1	36.65	75.1	2.31	92.8
Average for year.....	100.0	19.6	100.0	48.77	100.0	2.49	100.0
PLANTATION B							
January.....	57.8	20.0	92.2	42.85	90.1	2.14	97.3
February.....	70.1	18.3	84.3	37.94	79.8	2.08	94.5
March.....	75.8	26.4	121.7	57.84	121.6	2.19	99.5
April.....	78.9	22.8	105.1	48.99	103.0	2.15	97.7
May.....	72.6	24.9	114.7	53.79	113.1	2.16	98.2
June.....	80.7	24.0	110.6	53.05	111.5	2.21	100.5
July.....	128.4	24.6	113.4	54.75	115.1	2.22	100.9
August.....	140.8	25.9	119.4	57.75	121.4	2.23	101.4
September.....	149.9	18.6	85.7	41.93	88.2	2.25	102.3
October.....	107.1	22.2	102.3	51.26	107.8	2.31	105.0
November.....	117.7	17.2	79.3	37.53	78.9	2.18	99.1
December.....	119.9	16.8	77.4	34.46	72.5	2.06	93.6
Average for year.....	100.0	21.7	100.0	47.56	100.0	2.20	100.0

Average and classified hourly earnings.—Table 28 gives average and classified earnings per hour of the employees in each of the occupations on the pineapple plantations for which data are shown in Table 26.

Average earnings per hour were computed for each employee by dividing his total earnings including his bonus, if any, in a pay period by the actual number of hours worked by him in the pay period. The average for all employees in an occupation was computed by dividing the total earnings of all employees in the occupation, including the bonus earned by them in the pay period, by the actual hours worked by them in the period.

The table shows the number of employees in each occupation, average earnings per hour of such employees, and the per cent of employees whose earnings per hour were in each classified group.

In explanation of the table, it is seen from the figures for the 2,018 plantation "laborers, field, adult male" on the island of Oahu that they earned an average of 19.7 cents per hour; that less than 1 per cent of them earned 10 and under 12 cents per hour; 1 per cent earned 12 and under 14 cents per hour; 13 per cent earned 14 and under 16 cents per hour; 10 per cent earned 16 and under 18 cents per hour; 5 per cent earned 18 and under 20 cents per hour; 67 per cent earned 20 and 22 cents per hour; 2 per cent earned 22 and under 24 cents per hour; and that less than 1 per cent earned 45 and under 50 cents per hour.

TABLE 28.—Average and classified earnings per hour on pineapple plantations, 1929, by occupation and sex

Occupation and sex	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—																				
			Under 6	6 and under 7	7 and under 8	8 and under 9	9 and under 10	10 and under 12	12 and under 14	14 and under 16	16 and under 18	18 and under 20	20 and under 22	22 and under 24	24 and under 26	26 and under 28	28 and under 30	30 and under 35	35 and under 40	40 and under 45	45 and under 50	50 and under 60	60 and under 70
Blacksmiths, male:																							
Maui.....	2	\$0.407																					
Oahu.....	6	.399																33	50	50	17	17	
Total.....	8	.401																25	38	13	13	13	
Blacksmiths' helpers, male:																							
Maui.....	2	.213											100										
Oahu.....	4	.341																50	50				
Total.....	6	.301											33					33	33				
Carpenters, male:																							
Maui.....	13	.333											15					8			38	23	8
Oahu.....	9	.410																22	22	11	33	11	8
Total.....	22	.395											9					5	9	9	27	27	9
Carpenters' helpers, male:																							
Maui.....	2	(1)												(1)				(1)					
Oahu.....	6	.313											33					17		50			
Total.....	8	.295											25	13				25		38			
Laborers, field, adult, male:²																							
Maui.....	271	.192								3	11	9	26	46	3		1	(4)	(4)	(4)			
Oahu.....	2,018	.197							(4)	1	13	10	5	67	2	(4)	(4)	(4)	(4)		(4)		
Total.....	2,289	.196							(4)	1	13	10	8	65	2	(4)	(4)	(4)	(4)		(4)		
Laborers, field, minors, male:³																							
Maui.....	52	.085	2	17	29	13	12	19	6	2													
Oahu.....	3	(1)			(1)	(1)		(1)															
Total.....	55	.085	2	16	29	15	11	20	5	2													

TABLE 28.—Average and classified earnings per hour on pineapple plantations, 1929, by occupation and sex—Continue

Occupation and sex	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—																			
			Under 6	6 and under 7	7 and under 8	8 and under 9	9 and under 10	10 and under 12	12 and under 14	14 and under 16	16 and under 18	18 and under 20	20 and under 22	22 and under 24	24 and under 26	26 and under 28	28 and under 30	30 and under 35	35 and under 40	40 and under 45	45 and under 50	50 and under 60	60 and under 70
Tractor drivers, male:																						
Maui.....	11	\$. 298													9	36	18	18				
Oahu.....	38	. 315										3	8	13	8	5	39	21	3			
Total.....	49	. 310										2	6	12	14	8	35	20	2			
Tractor drivers' helpers, male:																						
Maui.....	9	. 222										67	22	11								
Oahu.....	39	. 245								3		23	28	18	13	13	3					
Total.....	48	. 241								2		31	27	17	10	10	2					
Truck drivers, male:																						
Maui.....	17	. 317												12	12		59	18				
Oahu.....	66	. 301									2		12	9	9	20	39	9				
Total.....	83	. 305									1		10	10	10	16	43	11				
Truck drivers' helpers, male:																						
Maui.....	44	. 209								11	7	52	16	7	2	2					2	
Oahu.....	97	. 228							1	5	10	31	21	21	6	4	1					
Total.....	141	. 221							1	7	9	38	19	16	5	4	1				1	
Other employees, male:																						
Maui.....	28	. 269					4				11	21	4	4	11	11	18	7	7		4	
Oahu.....	106	. 244								6	13	17	24	11	9	10	8	1			1	1
Total.....	134	. 250					1			4	13	18	19	10	10	10	10	2	2	1	1	
All employees, male:																						
Maui.....	500	. 221	(⁴)	2	3	1	1	2	2	6	6	16	34	5	3	3	4	3	3	1	1	(⁹)
Oahu.....	2, 816	. 228		(⁴)	(^{4})	(^{4})	(^{4})	(^{4})	1	9	8	5	51	6	5	4	3	4	2	1	1	(⁹)
Total.....	3, 316	. 227	(⁴)	(⁴)	1	(⁴)	(⁴)	1	1	9	7	7	49	6	5	4	3	4	2	1	1	(⁹)

All employees, female:																						
Maui.....	36	.086	-----	3	19	11	17	25	6	-----	3	3	-----	3	-----	6	-----	3	3	-----	-----	
Oahu.....	125	.133	-----	2	2	3	-----	14	44	24	4	2	1	4	-----	-----	-----	-----	-----	-----	-----	
Total.....	161	.116	-----	2	6	5	4	17	35	19	4	2	1	4	-----	1	-----	1	1	-----	-----	
All employees, male and female:																						
Maui.....	536	.216	(*)	2	4	2	2	4	2	6	6	15	31	5	3	3	4	3	3	1	1	(*)
Oahu.....	2,941	.226	-----	(*)	(*)	(*)	-----	1	3	10	8	4	49	6	5	4	3	4	2	1	1	(*)
Total.....	3,477	.225	(*)	(*)	1	1	(*)	1	3	9	7	7	47	6	4	4	3	4	2	1	1	(*)

* Less than 1 per cent.

Length of Service of Employees

Table 29 shows the number and per cent of employees of two representative plantations by periods of service.

On plantation A 26.1 per cent of its employees had a period of service of less than 6 months; 30.8 per cent, 1 and under 2 years; while one employee, or one-tenth of 1 per cent, had a service of 26 years.

TABLE 29.—*Number and per cent of employees of two pineapple plantations, 1929, by period of service*

Period of service	Employees having each classified period of service—			
	Plantation A		Plantation B	
	Number	Per cent	Number	Per cent
Less than 6 months.....	458	26.1	505	44.0
6 months and under 1 year.....	---	---	198	17.2
1 and under 2 years.....	540	30.8	167	14.5
2 and under 3 years.....	187	10.7	115	10.0
3 and under 4 years.....	153	8.7	52	4.5
4 and under 5 years.....	73	4.2	59	5.1
5 and under 6 years.....	90	5.1	27	2.4
6 and under 7 years.....	62	3.5	12	1.0
7 and under 8 years.....	43	2.5	2	.2
8 and under 9 years.....	37	2.1	2	.2
9 and under 10 years.....	36	2.1	4	.3
10 and under 11 years.....	20	1.1	---	---
11 and under 12 years.....	10	.6	1	.1
12 and under 13 years.....	7	.4	2	.2
13 and under 14 years.....	4	.2	---	---
14 and under 15 years.....	5	.3	---	---
15 and under 16 years.....	4	.2	1	.1
16 and under 17 years.....	1	.1	1	.1
17 and under 18 years.....	2	.1	---	---
18 and under 19 years.....	3	.2	---	---
19 and under 20 years.....	3	.2	---	---
20 and under 21 years.....	5	.3	---	---
21 and under 22 years.....	1	.1	---	---
22 and under 23 years.....	3	.2	---	---
23 and under 24 years.....	3	.2	---	---
24 and under 25 years.....	2	.1	---	---
25 and under 26 years.....	2	.1	---	---
26 years.....	1	.1	---	---
Total.....	1,755	100.0	1,148	100.0

Productivity of Labor on a Plantation, 1929

Planting pineapple slips.—Planting slips (crowns, slips, and suckers) is one of the important divisions of the work on pineapple plantations and paid for at a specified rate per thousand. The work is usually done during the last half of the year, beginning as early as July in some fields and ending in December in other fields. Employees who do this work are generally called field or plantation laborers as they are shifted from one kind of field work to another as needed. Field No. 1 was planted in August and September, 1929. The employees (males) who did the planting in this field worked a total of 4,991 hours, set out an average of 296 slips per hour, and earned an average of 32.6 cents per hour. The average for all work of planting slips in the 10 fields in 1929 was 31.7 cents per hour. Employees who did this work also did other field work on the plantation in 1929. Figures for a representative pineapple plantation are given in Table 30.

TABLE 30.—Average number of pineapple slips planted per hour and average earnings per hour on one representative plantation, 1929

Field	Period	Number of hours worked	Average per hour	
			Number of slips planted	Earnings
No. 1.....	August and September.....	4, 991	296	\$0. 326
No. 2.....	August, September, and October.....	2, 490	255	. 280
No. 3.....	September and October.....	2, 090	320	. 352
No. 4.....	July and August.....	3, 650	224	. 246
No. 5.....	September.....	1, 860	272	. 299
No. 6.....	July, August, and September.....	8, 068	280	. 308
No. 7.....	September and December.....	2, 255	325	. 357
No. 8.....	October, November, and December.....	8, 035	329	. 361
No. 9.....	September and October.....	3, 259	252	. 277
No. 10.....	do.....	920	310	. 341
Total.....		37, 618	288	. 317

Trimming pineapple slips.—In 1929 the work of trimming pineapple slips on a representative pineapple plantation was done by men and women. Data for each sex were not available. They worked a total of 23,488 hours as trimmers of slips, trimmed an average of 259 slips per hour, and earned an average of 21.8 cents per hour. Employees, especially the men, also did other field work on the plantation in 1929.

Fertilizing pineapple plantation fields.—In 1929 a part of the regular or permanent male employees of a representative pineapple plantation did 10 different jobs of fertilizing and temporary employees did 26 jobs. The regular employees also did other field work on the plantation. The regular employees worked a total of 5,858 hours as fertilizers and earned an average of 20.8 cents per hour, while the temporary employees—men, women, and boys—worked a total of 25,628 hours and earned an average of 17.9 cents per hour.

Pineapple picking.—In the months of June to October, 1929, the work of picking pineapples on a representative pineapple plantation was done by adult male employees. The rates paid for this work ranged from \$1.10 per ton for fields with the lowest rate to \$2.65 per ton for fields with the highest rate. These employees worked a total of 37,136 hours, picked an average of 0.187 tons per hour, and earned an average of 23 cents per hour. They also did other field work on the plantation during the year.

Pineapple Canneries

Description of Work and Definition of Occupations

The fruit is delivered to the canneries on railroad cars or auto trucks (fig. 29) and unloaded from these to hand trucks on the loading platform, five boxes of fruit to each truck load.

Loading platform and Ginaca machines.—“Truckers” push the trucks loaded with fruit from the railroad cars or auto trucks to bins conveniently located at certain (Ginaca) machines, lower the filled boxes onto the floor of the platform, fill the trucks with empty boxes and return the empties to the railroad cars or auto trucks for return to the pineapple plantations. Truckers are classified in this report

as "laborers," because the work done by them is unskilled and they are so classified by practically all of the canneries included in the study of the industry.

In distributing the boxes of fruit to the machines, those with fruit of grade 1 are delivered by the truckers to machines of a given size that cut from each pineapple a cylinder of a specified diameter, of grade 2 to machines of another size, and of grade 3 to still another. These machines cut pineapples to different diameters, those of small diameter being for small cans, of medium diameter for medium-sized cans, and of large diameter for large cans.

"Dumpers," classified in this report as "laborers," empty the fruit from the boxes into bins and stack the empties—one on another, nine to a stack—for return to the railroad cars or auto trucks and ultimately to the plantations.

"Feeders" (fig. 30) to the Ginaca machines take pineapples from the bins and place them one at a time on a belt-conveyor of the machine at the rate of 42 per minute. Some machines have a speed of 84 pineapples per minute. Those with the higher rate of speed require more truckers, dumpers, and feeders before and more trimmers, canners, laborers, and other employees after them than those of the lower rate of speed.

The machines, as stated above, cut from the fruit a cylinder of one of the three given diameters—small, medium, or large. They also extract the core, cut off the ends, and in addition, scrape or cut from the skin or hull of the pineapple the fruit left thereon after the cylinder is cut. The cored and peeled cylinders of pineapples pass from the machines by gravity to conveyors on trimming tables, and the fruit from the skin or hull is carried by belt conveyors from the machine to the "eradicator" tables and the skin or peeling to the juice recovery plant.

"Machine operators," one at each machine, look after the machines while in operation. These machines, like all others in pineapple canneries, are operated by electric power.

"Inspectors, male," called in some canneries "eradicators," inspect the fruit from the skin or hull of the pineapple as it passes from the machines to belt conveyors, and take from the fruit particles of the skin or other foreign matter. Data for these employees are included in the group designated as "other employees" in this report.

Trimming and slicing.—"Trimmers" (fig. 31) take the cored cylinders of the pineapples from the belt conveyors as they pass along the trimming tables, inspect them, complete the trimming with knives by cutting off any part of the skin left on the cylinders when they were cut, and return the fruit to the conveyors. There is a relief trimmer for every two trimming tables to fill in whenever for any cause it is necessary for an employee to drop out of line.

"Foreladies" are in charge of trimming, canning, and eradicating tables. They, as well as the trimmers and all others who handle any of the fruit from the time it passes through the Ginaca machines up to the filling of the cans with fruit, wear rubber gloves for sanitary purposes and to protect their hand from the effects of the acid of the fruit. They also, for sanitary purposes, wear caps to hold the hair in place and aprons to protect the clothing, altogether presenting a neat and clean appearance.



FIGURE 29.—LOADING TRUCKS

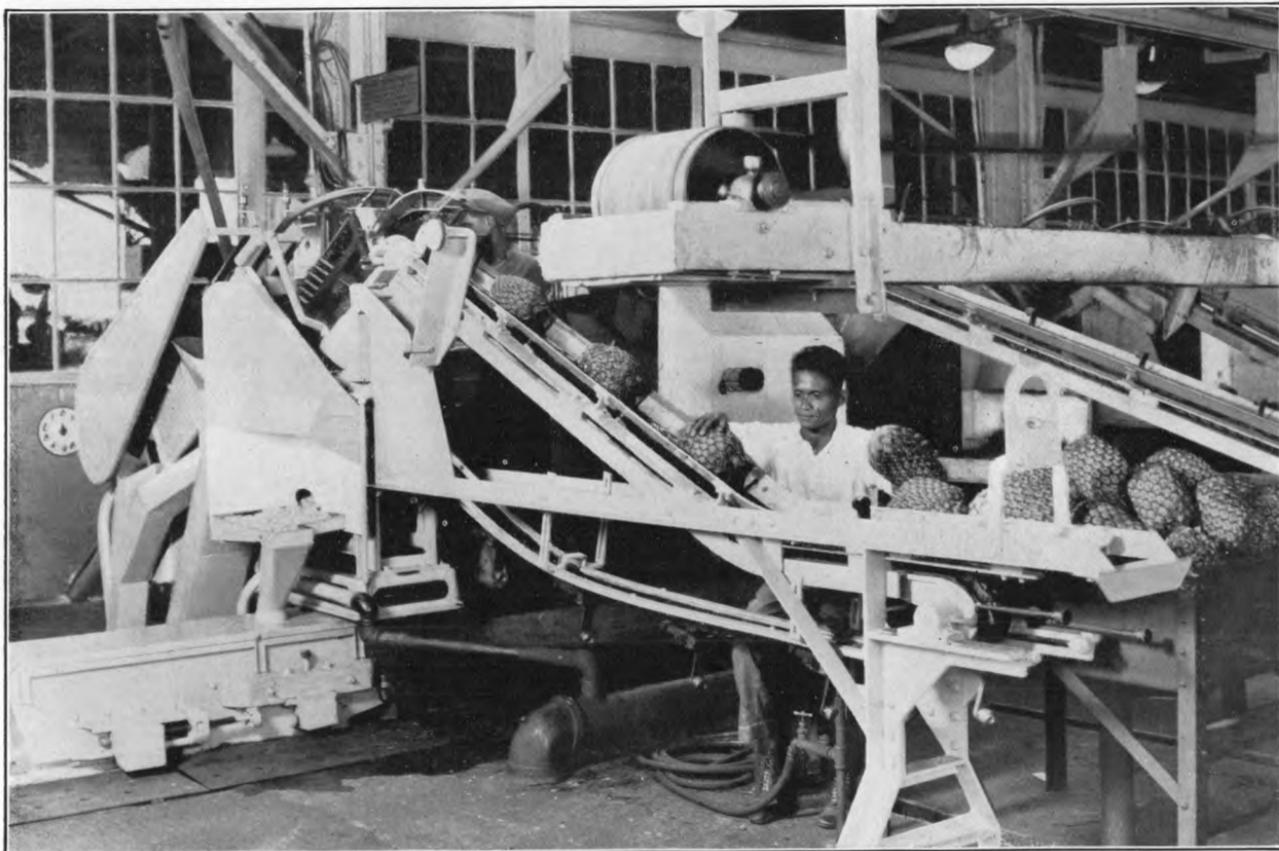


FIGURE 30.—FEEDING TO GINACA MACHINE



FIGURE 31.—TRIMMING



FIGURE 32.—FILLING THE CANS

The fruit passes automatically from the trimming tables to and through automatic slicing machines, is washed, cut into slices of uniform thickness, and delivered to the belt conveyors of the canning tables.

Packing in cans.—"Canners" (fig. 32) take slices of pineapples from the belt conveyors, make selection as to grade, and fill cans. Small pieces and slices which fail to pass inspection are carried from the packing tables by conveyors to the crushed pineapple department.

"Tray boys," classified in this report as "laborers," truck empty cans on trays 15 by 19 inches in size—one tray on top of another—from the elevators to the canners' tables, place the trays of empties—one tray at a time—at the tables convenient to the canners for filling, take the trays of cans filled with slices from the packing tables and stack them to a height sufficient to make a truck load of about 15 trays.

Employees classified in this report as "laborers" receive the cans as they come into the canneries from a can factory, stamp them by machine to indicate the grade or size of fruit with which they are to be filled, and place them on trays, which they truck to storage or canning room or to an elevator which carries them to such room or department.

Truckers (laborers), using hand trucks, take the stacks of trays from the packing tables to the vacuumizing, siruping, and other machines in the processing department.

Processing and sealing.—"Feeders," classified as "laborers" in this report, take cans filled with slices of pineapple from the trays and feed them at the rate of 110 cans per minute to automatic vacuum machines for treatment.

The cans pass automatically from the vacuumizing machine to and through the siruping machines, where each can is given its quota of clarified pineapple juice. This is a product of the juice recovery plant of the cannery, which is built up to a sirup of the required density by the addition of refined cane sugar. The cans pass automatically from the siruping machine to the exhaust box, where they are warmed and expanded by live steam, the air expelled, can covers automatically placed thereon and sealed. The sealed cans first pass through steam-pressure cookers with temperature slightly over boiling and then through a lacquer bath, going in white and coming out with a coat of lacquer which improves the appearance of the cans and protects them from rust in moist or humid climates. "Lacquer men" (laborers) keep a supply of lacquer in the vats. The cans pass from the lacquer bath to the drying machine, to and through and out of the cooler where "tray stackers" (laborers) pick up the trays and stack them, the number of trays in the stacks varying with the size of cans.

"Electric truck operators" ("other employees") take the stacks to the cooling room, where they are kept 24 hours for inspection for leaks and bulges after which they are loaded on gasoline tractors and moved to the warehouse.

Warehouse.—On receipt of the canned fruit in the warehouse, stackers take the cans from the trays and stack them. In filling orders for shipment from the canneries the cans are taken from the stacks, inspected, placed on trays, moved by hand trucks to labeling machines, fed into the machines, labeled, and the labeling inspected, after which the cans are taken from the belt of the machine and packed in wooden

or fiber cases. Covers or tops are attached to the wooden cases by nailing machines and then wired by machinery, the tops and bottoms of fiber cases are glued and sealed by automatic sealing machines, and both kinds of cases are dropped by gravity to the shipping floor ready for loading (by laborers) and shipment from the canneries. In nearly all of the canneries included in the study the employees whose work is here described are called laborers and are therefore so classified in this report.

The wooden cases used in packing the fruit for shipment are made or assembled by "box makers" from "shucks" bought by the canneries already cut to size. The assembling of the boxes consists of the branding by machine of the shuck for certain parts of the box, the making of the cases by assembling and nailing sides, ends, bottoms, and tops, and the inspection of the work.

Crushed pineapple.—The fruit from the skin or hull of the pineapple, after inspection at the Ginaca machines is transferred from the machines by belt conveyors to the eradicating tables where "eradicators, females," carefully reinspect the fruit as it passes on conveyors and pick from the fruit any and all specks or particles of the skin or hull remaining in it. This fruit is then conveyed to nickel steam-heated kettles for cooking and sterilization along with small pieces of pineapple and slices which, not passing inspection by canners at the packing tables, have been transferred to and through crushing machines to the nickel kettles. After being cooked and sterilized the fruit is conveyed to automatic filling machines where cans are filled and sealed; then washed by a spray of hot water, lacquered and cooled; inspected and transferred to the warehouse; and handled in the same manner as sliced canned goods.

Juice recovery plant.—The skins or peelings of the pineapples, delivered by belt conveyors from the Ginaca machine to the juice recovery department, are carried by machinery to a separator for extraction of metal, stone, or any other solid and, after passing to a 3-roller cane mill where they are crushed and a very large per cent of the juice pressed from them, are passed automatically to and through a shredding machine to screw presses where all possible juice is pressed from them.

This juice is then carried automatically through the machinery of the recovery department, neutralized, filtered, concentrated, and pumped to the syrup mixing department where refined cane sugar is added to make a syrup of certain standard for use in filling cans of sliced pineapple.

The skins after all the obtainable juice has been pressed from them still retain some moisture which is approximately a 12 per cent sugar solution. The skins are automatically passed from the presses into a steel cylinder, dried by furnace heat forced through the cylinder, and made into dairy stock feed. The feed thus obtained is dropped from the cylinder through a chute to an automatic weighing machine where laborers attach empty bags to the machine, take the filled 100-pound bags from it and sew the open end of the bag at the rate of 75 bags per hour when working at capacity. The bags are then loaded on hand trucks and pushed by truckers to the warehouse for storage or filling orders. From each ton of fruit canned 60 pounds of dairy feed is obtained.

Each cannery has a well-equipped machine and repair shop with a force of machinists, carpenters, painters, plumbers, and other mechanics for construction and repair of machinery and the repair of other necessary equipment. The employees in this shop are classified by occupations according to the kind of work done.

Race and Sex of Employees in Cannery, 1929

Table 31 shows the number and per cent of males, females, and all employees of each race on the pay rolls of a representative pineapple cannery in the Hawaiian Islands in a representative pay period in 1929.

Japanese formed 43.9 per cent of all males of all races on the pay rolls, and 39.9 per cent of all females, while the total number of Japanese was 42.1 per cent of all employees of the cannery.

TABLE 31.—*Number and per cent of employees of a representative pineapple cannery, 1929, by race and sex*

Race	Males		Females		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Japanese.....	525	43.9	386	39.9	911	42.1
Hawaiian.....	107	9.0	248	25.6	355	16.4
Filipino.....	220	18.4	32	3.3	252	11.7
Chinese.....	111	9.3	99	10.2	210	9.7
Portuguese.....	75	6.3	89	9.2	164	7.6
Part Hawaiian.....	62	5.2	85	8.8	147	6.8
American.....	43	3.6	13	1.3	56	2.6
Korean.....	39	3.3	8	.8	47	2.2
Porto Rican.....	7	.6	4	.4	11	.5
Spanish.....	2	.2	1	.1	3	.1
Russian.....	1	.1	1	.1	2	.1
Negro.....	1	.1	1	.1	2	.1
Italian.....	1	.1	1	.1	2	.1
British.....	1	.1	1	.1	2	.1
Norwegian.....	1	.1	1	.1	2	.1
Total.....	1,195	100.0	968	100.0	2,163	100.0

Hours and Earnings, 1929

The three most important occupations in canneries in number of employees are cannerymen, female, with a total of 1,510; laborers, male, with 3,205; and trimmers, female, with 1,408. The total of the employees in these occupations is 81 per cent of the 7,516 employees in all occupations in the five canneries included in this report.

Table 32 shows average days, hours, and earnings by occupations for the employees of two of the largest canneries on the island of Maui for a pay period of one month and for the employees of three of the most important canneries on the island of Oahu for a pay period of one week.

Cannerymen in the two canneries on the island of Maui worked an average of 21 days and 191 hours in one month and earned an average of \$23.24 in the month and an average of 12.2 cents per hour, while those on the island of Oahu worked an average of 5.7 days and 48.1 hours in one week and earned an average of \$8.49 in the week and an average of 17.7 cents per hour. Laborers, male, on Maui earned an average of 20 cents, and those on Oahu an average of 24.3 cents per

hour. Trimmers, female, on Maui earned an average of 12.3 cents and on Oahu an average of 17.7 cents per hour. Males in all occupations in the two canneries on the island of Maui earned an average of 22.9 cents and the 3,095 males in all occupations on the island of Oahu earned 28.2 cents per hour, or 23 per cent more than was earned by the employees in the canneries on Maui. Females in all occupations on Maui earned an average of 12.4 cents and those on Oahu an average of 18.2 cents per hour, or 47 per cent more than those on Maui. All male and female employees in the canneries on Maui earned an average of 17.9 cents while in the canneries on Oahu the average was 23.7 cents per hour, or 32 per cent more than was earned by the employees on the island of Maui. All employees, male and female, on the 4 plantations earned an average of 22.5 cents per hour, while those in the five canneries earned an average of 22.4 cents per hour.

In three canneries the rate for overtime and for work on Sunday and holidays was one and one-half times the regular rate and applied to hourly rate employees; in one cannery this rate applied to all except monthly rate employees; and in one cannery the rate was the same as for regular working time.

TABLE 32.—Average days worked, average full-time and actual hours and earnings, per cent of full time actually worked, and average earnings per hour in pineapple canneries, 1929, by occupation and sex

Island, occupation, and sex	Number of establishments	Number of employees	Average number of days on which employees worked in pay period	Average full-time hours per—		Average hours actually worked in pay period	Per cent of full time actually worked	Average earnings per hour	Average full-time earnings		Average actual earnings in pay period
				Week	Month				Per week	Per pay period	
MAUI											
Box makers, male.....	1	21	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Canners, female.....	2	335	21.0	60.0	270.0	191.0	70.7	\$0.122	\$7.32	\$32.94	\$23.24
Carpenters, male.....	1	6	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Electricians, male.....	1	2	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Eradicators, female.....	2	71	20.7	60.0	270.0	206.8	76.6	.112	6.72	30.24	23.08
Foreladies.....	2	25	24.6	60.0	270.0	243.0	90.0	.187	11.22	50.49	45.55
Laborers, male.....	2	705	20.5	60.0	270.0	210.6	78.0	.200	12.00	54.00	42.18
Laborers, female.....	2	22	22.5	60.0	270.0	224.5	83.1	.133	7.93	35.91	29.83
Machinists, male.....	1	16	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Machine shop helpers, male.....	2	37	25.6	60.0	270.0	282.2	104.5	.271	16.26	73.17	76.54
Trimmers, female.....	2	416	19.9	60.0	270.0	174.4	64.6	.123	7.38	33.21	21.49
Truck or tractor drivers, male.....	1	2	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other skilled employees, male.....	1	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other employees, male.....	2	52	24.9	60.0	270.0	269.0	99.6	.427	25.62	115.29	114.96
All employees:											
Male.....	2	842	21.1	60.0	270.0	219.5	81.3	.229	13.74	61.83	50.20
Female.....	2	869	20.6	60.0	270.0	187.8	69.6	.124	7.44	33.48	23.20
All employees, male and female.....	2	1,711	20.8	60.0	270.0	203.4	75.3	.179	10.74	48.33	36.49

1 Included in total.

TABLE 32.—Average days worked, average full-time and actual hours and earnings, per cent of full time actually worked, and average earnings per hour in pineapple canneries, 1929, by occupation and sex—Continued

ONE-WEEK PAY PERIOD

Occupation and sex	Number of establishments	Number of employees	Average number of days on which employees worked in pay period	Average full-time hours in pay period	Average hours actually worked in pay period	Per cent of full time worked	Average earnings per hour	Average full-time earnings in pay period	Average actual earnings in pay period
OAHU									
Blacksmiths, male.....	2	2	6.5	60.0	58.3	97.2	\$0.513	\$30.78	\$29.87
Box makers, male.....	1	10	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Canners, female.....	3	1,175	5.7	60.0	48.1	80.2	.177	10.62	8.49
Carpenters, male.....	2	8	6.1	60.0	56.4	94.0	.536	32.16	30.21
Electricians, male.....	2	10	6.3	60.0	73.3	122.2	.546	32.76	38.43
Eradicators, male.....	2	98	5.8	60.0	52.6	87.7	.200	12.00	10.52
Eradicators, female.....	3	177	5.8	60.0	48.9	81.5	.172	10.32	8.40
Foreladies.....	3	81	6.3	60.0	60.4	100.7	.273	16.38	16.50
Laborers, male.....	3	2,500	5.6	60.0	51.8	86.3	.243	14.58	12.56
Laborers, female.....	3	272	6.0	60.0	51.0	85.0	.186	11.16	9.48
Machinists, male.....	3	84	6.7	60.0	73.6	122.7	.556	33.36	40.94
Machine shop helpers, male.....	3	45	6.0	60.0	60.9	101.5	.390	23.40	23.79
Machine tender operators, male.....	2	34	6.0	60.0	62.5	104.2	.397	23.82	24.82
Testers, can, male.....	2	26	6.2	60.0	64.4	107.3	.341	20.46	21.98
Trimmers, female.....	3	992	5.6	60.0	47.5	79.2	.177	10.62	8.41
Truck or tractor drivers, male.....	2	8	6.1	60.0	61.9	103.2	.333	19.98	20.63
Other skilled employees, male.....	2	52	5.9	60.0	59.1	98.5	.523	31.38	30.93
Other employees, male.....	3	218	6.0	60.0	63.7	106.2	.428	25.68	27.25
Other employees, female.....	2	13	6.8	64.6	68.8	106.5	.260	16.80	17.89
All employees:									
Male.....	3	3,095	5.7	60.0	53.8	89.7	.232	16.92	15.15
Female.....	3	2,710	5.7	60.0	48.7	81.2	.182	10.92	8.84
All employees, male and female.....	3	5,805	5.7	60.0	51.4	85.7	.237	14.22	12.20

¹ Included in total.

Earnings per hour and per week.—Table 33 shows, by occupations, average full-time hours per week, earnings per hour, and full-time earnings per week for the employees of the five canneries covered in this study.

TABLE 33.—Average full-time hours and earnings per week, and average earnings per hour in pineapple canneries, 1929, by occupation and sex

Occupation and sex	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Blacksmiths, male.....	2	2	60.0	\$0.513	\$30.78
Box makers, male.....	2	31	60.0	.220	13.20
Canners, female.....	5	1,510	60.0	.165	9.90
Carpenters, male.....	3	14	60.0	.428	25.68
Electricians, male.....	3	12	60.0	.502	30.12
Eradicators:					
Male.....	2	98	60.0	.200	12.00
Female.....	5	248	60.0	.155	9.30
Foreladies.....	5	106	60.0	.253	15.18
Laborers:					
Male.....	5	3,205	60.0	.234	14.04
Female.....	5	294	60.0	.182	10.92
Machinists, male.....	4	100	60.0	.541	32.46
Machine shop helpers, male.....	5	82	60.0	.336	20.16
Machine tender operators, male.....	2	34	60.0	.397	23.82
Testers, can, male.....	2	26	60.0	.341	20.46
Trimmers, female.....	5	1,408	60.0	.161	9.66
Truck or tractor drivers, male.....	3	10	60.0	.326	19.56
Other skilled employees, male.....	3	53	60.0	.542	32.52
Other employees:					
Male.....	5	270	60.0	.428	25.68
Female.....	2	13	64.6	.260	16.80
All employees, male.....	5	3,937	60.0	.271	16.26
All employees, female.....	5	3,579	60.0	.168	10.08
All employees, male and female.....	5	7,516	60.0	.224	13.44

Average and classified hourly earnings.—Table 34 gives, by occupation and sex, the average and classified earnings per hour in 1929 for the canneries on the islands of Maui and Oahu.

TABLE 34.—Average and classified earnings per hour in pineapple canneries, 1929, by occupation and sex—Continued

Occupation, sex, and island	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—																									
			7 and under 8	8 and under 9	9 and under 10	10 and under 12	12 and under 14	14 and under 16	16 and under 18	18 and under 20	20 and under 22	22 and under 24	24 and under 26	26 and under 28	28 and under 30	30 and under 35	35 and under 40	40 and under 45	45 and under 50	50 and under 60	60 and under 70	70 and under 80	80 and under 90	90 and under 100	100 and under 120	120 and over		
Foreladies:																												
Maui	25	\$0.187						8	32	40	8		4	8														
Oahu	81	.273									17	17	12	12	5	14	19	1	1	1								
Total	106	.253						2	8	9	15	13	10	11	4	10	14	1	1	1								
Laborers, male:																												
Maui	705	.200			(?)	(?)	1	3	48	23	12	3	2	2	1	2	2	1										
Oahu	2,500	.243					(?)	1	8	16	21	31	11	3	7	1	(?)	(?)										
Total	3,205	.234			(?)	(?)	1	12	11	15	17	24	9	3	6	2	(?)	(?)										
Laborers, female:																												
Maui	22	.133				5	68	18	5	5																		
Oahu	272	.186						3	37	46	8	3	2	(?)														
Total	294	.182				(?)	5	4	35	43	8	3	2	(?)														
Machinists, male:																												
Maui	16	(1)																(1)	(1)									
Oahu	84	.556												2	2	6	4	6	8	12	(1)	(1)	(1)	(1)	7	6	10	5
Total	100	.541												2	2	5	3	5	12	13	26	9	6	5	8	4		
Machine shop helpers, male:																												
Maui	37	.271						3	8	8	16	16	5	5	8	5	14	11										
Oahu	45	.390								2	2	7	4		13	27	7	11	27									
Total	82	.336						1	4	5	9	11	2	5	4	10	21	9	6	15								
Machine tender operators, male:																												
Oahu	34	.397												3		6	18	21	26	9	18							
Testers, can, male: Oahu	26	.341														4	85	4	4	4								

Bonuses

Figures in the tables giving average earnings for employees on pineapple plantations and in canneries include earnings at basic time and piece rates and bonuses paid to employees for attendance, service, specified per cent of earnings at time and piece rates, etc., but do not include rental value of houses, nor the value of fuel, water, and medical and hospital service furnished by plantations to employees.

One plantation and one cannery paid a bonus of 10 cents per day to each employee with an attendance of 21 or more days per month. Attendance of 21 days earned a bonus of \$2.10 in the month in addition to earnings at basic rates; of 22 days a bonus of \$2.20; of 23 days a bonus of \$2.30, etc. Example: An employee whose rate per hour was 20 cents and who worked 24 days or 240 hours in a month earned at his basic rate \$48.00 and a bonus of \$2.40 for attendance, or a total of \$50.40 in the month.

One plantation and one cannery paid a "busy-season attendance" bonus of 10 per cent of earnings at basic rates, during the busy season in the summer, to males who did not lose as much as 50 hours of the regular working time and to females who did not lose as much as 70 hours. Employees were also paid a "service" bonus of 1 per cent of earnings at basic rates if in service one-half year and also one-tenth of 1 per cent of earnings for each year of service after one-half year.

One plantation and one cannery paid to all employees except those who were paid monthly rates an "attendance" bonus of 25 cents per day for attendance of 23 or more days per month, a special bonus of 10 per cent of earnings at basic rates, and also a "quarterly" bonus based on earnings. Employees at monthly rates were paid the special bonus of 10 per cent of earnings at basic rates.

One of the 4 plantations and 2 of the 5 canneries had no bonus systems in operation in 1929.

Length of Service of Employees

Table 35 shows the number and per cent of employees of a representative cannery by periods of service.

In the cannery 43.4 per cent of the employees had service of less than 6 months; 15.8 per cent, 6 months and under 1 year; 12.2 per cent, 1 and under 2 years; and 4.6 per cent, 10 and under 24 years. Only one employee, or one-tenth of 1 per cent of all the employees, had service of 23 and under 24 years.

TABLE 35.—Number and per cent of employees of one pineapple cannery, 1929, by period of service

Period of service	Employees having each classified period of service		Period of service	Employees having each classified period of service	
	Number	Per cent		Number	Per cent
Less than 6 months.....	828	43.4	14 and under 15 years.....	6	0.3
6 months and under 1 year.....	301	15.8	15 and under 16 years.....	7	.4
1 and under 2 years.....	233	12.2	16 and under 17 years.....	7	.4
2 and under 3 years.....	112	5.9	17 and under 18 years.....	2	.1
3 and under 4 years.....	73	3.8	18 and under 19 years.....	2	.1
4 and under 5 years.....	62	3.3	19 and under 20 years.....	3	.2
5 and under 6 years.....	62	3.3	20 and under 21 years.....	-----	-----
6 and under 7 years.....	51	2.7	21 and under 22 years.....	1	.1
7 and under 8 years.....	28	1.5	22 and under 23 years.....	1	.1
8 and under 9 years.....	25	1.3	23 and under 24 years.....	1	.1
9 and under 10 years.....	43	2.3	24 and under 25 years.....	-----	-----
10 and under 11 years.....	21	1.1	25 and under 26 years.....	-----	-----
11 and under 12 years.....	17	.9	26 years.....	-----	-----
12 and under 13 years.....	6	.3			
13 and under 14 years.....	14	.7			
			Total.....	1,906	100.0

Employment in Peak and Slack Seasons

The pineapple industry is a seasonal one. Nearly the entire crop matures and is gathered and canned in the busy season or peak period in June, July, August, and September. During these months the canneries operate at capacity six days each week and usually two shifts per day. Pineapples, however, ripen and are gathered and canned throughout the year. In the slack period, which extends over the other months in the year, canneries operate at less than capacity and frequently on only one day or part of a day in a week.

On the plantations the busy season covers the same period, June to September. The general work on the plantations, however, furnishes employment six days each week to employees who do the various kinds of work necessary in preparing the soil, planting slips, cultivating the plants, etc.

The figures in Table 36 show for a representative cannery and for two representative plantations, the number and per cent of employees of each race and sex in the slack period and in the peak period in 1929. The average number and per cent of employees by race and sex for the year, the per cent that the slack period was of the peak period and of the average for the year, the per cent that the peak period was of the average for the year, and the per cent that the average was of the peak period are also shown.

Reading some of the figures for the cannery it is seen that the 231 Japanese were 35.8 per cent of the 645 of all races on the pay rolls in the slack period; that the 797 Japanese were 33.8 per cent of 2,355 of all races in the peak period; that the average number of Japanese—353—on the rolls in 1929 were 33.5 per cent of the average number of all races—1,053—on the rolls in 1929. The 231 Japanese in the slack period were 29 per cent of the 797 Japanese on the rolls in the peak period and 65.4 per cent of the 1929 average of 353. The number in the peak period was 225.8 per cent of the average number for the year, while the average for the year was 44.3 per cent of the number on the pay roll in the peak period.

TABLE 36.—Number and per cent of employees in the pineapple industry in slack period and peak period, and yearly average, 1929, by race and sex

CANNERY

Sex and race	Slack period		Peak period		Yearly average		Per cent slack period was of—		Per cent peak period was of average	Per cent average was of peak period
	Number	Per cent	Number	Per cent	Number	Per cent	Peak period	Average		
Males:										
Japanese.....	231	35.8	797	33.8	353	33.5	29.0	65.4	225.8	44.3
Filipino.....	224	34.7	579	24.6	313	29.7	38.7	71.6	185.0	54.1
Korean.....	10	1.6	86	3.7	29	2.8	11.6	34.5	296.6	33.7
Chinese.....	62	9.6	392	16.6	145	13.8	15.8	42.8	270.3	37.0
Hawaiian.....	46	7.1	196	8.3	83	7.9	23.5	55.4	236.1	42.3
Others.....	72	11.2	305	13.0	130	12.3	23.6	55.4	234.6	42.6
Total.....	645	100.0	2,355	100.0	1,053	100.0	27.4	61.3	223.6	44.7
Females:										
Japanese.....	111	24.0	515	25.5	212	24.9	21.6	52.4	242.9	41.2
Filipino.....	44	9.5	87	4.3	55	6.4	50.6	80.0	158.2	63.2
Korean.....	20	4.3	104	5.1	41	4.8	19.2	48.8	253.7	39.4
Chinese.....	127	27.5	530	26.2	228	26.7	24.0	55.7	282.5	43.0
Hawaiian.....	130	28.2	549	27.1	235	27.6	23.7	55.3	233.6	42.8
Others.....	30	6.5	238	11.8	82	9.6	12.6	36.6	290.2	34.5
Total.....	462	100.0	2,023	100.0	853	100.0	22.8	54.2	237.2	42.2
Males and females:										
Japanese.....	342	30.9	1,312	30.0	565	29.6	26.1	60.5	232.2	43.1
Filipino.....	268	24.2	666	15.2	368	19.3	40.2	72.8	181.0	55.3
Korean.....	30	2.7	190	4.3	70	3.7	15.8	42.9	271.4	36.8
Chinese.....	189	17.1	922	21.1	373	19.6	20.5	50.7	247.2	40.5
Hawaiian.....	176	15.9	745	17.0	318	16.7	23.6	55.3	234.3	42.7
Others.....	102	9.2	543	12.4	212	11.1	18.8	48.1	256.1	39.0
Total.....	1,107	100.0	4,378	100.0	1,906	100.0	25.3	58.1	229.7	43.5

PLANTATION NO. 1

Males:										
Japanese.....	400	31.5	670	31.1	481	30.0	59.7	83.2	139.3	71.8
Filipino.....	685	53.9	1,158	53.8	882	54.9	59.2	77.7	131.3	76.2
Korean.....	74	5.8	151	7.0	99	6.2	49.0	74.7	152.5	65.6
Chinese.....	92	7.2	130	6.1	114	7.1	70.8	80.7	114.0	87.7
Hawaiian.....	1	.1	5	.2	2	.1	20.0	60.0	250.0	40.0
Others.....	19	1.5	39	1.8	27	1.7	48.7	70.4	144.4	69.2
Total.....	1,271	100.0	2,153	100.0	1,605	100.0	59.0	79.2	134.1	74.5
Females:										
Japanese.....	81	90.0	191	76.1	125	83.3	42.4	64.8	152.8	65.4
Filipino.....	6	6.7	32	12.7	14	9.3	18.8	42.9	228.6	43.8
Korean.....			13	5.2	4	2.7			325.0	30.8
Chinese.....			2	.8	1	.7			200.0	50.0
Hawaiian.....										
Others.....	3	3.3	13	5.2	6	4.0	23.1	50.0	216.7	46.2
Total.....	90	100.0	251	100.0	150	100.0	35.9	60.0	167.3	59.8
Males and females:										
Japanese.....	481	35.3	861	35.8	606	34.5	55.9	79.4	142.1	70.4
Filipino.....	691	50.8	1,190	49.5	896	51.0	58.1	77.1	132.8	75.3
Korean.....	74	5.4	164	6.8	103	5.9	45.1	71.8	159.2	62.8
Chinese.....	92	6.8	132	5.5	115	6.6	69.7	80.0	114.8	87.1
Hawaiian.....	1	.1	5	.2	2	.1	20.0	60.0	250.0	40.0
Others.....	22	1.6	52	2.2	33	1.9	42.3	66.7	157.6	63.5
Total.....	1,361	100.0	2,404	100.0	1,755	100.0	56.6	77.5	137.0	73.0

TABLE 36.—Number and per cent of employees in the pineapple industry in slack period and peak period, and yearly average, by race and sex—Continued

PLANTATION NO. 2

Sex and race	Slack period		Peak period		Yearly average		Per cent slack period was of—		Per cent peak period was of average	Per cent average was of peak period
	Number	Per cent	Number	Per cent	Number	Per cent	Peak period	Average		
Males:										
Japanese.....	208	33.9	342	10.9	245	22.7	60.8	84.9	139.6	71.6
Filipino.....	325	52.9	1,129	65.6	673	62.4	28.8	48.3	167.8	59.6
Korean.....	29	4.7	63	3.7	48	4.5	46.0	60.4	131.3	76.2
Chinese.....	14	2.3	66	3.8	38	3.5	21.2	36.8	173.7	57.6
Hawaiian.....	16	2.6	25	1.5	18	1.7	64.0	88.9	198.9	72.0
Others.....	22	3.6	95	5.5	56	5.2	23.2	39.3	169.6	58.9
Total.....	614	100.0	1,720	100.0	1,078	100.0	35.7	57.0	159.6	62.7
Females:										
Japanese.....	32	76.2	90	72.6	52	74.3	35.6	61.5	173.1	57.8
Filipino.....	10	23.8	19	15.4	12	17.1	52.6	83.3	158.3	63.2
Korean.....			4	3.2	2	2.9			200.0	50.0
Chinese.....			1	.8						
Hawaiian.....			5	4.0	1	1.4			500.0	20.0
Others.....			5	4.0	3	4.3			166.7	60.0
Total.....	42	100.0	124	100.0	70	100.0	33.9	60.0	177.1	56.5
Males and females:										
Japanese.....	240	36.6	432	23.4	297	25.9	55.6	80.8	145.5	68.8
Filipino.....	335	51.1	1,148	62.3	685	59.7	29.2	48.9	167.6	59.7
Korean.....	29	4.4	67	3.6	50	4.4	43.3	58.0	134.0	74.6
Chinese.....	14	2.1	67	3.6	38	3.3	20.9	36.8	176.3	56.7
Hawaiian.....	16	2.4	30	1.7	19	1.6	53.3	84.2	157.9	63.3
Others.....	22	3.4	100	5.4	59	5.1	22.0	37.3	169.5	59.0
Total.....	656	100.0	1,844	100.0	1,148	100.0	35.6	57.1	160.6	62.3

PLANTATIONS NOS. 1 AND 2

Males:										
Japanese.....	608	32.2	1,012	26.1	726	27.0	60.1	83.7	139.4	71.7
Filipino.....	1,010	53.6	2,287	59.0	1,555	58.0	44.2	65.0	147.1	68.0
Korean.....	103	5.5	214	5.5	147	5.5	48.1	70.1	145.6	68.7
Chinese.....	106	5.6	196	5.1	152	5.7	54.1	69.7	128.9	77.6
Hawaiian.....	17	.9	30	.8	20	.7	56.7	85.0	150.0	66.7
Others.....	41	2.2	134	3.5	83	3.1	30.6	49.4	161.4	61.9
Total.....	1,885	100.0	3,873	100.0	2,683	100.0	48.7	70.3	144.4	69.3
Females:										
Japanese.....	113	85.6	281	75.0	177	80.5	40.2	63.8	158.8	63.0
Filipino.....	16	12.1	51	13.6	26	11.8	31.4	61.5	196.2	51.0
Korean.....			17	4.5	6	2.6			283.3	35.3
Chinese.....			3	.8	1	.5			300.0	33.3
Hawaiian.....			5	1.3	1	.5			500.0	20.0
Others.....	3	2.3	18	4.8	9	4.1	16.7	33.3	200.0	50.0
Total.....	132	100.0	375	100.0	220	100.0	35.2	60.0	170.5	58.7
Males and females:										
Japanese.....	721	35.7	1,293	30.5	903	31.1	55.8	79.8	143.2	69.8
Filipino.....	1,026	50.9	2,338	55.0	1,581	54.5	43.9	64.9	147.9	67.6
Korean.....	103	5.1	231	5.4	153	5.3	44.6	67.3	151.0	66.2
Chinese.....	106	5.3	199	4.7	153	5.3	53.3	69.3	130.1	76.9
Hawaiian.....	17	.8	35	.8	21	.7	48.6	81.0	166.7	60.0
Others.....	44	2.2	152	3.6	92	3.1	28.9	47.8	165.2	60.5
Total.....	2,017	100.0	4,248	100.0	2,903	100.0	47.5	69.5	146.3	68.3

Building Construction

Average full-time hours and earnings per week, and average earnings per hour in building construction in Hawaii in 1929, by occupations, for the employees of three representative Japanese contractors whose employees were of that race and of six contractors whose employees were almost entirely of the Caucasian race, are shown in Table 37.

The average full-time hours of the 68 Japanese carpenters were 52.2 per week, and they earned an average of 46.5 cents per hour. Had they worked full time in the week at 46.5 cents per hour they would have earned an average of \$24.27. The average full-time hours of the 121 Caucasian carpenters were 48.4 or 3.8 hours per week less than the average for the Japanese carpenters, and they earned an average of 69.2 cents per hour or 22.7 cents per hour more than was earned by the Japanese carpenters, and their average full-time earnings per week were \$33.49 or an average of \$9.22 more than the average for Japanese.

The rate for overtime and for work on Sunday and holidays was the same as for regular working time in eight establishments and one and one-half times the regular rate in one establishment.

TABLE 37.—Average full-time hours and earnings per week and average earnings per hour in building construction, 1929, by occupation and race

Occupation and race	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Carpenters:					
Japanese.....	3	68	52.2	\$0.465	\$24.27
Caucasian.....	6	121	48.4	.692	33.49
Total.....	9	189	49.8	.607	30.23
Carpenters' helpers:					
Japanese.....	1	9	(1)	(1)	(1)
Caucasian.....	3	18	48.0	.460	22.08
Total.....	4	27	48.7	.414	20.16
Cement finishers: Caucasian.....	4	12	48.0	.734	35.23
Concrete mixer operators: Caucasian.....	4	6	48.7	.639	31.12
Laborers:					
Japanese.....	3	70	52.6	.295	15.72
Caucasian.....	6	341	48.4	.464	22.46
Total.....	9	411	49.1	.437	21.46
Masons, brick:					
Japanese.....	1	4	(1)	(1)	(1)
Caucasian.....	1	2	(1)	(1)	(1)
Total.....	2	6	49.3	.610	30.07
Painters:					
Japanese.....	1	12	(1)	(1)	(1)
Caucasian.....	3	7	48.6	.737	35.82
Total.....	4	19	51.7	.493	25.49
Plumbers:					
Japanese.....	1	10	(1)	(1)	(1)
Caucasian.....	1	5	(1)	(1)	(1)
Total.....	2	15	51.7	.586	30.30

¹ Included in total.

TABLE 37.—Average full-time hours and earnings per week and average earnings per hour in building construction, 1929, by occupation and race—Continued

Occupation and race	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Plumbers' helpers:					
Japanese.....	1	2	(1)	(1)	(1)
Caucasian.....	1	7	(1)	(1)	(1)
Total.....	2	9	49.2	\$0.475	\$23.37
Truck drivers:					
Japanese.....	1	14	(1)	(1)	(1)
Caucasian.....	5	25	48.6	.494	24.01
Total.....	6	39	50.4	.452	22.78
Other skilled employees:					
Japanese.....	3	38	53.3	.466	24.84
Caucasian.....	6	48	48.1	.867	41.70
Total.....	9	86	50.4	.686	34.57
Other employees:					
Japanese.....	3	35	52.5	.280	14.70
Caucasian.....	6	52	48.2	.534	25.74
Total.....	9	87	49.9	.430	21.46
All employees:					
Japanese.....	3	262	52.6	.384	20.20
Caucasian.....	6	644	48.3	.559	27.00
Total.....	9	906	49.6	.506	25.10

¹ Included in total.

Table 38 shows for each occupation the average number of days on which employees worked in a pay period of one week or of two weeks; average full-time hours in the pay period; average hours actually worked in the pay period; the per cent that the hours actually worked are of the average full-time hours in the pay period; average earnings per hour; average full-time and actual earnings in the pay period.

TABLE 38.—Average days worked and average full-time and actual hours and earnings in a pay period, per cent of full time actually worked, and average earnings per hour, 1929, by occupation and race

Occupation and race	Number of establishments	Number of employees	Average number of days on which employees worked in pay period	Average full-time hours per pay period	Average hours actually worked in pay period	Per cent of full time worked in pay period	Average earnings per hour	Average full-time earnings in pay period	Average actual earnings in pay period
One-week pay period									
Carpenters:									
Japanese.....	2	18	5.2	48.5	41.9	86.4	\$0.538	\$26.09	\$22.52
Caucasian.....	5	70	5.2	48.8	41.2	84.4	.638	31.13	26.26
Total.....	7	88	5.2	48.7	41.3	84.8	.617	30.05	25.50
Carpenters' helpers:									
Japanese.....	1	9	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Caucasian.....	2	12	4.7	48.0	31.9	66.5	.468	22.46	14.94
Total.....	3	21	4.9	48.9	36.7	75.1	.405	19.80	14.86
Cement finishers: Caucasian.	3	5	4.0	48.0	33.7	70.2	.707	33.94	23.83

¹ Included in occupation total.

TABLE 38.—Average days worked and average full-time and actual hours and earnings in a pay period, per cent of full time actually worked, and average earnings per hour, 1929, by occupation and race—Continued

Occupation and race	Number of establishments	Number of employ-ees	Average number of days on which employ-ees worked in pay period	Average full-time hours per pay period	Average hours actually worked in pay period	Per cent of full time worked in pay period	Average earnings per hour	Average full-time earnings in pay period	Average actual earnings in pay period
One-week pay period—Continued									
Concrete-mixer operators:									
Caucasian.....	3	5	5.8	48.8	50.0	102.5	\$0.629	\$30.70	\$31.45
Laborers:									
Japanese.....	2	12	3.3	48.1	25.6	53.2	.354	17.03	9.05
Caucasian.....	5	263	5.0	48.5	40.6	83.7	.461	22.36	18.71
Total.....	7	275	4.9	48.5	39.9	82.3	.458	22.21	18.29
Masons, brick:									
Japanese.....	1	4	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Caucasian.....	1	2	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total.....	2	6	3.8	49.3	33.7	68.4	.610	30.07	20.52
Painters: Caucasian.....	2	4	4.5	49.0	39.3	80.2	.648	31.75	25.44
Truck drivers: Caucasian.....	4	24	5.3	48.7	45.7	93.8	.494	24.06	22.59
Other skilled employ-ees:									
Japanese.....	2	2	4.5	48.8	36.5	74.8	.816	39.82	29.80
Caucasian.....	5	40	8.1	48.2	40.4	83.8	.849	40.92	34.28
Total.....	7	42	8.0	48.2	40.2	83.4	.847	40.83	34.07
Other employ-ees:									
Japanese.....	2	7	5.9	48.6	48.5	99.8	.271	13.17	13.16
Caucasian.....	5	40	5.7	48.2	43.9	91.1	.528	25.45	23.18
Total.....	7	47	5.7	48.3	44.6	92.3	.486	23.47	21.69
All employ-ees:									
Japanese.....	2	52	4.6	48.8	37.8	77.5	.432	21.08	16.32
Caucasian.....	5	465	5.4	48.5	41.0	84.5	.536	26.00	22.00
Total.....	7	517	5.3	48.5	40.7	83.9	.526	25.51	21.43
Two-week pay period									
Carpenters.....	2	101	8.3	101.4	71.8	\$70.8	\$0.599	\$60.74	\$43.06
Carpenters' helpers.....	1	6	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Cement finishers.....	1	7	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Concrete-mixer operators.....	1	1	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Laborers.....	2	136	8.2	100.6	71.1	70.7	.396	39.84	28.16
Painters.....	2	15	9.4	104.8	82.0	78.2	.452	47.37	37.03
Plumbers.....	2	15	11.1	103.4	96.8	93.6	.586	60.59	56.78
Plumbers' helpers.....	2	9	10.0	98.4	78.8	80.1	.475	46.74	37.38
Truck drivers.....	2	15	10.6	106.2	95.1	89.5	.385	40.89	36.65
Other skilled employ-ees.....	2	44	10.4	105.0	91.1	86.8	.532	55.56	48.48
Other employ-ees.....	2	40	10.1	103.8	87.5	84.3	.365	37.89	31.92
All employ-ees.....	2	389	9.0	102.0	78.1	76.6	.480	48.96	37.52

¹ Included in occupation total.

² Included in total.

Table 39 shows average and classified earnings per hour for the employees in each of 10 of the most important occupations in building construction in 1929.

TABLE 39.—Average and classified earnings per hour in 10 occupations in building construction, 1929, by race

Occupation and race	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—														
			16, under 18	20, under 22	24, under 26	26, under 28	28, under 30	30, under 35	35, under 40	40, under 45	45, under 50	50, under 60	60, under 70	70, under 80	80, under 90	90, under 100	100, under 120
Carpenters:																	
Japanese.....	68	\$0.465							3	24	22	16	28	7			
Caucasian.....	121	.692										2	17	44	14	21	2
Total.....	189	.607						1	8	8	7	21	31	9	13	2	
Carpenters' helpers:																	
Japanese.....	9	(1)				(1)		(1)	(1)	(1)							
Caucasian.....	18	.460						6	28	11		56					
Total.....	27	.414				11		7	30	15		37					
Cement finishers: Caucasian	12	.734											17	67	8	8	
Concrete-mixer operators: Caucasian	6	.639											100				
Laborers:																	
Japanese.....	70	.295	1	1	6	13	53	13	11	1							
Caucasian.....	341	.464					(?)	4	11	21	25	37	2				
Total.....	411	.437	(?)	(?)	1	2	9	6	11	18	21	31	2				
Masons, brick:																	
Japanese.....	4	(1)								(1)	(1)	(1)					
Caucasian.....	2	(1)												(1)			
Total.....	6	6.10									17	17	33		33		
Painters:																	
Japanese.....	12	(1)							(1)	(1)	(1)						
Caucasian.....	7	7.37										14	29	43			14
Total.....	19	.493							5	42	16	5	11	16			5
Plumbers:																	
Japanese.....	10	(1)							(1)	(1)	(1)	(1)					
Caucasian.....	5	(1)											(1)			(1)	(1)
Total.....	15	.586							7	20	20	20	7			7	20
Plumbers' helpers:																	
Japanese.....	2	(1)							(1)								
Caucasian.....	7	(1)									(1)	(1)	(1)				
Total.....	9	.475							22		11	56	11				
Truck drivers:																	
Japanese.....	14	(1)						(1)	(1)	(1)							
Caucasian.....	25	.404							4	20		68	8				
Total.....	39	.452						13	18	21		44	5				

1 Included in occupation total.

2 Less than 1 per cent.

Table 40 shows for each of the carpenters, electricians, building laborers, masons, painters, and plumbers that were in the service of a representative building construction company in Honolulu any time in 1929, the number of weeks in which he did any work, and the amount earned in such weeks. A full week was 6 days or 53½ hours, but any week of less than 6 days or 53½ hours was counted a week.

In 1929 the company had in its service a total of 51 carpenters. One of them was on the pay rolls only 4 weeks and earned only \$20.60. He was a part-time worker. The weeks of the others ranged from 6 to 52 in the year. Eighteen were on the rolls 52 weeks, and their

earnings ranged from \$940.60 to \$1,769.30. It must be borne in mind that very few workers in any industry, especially in building construction, are on duty full time each and every week in a year. The 51 carpenters earned an average of \$22.68 per week and \$876.89 in the year.

Electricians earned an average of \$21.35 a week and \$933.48 in the year; building laborers, \$16.28 per week and \$592.65 in the year; masons, \$19.23 per week and \$908.56 in the year; painters, \$21.16 per week and \$749.50 in the year; and plumbers earned an average of \$25.07 per week and \$1,168.33 in the year.

TABLE 40.—Number of weeks worked and amount earned by individual employees of one contractor in 1929, by occupation

CARPENTERS

Employee No.	Number of weeks worked	Amount earned	Employee No.	Number of weeks worked	Amount earned	Employee No.	Number of weeks worked	Amount earned
1	4	\$20.60	18	36	\$582.45	35	52	\$1,104.70
2	6	108.80	19	38	873.70	36	52	1,339.60
3	6	90.00	20	40	740.25	37	52	1,362.95
4	8	110.00	21	42	758.50	38	52	1,309.10
5	10	279.35	22	42	820.05	39	52	1,302.85
6	10	218.35	23	46	817.35	40	52	1,190.20
7	14	231.25	24	46	742.25	41	52	1,310.35
8	18	296.85	25	46	708.65	42	52	1,145.85
9	22	471.55	26	46	1,083.75	43	52	1,026.35
10	24	665.85	27	46	1,241.80	44	52	1,079.95
11	24	670.90	28	46	1,069.10	45	52	940.60
12	24	515.00	29	48	802.05	46	52	1,769.30
13	28	482.60	30	48	746.65	47	52	1,368.35
14	28	945.60	31	50	1,347.40	48	52	1,197.55
15	29	576.05	32	50	1,337.75	49	52	1,523.60
16	29	723.05	33	50	1,075.50	50	52	1,452.40
17	32	485.95	34	52	1,084.10	51	52	1,624.45

ELECTRICIANS

1	32	\$491.45	4	52	\$1,082.40	7	52	\$1,052.25
2	32	461.75	5	52	1,424.10			
3	34	391.55	6	52	1,630.85			

BUILDING LABORERS

1	2	\$22.50	14	29	\$255.45	27	52	\$593.15
2	4	42.50	15	29	543.45	28	52	681.00
3	4	48.35	16	30	635.80	29	52	877.80
4	10	106.10	17	36	653.50	30	52	1,005.05
5	10	141.75	18	38	548.50	31	52	1,137.65
6	16	208.90	19	40	551.00	32	52	707.85
7	24	337.15	20	44	559.35	33	52	790.50
8	25	411.10	21	44	945.00	34	52	1,078.10
9	26	382.65	22	48	744.80	35	52	952.55
10	26	533.00	23	50	711.25	36	52	894.35
11	26	386.90	24	52	758.20	37	52	941.30
12	29	490.25	25	52	884.75			
13	29	373.00	26	52	990.50			

MASONS

1	36	\$554.50	4	48	\$728.45	7	52	\$906.80
2	40	695.30	5	52	877.15	8	52	1,419.95
3	46	1,120.25	6	52	878.05			

TABLE 40.—Number of weeks worked and amount earned by individual employees of one contractor in 1929, by occupation—Continued

PAINTERS

Employee No.	Number of weeks worked	Amount earned	Employee No.	Number of weeks worked	Amount earned	Employee No.	Number of weeks worked	Amount earned
1.....	1	\$4. 75	8.....	42	\$919. 30	15.....	48	\$1, 010. 45
2.....	6	60. 25	9.....	42	894. 65	16.....	50	952. 05
3.....	6	96. 45	10.....	42	876. 35	17.....	52	1, 476. 95
4.....	6	22. 50	11.....	46	1, 042. 55	18.....	52	1, 299. 55
5.....	10	100. 15	12.....	46	883. 55	19.....	52	1, 111. 15
6.....	38	770. 00	13.....	48	995. 55			
7.....	38	776. 60	14.....	48	947. 75			

PLUMBERS

1.....	22	\$506. 00	5.....	52	\$1, 208. 55	9.....	52	\$1, 359. 45
2.....	40	909. 20	6.....	52	1, 291. 85	10.....	52	1, 640. 60
3.....	40	992. 25	7.....	52	1, 386. 65			
4.....	52	1, 010. 25	8.....	52	1, 378. 51			

Steam Railways

Average hours and earnings in 1929, by occupations, for the employees of the two steam railroads in the Hawaiian Islands are given in Table 41. Males only were employed.

In the pay period of one month for which averages are shown in the table the average days on which employees worked ranged, by occupation, from 14.7 for stevedores to 30.5 for station agents. Average full-time hours ranged from 198.1 for painters to 293.1 per month for station agents. Average hours actually worked in the month ranged from 127.5 for stevedores to 293.1 for station agents. Stevedores worked only 53.1 per cent of full time and locomotive engineers, due to extra work, worked 101.5 per cent of full time. Average earnings per hour by occupations ranged from 32.3 cents for section hands to 85.2 cents for machinists.

Checkers of one company were paid one and one-fifth and stevedores one and one-fourth times the regular rate for any time after 5 p. m., and employees in all other occupations were paid the same rate for overtime and for work on Sunday and holidays as for regular working time. Wharf, car-shop, machine-shop, and boiler-shop employees, and section hands of the other company were paid one and one-half times the regular rate for overtime. All others in this company were paid the same rate for overtime as for regular working time. There was no work on Sunday and holidays by this company.

One company paid a service bonus to all employees as follows: For a period of service of 5 and under 10 years, 5 per cent of earnings; for 10 and under 15 years, 10 per cent; for 15 and under 20 years, 15 per cent; for 20 and under 25 years, 20 per cent; and for 25 years and over, 25 per cent of earnings. In the pay period covered 12 per cent of the employees were paid a bonus of 25 per cent of earnings.

TABLE 41.—Average days worked, average full-time and actual hours and earnings, per cent of full time actually worked, and average earnings per hour, on steam railways, 1929, by occupation

Occupation	Number of establishments	Number of employees	Average full-time hours		Average number of days employees worked in 1 month	Average hours actually worked in 1 month	Per cent of full time worked in 1 month	Average earnings per hour	Average full-time earnings		Average actual earnings in 1 month
			Per week	Per month					Per week	Per month	
Brakemen.....	2	31	52.1	234.3	26.3	212.9	90.9	\$0.454	\$23.65	\$106.37	\$96.75
Carpenters.....	2	42	45.6	202.3	24.0	181.4	89.7	.518	23.62	104.79	94.06
Conductors.....	2	19	52.1	229.7	25.7	221.8	96.6	.720	37.51	165.38	159.73
Engineers, locomotive.....	2	19	51.4	226.4	26.7	229.7	101.5	.800	41.20	181.12	183.75
Firemen, locomotive.....	2	14	51.4	231.4	27.1	229.7	99.3	.465	23.90	107.60	106.69
Laborers.....	2	22	46.5	210.3	25.9	202.7	96.4	.395	18.37	83.07	80.08
Machinists.....	2	10	45.0	201.6	25.5	188.0	93.3	.852	38.34	171.76	160.11
Machinists' helpers.....	2	8	45.0	200.0	26.3	196.9	98.5	.553	24.89	110.60	108.96
Painters.....	2	19	45.0	198.1	23.9	172.1	86.9	.459	20.66	90.93	78.90
Section hands.....	2	159	50.2	226.7	24.6	205.5	90.6	.323	16.21	73.22	66.44
Station agents.....	2	21	67.5	293.1	30.5	293.1	100.0	.340	22.95	99.69	99.69
Stevadores.....	2	145	53.0	240.1	14.7	127.5	53.1	.387	20.51	92.92	49.32
Other skilled employees.....	2	37	47.4	210.3	25.2	198.3	94.3	.707	33.51	148.68	140.18
Other employees.....	2	114	52.3	232.7	25.5	212.5	91.3	.435	22.75	101.22	92.50
All employees.....	2	660	51.1	228.8	23.1	191.0	83.5	.446	22.79	102.04	85.22

Average and classified earnings per hour in 12 occupations on steam railways in 1929 are shown in Table 42:

TABLE 42.—Average and classified earnings per hour in 12 occupations on steam railways, 1929

Occupation	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—													
			22, under 24	24, under 26	26, under 28	28, under 30	30, under 35	35, under 40	40, under 45	45, under 50	50, under 60	60, under 70	70, under 80	80, under 90	90, under 100	100, under 120
Brakemen.....	31	\$0.454					3	26	23	16	26	3	3			
Carpenters.....	42	.518						10	14	14	43	12	5	2		
Conductors.....	19	.720									16	26	32	21	5	
Engineers, locomotive.....	19	.800										26	32	21	16	5
Firemen, locomotive.....	14	.465						29	29	14	14	14				
Laborers.....	22	.395					9	55	32	5						
Machinists.....	10	.852										10	20	40	20	10
Machinists' helpers.....	8	.553								13	63	25				
Painters.....	19	.459						5	53	26	5	11				
Section hands.....	159	.323						90	10	10						
Station agents.....	21	.340	5	5	10	5	29	24	14	75	5	5				
Stevadores.....	145	.387					1	14	10							

Road Building

Average days, hours, and earnings in 1929, by occupations, for the employees of one of the very few road-construction contractors on the islands are shown in Table 43. The figures were compiled from data for a pay period of one week and are for males only.

The rate for overtime and for work on Sunday and holidays was the same as for regular working time.

TABLE 43.—Average days worked, average full-time and actual hours and earnings per week, per cent of full time actually worked, and average earnings per hour in road building, 1929, by occupation

Occupation	Number of employees	Average number of days on which employees worked in 1 week	Average full-time hours per week	Average hours actually worked in 1 week	Per cent of full time worked	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
Carpenters.....	13	6.0	48.0	52.5	109.4	\$0.681	\$32.69	\$35.70
Cement finishers.....	6	5.2	48.0	43.7	91.0	.575	27.60	25.09
Concrete-mixer operators.....	2	4.0	48.0	31.8	66.3	.600	28.80	19.05
Laborers.....	262	5.2	48.0	45.1	94.0	.469	22.51	21.16
Pipe calkers.....	6	5.3	48.0	43.4	90.4	.721	34.61	31.33
Pump operators.....	13	6.5	84.0	89.3	82.5	.504	42.34	34.91
Stone masons.....	4	3.8	48.0	31.5	65.6	.673	32.30	21.19
Truck drivers.....	16	5.5	48.0	48.4	100.8	.478	22.94	23.14
Other skilled employees.....	16	5.9	48.8	50.4	103.3	.759	37.04	38.25
Other employees.....	45	5.7	48.0	49.5	103.1	.521	25.01	25.75
All employees.....	383	5.4	49.3	46.8	94.9	.506	24.95	23.67

Table 44 shows average and classified earnings per hour in 8 occupations in road building in 1929:

TABLE 44.—Average and classified earnings per hour in eight occupations in road building, 1929

Occupation	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—							
			30, under 35	35, under 40	40, under 45	45, under 50	50, under 60	60, under 70	70, under 80	80, under 90
Carpenters.....	13	\$0.681					8	69	15	8
Cement finishers.....	6	.575					83	17		
Concrete-mixer operators.....	2	.600						100		
Laborers.....	262	.469	1	(1)	5	53	41			
Pipe calkers.....	6	.721						17		83
Pump operators.....	13	.504					100			
Stone masons.....	4	.673						75		
Truck drivers.....	16	.478		6	6	25	63			

1 Less than 1 per cent.

Longshore Labor

Hours and earnings in 1929 for two of the largest employers of labor used in loading and unloading steamships are shown in Table 45. The figures in the table are for a pay period of one week and for males only.

Stevedores covered by the study earned an average of \$14.96 in the week and an average of 43.1 cents per hour. They worked an average of 34.7 hours only in the week or 64.3 per cent of their *nominal* full time of 54 hours per week. While their nominal full-time hours are assumed to be 54 per week, they really work only when there is work to be done, and the amount of work varies from day to day.

The rate for overtime and for work on Sunday and holidays was the same as for regular working time.

TABLE 45.—Average days worked, average full-time and actual earnings per week, per cent of full time actually worked, and average earnings per hour for longshore labor, 1929, by occupation

Occupation	Number of establishments	Number of employees	Average number of days on which employees worked in 1 week	Average full-time hours per week	Average hours actually worked in 1 week	Percent of full time worked	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
Stevedores.....	2	251	13.2	54.0	34.7	64.3	\$0.431	\$23.27	\$14.96
Winchmen.....	1	66	(²)	54.0	20.4	37.8	.650	35.10	13.29
Other employees.....	2	64	³ 5.8	53.7	25.0	46.6	.516	27.71	12.91
All employees.....	2	381	⁴ 3.8	54.0	30.6	56.7	.468	25.27	14.32

¹ Not including data for 159 employees.

² Data not reported.

³ Not including data for 38 employees.

⁴ Not including data for 263 employees.

Table 46 shows average and classified earnings per hour in longshore labor in 1929:

TABLE 46.—Average and classified earnings per hour in two occupations in longshore labor, 1929

Occupation	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—					
			20, under 22	26, under 28	40, under 45	45, under 50	50, under 60	60, under 70
Stevedores.....	251	\$0.431	(¹)	(¹)	73	3	23	-----
Winchmen.....	66	.650	-----	-----	-----	-----	-----	100

¹ Less than 1 per cent.

Steam Laundries

Data on average hours and earnings in 1930 are here shown, by occupations, for 102 males and 178 females in two of the largest steam laundries in Honolulu. The length of the pay period was one week for one and a half month for the other laundry.

The full-time hours per week were 54 for the employees in each occupation in each laundry.

The average earnings per hour for males, by occupations, ranged from 15.8 cents for shakers, mangle-machine feeders, and folders of flat work to 65.7 cents for drivers, and for females ranged from 14.9 cents for shakers, mangle-machine feeders, and folders of flat work to 20.8 cents per hour for checkers and markers. Males in all occupations earned an average of 41.6 cents per hour, and females in all occupations earned an average of 19 cents per hour. The average for both sexes, or the industry, was 27.2 cents per hour.

The average full-time earnings per week for males by occupations ranged from \$8.53 for shakers, mangle-machine feeders, and folders of flat work to \$35.48 for drivers, and for females ranged from \$8.05 for shakers, mangle-machine feeders, and folders of flat work to \$11.23 for checkers and markers.

The rate for overtime and for work on Sunday and holidays was the same as for regular working time.

TABLE 47.—Average full-time hours and earnings per week, and average earnings per hour for employees in steam laundries, 1930, by occupation and sex

Occupation and sex	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Checkers and markers, male.....	2	3	54.0	\$0.501	\$27.05
Checkers and markers, female.....	2	14	54.0	.208	11.23
Drivers, male.....	2	26	54.0	.657	35.48
Finishers, shirt, female.....	2	10	54.0	.198	10.69
Ironers, hand, female.....	2	26	54.0	.161	8.69
Pressing-machine operators, female.....	2	18	54.0	.167	9.02
Shakers, mangle-machine feeders, and folders (flat work), male.....	1	31	54.0	.158	8.53
Shakers, mangle-machine feeders, and folders (flat work), female.....	2	63	54.0	.149	8.05
Washing-machine hands and helpers, male.....	2	9	54.0	.297	16.04
Other employees, male.....	2	33	54.0	.493	26.62
Other employees, female.....	2	47	54.0	.261	14.09
All employees, male.....	2	102	54.0	.416	22.46
All employees, female.....	2	178	54.0	.190	10.26
All employees, male and female.....	2	280	54.0	.272	14.69

Table 48 shows the average number of days worked and average full-time and actual hours and earnings of employees in steam laundries in 1930.

TABLE 48.—Average days worked, average full-time and actual hours and earnings, per cent of full time worked, and average earnings per hour in steam laundries, 1930, by occupation and sex

Occupation and sex	Number of employees	Average number of days on which employees worked in pay period	Average full-time hours per pay period	Average hours actually worked in pay period	Per cent of full time worked	Average earnings per hour	Average full-time earnings per pay period	Average actual earnings in pay period
One-week pay period								
Checkers and markers, male.....	2	6.0	54.0	50.5	93.5	\$0.602	\$32.51	\$30.40
Checkers and markers, female.....	5	6.0	54.0	49.8	92.2	.266	14.36	13.23
Drivers, male.....	11	6.1	54.0	55.1	102.0	.704	38.02	38.79
Finishers, shirt, female.....	5	5.8	54.0	43.9	81.3	.218	11.77	9.55
Ironers, hand, female.....	14	5.6	54.0	41.5	76.9	.166	8.96	6.89
Pressing-machine operators, female.....	11	6.1	54.0	46.5	86.1	.171	9.23	7.94
Shakers, mangle-machine feeders, and folders (flat work), male.....	31	6.5	54.0	48.7	90.2	.158	8.53	7.70
Shakers, mangle-machine feeders, and folders (flat work), female.....	34	5.8	54.0	44.0	81.5	.160	8.64	7.04
Washing-machine hands and helpers, male.....	6	6.8	54.0	53.6	99.3	.318	17.17	17.05
Other employees, male.....	9	6.3	54.0	52.7	97.6	.564	30.46	29.72
Other employees, female.....	20	5.8	54.0	51.3	95.0	.318	17.17	16.31
All employees, male.....	59	6.4	54.0	51.1	94.6	.364	19.66	18.57
All employees, female.....	89	5.8	54.0	45.9	85.0	.211	11.39	9.70
All employees, male and female.....	148	6.1	54.0	47.9	88.7	.276	14.90	13.24
Half-month pay period								
Checkers and markers, male.....	1	13.0	117.0	117.0	100.0	\$0.299	\$35.00	\$35.00
Checkers and markers, female.....	9	13.0	117.0	117.0	100.0	.176	20.50	20.56
Drivers, male.....	15	13.0	117.0	117.0	100.0	.622	72.75	72.75
Finishers, shirt, female.....	5	13.0	117.0	129.2	110.4	.178	20.83	23.00
Ironers, hand, female.....	12	11.9	117.0	119.4	102.1	.156	18.25	18.66
Pressing-machine operators, female.....	7	12.4	117.0	125.4	107.2	.161	18.84	20.20
Shakers, mangle-machine feeders, and folders (flat work), female.....	29	12.3	117.0	114.4	97.8	.137	16.03	15.71
Washing-machine hands and helpers, male.....	3	13.0	117.0	117.0	100.0	.256	30.00	30.00
Other employees, male.....	24	13.0	117.0	117.0	100.0	.466	54.54	54.54
Other employees, female.....	27	12.8	117.0	115.3	98.5	.218	25.51	25.17
All employees, male.....	43	13.0	117.0	117.0	100.0	.502	58.73	58.73
All employees, female.....	89	12.5	117.0	117.3	100.3	.172	20.12	20.23
All employees, male and female.....	132	12.7	117.0	117.2	110.2	.280	32.76	32.77

Table 49 shows the average and classified hourly earnings in 7 occupations in steam laundries in 1930.

TABLE 49.—Average and classified earnings per hour in seven occupations in steam laundries, 1930, by sex

Occupation and sex	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—																		
			10 and under 12	12 and under 14	14 and under 16	16 and under 18	18 and under 20	20 and under 22	22 and under 24	24 and under 26	26 and under 28	28 and under 30	30 and under 35	35 and under 40	40 and under 45	50 and under 60	60 and under 70	70 and under 80	90 and under 100	100 and under 120	120 and over
Checkers and markers, male.....	3	\$0.501										33									
Checkers and markers, female.....	14	.206				64	7	7	7												
Drivers, male.....	26	.657											15	14							
Finishers, shirt, female.....	10	.198			10	20	30	20			10	10				27	19	15	4	8	8
Ironers, hand, female.....	28	.161		4	50	31	12	4													
Pressing-machine operators, female.....	18	.167			50	28	6	17													
Shakers, mangle-machine feeders, and folders (flat work), male.....	31	.158									3										
Shakers, mangle-machine feeders, and folders (flat work), female.....	63	.149	2	25	52	17				3											
Washing-machine hands and helpers, male.....	9	.297				11			11	11			22		22						

Tin-Can Manufacturing

Hours and earnings, by occupations and sex, for 220 males and 48 females of a plant engaged in the manufacture of tin cans are shown in Table 50. The figures in the table are for a representative weekly pay period in 1929.

The full-time hours of the establishment and for the employees in each occupation were 60 per week.

Average earnings per hour for males by occupations ranged from 31.2 cents for slitting-machine operators to 88 cents for machinists, and for females ranged from 21.9 cents for laborers to 24.3 cents for can inspectors.

The rate for overtime and for work on Sunday and holidays was one and one-half times the rate for regular working time and applied to all employees.

TABLE 50.—Average days worked, average full-time and actual hours and earnings per week, per cent of full time actually worked, and average earnings per hour, in tin-can manufacturing, 1929, by occupation and sex

Occupation and sex	Number of employees	Average number of days on which employees worked in one week	Average full-time hours per week	Average hours actually worked in one week	Per cent of full time worked	Average earnings per hour	Average full-time earnings per week	Average actual earnings in one week
Double-seam machino operators, male.....	8	5.9	60.0	53.6	89.3	\$0.340	\$20.40	\$18.20
Inspectors, can, male.....	5	6.0	60.0	58.3	97.2	.466	27.96	27.17
Inspectors, can, female.....	28	5.5	60.0	51.6	86.0	.243	14.58	12.57
Laborers, male.....	88	5.0	60.0	43.4	72.3	.319	19.14	13.83
Laborers, female.....	14	5.1	60.0	47.5	79.2	.219	13.14	10.41
Machinists, male.....	6	6.0	60.0	61.3	102.2	.880	52.80	53.90
Machinists' helpers, male.....	3	6.0	60.0	60.0	100.0	.517	31.00	31.00
Maintenance machine men.....	15	5.3	60.0	54.5	90.8	.498	29.88	27.15
Openers, tin plate, male.....	9	5.8	60.0	56.3	93.8	.350	21.00	19.70
Shear operators, male.....	8	5.9	60.0	57.6	96.0	.358	21.48	20.61
Slitting-machine operators, male.....	14	6.0	60.0	56.0	93.3	.312	18.72	17.46
Testers, can, male.....	8	5.9	60.0	53.6	89.3	.370	22.20	19.84
Truckers, male.....	16	5.9	60.0	54.3	90.5	.372	22.32	20.20
Other skilled employees, male.....	17	5.9	60.0	58.6	97.7	.582	34.92	34.11
Other employees, male.....	23	5.6	60.0	56.7	94.5	.414	24.84	23.51
Other employees, female.....	6	5.8	60.0	55.1	91.8	.289	17.34	15.90
All employees, male.....	220	5.5	60.0	51.2	85.3	.401	24.06	20.50
All employees, female.....	48	5.4	60.0	50.9	84.8	.243	14.58	12.36
All employees, male and female.....	268	5.5	60.0	51.1	85.2	.373	22.38	19.04

Table 51 shows average and classified hourly earnings in 11 occupations in tin-can manufacturing in 1929:

TABLE 51.—Average and classified earnings per hour in 11 occupations in tin-can manufacturing, 1929, by sex

Occupation and sex	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—															
			14, under 16	20, under 22	22, under 24	24, under 26	26, under 28	30, under 35	35, under 40	40, under 45	45, under 50	50, under 60	60, under 70	70, under 80	80, under 90	90, under 100	100 and under 120	
Double-seam machine operators, male	8	\$0.340				25	13	13	38		13							
Inspectors, can, male	5	.466								20		20		60				
Inspectors, can, female	28	.243	7	11		75				7								
Laborers, male	88	.319				25	3	51	14	7								
Laborers, female	14	.219		64	14	14				7								
Machinists, male	6	.880												17			17	50
Machinists' helpers, male	3	.517									33		33	33				
Maintenance machine men	15	.498							7	13	7	27	27	13	7			
Openers, tin plate male	9	.350								67	33							
Shear operators, male	8	.358								38	38	25						
Slitting-machine operators, male	14	.312				36		14	50									
Testers, can, male	8	.370				13		38	13	25	13							
Truckers, male	16	.372				6		13	31	50								

Electricity—Manufacture and Distribution

Hours and earnings of employees are presented in Table 52 by occupations for the 256 employees of a plant engaged in the manufacture and distribution of electric power. Males only were employed at this work. The figures in the table were compiled from data for a half-monthly pay period in 1930.

Average earnings per hour by occupations ranged from 42.5 cents for wiremen's helpers to 85.8 cents for trouble men. The employees in the group of "other skilled employees" earned an average of 90 cents per hour. All employees combined earned an average of 70.7 cents per hour.

The rate for overtime and for work on Sunday and holidays was two times the rate for regular working time and applied to all except monthly rate employees.

All employees in service of company four months or more were paid a percentage bonus based on quarterly profits of plant. In 1929 the bonus was approximately 12 per cent of earnings at basic rates.

TABLE 52.—Average days worked, average full-time and actual hours and earnings, per cent of full time actually worked, and average earnings per hour, in the manufacture and distribution of electricity, 1930, by occupation

Occupation	Number of employees	Average number of days on which employees worked in one-half month	Average full-time hours		Average hours actually worked in one-half month	Per cent of full time worked	Average earnings per hour	Average full-time earnings		Average actual earnings in one-half month
			Per week	In one-half month				Per week	In one-half month	
Electricians.....	8	12.6	44.5	93.5	94.8	101.4	\$0.809	\$36.00	\$75.64	\$76.71
Groundmen.....	7	13.0	44.0	92.0	94.3	102.5	.503	22.13	46.28	47.39
Laborers.....	11	12.5	44.4	93.1	92.7	99.5	.490	21.76	45.62	45.40
Linemen.....	33	12.8	44.0	92.0	92.8	100.9	.664	29.22	61.09	61.62
Linemen's helpers.....	13	12.7	44.0	92.0	91.3	99.2	.487	21.43	44.80	44.46
Trouble men.....	6	13.0	44.0	95.3	95.3	100.0	.858	37.75	81.82	81.82
Wiremen.....	30	12.2	44.0	92.0	89.3	97.1	.686	30.18	63.11	61.23
Wiremen's helpers.....	20	12.3	44.0	92.0	89.7	97.5	.425	18.70	39.10	38.14
Other skilled employees.....	54	13.0	46.7	100.9	101.0	100.1	.900	42.03	90.81	90.90
Other employees.....	74	13.0	45.9	98.5	100.2	101.7	.721	33.09	71.02	72.24
All employees.....	256	12.8	45.1	96.0	96.1	100.1	.707	31.89	67.87	67.97

Table 53 shows average and classified hourly earnings in eight occupations in the manufacture and distribution of electricity in 1930:

TABLE 53.—Average and classified earnings per hour in eight occupations in the manufacture and distribution of electricity, 1930

Occupation	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—									
			30, under 35	35, under 40	40, under 45	45, under 50	50, under 60	60, under 70	70, under 80	80, under 90	90, under 100	100, under 120
Electricians.....	8	\$0.809	---	---	---	---	---	13	63	---	---	25
Groundmen.....	7	.503	---	---	14	43	43	---	---	---	---	---
Laborers.....	11	.490	---	9	---	55	36	---	---	---	---	---
Linemen.....	33	.664	---	---	---	39	12	42	6	---	---	---
Linemen's helpers.....	13	.487	---	---	8	69	23	---	---	---	---	---
Trouble men.....	6	.858	---	---	---	17	---	17	33	17	17	---
Wiremen.....	30	.686	---	---	---	10	27	17	20	20	7	---
Wiremen's helpers.....	30	.425	5	20	50	15	10	---	---	---	---	---

Street Railways

Data of hours and earnings, by occupations, for 236 employees of the only electric street railway on the islands are presented in Table 54. The data were compiled from figures for a representative half-monthly pay period in 1930 and are for males only.

The average earnings per hour, by occupations, ranged from 38.7 cents for laborers to 62.2 cents for operators of 1-man busses and 74.1 cents for "other skilled employees."

TABLE 54.—Average number of days worked, average full-time and actual hours and earnings, per cent of full time actually worked, and average earnings per hour on street railways, 1930, by occupation

Occupation	Number of employees	Average number of days on which employees worked in one-half month		Average full-time hours		Average hours actually worked in one-half month	Per cent of full time worked	Average earnings per hour		Average full-time earnings in one-half month
		Per week	In one-half month	Per week	In one-half month			Per week	In one-half month	
Carpenters.....	5	13.0	50.0	105.0	105.0	100.0	\$0.610	\$30.50	\$64.05	\$64.05
Conductors, regular.....	48	12.9	(¹)	(¹)	114.7	(¹)	.560	(¹)	(¹)	64.18
Conductors, extra.....	13	11.0	(¹)	(¹)	94.2	(¹)	.470	(¹)	(¹)	44.30
Laborers.....	23	12.0	50.7	107.0	97.8	91.4	.387	19.62	41.41	37.80
Mechanics.....	9	12.8	58.7	126.1	123.1	97.6	.538	31.58	67.84	66.24
Motormen, regular.....	47	12.4	(¹)	(¹)	111.1	(¹)	.568	(¹)	(¹)	63.04
Motormen, extra.....	15	11.2	(¹)	(¹)	91.7	(¹)	.470	(¹)	(¹)	43.12
Operators of 1-man busses, regular.....	10	11.8	(¹)	(¹)	113.4	(¹)	.622	(¹)	(¹)	70.50
Operators of 1-man busses, extra.....	2	13.5	(¹)	(¹)	124.5	(¹)	.535	(¹)	(¹)	66.63
Operators of 1-man cars, regular.....	28	13.5	(¹)	(¹)	124.8	(¹)	.598	(¹)	(¹)	74.64
Operators of 1-man cars, extra.....	3	14.0	(¹)	(¹)	134.8	(¹)	.549	(¹)	(¹)	74.08
Painters.....	5	13.0	50.0	105.0	105.0	100.0	.446	22.30	46.83	46.83
Other skilled employees.....	5	13.0	52.0	110.0	109.2	99.3	.741	38.53	81.51	80.96
Other employees.....	23	13.3	53.0	112.0	120.7	107.8	.537	28.46	60.14	64.82
All employees.....	236	12.6	² 52.5	² 111.0	111.6	² 100.5	.544	² 22.62	² 60.38	60.73

¹ Not reported.

² Not including data for 166 employees; regular full-time hours per week not reported.

Table 55 shows average and classified earnings per hour in eight occupations on street railways, 1930:

TABLE 55.—Average and classified earnings per hour in eight occupations on street railways, 1930

Occupation	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—					
			35 and under 40	40 and under 45	45 and under 50	50 and under 60	60 and under 70	70 and under 80
Carpenters.....	5	\$0.610	—	—	—	40	40	20
Conductors, regular.....	48	.560	—	—	10	64	25	
Conductors, extra.....	13	.470	—	—	100	—	—	
Laborers.....	23	.387	61	35	4	—	—	
Mechanics.....	9	.538	—	—	11	78	11	
Motormen, regular.....	47	.568	—	—	11	64	26	
Motormen, extra.....	15	.470	—	—	100	—	—	
Operators of 1-man busses, regular.....	10	.622	—	—	—	30	70	
Operators of 1-man busses, extra.....	2	.535	—	—	—	100	—	
Operators of 1-man cars, regular.....	28	.598	—	—	—	46	54	
Operators of 1-man cars, extra.....	3	.549	—	—	—	100	—	
Painters.....	5	.446	40	20	20	—	20	

Table 56 shows the number of runs with specified hours on duty of motormen and conductors, operators of 1-man cars, and operators of 1-man busses, on Monday to Friday, Saturday, and Sunday, and the number of hours within which each run was completed.

Reading the table, it is seen that on Monday to Friday the hours of the motorman and conductor on one run were $5\frac{1}{2}$ and under .6,

and that the run was completed within $8\frac{1}{2}$ and under 9 hours. This means that the motorman and the conductor on this run were off duty 3 hours between the time of beginning and quitting work each day, Monday to Friday. It is also seen that the hours of duty of another run were $8\frac{1}{2}$ and under 9 and that it was completed within the same number of hours. This means that it was a straight run—one that is continuous from time of beginning until time of quitting work for the day, with no time off duty. Two runs Monday to Friday were each 10 and under $10\frac{1}{2}$ hours per day, one completed within 12 and under $12\frac{1}{2}$ hours and the other within $12\frac{1}{2}$ and under 13 hours.

Car and bus operators with runs of 9 hours or less per day were paid one and one-half times their regular rate for any time worked in excess of 9 hours. Those with runs of more than 9 hours per day were paid one and one-half times their regular rate for any time worked in excess of their regular working time.

TABLE 56.—Number of regular runs (days' work) on street railways, by hours on duty and hours within which runs were completed

Number of hours within which runs were completed	Number of runs with hours on duty of—											Total
	2 and under $2\frac{1}{2}$	$5\frac{1}{2}$ and under 6	6 and under $6\frac{1}{2}$	$6\frac{1}{2}$ and under 7	7 and under $7\frac{1}{2}$	$7\frac{1}{2}$ and under 8	8 and under $8\frac{1}{2}$	$8\frac{1}{2}$ and under 9	9 and under $9\frac{1}{2}$	$9\frac{1}{2}$ and under 10	10 and under $10\frac{1}{2}$	
Monday to Friday												
$8\frac{1}{2}$ and under 9.....		1						1				2
10 and under $10\frac{1}{2}$								4				4
$10\frac{1}{2}$ and under 11.....								1	7			8
11 and under $11\frac{1}{2}$									3			3
12 and under $12\frac{1}{2}$			1					2	3		1	7
$12\frac{1}{2}$ and under 13.....					4	2	1	1	2	1	1	12
13 and under $13\frac{1}{2}$								9	3			12
Total.....		1	1		4	2	1	4	19	14	2	48
Saturday												
2 and under $2\frac{1}{2}$	1											1
7 and under $7\frac{1}{2}$					3							3
$7\frac{1}{2}$ and under 8.....						1						1
$8\frac{1}{2}$ and under 9.....							1					1
$9\frac{1}{2}$ and under 10.....							1					1
10 and under $10\frac{1}{2}$								4				4
$10\frac{1}{2}$ and under 11.....									7			7
11 and under $11\frac{1}{2}$									3			3
12 and under $12\frac{1}{2}$							3	1			1	5
$12\frac{1}{2}$ and under 13.....		1		3			1	10	1	1	1	17
13 and under $13\frac{1}{2}$				1					5			6
$13\frac{1}{2}$ and under 14.....									1			1
Total.....	1	1		4	3	1		6	15	17	2	50
Sunday												
$6\frac{1}{2}$ and under 7.....				2								2
$7\frac{1}{2}$ and under 8.....						4						4
$9\frac{1}{2}$ and under 10.....								4	1			4
10 and under $10\frac{1}{2}$								1	1	2		4
13 and under $13\frac{1}{2}$								2	3			5
14 and under $14\frac{1}{2}$										1		1
Total.....				2		4		7	4	3		20

TABLE 56.—Number of regular runs (days' work) on street railways, by hours on duty and hours within which runs were completed—Continued

OPERATORS OF 1-MAN CARS

Number of hours within which runs were completed	Number of runs with hours on duty of—							Total
	5 and under 5½	8 and under 8½	8½ and under 9	9 and under 9½	9½ and under 10	10 and under 10½	10½ and under 11	
Monday to Friday								
5 and under 5½.....	1							1
9 and under 9½.....				1				1
9½ and under 10.....			1	3				4
10 and under 10½.....				3	1			4
10½ and under 11.....					3	1		4
12 and under 12½.....		2		4				6
12½ and under 13.....				4				4
13 and under 13½.....					1			1
14 and under 14½.....				1				1
Total.....	1	2	1	16	5	1		26
Saturday								
5 and under 5½.....	1							1
9 and under 9½.....				1				1
9½ and under 10.....			1	3				4
10 and under 10½.....				3	1			4
10½ and under 11.....					3	1		4
12 and under 12½.....		1		4				5
12½ and under 13.....			1	4				5
13 and under 13½.....					1			1
14 and under 14½.....				1				1
Total.....	1	1	2	16	5	1		26
Sunday								
9 and under 9½.....				2				2
9½ and under 10.....				3	1			5
10 and under 10½.....			1	3	1			4
10½ and under 11.....					3	1		5
12 and under 12½.....		1		4			1	5
12½ and under 13.....			1	4				5
13 and under 13½.....					1			1
14 and under 14½.....				1				1
Total.....		1	2	17	6	1	1	28

TABLE 56.—Number of regular runs (days' work) on street railways, by hours on duty and hours within which runs were completed—Continued

OPERATORS OF 1-MAN BUSESSES

Number of hours within which runs were completed	Number of runs with hours on duty of—								Total
	9 and under 9½	9½ and under 10	10 and under 10½	10½ and under 11	11 and under 11½	11½ and under 12	12 and under 12½	12½ and under 13	
Monday to Friday									
10 and under 10½	1								1
10½ and under 11	2								2
11 and under 11½		1							1
12 and under 12½	3								3
12½ and under 13			1						1
13½ and under 14				1					1
15 and under 15½			1						1
Total	6	1	2	1					10
Saturday									
10 and under 10½	1								1
10½ and under 11	2								2
11 and under 11½		1							1
12 and under 12½	3								3
12½ and under 13				1					1
14½ and under 15						1			1
16½ and under 17							1		1
Total	6	1		1		1	1		10
Sunday									
9½ and under 10		1							1
10 and under 10½	1		1						2
10½ and under 11	2								2
11 and under 11½		1							1
12 and under 12½	3								3
12½ and under 13			1						1
Total	6	2	2						10

Table 57 shows for each motorman, conductor, operator of 1-man cars, and operator of 1-man busses the classified hours actually worked and the classified earnings in a representative half-monthly pay period in 1930.

In the half month the hours actually worked by one motorman were "10 and under 20 hours," and his earnings were "\$10 and under \$12.50." Another motorman whose hours were "20 and under 30" earned "\$10 and under \$12.50." It is further seen that the hours of three motormen were "135 and under 140" in the half month and that their earnings were "\$82.50 and under \$85."

TABLE 57.—Classified actual hours and earnings in one-half month in specified occupations on street railways, 1930

Occupation and classified earnings in one-half month	Number of employees in each earnings group whose hours of actual work in one-half month were—																		Total		
	Under 10	10 and under 20	20 and under 30	30 and under 50	50 and under 60	60 and under 70	70 and under 80	80 and under 90	90 and under 95	95 and under 100	100 and under 105	105 and under 110	110 and under 115	115 and under 120	120 and under 125	125 and under 130	130 and under 135	135 and under 140		140 and under 145	145 and under 150
MOTORMEN, REGULAR																					
\$10.00 and under \$12.50.....		1	1																		2
\$15.00 and under \$17.50.....			1																		1
\$35.00 and under \$37.50.....						1															1
\$42.50 and under \$45.00.....							1														1
\$47.50 and under \$50.00.....								1			2										4
\$50.00 and under \$52.50.....									1		1										1
\$52.50 and under \$55.00.....												1									2
\$55.00 and under \$57.50.....												2		1							5
\$57.50 and under \$60.00.....											1	1	1								5
\$60.00 and under \$62.50.....											1	1									3
\$62.50 and under \$65.00.....												1									2
\$65.00 and under \$67.50.....													2		1						3
\$70.00 and under \$72.50.....														1							2
\$72.50 and under \$75.00.....																1		1			3
\$75.00 and under \$77.50.....																3		3			1
\$77.50 and under \$80.00.....																2		1			3
\$80.00 and under \$82.50.....																		4			3
\$82.50 and under \$85.00.....																		3			3
Total.....		1	2			1	2	1	1		4	6	5	2	1	6	8	7			47
MOTORMEN, EXTRA																					
\$25.00 and under \$27.50.....					1																1
\$27.50 and under \$30.00.....						1															1
\$30.00 and under \$32.50.....																					1
\$37.50 and under \$40.00.....								1													2
\$40.00 and under \$42.50.....									2												3
\$42.50 and under \$45.00.....																					2
\$45.00 and under \$47.50.....										3											3
\$50.00 and under \$52.50.....											2										3
\$52.50 and under \$55.00.....												1									1
\$55.00 and under \$57.50.....														1	1						2
Total.....					1	2		3	3	2		1		2	1						15

TABLE 57.—Classified actual hours and earnings in one-half month in specified occupations on street railways, 1930—Continued

Occupation and classified earnings in one-half month	Number of employees in each earnings group whose hours of actual work in one-half month were—																		Total		
	Under 10	10 and under 20	20 and under 30	30 and under 50	50 and under 60	60 and under 70	70 and under 80	80 and under 90	90 and under 95	95 and under 100	100 and under 105	105 and under 110	110 and under 115	115 and under 120	120 and under 125	125 and under 130	130 and under 135	135 and under 140		140 and under 145	145 and under 150
CONDUCTORS, REGULAR																					
\$32.50 and under \$35.00					1																1
\$35.00 and under \$37.50						1															1
\$40.00 and under \$42.50								1													1
\$42.50 and under \$45.00								1													1
\$45.00 and under \$47.50										1											1
\$47.50 and under \$50.00									1												1
\$50.00 and under \$52.50									2												3
\$52.50 and under \$55.00										1											4
\$55.00 and under \$57.50											1										2
\$57.50 and under \$60.00														2							3
\$60.00 and under \$62.50														1							2
\$62.50 and under \$65.00															1						1
\$65.00 and under \$67.50																					5
\$67.50 and under \$70.00											1										7
\$70.00 and under \$72.50														3							5
\$75.00 and under \$77.50														1							7
\$77.50 and under \$80.00																					3
\$80.00 and under \$82.50																	1				4
\$82.50 and under \$85.00																	1	2			4
Total					1		1	2	4	2	2	2	9	4	4	6	6	5			48
CONDUCTORS, EXTRA																					
\$17.50 and under \$20.00				1																	1
\$27.50 and under \$30.00						1															1
\$32.50 and under \$35.00							1														1
\$40.00 and under \$42.50								1													1
\$42.50 and under \$45.00									1												2
\$45.00 and under \$47.50										1											1
\$47.50 and under \$50.00																					1
\$50.00 and under \$52.50													1								2
\$52.50 and under \$55.00													1								1
\$55.00 and under \$57.50															2						2
Total				1		1	1	1	1	2		2	2		2						13

OPERATORS OF 1-MAN CARS, REGULAR													
\$52.50 and under \$55.00													1
\$57.50 and under \$60.00													1
\$62.50 and under \$65.00													2
\$65.00 and under \$67.50													3
\$67.50 and under \$70.00													3
\$70.00 and under \$72.50													1
\$72.50 and under \$75.00													1
\$75.00 and under \$77.50													4
\$77.50 and under \$80.00													3
\$80.00 and under \$82.50													2
\$82.50 and under \$85.00													4
\$85.00 and under \$87.50													1
\$87.50 and under \$90.00													1
\$90.00 and under \$92.50													1
Total													28
OPERATORS OF 1-MAN CARS, EXTRA													
\$67.50 and under \$70.00													1
\$75.00 and under \$77.50													1
\$77.50 and under \$80.00													1
Total													3
OPERATORS OF 1-MAN BUSES, REGULAR													
\$2.50 and under \$5.00	1												1
\$50.00 and under \$52.50													1
\$72.50 and under \$75.00													2
\$75.00 and under \$77.50													1
\$77.50 and under \$80.00													1
\$82.50 and under \$85.00													2
\$85.00 and under \$87.50													1
\$95.00 and under \$97.50													1
Total	1												10
OPERATORS OF 1-MAN BUSES, EXTRA													
\$62.50 and under \$65.00													1
\$70.00 and under \$72.50													1
Total													2

Table 58 shows for each motorman, conductor, operator of 1-man cars, and operator of 1-man busses the actual number of days on which he worked in a representative half-monthly pay period in 1930 and the classified amount earned in such period.

In the one-half month one motorman worked on 2 days and his earnings were "\$10 and under \$12.50." Another motorman worked on 3 days and his earnings were the same. Two worked on 15 days and the earnings of one were \$52.50 and under \$55 and those of the other were "\$55 and under \$57.50." Of three who worked on 14 days the earnings of each were "\$82.50 and under \$85."

TABLE 58.—Days worked by employees and classified earnings in one-half month in specified occupations on street railways, 1930

Occupation, and classified earnings in one-half month	Number of employees earning each classified amount whose days worked in one-half month were—															Total
	1	2	3	5	6	7	8	9	10	11	12	13	14	15		
MOTORMEN, REGULAR																
\$10.00 and under \$12.50		1	1													2
\$15.00 and under \$17.50			1													1
\$35.00 and under \$37.50								1								1
\$42.50 and under \$45.00								1								1
\$47.50 and under \$50.00								1	1				2			4
\$50.00 and under \$52.50											1					1
\$52.50 and under \$55.00										1				1		2
\$55.00 and under \$57.50											1	2	1	1		5
\$57.50 and under \$60.00											2					2
\$60.00 and under \$62.50										1			1			2
\$62.50 and under \$65.00										1		1				2
\$65.00 and under \$67.50											2		1			3
\$70.00 and under \$72.50													2			2
\$72.50 and under \$75.00													1	1		1
\$75.00 and under \$77.50												2	4			6
\$77.50 and under \$80.00													3			3
\$80.00 and under \$82.50													6			6
\$82.50 and under \$85.00													3			3
Total		1	2					3	1	3	6	5	24	2		47
MOTORMEN, EXTRA																
\$25.00 and under \$27.50						1										1
\$27.50 and under \$30.00							1									1
\$30.00 and under \$32.50						1										1
\$37.50 and under \$40.00											1					1
\$40.00 and under \$42.50									1	1						2
\$42.50 and under \$45.00											3					3
\$45.00 and under \$47.50											2					2
\$50.00 and under \$52.50													1			1
\$52.50 and under \$55.00											1					1
\$55.00 and under \$57.50												1	1			2
Total						2	1		1	1	7	1	2			15
CONDUCTORS, REGULAR																
\$32.50 and under \$35.00					1											1
\$35.00 and under \$37.50								1								1
\$40.00 and under \$42.50											1					1
\$42.50 and under \$45.00									1							1
\$45.00 and under \$47.50													1			1
\$47.50 and under \$50.00													1			1
\$50.00 and under \$52.50									1			2				3
\$52.50 and under \$55.00										1		1			2	4
\$55.00 and under \$57.50										1	1					2
\$57.50 and under \$60.00												3				3
\$60.00 and under \$62.50												2				2
\$62.50 and under \$65.00												1				1
\$65.00 and under \$67.50												2	2	1		5
\$67.50 and under \$70.00												1	3	3		7
\$70.00 and under \$72.50												1	1	1		3
\$75.00 and under \$77.50												3	1			4
\$77.50 and under \$80.00												1				1

TABLE 58.—Days worked by employees and classified earnings in one-half month in specified occupations on street railways, 1930—Continued

Occupation, and classified earnings in one-half month	Number of employees earning each classified amount whose days worked in one-half month were—															Total
	1	2	3	5	6	7	8	9	10	11	12	13	14	15		
CONDUCTORS, REGULAR—Continued																
\$80.00 and under \$82.50													4			4
\$82.50 and under \$85.00													3			3
Total				1				1	2	2	6	17	16	3		48
CONDUCTORS, EXTRA																
\$17.50 and under \$20.00				1												1
\$27.50 and under \$30.00							1									1
\$32.50 and under \$35.00								1								1
\$40.00 and under \$42.50									1							2
\$42.50 and under \$45.00									1							1
\$45.00 and under \$47.50										1						1
\$47.50 and under \$50.00											1					1
\$50.00 and under \$52.50												1	1			2
\$52.50 and under \$55.00												1				1
\$55.00 and under \$57.50											1		1			2
Total				1			1	1	1	3	2	2	2			13
OPERATORS OF 1-MAN CARS, REGULAR																
\$52.50 and under \$55.00										1						1
\$57.50 and under \$60.00											1					1
\$62.50 and under \$65.00												1	1			2
\$65.00 and under \$67.50													3			3
\$67.50 and under \$70.00											1	1		1		3
\$70.00 and under \$72.50									1							1
\$72.50 and under \$75.00											1					1
\$75.00 and under \$77.50												1	3			4
\$77.50 and under \$80.00												1	2			3
\$80.00 and under \$82.50													1	1		2
\$82.50 and under \$85.00												2	1	1		4
\$85.00 and under \$87.50													1			1
\$87.50 and under \$90.00													1			1
\$90.00 and under \$92.50													1			1
Total										2	2	7	14	3		28
OPERATORS OF 1-MAN CARS, EXTRA																
\$67.50 and under \$70.00												1				1
\$75.00 and under \$77.50													1			1
\$77.50 and under \$80.00														1		1
Total												1	1	1		3
OPERATORS OF 1-MAN BUSES, REGULAR																
\$2.50 and under \$5.00	1															1
\$50.00 and under \$52.50								1								1
\$72.50 and under \$75.00									1			1				2
\$75.00 and under \$77.50													1			1
\$77.50 and under \$80.00													1			1
\$82.50 and under \$85.00													2			2
\$86.00 and under \$87.50													1			1
\$95.00 and under \$97.50													1			1
Total	1							1		1		1	6			10
OPERATORS OF 1-MAN BUSES, EXTRA																
\$62.50 and under \$65.00												1				1
\$70.00 and under \$72.50													1			1
Total												1	1			2

Printing and Publishing

Hours of labor and earnings in 1930 are presented in Table 59, by occupations, for 194 males and 24 females in the two most important newspaper and book and job printing and publishing companies in the Hawaiian Islands. Employees in each occupation were on a 6-day week of 44 hours basis.

In the weekly pay period covered the average hours actually worked by employees in each occupation, except male proof readers, were in excess of the average full-time hours per week.

Average earnings per hour by occupations were 35.2 cents for bindery women; 88.3 cents for bookbinders, male; \$1.04 for compositors, hand, male; \$1.196 for linotype operators, male; 45.1 cents for press feeders, male; 93.6 cents for pressmen; \$1.083 for proof readers, male; and 95.3 cents for stereotypers, male, etc. Males in all occupations earned an average of 91.5 cents per hour and females, 37.8 cents. The average for both sexes combined, or the industry, was 85.7 cents per hour.

The rate for overtime and for work on Sunday and holidays was one and one-half times the rate for regular working time and applied to all employees.

TABLE 59.—Average days worked, average full-time and actual hours and earnings per week, per cent of full time actually worked, and average earnings per hour in printing and publishing, 1930, by occupation and sex

Occupation and sex	Number of establishments	Number of employees	Average number of days on which employees worked in one week	Average full-time hours per week	Average hours actually worked in one week	Per cent of full time worked	Average earnings per hour	Average full-time earnings per week	Average actual earnings in one week
Bindery women.....	2	19	6.0	44.0	44.5	101.1	\$0.352	\$15.49	\$15.67
Bookbinders, male.....	2	6	6.0	44.0	44.6	101.3	.883	38.85	39.36
Compositors, hand, male.....	2	22	6.0	44.0	44.4	101.0	1.040	45.76	46.20
Linotype operators, male.....	2	33	6.0	44.0	44.1	100.3	1.196	52.62	52.79
Press feeders, male.....	2	8	6.0	44.0	47.9	108.9	.451	19.84	21.64
Pressmen, male.....	2	14	6.0	44.0	44.1	100.2	.936	41.18	41.28
Proof readers, male.....	2	6	6.0	44.0	44.0	100.0	1.083	47.67	47.67
Stereotypers, male.....	2	4	6.0	44.0	44.8	101.7	.953	41.93	42.66
Other skilled employees, male.....	2	36	6.0	44.0	45.2	102.8	1.358	59.75	61.42
Other employees, male.....	2	65	6.0	44.0	46.8	106.5	.545	23.98	25.53
Other employees, female.....	2	5	6.0	44.0	45.7	103.9	.472	20.77	21.58
All employees, male.....	2	194	6.0	44.0	45.5	103.4	.915	40.26	41.61
All employees, female.....	2	24	6.0	44.0	44.7	101.7	.378	16.63	16.90
All employees, male and female.....	2	218	6.0	44.0	45.4	103.1	.857	37.71	38.90

Table 60 shows the per cent of employees receiving each classified amount per hour in 1930 by occupations, in printing and publishing (newspaper, and book and job):

TABLE 60.—Average and classified earnings in printing and publishing in eight occupations, 1930, by sex

Occupation and sex	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—																
			16 and under 18	22 and under 24	24 and under 26	28 and under 30	30 and under 35	35 and under 40	40 and under 45	45 and under 50	50 and under 60	60 and under 70	70 and under 80	80 and under 90	90 and under 100	100 and under 120	120 and over		
Bindery women.....	19	\$0.352	5	11	5	5	32	16	5	11	11								
Bookbinders, male....	6	.883											33	17	17	33			
Compositors, hand, male.....	22	1.040											9	9	14	55	1	14	
Linotype operators, male.....	33	1.196													9	6	15	2	70
Pressfeeders, male....	8	.451						13	13	25	25	25							
Pressmen.....	14	.936										14	7	14	21			29	14
Proof readers, male....	6	1.083													33			50	17
Stereotypers, male....	4	.953												25	25			50	

¹ 9 per cent earned \$1.30 and under \$1.40 and 5 per cent \$1.20 and under \$1.30.
² 12 per cent earned \$1.30 and under \$1.40 and 58 per cent \$1.20 and under \$1.30.
³ 7 per cent earned \$1.40 and over and 7 per cent \$1.20 and under \$1.30.
⁴ These employees earned \$1.40 and over.

Stock Raising

Average hours and earnings are presented in Table 61 by occupations, for 191 employees of a very large stock farm engaged in the raising of cattle, sheep, horses, and hogs, and the production and marketing of dairy products. The data were collected by agents of the bureau for a monthly pay period in 1929 and are for males only.

The farm or ranch, including land owned and leased, covered more than 450,000 acres. The stock on the ranch included 27,000 cattle, 12,000 sheep, 3,000 horses, and several hundred swine.

The regular working time was 53 hours per week. Average earnings per hour were 30.6 cents for cowboys; 26.4 cents for dairymen; 19.9 cents for laborers; and 36 cents for all "other employees." The average earnings for all employees on the ranch were 27.5 cents per hour.

The rate for overtime and for work on Sunday and holidays was the same as for regular working time.

TABLE 61.—Average days worked, average full-time and actual hours and earnings, per cent of full time actually worked, and average earnings per hour in stock raising, 1929, by occupation

Occupation and sex	Number of employees	Average number of days on which employees worked in 1 month	Average full-time hours		Average hours actually worked in 1 month	Per cent of full time worked	Average earnings per hour	Average full-time earnings		Average actual earnings in 1 month
			Per week	Per month				Per week	Per month	
Cowboys.....	24	26.5	53.0	229.0	233.8	102.1	\$0.306	\$16.22	\$70.07	\$71.49
Dairymen.....	11	28.8	53.0	229.0	254.0	110.9	.264	13.99	60.46	66.99
Laborers.....	89	24.8	53.0	229.0	218.7	95.5	.199	10.55	45.57	43.55
Other employees.....	67	26.1	53.1	229.5	230.4	100.6	.360	19.12	82.62	83.02
All employees.....	191	25.7	53.0	229.0	226.7	99.0	.275	14.68	62.98	62.26

For the occupations of cowboys, dairymen, and laborers, average earnings per hour in 1929 and the per cent of employees earning each classified amount are shown in Table 62:

TABLE 62.—Average and classified earnings per hour in three occupations in stock raising, 1929

Occupation	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—												
			14 and under 16	16 and under 18	18 and under 20	20 and under 22	22 and under 24	24 and under 26	26 and under 28	28 and under 30	30 and under 35	35 and under 40	40 and under 45	45 and under 50	
Cowboys.....	24	\$0.306	---	4	13	17	8	---	4	8	---	8	8	21	8
Dairymen.....	11	.264	---	---	---	9	45	9	9	18	---	---	9	---	---
Laborers.....	89	.199	7	18	40	21	7	6	---	1	---	---	---	---	---

Machine Shops

Average full-time hours and earnings in 1929 are shown in Table 63, by occupations, for the employees of the two important machine shops on the islands. The hours of the employees in each shop were 44 per week, and average earnings by occupations, except "helpers" and "other employees," ranged from 49.8 cents for crane operators to \$1.051 for pattern makers.

The rate for overtime and for work on Sunday and holidays was two times the rate for regular working time and applied to all employees.

TABLE 63.—Average full-time hours and earnings in machine shops, 1929, by occupation

Occupation	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Blacksmiths.....	2	2	44.0	\$0.991	\$43.60
Blacksmiths' helpers.....	2	7	44.0	.535	23.54
Crane operators.....	1	3	44.0	.498	21.91
Helpers, not otherwise specified.....	2	20	44.0	.484	21.30
Machinists.....	2	47	44.0	.868	38.19
Machinists' and toolmakers' helpers.....	2	29	44.0	.510	22.44
Pattern makers.....	1	7	44.0	1.051	46.23
Other skilled employees.....	2	10	44.0	.894	39.34
Other employees.....	2	16	44.0	.484	21.30
All employees.....	2	141	44.0	.685	30.14

In one machine shop the pay period was one week and in the other two weeks. Table 64 shows by pay period the average full-time hours and earnings, the per cent of full time worked, and the hours actually worked and actual earnings in 1929.

TABLE 64.—Average days worked, average full-time and actual hours and earnings, per cent of full time actually worked, and average earnings per hour in machine shops, 1929, by occupation

Occupation	Number of employees	Average number of days on which employees worked in pay period	Average full-time hours per pay period	Average hours actually worked in pay period	Per cent of full time worked	Average earnings per hour	Average full-time earnings per pay period	Average actual earnings in pay period
One-week pay period								
Blacksmiths.....	1	6.0	44.0	44.0	100.0	\$0.942	\$41.45	\$41.45
Blacksmiths' helpers.....	5	6.0	44.0	44.0	100.0	.565	24.86	24.86
Crane operators.....	3	6.0	44.0	43.3	98.4	.498	21.91	21.57
Helpers, not otherwise specified.....	13	5.8	44.0	42.6	96.8	.531	23.36	22.62
Machinists.....	39	5.9	44.0	44.0	100.0	.853	37.49	37.49
Machinists' and toolmakers' helpers.....	25	5.9	44.0	44.1	100.2	.510	22.44	22.49
Pattern makers.....	7	6.0	44.0	44.0	100.0	1.051	46.23	46.23
Other skilled employees.....	7	5.3	44.0	39.9	90.7	.879	38.68	35.08
Other employees.....	9	6.0	44.0	44.2	100.5	.504	22.18	22.30
All employees.....	109	5.9	44.0	43.6	99.1	.699	30.76	30.45
Two-week pay period								
Blacksmiths.....	1	12.0	88.0	88.0	100.0	\$1.039	\$91.50	\$91.50
Blacksmiths' helpers.....	2	12.0	88.0	88.0	100.0	.460	40.48	40.48
Helpers, not otherwise specified.....	7	11.6	88.0	86.1	97.8	.398	35.02	34.24
Machinists.....	8	12.0	88.0	89.9	102.2	.999	82.63	84.39
Machinists' and toolmakers' helpers.....	4	12.0	88.0	87.9	99.9	.510	44.88	44.81
Other skilled employees.....	3	12.0	88.0	91.6	104.1	.930	81.84	85.23
Other employees.....	7	12.0	88.0	91.0	103.4	.458	40.30	41.71
All employees.....	32	11.9	88.0	89.0	101.2	.637	56.06	56.69

Table 65 gives average hourly earnings in 1929 for seven of the occupations in machine shops, and shows the number of employees earning each classified amount:

TABLE 65.—Average and classified earnings per hour in seven occupations in machine shops, 1929

Occupation	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—									
			30 and under 35	40 and under 45	45 and under 50	50 and under 60	60 and under 70	70 and under 80	80 and under 90	90 and under 100	100 and under 120	
Blacksmiths.....	2	\$0.991									50	50
Blacksmiths' helpers.....	7	.535		14	29	29	14	14				
Crane operators.....	3	.498			67	33						
Helpers, not otherwise specified.....	20	.484	5	30	10	50	5					
Machinists.....	47	.868					15	13	19	49		4
Machinists' and toolmakers' helpers.....	29	.510		3	45	48	3					
Pattern makers.....	7	1.051							14	14		71

Gas—Manufacture and Distribution

Data for the 102 employees engaged in the manufacture and distribution of gas are for males only in one establishment. In Table 66 average full-time hours, hourly earnings, and full-time weekly earnings in 1930, by occupations, are given.

The 48-hour week was in operation in all occupations and average earnings per hour ranged from 38 cents for laborers to 65 cents for gas-pipe fitters. The average for the industry was 47.8 cents per hour.

The rate for overtime and for Sunday and holidays was the same as for regular working time.

TABLE 66.—Average hours and earnings of employees in the manufacture and distribution of gas, 1930, by occupation

Occupation	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Boiler firemen.....	7	48.0	\$0.481	\$23.09
Gas makers.....	6	48.0	.621	29.81
Gas-pipe fitters.....	4	48.0	.650	31.20
Laborers.....	52	48.0	.380	18.24
Meter repair men.....	4	48.0	.475	22.80
Trouble men.....	3	48.0	.625	30.00
Other skilled employees.....	5	48.0	.596	28.61
Other employees.....	21	48.0	.562	26.98
All employees.....	102	48.0	.478	22.94

For certain occupations in the manufacture and distribution of gas the length of the pay period was one week and for others one-half month. Table 67 shows by occupation and pay period average full-time and actual hours and earnings, and also hourly earnings in 1930:

TABLE 67.—Average days worked, average full-time and actual hours and earnings, per cent of full time actually worked, and average earnings per hour in the manufacture and distribution of gas, 1930, by pay period and occupation

Occupation	Number of employees	Average number of days on which employees worked in pay period	Average full-time hours in pay period	Average hours actually worked in pay period	Per cent of full time worked	Average earnings per hour	Average full-time earnings in pay period	Average actual earnings in pay period
One-week pay period								
Gas-pipe fitters.....	4	6.0	48.0	48.0	100.0	\$0.650	\$31.20	\$31.20
Laborers.....	50	4.2	48.0	33.3	69.3	.379	18.19	12.60
Meter repair men.....	4	6.0	48.0	48.0	100.0	.475	22.80	22.80
Other skilled employees.....	4	6.0	48.0	48.0	100.0	.535	25.68	25.68
Other employees.....	15	6.0	48.0	48.0	100.0	.458	21.98	21.98
All employees.....	77	4.8	48.0	38.4	80.0	.432	20.74	16.60
One-half month pay period								
Boiler firemen.....	7	13.0	104.0	104.0	100.0	\$0.481	\$50.00	\$50.00
Gas makers.....	6	13.0	104.0	104.0	100.0	.621	64.58	64.58
Laborers.....	2	13.0	104.0	104.0	100.0	.397	41.25	41.25
Trouble men.....	3	13.0	104.0	104.0	100.0	.625	65.00	65.00
Other skilled employees.....	1	13.0	104.0	104.0	100.0	.841	87.50	87.50
Other employees.....	6	13.0	104.0	104.0	100.0	.821	85.42	85.42
All employees.....	25	13.0	104.0	104.0	100.0	.621	64.60	64.60

Table 68 gives the average hourly earnings in 1930, by occupation, and the per cent of employees who earned each classified amount per hour in gas manufacture and distribution.

TABLE 68.—Average and classified earnings per hour of employees in six occupations in the manufacture and distribution of gas, 1930

Occupation	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—								
			30 and under 35	35 and under 40	40 and under 45	45 and under 50	50 and under 60	60 and under 70	70 and under 80	80 and under 90	
Boiler firemen.....	7	\$0.481				100					
Gas makers.....	6	.621					67	17	17		
Gas-pipe fitters.....	4	.650					50	25		25	
Laborers.....	52	.380	2	79	19						
Meter repair men.....	4	.475			50		50				
Trouble men.....	3	.625					33	33		33	

Dry Dock

Average full-time and actual hours and earnings, by occupations, are presented in Table 69 for the 94 employees of the most important dry dock on the islands. The data are for a pay period of one week in 1929 and for males only. The regular hours of operation of employees in each occupation were 45 per week and average earnings per hour ranged from 44.1 cents for laborers to 91.4 cents for machinists.

The rate for overtime and for work on Sunday and holidays was one and one-half times the rate for regular working time and applied to all employees.

TABLE 69.—Average days worked, average full-time and actual hours and earnings per week, per cent of full time actually worked, and average earnings per hour for dry-dock workers, 1929, by occupation

Occupation	Number of employees	Average number of days on which employees worked in one week	Average full-time hours per week	Average hours actually worked in one week	Per cent of full time worked	Average earnings per hour	Average full-time earnings per week	Average actual earnings made in one week
Carpenters.....	13	5.8	45.0	45.8	101.8	\$0.724	\$32.58	\$33.18
Carpenters' helpers.....	3	6.0	45.0	47.0	104.4	.477	21.47	22.43
Laborers.....	41	4.4	45.0	33.7	74.9	.441	19.85	14.84
Machinists.....	4	5.8	45.0	44.3	98.4	.914	41.13	40.45
Machinists' helpers.....	4	6.0	45.0	45.8	101.8	.457	20.57	20.89
Welders.....	2	5.5	45.0	44.7	99.3	.912	41.04	40.73
Other skilled employees.....	10	6.1	45.0	48.0	106.7	.851	38.30	40.87
Other employees.....	17	5.1	45.0	39.8	88.4	.457	20.57	18.19
All employees.....	94	5.1	45.0	39.6	88.0	.578	26.01	22.89

In Table 70 average hourly earnings and the per cent of employees who earned each classified amount per hour in 1929 are shown for six occupations in dry-dock work.

TABLE 70.—Average and classified earnings per hour in six occupations in a dry dock, 1929

Occupation	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—							
			30 and under 35	40 and under 45	45 and under 50	50 and under 60	60 and under 70	70 and under 80	80 and under 90	90 and under 100
Carpenters.....	13	\$0.724					23	77		
Carpenters' helpers.....	3	.477		67		33				
Laborers.....	41	.441	2	88	5	5				
Machinists.....	4	.914							50	50
Machinists' helpers.....	4	.457		50	25	25				
Welders.....	2	.912							50	50

Dairies

Average number of days on which employees worked, average full-time and actual hours and earnings in 1930, by occupations, are given in Table 71 for the employees of the most important establishment on the islands that is engaged in the production and distribution of dairy products. The figures were compiled from data collected for a representative pay period of one month in 1930 and are for males only.

Average earnings per hour ranged from 20.9 cents for laborers to 53.3 cents for truck drivers who deliver milk and other products to customers. The average for the industry was 29.9 cents per hour.

The rate for overtime and for work on Sunday and holidays was the same as for regular working time.

TABLE 71.—Average days worked, average full-time and actual hours and earnings, per cent of full time actually worked, and average earnings per hour of dairy employees, 1930, by occupation

Occupation	Number of employees	Average number of days on which employees worked in one month	Average full-time hours—		Average hours actually worked in one month	Per cent of full time worked	Average earnings per hour	Average full-time earnings—		Average actual earnings in one month
			Per week	In one month				Per week	In one month	
Cow washers.....	9	28.1	69.0	302.0	271.7	90.0	\$0.215	\$14.84	\$64.93	\$58.35
Laborers.....	34	22.7	69.0	305.5	223.7	73.2	.209	14.42	63.85	46.68
Milkers, machine.....	7	26.3	60.0	261.0	256.0	98.1	.294	17.64	76.73	75.14
Teamsters.....	5	24.8	69.0	303.6	242.2	79.8	.263	18.15	79.85	63.77
Truck drivers (delivering milk).....	9	31.0	56.0	243.0	243.0	100.0	.533	29.85	129.60	129.60
Other employees.....	20	28.6	67.3	291.9	271.6	93.0	.377	25.37	110.05	102.49
All employees.....	84	26.0	66.4	291.3	246.1	84.5	.299	19.85	87.10	73.49

Table 72 gives the per cent of employees earning each classified amount per hour for five occupations in dairies, and average earnings per hour in 1930. Truck drivers were the only employees who earned as much as 35 cents per hour.

TABLE 72.—Average and classified earnings per hour in five occupations in dairies, 1930

Occupation	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—												
			14 and under 16	16 and under 18	20 and under 22	22 and under 24	24 and under 26	26 and under 28	28 and under 30	30 and under 35	35 and under 40	50 and under 60	70 and under 80		
Cow washers.....	9	\$0.215		11	56	22			11						
Laborers.....	34	.209	3	3	76	12	3				3				
Milkers, machine.....	7	.294						14	43	43					
Teamsters.....	5	.263					60	20	20						
Truck drivers (delivering milk).....	9	.533										22	67	11	

Coffee Mills

Separate studies were made of the two divisions of the coffee industry, but the report includes figures only as to the mill processes of hauling, sorting, and polishing the bean. Agricultural data could not be included because such operations were not going on at the time the agents of the bureau visited the islands and it was impracticable to locate coffee producers who employ any considerable number of workers and retain copies of pay rolls beyond the season's crop. A succinct idea of the industry is given in the report of the governor of the Territory for the fiscal year ending June 30, 1929, as follows:

The present acreage devoted to coffee production on the island of Hawaii, the only island on which coffee is produced on a commercial scale, is Kona district, 5,500 acres; Hamakua district, 400 acres; other districts, 100 acres.

In Kona district there are about 1,200 coffee farms, and at the height of the picking season, during the past year, about 1,200 men and 850 women were employed in the industry. The value of the coffee exported during the calendar year 1928 was \$1,368,826, the crop amounting to 5,151,266 pounds.

The figures in Table 73 are for average full-time hours and earnings and average hourly earnings, by occupations, for employees of the two establishments on the islands that clean, dry, grade, and otherwise prepare the coffee bean for the trade.

Males in all occupations combined earned an average of 30.7 cents per hour and females 14.1 cents per hour, while the average for the industry was 21.3 cents per hour.

The rate for overtime and for work on Sunday and holidays was one and one-half times the rate for regular working time. This rate applied to laborers with rate of \$12 per week and males in other occupations. The rate for females was the same as for regular working time.

One mill has a profit-sharing bonus that applies only to males in service of plant at end of year. In 1929 the bonus was approximately 12 per cent of earnings.

TABLE 73.—Average hours and earnings in coffee mills, 1929-30, by occupation and sex

Occupation and sex	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Carpenters, male.....	2	3	54.5	\$0.433	\$23.60
Coffee pickers, female.....	2	41	55.1	.139	7.66
Grading machine operators, male.....	2	3	54.5	.361	19.67
Laborers, male.....	2	19	55.2	.252	13.91
Other employees, male.....	2	7	56.3	.379	21.34
Other employees, female.....	1	(1)	(1)	(1)	(1)
All employees, male.....	2	32	55.3	.307	16.78
All employees, female.....	2	42	55.0	.141	7.76
All employees, male and female.....	2	74	55.1	.213	11.74

¹ Included in total.

In one coffee mill the pay period was a month and in the other a week for males and a month for females. The average full-time and actual hours and earnings for employees in these coffee mills in 1929-30 are given in Table 74, by pay periods.

TABLE 74.—Average days worked, average full-time and actual hours and earnings, per cent of full time actually worked, and average earnings per hour in coffee mills, 1929-30, by occupation and sex

Occupation and sex	Number of employees	Average number of days on which employees worked in pay period	Average full-time hours per pay period	Average hours actually worked in pay period	Per cent of full-time worked	Average earnings per hour	Average full-time earnings per pay period	Average actual earnings in pay period
One-week pay period								
Carpenters, male.....	2	6.0	52.0	54.0	103.8	\$0.498	\$25.90	\$26.88
Grading machine operators, male.....	2	6.0	52.0	54.0	103.8	.381	19.81	20.58
Laborers, male.....	11	5.7	52.0	53.5	102.9	.265	13.78	14.19
Other employees, male.....	3	6.0	52.0	54.0	103.8	.432	22.46	23.33
Other employees, female.....	1	6.0	52.0	52.0	100.0	.231	12.00	12.00
All employees, male.....	18	5.8	52.0	53.7	103.3	.332	17.26	17.83
All employees, female.....	1	6.0	52.0	52.0	100.0	.231	12.00	12.00
All employees, male and female.....	19	5.8	52.0	53.7	103.3	.326	16.95	17.53
One-month pay period								
Coffee pickers, female.....	24	20.9	208.0	181.7	87.4	\$0.133	\$27.66	\$24.16
Carpenters, male.....	1	30.0	257.5	297.5	115.5	.303	78.02	90.00
Grading-machine operators, male.....	1	30.0	257.5	293.3	113.9	.321	82.66	94.15
Laborers, male.....	8	22.0	257.5	240.1	93.2	.235	60.51	56.42
Coffee pickers, female.....	17	23.4	257.5	231.7	90.0	.145	37.34	33.64
Other employees, male.....	4	27.0	257.5	257.9	100.2	.339	87.20	87.31
All employees, male.....	14	24.6	257.5	253.1	98.3	.272	70.04	70.34
All employees, female.....	17	23.4	257.5	231.7	90.0	.145	37.34	33.64
All employees, male and female.....	31	23.9	257.5	241.4	93.7	.208	53.56	50.21

TABLE 77.—Average days worked, average full-time and actual hours and earnings, per cent of full time actually worked, and average earnings per hour in foundries, 1929, by occupation

Occupation	Number of employees	Average number of days on which employees worked in pay period	Average full-time hours per pay period	Average hours actually worked in pay period	Per cent of full-time worked	Average earnings per hour	Average full-time earnings per pay period	Average actual earnings in pay period
Chippers and rough grinders	4	6.0	44.0	44.0	100.0	\$0.539	\$23.71	\$23.71
Core makers	3	5.0	44.0	37.0	84.1	1.086	47.78	40.20
Crane operators	3	5.3	44.0	38.7	88.0	.563	24.77	21.75
Cupola tenders	2	6.0	44.0	40.5	92.0	.562	24.73	22.78
Molders, hand, floor	12	5.5	44.0	42.2	95.9	1.101	48.44	46.50
Molders' helpers, floor	22	5.9	44.0	43.3	98.4	.513	22.57	22.19
Rough carpenters	1	5.0	44.0	40.0	90.9	.688	30.27	27.50
Other employees	3	6.0	44.0	44.0	100.0	.250	11.00	11.00
All employees	50	5.7	44.0	42.3	96.1	.678	29.83	28.66
Two-week pay period								
Molders, hand, floor	4	12.0	88.0	88.3	100.3	\$0.833	\$73.30	\$73.55
Molders' helpers, floor	10	11.8	88.0	86.2	98.0	.512	45.06	44.11
Other employees	2	12.0	88.0	88.5	100.6	.241	21.21	21.35
All employees	16	11.9	88.0	87.0	98.9	.559	49.19	48.63

Table 78 gives for seven occupations in foundries the per cent of employees earning each classified amount per hour and the average earnings per hour in 1929.

TABLE 78.—Average and classified earnings per hour in seven occupations in foundries, 1929

Occupation	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—						
			40 and under 45	45 and under 50	50 and under 60	60 and under 70	80 and under 90	90 and under 100	100 and under 120
Chippers and rough grinders	4	\$0.539	-----	-----	100	-----	-----	-----	-----
Core makers	3	1.086	-----	-----	-----	-----	-----	-----	100
Crane operators	3	.563	-----	-----	100	-----	-----	-----	-----
Cupola tenders	2	.562	-----	-----	100	-----	-----	-----	-----
Molders, hand, floor	16	1.034	-----	-----	-----	6	6	13	75
Molders' helpers, floor	32	.513	3	3	94	-----	-----	-----	-----
Rough carpenters	1	.688	-----	-----	-----	100	-----	-----	-----

Slaughtering and Meat Packing

Figures in Table 79 are for average number of days on which employees worked, and for average full-time and actual hours and earnings in one week in 1930 in a slaughtering and meat-packing establishment, the employees of which were all males.

The regular hours of the establishment were 9 per day Monday to Friday and 6 on Saturday, or 51 per week. Earnings per hour by occupations ranged from an average of 27.8 cents for hide workers to 46.6 cents for butchers and 47.1 cents for mechanics.

The rate for overtime and for work on Sunday and holidays was the same rate as for regular working time.

TABLE 79.—Average days worked, average full-time and actual hours and earnings per week, per cent of full time actually worked, and average earnings per hour in slaughtering and meat packing, 1930, by occupation

Occupation	Number of employees	Average number of days on which employees worked in 1 week	Average full-time hours per week	Average hours actually worked in 1 week	Per cent of full time worked	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
Butchers.....	4	5.5	51.0	47.3	92.7	\$0.466	\$23.77	\$22.00
Ice-house workers.....	3	6.0	51.0	51.0	100.0	.343	17.49	17.49
Hide workers, general.....	3	6.0	51.0	51.0	100.0	.278	14.18	14.18
Laborers.....	7	5.7	51.0	49.3	96.7	.317	16.17	15.64
Offal workers, general.....	8	6.0	51.0	51.1	100.2	.328	16.73	16.75
Mechanics.....	1	6.0	51.0	51.0	100.0	.471	24.00	24.00
All employees.....	26	5.8	51.0	50.0	98.0	.347	17.70	17.33

Table 80 gives for six occupations in slaughtering and meat packing the per cent of employees whose earnings per hour were each classified amount, and shows average hourly earnings in 1930.

TABLE 80.—Average and classified earnings per hour in six occupations in slaughtering and meat packing, 1930

Occupation	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—							
			24 and under 26	26 and under 28	28 and under 30	30 and under 35	35 and under 40	40 and under 45	45 and under 50	50 and under 60
Butchers.....	4	\$0.466						25	75	
Ice-house workers.....	3	.343				33	67			
Hide workers, general.....	3	.378	33			67				
Laborers.....	7	.317		14	29	29	29			
Offal workers, general.....	8	.328				88				13
Mechanics.....	1	.471							100	

Overalls and Shirt Making

In Table 81 are given average number of days on which employees worked and the average full-time and actual hours and earnings of employees of one manufacturer of overalls and shirts for a representative weekly pay period in 1930.

Female sewing-machine operators, representing 76 per cent of the total number of employees in the establishment, worked an average of 5.2 days or 40.4 hours in one week and earned an average of \$13.25 in one week and an average of 32.8 cents per hour. They worked 89.4 per cent of full time in the week, the full-time hours being 45.2. Had they worked full time at the same average of 32.8 cents per hour their earnings would have averaged \$14.83. Earnings per hour

ranged from an average of 19 cents for one employee to 40 cents for two employees.

The rate for overtime and for work on Sunday and holidays was the same as for regular working time.

TABLE 81.—Average days worked, average full-time and actual hours and earnings per week, per cent of full time actually worked, and average earnings per hour in overalls and shirt making, 1930, by occupation and sex

Occupation and sex	Number of employees	Average number of days on which employees worked in 1 week	Average full-time hours per week	Average hours actually worked in 1 week	Per cent of full time worked	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
Machine operators, female.....	13	5.2	45.2	40.4	89.4	\$0.328	\$14.83	\$13.25
Pressers, male.....	1	6.0	45.2	46.0	101.8	.174	7.86	8.00
Other employees, ¹ female.....	3	5.3	45.2	41.3	91.4	.219	9.90	9.05
All employees, male.....	1	6.0	45.2	46.0	101.8	.174	7.86	8.00
All employees, female.....	16	5.3	45.2	40.6	89.8	.307	13.88	12.46
All employees, male and female.....	17	5.3	45.2	40.9	90.5	.298	13.47	12.20

¹ Include 1 folder, 1 machine operator learner, and 1 general utility worker.

Salaries of Policemen and Firemen and Wages of Street Labor in Honolulu, 1930

The number of persons in each official position or occupation in the Honolulu police and fire departments in 1930 at each specified monthly salary and the rate of wages per hour of unskilled street laborers are shown in Table 82.

Monthly salaries in the police department ranged from \$155 for traffic policemen to \$550 for the sheriff, and in the fire department ranged from \$140 for hose men and watchmen to \$400 for the chief. Unskilled street laborers were paid a wage rate of 53 cents per hour, and their regular hours were 8 per day on Monday to Friday and 4 on Saturday, or 44 per week.

TABLE 82.—Salaries of Honolulu police and fire departments, and wages of street labor, 1930, by department and position or occupation

Department and official position or occupation	Number of persons	Salary per month	Department and official position or occupation	Number of persons	Salary per month
POLICE DEPARTMENT			FIRE DEPARTMENT		
Sheriff.....	1	\$550.00	Chief.....	1	\$400.00
Deputy sheriff.....	1	350.00	First assistant.....	1	325.00
Do.....	1	275.00	Second assistant.....	1	250.00
Do.....	1	200.00	Drillmaster.....	1	225.00
Do.....	1	175.00	Mechanic.....	1	225.00
Do.....	4	160.00	Assistant mechanic.....	1	200.00
Chief clerk.....	1	250.00	Captains.....	10	200.00
Clerk.....	1	225.00	Lieutenants.....	10	175.00
Senior captain.....	1	250.00	Engineers.....	16	165.00
Captains.....	3	200.00	Drivers.....	26	150.00
Lieutenants.....	3	175.00	Hose men.....	74	140.00
Sergeants.....	6	170.00	Watchmen.....	2	140.00
Motor-cycle policemen.....	58	165.00			
Patrolmen.....	36	150.00	STREET LABOR		
Traffic policemen.....	11	155.00	Unskilled laborers.....	(¹)	53

¹ Not reported.

² Per hour.

Union Labor

Labor organizations in the Hawaiian Islands are few in number, small in membership, and, with the exception of the barbers' union, have no agreements with the employers.

The trades or occupations that have organizations are machinists, molders, molders' helpers, and boilermakers in foundries and machine shops; hand compositors and linotype operators in book and job and newspaper printing and publishing; marine engineers in steam navigation; carpenters and joiners, plasterers and plumbers in building construction and repair; and barbers in shops in which Japanese and Filipinos are not employed. Table 83 shows the number of days per week on which work was available to the employees in each of these trades (except boilermakers and plasterers), in the companies in which they were employed, the regular hours of operation, Monday to Friday, Saturday, and per week; wage rates per hour, day, week, or month; and the number of times the regular rate that was paid for overtime and for any work on Sunday and holidays. Boiler makers and plasterers are entirely too few in number to warrant showing any figures for them.

The members of the machinists' union were employed in shops in which work was available 6 days per week. The regular hours of operation in the shops were 8 each day, Monday to Friday, and 4 on Saturday, or 44 per week. The wage rates ranged from \$7 to \$7.84 for a day of 8 hours. For overtime or any time worked in excess of 8 hours, Monday to Friday, and 4 on Saturday, or any work on Sundays and holidays, a rate of two times the regular rate was paid.

TABLE 83.—Days of operation per week, hours of operation per day and week, and rates of pay for regular time, overtime, and work on Sunday and holidays, 1930, by occupations

Trade or occupation	Days per week	Hours			Wage rates per day	Times regular rate for overtime and work on Sunday and holidays
		Monday to Friday	Saturday	Per week		
Machinists.....	6	8	4	44	\$7.00-\$7.84	2
Molders, floor, hand.....	6	8	4	44	8.50	2
Molders' helpers.....	6	8	4	44	4.00-5.25	2
Compositors, hand, and linotype operators.....	6	8	4	44	¹ 35.00-85.00	1½
Marine engineers.....	6	8	8	48	² 150.00-300.00	-----
Carpenters and joiners.....	6	8½	5	48	4.50-6.50	1
Plumbers.....	6	8½	4½	47	¹ 6.00-7.00	-----
Barbers.....	6	9½	11½	58½	³ 25.00	-----

¹ Per week.

² Per month.

³ Per week plus 60 cents for each \$1 over \$35 gross, for chair. Example: A barber in one week did work amounting to \$40. He was paid \$25 plus 60 cents for each \$1 over \$35, or a total of \$28.

At the time of the study of conditions in the Hawaiian Islands by the bureau, the barbers' union, which does not include any Japanese or Filipinos, had agreements with six shops only.

The Honolulu Japanese Barbers' Association, an employers' organization, consisted at that time of 191 members and employed approximately 200 male and 100 female Japanese barbers. The hours in these shops were from 7 a. m. to 8.30 p. m., Monday to Saturday, with one hour off duty at or near noon for lunch, except on busy days, usually Saturday, when only such time as could be had without

interfering with the trade was taken. The hours were therefore 12½ per day, Monday to Friday, and 13½ on Saturday, or 76 per week, for which they were paid rates ranging from \$15 to \$25 per week and given two meals per day. The barbers in these shops are not members of any union.

In 1929 there were approximately 150 plumbers in Honolulu. About 30 per cent of them were members of the plumbers' union and 70 per cent were Japanese and other nonunion workers. Members of the union were paid from \$6 to \$7 per day. The Japanese plumbers worked for contractors of their race and were paid from \$3 to \$5 per day. In the year 2,402 plumbing permits, at an estimated cost of \$704,695.50, were issued in Honolulu. A total of 2,169 permits, at an estimated cost of \$567,196.50, were issued to Japanese contractors, and only 233 permits, at an estimated cost of \$137,499, were issued to contractors who employed members of the union.

The carpenters' union in Honolulu does not include any Japanese and in 1929 and early in 1930 its membership was less than 33¼ per cent of the total membership of the union in 1917-18. The union rate was \$6.50 per day of 8 hours, but many members were paid less and some as low as \$4.50 per day. It was estimated by officials of the carpenters' union that in 1929 and 1930 there were approximately 1,000 Japanese carpenters in the Hawaiian Islands, that they or the contractors who employed them do practically all of the building of cottages, repair and jobbing, much of the large contract work, and as much as 90 per cent of all the carpentry work in Honolulu. The rates paid Japanese carpenters range from \$3.50 to \$5 per day, the latter rate being paid to working foremen.

Workmen's Compensation

The Hawaiian workmen's compensation law has been in effect since 1915, but no report of its operation has so far been published. The administration of the workmen's compensation law is in the hands of a commission and a secretary for each of the principal islands. Except for the island of Oahu (city and county of Honolulu) no reports covering a period of years could be secured.

Tables 84 to 88 were compiled for the Bureau of Labor Statistics from the records of the Industrial Accident Board of the city and county of Honolulu by the secretary of that board, and contain data for each year from 1918 to 1928.

Table 84 applies to accidents causing temporary total disability; accidents causing permanent partial disability; fatal accidents; and all accidents combined.

The number of accidents of all classes on the island of Oahu ranged, by years, from 2,298 in 1918 to 5,958 in 1927. The number of temporary total disability accidents in 1918 was 2,241, or 97.5 per cent of the total; of permanent partial disability accidents was 36, or 1.5 per cent of the total; and of fatal accidents was 21, or 0.9 per cent of the total. In no year were accidents causing temporary total disability less than 97.1 per cent of the total, accidents causing permanent partial disability more than 2.1 per cent of the total, and fatal accidents more than 0.9 per cent of the total.

In 1918 only 992, or 44.3 per cent, of the 2,241 temporary total disability accidents exceeded the waiting period, or the number of days or weeks from the date of the accident to the date when compensation

begins. No compensation is paid in case of recovery before the expiration of the waiting period. Compensation for the 992 accidents was \$19,416, or 49.9 per cent of the total of compensation and medical and hospital expense combined. Medical and hospital expense was \$19,462, or 50.1 per cent of the total expense of the 992 accidents. In 1928 compensation for the 956 compensable cases was 35.2 per cent and medical and hospital expense 64.8 per cent of the total expense. Compensation per temporary accident was \$19.57 in 1918 and \$46.60 in 1928.

TABLE 84.—Number, compensation, and medical, hospital, burial, and administration costs of accidents in the island of Oahu, 1918 to 1928, by years

Year	Total accidents	Temporary total disability								Total cost ³	
		Number of cases	Per cent of total accidents	Number of non-compensable cases ¹	Compensable cases ²		Compensation		Medical and hospital cost		
					Number of cases	Per cent of temporary total disability cases	Amount	Per cent of total cost	Amount		Per cent of total cost
1918	2,298	2,241	97.5	1,249	992	44.3	\$19,416	49.9	\$19,462	50.1	\$38,878
1919	2,992	2,927	97.8	1,556	1,371	46.8	35,595	57.5	26,331	42.5	61,925
1920	3,406	3,316	97.4	2,199	1,117	33.7	44,783	51.2	42,674	48.8	87,457
1921	2,719	2,642	97.2	1,714	928	35.1	41,487	54.5	34,570	45.5	76,057
1922	2,752	2,673	97.1	1,569	1,104	41.3	35,552	47.9	38,724	52.1	74,276
1923	3,614	3,524	97.5	2,198	1,325	37.6	55,521	50.0	55,455	50.0	110,976
1924	4,311	4,227	98.1	2,792	1,435	33.9	50,436	42.7	67,716	57.3	118,151
1925	4,511	4,403	97.6	3,041	1,362	30.9	47,385	44.4	59,266	55.6	106,651
1926	5,348	5,223	97.7	4,149	1,074	20.6	38,655	35.1	71,558	64.9	110,213
1927	5,958	5,815	97.6	4,798	1,017	17.5	56,605	38.6	89,978	61.4	146,582
1928	5,866	5,754	98.1	4,798	956	16.6	44,545	35.2	81,864	64.8	126,409

Year	Total accidents	Permanent partial disability								Total cost ³
		Number of cases	Per cent of total accidents	Compensation				Medical and hospital cost		
				During temporary total disability		Following temporary total disability		Amount	Per cent of total cost	
				Amount	Per cent of total cost	Amount	Per cent of total cost			
1918	2,298	36	1.5	\$1,319	5.6	\$20,020	84.9	\$2,251	9.5	\$23,590
1919	2,992	49	1.6	3,176	11.0	22,377	77.2	3,416	11.8	28,969
1920	3,406	61	1.8	4,305	12.2	27,847	78.6	3,279	9.3	35,431
1921	2,719	55	2.0	4,361	11.2	30,416	78.4	4,006	10.3	38,783
1922	2,752	59	2.1	4,360	11.3	29,776	77.0	4,522	11.7	38,659
1923	3,614	61	1.7	5,984	10.3	42,266	72.8	9,846	16.9	58,096
1924	4,311	59	1.4	5,706	12.0	35,190	74.3	6,485	13.7	47,381
1925	4,511	85	1.9	10,422	16.5	43,023	68.1	9,771	15.5	63,217
1926	5,348	103	1.9	11,783	14.6	53,168	66.0	15,641	19.4	80,592
1927	5,958	117	2.0	14,862	17.8	55,204	66.1	13,496	16.2	83,563
1928	5,866	90	1.5	11,724	14.9	53,009	67.5	13,804	17.6	78,538

¹ Causing disability not extending beyond waiting period.

² Causing disability extending beyond waiting period.

³ Compensation plus medical and hospital cost.

TABLE 84.—Number, compensation, and medical, hospital, burial, and administration costs of accidents in the island of Oahu, 1918 to 1928, by years—Continued

Year	Total accidents	Fatal accidents								Total cost ⁴
		Number of cases	Per cent of total accidents	Compensation		Medical and hospital cost		Burial cost		
				Amount	Per cent of total cost	Amount	Per cent of total cost	Amount	Per cent of total cost	
1918.....	2,298	21	0.9	\$34,953	95.7	\$193	0.5	\$1,369	3.7	\$36,515
1919.....	2,992	16	.5	21,202	94.4	392	1.7	872	3.9	22,466
1920.....	3,406	29	.9	54,261	96.1	436	.8	1,757	3.1	56,453
1921.....	2,719	22	.8	32,817	95.4	414	1.2	1,172	3.4	34,403
1922.....	2,752	20	.7	34,183	95.3	269	.8	1,434	4.0	35,886
1923.....	3,614	29	.8	62,077	94.5	1,722	2.6	1,918	2.9	65,717
1924.....	4,311	25	.6	42,240	92.8	922	2.0	2,345	5.2	45,506
1925.....	4,511	23	.5	11,864	85.6	1,022	7.4	978	7.1	13,864
1926.....	5,348	22	.4	36,265	95.2	366	1.0	1,450	3.9	38,111
1927.....	5,958	26	.4	39,557	92.7	1,415	3.3	1,697	4.0	42,669
1928.....	5,866	22	.4	48,064	95.0	1,143	2.3	1,408	2.8	50,614

Year	All Accidents													
	Number	Compensation				Medical and hospital cost	Burial cost	Average medical, hospital, and burial cost per accident	Total cost ⁴	Administration expenses				
		Amount	Per cent of total cost	Average per accident	Average per compensable accident					Amount	Per compensable accident	Per accident	Per dollar of accident cost	Per dollar of compensation
1918...	2,298	\$75,707	76.5	\$32.94	\$72.17	\$21,906	\$1,369	\$10.13	\$98,982	\$4,742	\$4.53	\$2.06	Cts. 4.8	Cts. 6.3
1919...	2,992	82,350	72.6	27.52	57.34	30,138	872	10.36	113,360	6,708	4.67	2.24	5.9	8.1
1920...	3,406	131,196	73.2	38.52	108.69	46,388	1,757	14.14	179,341	12,496	10.35	3.67	7.0	9.5
1921...	2,719	109,082	73.1	40.12	108.54	38,990	1,172	14.77	149,243	12,949	12.88	4.76	8.7	11.9
1922...	2,752	103,871	69.8	37.74	87.80	43,516	1,434	16.33	148,821	12,860	10.87	4.68	8.6	12.4
1923...	3,614	165,847	70.6	45.89	117.12	67,023	1,918	19.08	234,788	12,740	9.00	3.53	5.4	7.7
1924...	4,311	133,572	63.3	30.98	87.93	75,123	2,345	17.99	211,039	15,277	10.06	3.54	7.2	11.4
1925...	4,511	112,695	61.3	24.98	76.66	70,059	978	15.75	183,732	14,996	10.20	3.32	8.2	13.3
1926...	5,348	139,872	61.1	26.15	116.66	87,564	1,480	16.65	228,916	16,527	13.78	3.09	7.2	11.8
1927...	5,958	166,228	60.9	27.90	143.30	104,889	1,697	17.89	272,814	16,452	14.18	2.76	6.0	9.9
1928...	5,866	157,342	61.6	26.82	147.32	96,811	1,408	16.74	255,560	14,063	13.19	2.40	5.5	9.0

⁴ Compensation plus medical, hospital, and burial cost.

Table 85 shows the number of accidents each year from 1918 to 1928 among the workers of the different races:

TABLE 85.—Number of accidents each year, 1918 to 1928, by race

Year	American	Chinese	Filipino	Hawaiian	Part Hawaiian	Japanese	Korean	Portuguese	Porto Rican	All others	Total
1918.....	198	131	235	258	66	790	84	313	75	148	2,298
1919.....	316	166	345	378	111	867	159	397	97	156	2,992
1920.....	322	203	421	463	108	948	136	559	103	143	3,406
1921.....	264	146	387	323	69	843	97	411	80	99	2,719
1922.....	255	105	434	299	81	803	106	435	127	107	2,752
1923.....	362	156	584	428	37	1,045	135	534	216	117	3,614
1924.....	448	204	672	440	71	1,156	258	647	280	135	4,311
1925.....	406	220	844	402	116	1,327	215	643	196	142	4,511
1926.....	407	212	1,094	446	134	1,590	210	862	235	158	5,348
1927.....	444	256	1,156	550	204	1,788	217	853	295	195	5,958
1928.....	397	248	1,247	538	144	1,705	186	964	267	177	5,873

¹ No explanation of difference of 7 between this total and total given in Table 84.

The marital status and the sex of the workers injured by accidents in each year from 1918 to 1928 are set forth in Table 86:

TABLE 86.—Total accidents each year, 1918 to 1928, by marital status and sex.

Year	Total accidents	Marital status		Sex	
		Married	Single	Male	Female
1918.....	2,298	1,227	1,071	2,222	76
1919.....	2,992	1,524	1,468	2,910	82
1920.....	3,406	1,719	1,687	3,287	119
1921.....	2,719	1,500	1,219	2,660	59
1922.....	2,752	1,394	1,358	2,702	50
1923.....	3,614	1,923	1,691	3,575	39
1924.....	4,311	2,323	1,988	4,256	55
1925.....	4,511	2,382	2,129	4,448	63
1926.....	5,348	2,871	2,477	5,279	69
1927.....	5,958	3,103	2,855	5,839	119
1928.....	¹ 5,866	2,869	3,004	5,742	131

¹ Figures given for marital status and for sex total 5,873, but this total agrees with total in Table 85. No explanation is given for difference.

The number of compensation awards and of claims denied and dismissed in fatal accident cases and the number of such cases with and without dependents are presented in Table 87:

TABLE 87.—Number of fatal accidents and disposition of claims therefor, and number of cases with and without dependents, 1918 to 1928, by years

Year	Number of fatal accidents	Claims denied	Claims dismissed	Compensation awards	Cases with no dependents	Number of cases with dependents			
						Widow only	Widow and children	Children only	All other dependents
1918.....	21	5	1	15	5	9	-----	1	
1919.....	16	-----	2	11	3	3	4	1	
1920.....	29	3	3	18	5	3	10	3	
1921.....	22	4	2	14	2	2	9	3	
1922.....	20	1	-----	11	8	-----	7	2	
1923.....	29	-----	-----	19	10	-----	16	1	
1924.....	25	-----	-----	18	7	-----	13	2	
1925.....	23	3	-----	9	-11	3	3	2	
1926.....	22	3	2	8	9	1	3	2	
1927.....	26	3	2	14	7	3	4	4	
1928.....	¹ 22	5	3	14	8	1	9	3	

¹ No explanation as to total of items not agreeing with this total, which is same as in Table 84.

Table 88 shows the number and kind of accidents, the compensation awarded and the medical, hospital, and burial cost, each year from 1918 to 1928, for sugar plantations and mills, pineapple plantations and canneries, public utilities, construction work and building trades, and all other industries.

TABLE 88.—Number and kind of accidents, compensation, and medical, hospital, and burial cost, 1918 to 1928, by years
SUGAR PLANTATIONS AND MILLS

Year	Accidents						Compensation awarded and paid								Medical and hospital cost ¹		Burial cost		Total cost—amount	
	Temporary total disability		Permanent partial disability		Fatal		Total number	Temporary total disability		Permanent partial disability		Fatal accidents		Total		Amount	Per cent of total cost	Amount		Per cent of total cost
	Number	Per cent of total	Number	Per cent of total	Number	Per cent of total		Amount	Per cent of total cost	Amount	Per cent of total cost	Amount	Per cent of total cost	Amount	Per cent of total cost					
1918	551	97.9	8	1.4	4	0.7	583	\$4,017	28.2	\$4,793	33.6	\$2,805	19.7	\$11,615	81.5	\$2,324	16.3	\$310	2.2	\$14,250
1919	551	96.8	16	2.8	2	0.4	569	5,928	27.5	9,874	45.9	1,223	5.7	17,026	79.1	4,384	20.4	110	.5	21,520
1920	535	94.7	19	3.4	11	1.9	565	13,366	28.9	9,484	20.5	18,001	38.9	40,851	88.3	5,029	10.9	380	.8	46,260
1921	436	95.4	17	3.7	4	0.9	457	6,600	25.1	10,103	38.5	6,246	23.8	22,949	87.4	3,225	12.3	80	.3	26,254
1922	485	94.5	23	4.5	5	1.0	513	4,332	17.4	8,087	32.6	10,000	40.2	22,419	90.2	2,288	9.2	140	.6	24,847
1923	541	95.8	18	3.2	6	1.0	565	6,362	27.0	7,298	31.0	7,966	33.8	21,626	91.8	1,779	7.6	150	.6	23,555
1924	667	95.8	24	3.5	5	0.7	696	6,004	21.0	9,218	32.3	10,261	35.9	25,484	89.2	2,413	8.4	680	2.4	28,576
1925	857	96.4	29	3.3	3	0.3	889	6,236	27.1	11,992	52.0	1,617	7.0	19,845	86.1	2,989	13.0	210	.9	23,044
1926	1,004	97.2	27	2.6	2	0.2	1,033	8,311	29.6	12,783	45.5	4,428	15.7	25,522	90.8	2,425	8.6	150	.6	28,096
1927	805	96.1	28	3.3	5	0.6	838	7,881	25.6	9,690	31.1	11,529	37.4	29,000	94.1	1,299	4.2	522	1.7	30,820
1928	881	97.2	21	2.3	4	0.5	906	6,208	25.5	5,034	20.6	10,519	43.1	21,761	89.2	2,329	9.6	300	1.2	24,389
Total	7,313	96.3	230	3.0	51	0.7	7,594	75,246	25.8	98,257	33.7	84,595	29.0	258,097	88.5	30,484	10.5	3,032	1.0	291,613

PINEAPPLE PLANTATIONS AND CANNERIES

1918	302	98.1	6	1.9	---	---	308	\$2,152	28.1	\$1,797	23.4	---	---	\$3,949	51.5	\$3,716	48.5	---	---	\$7,665
1919	406	97.6	10	2.4	---	---	416	4,564	27.3	6,369	38.1	---	---	10,934	65.4	5,769	34.6	---	---	16,702
1920	494	97.0	12	2.4	3	0.6	509	5,574	26.6	3,441	16.4	\$2,016	9.6	11,031	52.6	9,622	45.9	\$320	1.5	20,973
1921	292	95.7	11	3.6	2	0.7	305	5,173	21.3	3,873	16.0	7,233	29.8	16,279	67.1	7,598	31.3	390	1.6	24,267
1922	188	96.4	7	3.6	---	---	195	2,667	31.2	1,155	13.5	---	---	3,823	44.7	4,725	55.3	---	---	8,548
1923	253	95.5	10	3.8	2	0.7	265	5,846	24.2	3,771	15.7	5,000	20.7	14,617	60.6	9,386	38.9	127	.5	24,130
1924	332	96.5	9	2.6	3	0.9	344	4,586	18.8	6,094	25.1	4,223	17.4	14,903	61.3	9,081	37.4	324	1.3	24,309
1925	407	96.9	11	2.6	2	0.5	420	5,665	24.2	5,407	23.1	1,834	7.8	12,906	55.1	10,459	44.7	41	.2	23,406
1926	517	97.7	11	2.1	1	0.2	529	6,252	27.8	3,697	16.5	---	---	9,948	44.3	12,401	55.2	108	.5	22,457
1927	595	97.9	13	2.1	---	---	608	4,816	19.9	4,604	18.7	---	---	9,320	38.6	14,845	61.4	---	---	24,165
1928	598	98.2	10	1.6	1	0.2	609	5,155	19.8	6,775	26.0	3,420	13.2	15,350	59.0	10,571	40.6	100	.4	26,021
Total	4,384	97.3	110	2.4	14	0.3	4,508	52,449	23.6	46,885	21.0	23,726	10.7	123,060	55.3	98,172	44.1	1,410	.6	222,643

PUBLIC UTILITIES

1918	179	99.4			1	0.6	180	\$5,643	43.1			\$5,000	38.2	\$10,643	81.3	\$2,348	17.9	\$100	0.8	\$13,091
1919	279	99.2	1	0.4	1	4	281	4,514	36.3	\$114	0.9	5,000	40.1	9,627	77.3	2,731	21.9	100	0.8	12,458
1920	215	98.6	2	.9	1	.5	218	3,172	32.0	148	1.5	2,533	25.5	5,853	59.0	3,962	40.0	100	1.0	9,915
1921	214	98.6	3	1.4			217	4,290	50.3	1,523	17.8			5,812	68.1	2,725	31.9			8,537
1922	360	97.8	6	1.6	2	.6	368	5,121	29.5	2,206	12.7	4,526	26.0	11,853	68.2	5,334	30.7	200	1.1	17,387
1923	445	98.9	1	.2	4	.9	450	14,636	40.5	1,254	3.5	12,896	35.6	28,786	79.6	7,065	19.6	300	0.8	36,151
1924	530	98.9	2	.4	4	.7	536	5,369	19.4	1,311	4.7	18,322	43.9	18,822	68.0	8,395	30.3	472	1.7	27,689
1925	462	99.6	1	.2	1	.2	464	3,563	32.5	332	3.0			3,895	35.5	6,983	63.6	100	0.9	10,978
1926	433	98.9	4	.9	1	.2	438	3,376	16.6	3,700	18.2	4,951	24.4	12,028	59.2	8,181	40.3	100	.5	20,309
1927	392	97.8	6	1.5	3	.7	401	5,145	23.6	5,805	26.8	1,544	7.1	12,465	57.5	9,078	41.8	154	.7	21,697
1928	372	99.5	2	.5			374	3,879	32.6	451	3.8			4,330	36.4	7,568	63.6			11,898
Total	3,881	98.8	28	.7	18	.5	3,927	58,678	30.9	16,844	8.8	48,593	25.6	124,116	65.3	64,369	33.9	1,626	.8	190,111

CONSTRUCTION WORK AND BUILDING TRADES

1918	220	98.2	2	0.9	2	0.9	224	\$1,786	20.7	\$700	8.1	\$3,939	45.6	\$6,425	74.4	\$2,011	23.3	\$200	2.3	\$8,636
1919	421	98.8	2	.5	3	.7	426	5,844	40.5	874	6.1	1,938	13.4	8,655	60.0	5,477	37.9	300	2.1	14,432
1920	631	98.7	3	.5	5	.8	639	6,017	18.7	1,958	6.1	16,624	51.5	24,599	76.3	7,143	22.2	496	1.5	32,243
1921	462	98.5	6	1.3	1	.2	469	16,277	54.0	6,209	20.6			22,486	74.6	7,644	25.4	10	(2)	30,141
1922	547	98.0	8	1.4	3	.6	558	12,209	32.3	5,306	14.0	10,000	26.5	27,515	72.8	9,997	26.4	300	.8	37,812
1923	630	98.0	11	1.7	2	.3	643	18,321	40.7	11,729	26.0			30,050	66.7	14,912	33.1	100	.2	45,062
1924	884	98.8	8	.9	3	.3	895	18,131	34.7	5,685	10.8	8,043	15.4	31,860	60.9	20,188	38.6	237	.5	52,284
1925	920	98.6	12	1.3	1	.1	933	13,095	31.1	6,555	15.5	5,000	11.9	24,650	58.5	17,423	41.3	100	.2	42,174
1926	1,323	98.4	17	1.3	4	.3	1,344	16,522	21.9	16,638	22.1	15,039	19.9	48,199	63.9	26,823	35.6	400	.5	76,422
1927	1,605	97.7	32	1.9	6	.4	1,643	22,508	26.5	20,569	24.2	8,840	10.4	51,917	61.1	32,444	38.2	608	.7	84,968
1928	1,473	98.4	19	1.3	5	.3	1,497	15,374	21.3	13,110	18.2	16,000	22.2	44,484	61.7	27,246	37.8	400	.5	72,129
Total	9,116	98.3	120	1.3	35	.4	9,271	146,084	29.5	89,333	18.0	85,422	17.3	320,840	64.8	171,313	34.6	3,151	.6	495,302

ALL OTHER INDUSTRIES

1918	989	96.7	20	1.9	14	1.4	1,023	\$5,818	10.5	\$14,047	25.4	\$23,209	41.9	\$43,075	77.8	\$11,507	20.8	\$759	1.4	\$55,341
1919	1,270	97.7	20	1.5	10	.8	1,300	14,745	30.6	8,322	17.2	13,041	27.0	36,108	74.8	11,777	24.4	362	.8	48,247
1920	1,441	97.7	25	1.7	9	.6	1,475	16,554	23.8	17,121	24.5	15,086	21.5	48,861	69.8	20,627	29.5	461	.7	69,949
1921	1,238	97.4	18	1.4	15	1.9	1,271	9,148	15.2	13,069	21.8	19,338	32.2	41,555	69.2	17,797	29.6	692	1.2	60,044
1922	1,093	97.8	15	1.3	10	.9	1,118	11,222	18.6	17,382	28.9	9,657	16.0	38,261	63.5	21,172	35.2	794	1.3	60,227
1923	1,655	97.9	21	1.2	15	.9	1,691	10,356	9.8	24,197	22.8	36,215	34.2	70,768	66.8	33,881	32.0	1,241	1.2	105,890
1924	1,814	98.6	16	.9	10	.5	1,840	16,345	20.9	18,588	23.8	7,570	9.7	42,503	54.4	35,046	44.8	632	.8	78,181
1925	1,757	97.3	32	1.8	16	.9	1,805	18,826	22.4	20,159	34.7	3,413	4.0	51,398	61.1	32,205	38.3	527	.6	84,130
1926	1,946	97.1	44	2.2	14	.7	2,004	4,194	5.1	28,134	34.0	11,847	14.3	44,175	53.4	37,735	45.7	722	.9	82,632
1927	2,418	98.0	38	1.5	12	.5	2,468	16,285	14.6	29,598	26.6	17,644	15.9	63,527	57.1	47,224	42.5	413	.4	111,163
1928	2,430	98.0	38	1.5	12	.5	2,480	13,929	11.5	39,363	32.5	18,125	15.0	71,417	59.0	49,098	40.5	668	.5	121,123
Total	18,051	97.7	287	1.6	137	.7	18,475	137,522	15.7	238,980	27.2	175,146	20.0	551,648	62.9	318,069	36.3	7,210	.8	876,926

¹ All sugar plantations and mills maintain hospitals and medical staffs, and the figures here given for such plantations and mills represent only the actual medical and hospital cost outside of the service maintained by the plantations and mills.

² Less than one-tenth of 1 per cent.

Data for the operations of the Industrial Accident Board of the County of Hawaii and of the Industrial Accident Board of the County of Kauai for the year ending January 30, 1930, follow:

County of Hawaii

Total paid recovered employees:		
By self-insuring concerns.....	\$11, 321. 22	
By insurance companies.....	4, 982. 79	
		\$16, 304. 01
Medical and hospital expense reported.....		24, 140. 54
Compensation being paid as death benefits:		
By self-insuring concerns, monthly to dependents..	134. 33	
By insurance companies, monthly to dependents..	0. 00	
		134. 33
Periodical payments:		
Self-insuring concerns, monthly.....	99. 84	
Insurance companies, monthly.....	64. 27	
		164. 11

County of Kauai

Total paid recovered employees:		
By self-insuring concerns.....	\$2, 014. 97	
By insurance companies.....	719. 08	
		\$2, 734. 05
Medical and hospital expense reported.....		2, 440. 50
Compensation being paid as death benefits:		
By self-insuring concerns, monthly to dependents..	63. 00	
By insurance companies, monthly to dependents..	83. 00	
		146. 00
Periodical payments:		
Self-insuring concerns, monthly.....	53. 40	
Insurance companies, monthly.....	39. 44	
		92. 84

Employment Agency Statistics, 1929

The following tables were compiled from information furnished to agents of the Bureau of Labor Statistics by the Pan Service Bureau of Honolulu.

Table 89 shows for each month of and for the year 1929 the number of applicants to the Pan Service Bureau for positions in commercial service, in industrial service, and in domestic service; the number of persons called for by employers in each service; and the number of positions filled in each service.

In the year 1929, 1,031 persons applied to the Pan Service Bureau for positions in commercial service, 421 in industrial service, and 778 applied for work in domestic service, a total of 2,230 applicants. Employers called on the Pan Service Bureau for 695 persons in commercial service, 198 in industrial service, and 1,261 in domestic service, or a total of 2,154. The Pan Service Bureau obtained positions for 682 persons in commercial service, 183 in industrial service, and for 858 persons in domestic service, or a total of 1,723.

TABLE 89.—Number of applicants for work, of persons called for by employers, of applicants sent out by service bureau, and of positions filled each month and in the year 1929

Month	Number of applicants				Number of persons called for by employers				Number of applicants sent to employers	Number of positions filled			
	Com-mercial	In-dus-trial	Do-mes-tic	Total	Com-mercial	In-dus-trial	Do-mes-tic	Total		Com-mercial	In-dus-trial	Do-mes-tic	Total
January	121	48	74	243	50	14	104	168	230	72	10	88	170
February	76	21	52	149	75	9	76	160	216	62	17	111	190
March	86	16	49	151	62	18	93	173	212	86	17	55	158
April	50	51	78	179	48	14	97	159	187	27	13	62	102
May	71	54	45	170	46	27	100	173	204	52	16	47	115
June	148	25	69	242	72	14	97	183	227	49	15	52	116
July	181	29	92	252	60	14	130	204	224	58	11	81	150
August	73	31	78	182	59	13	152	224	237	59	14	85	158
September	76	41	69	186	52	22	96	170	216	43	24	68	135
October	86	27	88	201	75	15	114	204	292	79	13	79	171
November	52	38	41	131	47	17	104	168	217	45	11	67	123
December	61	40	43	144	49	21	98	168	207	50	22	63	135
Total	1,031	421	778	2,230	695	198	1,261	2,154	2,669	682	183	358	1,723

¹ 159 males consisting of 23 students, 26 already employed, and 110 not employed; 83 females, consisting of 19 students, 10 already employed, and 54 not employed.

² 122 males and 105 females.

Table 90 shows for the 242 applicants in June, 1929, the number of each race, the occupation, and the extent of education of such applicants:

TABLE 90.—Race, occupation, and education of applicants for employment, June, 1929

Race of applicants	Number	Occupation of applicants sent out by bureau	Number	Extent of education of applicants	Number
Anglo-Saxon:		Stenographer-typists	4	College	19
American	27	Clerks and bookkeepers	2	High school	103
Other	8	Salesmen and saleswomen	16	Commercial	27
Chinese	35	Waiters and waitresses	41	Grade school	64
Filipino	40	Yardmen	12	None—illiterate	29
Hawaiian	12	Cooks	23		
Part Hawaiian	22	Housemaids	80		
Japanese	52	Mechanics	2		
Korean	6	Truck drivers	5		
Portuguese	25	Laborers	23		
Indian-American	1	Carpenters and painters	6		
Hebrew	1	Telephone operators	3		
Italian	3	Others	10		
Negro	1				
Polish	1				
Porto Rican	3				
Russian	2				
Spanish	2				
Not reported	1				
Total	¹ 242	Total	² 227	Total	¹ 242

¹ 159 males and 83 females.

² 122 males and 105 females.

Table 91 shows the wage rate per day, week, or month, in February, 1930, of Caucasians and of other races, by occupations.

TABLE 91.—Wage rates of Caucasians and of other races, February, 1930, by occupation.

Occupation	Wage rates					
	Caucasians			Other races		
	Per day	Per week	Per month	Per day	Per week	Per month
Accountants.....			\$225.00			\$175.00
Bookkeepers.....			125.00			75.00
Bell boys.....						30.00
Butchers.....			150.00			100.00
Carpenters.....	\$5.00			\$5.00		
Carpenters' helpers.....	3.20			2.50		
Chauffeurs.....			80.00			60.00
Clerks.....			75.00			50.00
Collectors.....			¹ 75.00			(?)
Cooks, house, male.....		\$15.00			\$15.00	
Cooks, house, female.....		12.00			12.00	
Cooks, restaurant.....			100.00			100.00
Dressmakers.....			100.00			60.00
Dyers.....		35.00			15.00	
Electricians.....	¹ 80			¹ 60		
Electricians' helpers.....	¹ 40			¹ 35		
Farm hands.....			100.00			60.00
Fountain boys.....			60.00			60.00
Fountain girls.....			50.00			50.00
Gardeners.....			60.00			50.00
House boys.....						40.00
Housekeepers.....			60.00			40.00
Ironer, laundry.....		10.00			10.00	
Janitors.....			75.00			60.00
Laborers.....	3.20			2.50- 3.20		
Machinist.....		35.00		4.20		
Machinists' helpers.....	3.20			2.40		
Maids (general).....		8.00			8.00	
Matrons.....		25.00			20.00	
Mechanics.....	¹ 1.00			¹ 50		
Mechanics' helpers.....			60.00			40.00
Motion-picture operators.....			100.00			75.00
Painters.....	5.00			5.00		
Painters' helpers.....				2.50		
Pantrymen.....						45.00
Plasterers.....	10.00			6.00		
Plumbers.....	² 2.00			5.00		
Sales clerks, male.....		20.00			15.00	
Sales clerks, female.....		15.00			10.00	
School boys.....					3.00	
School girls.....					3.00	
Service-station boys.....			75.00			40.00
Stenographers.....			100.00			50.00
Tailors.....			150.00			100.00
Telephone operators.....		20.00			15.00	
Tile setters.....	10.00			6.00		
Tray girls.....			50.00			35.00
Truck drivers.....			100.00			75.00
Truck drivers (contractors).....	5.00			5.00		
Typists.....			75.00			40.00
Waiters.....			60.00			50.00
Waitresses.....			40.00			35.00
Washers, laundry.....		30.00			20.00	
Yardmen.....						45.00

¹ And commission.

² Commission only.

³ Per hour.

Wholesale and Retail Prices in Honolulu, 1930

Wholesale prices of staple food articles, February and August, 1930.—The figures given in Table 92 were furnished by a leading wholesale firm and represent net cash prices f. o. b. Honolulu. Prices for the two months named are based on identical descriptions of articles.

TABLE 92.—*Wholesale prices (net cash f. o. b. Honolulu) of staple food articles, February and August, 1930*

Article	February, 1930	August, 1930
Beans, dried, per 100 pounds:		
Bayos, speckled.....	\$7.85	\$6.75
Garavanzos.....	7.70	7.70
Lima, California.....	13.10	12.75
Mexican, red.....	5.90	5.45
White, small.....	8.90	8.00
Cereals, breakfast, per case:		
Bran, 24 10-ounce packages.....	2.65	2.65
Corn flakes, 36 packages.....	3.36	3.36
Cream of wheat, 18 28-ounce packages.....	3.86	3.86
Oatmeal, 12 20-ounce packages.....	1.45	1.40
Rice flakes, 24 6-ounce packages.....	2.75	2.75
Coffee, Kona, roasted, per pound:		
Bulk, ground.....	.35	.29
Packaged, 48 1-pound packages.....	.36	.30
Corn meal, white, 12 20-ounce packages, per case.....	1.18	1.17
Crackers, soda, 24 2½-pound tins, per case.....	16.00	16.00
Fish, canned, per case:		
Cod, 48 1-pound cans.....	13.80	13.80
Salmon, Alaska red, 48 No. 1s, tall.....	11.76	11.30
Tuna, 48 No. 1s.....	16.00	10.45
Flour, wheat, per 49-pound bag.....	1.90	1.70
Fruit, canned, per case:		
Apricots, 48 No. 1s.....	6.85	6.45
Peaches, 48 No. 1s.....	6.82	5.90
Pears, 48 No. 1s.....	7.95	6.05
Pineapples, 48 No. 1s.....	5.60	4.70
Fruit, dried:		
Apples, extra choice, 25 pounds, per case.....	4.00	2.80
Apricots, extra choice, 10 pounds, per case.....	1.75	1.75
Currants, 25 pounds, per case.....	4.25	4.25
Figs, black, 25 pounds, per box.....	2.42	1.75
Prunes, 40-50s, 25 pounds, per case.....	3.70	2.55
Raisins, seedless, 45 15-ounce packages, per case.....	3.85	3.30
Milk, evaporated, 48 talls, per case.....	4.30	4.00
Rice, extra fancy, California, per 100 pounds.....	4.70	4.60
Salt, 100 1½-pound bags, per bale.....	3.73	3.73
Soda, baking, 60 1-pound packages, per case.....	4.23	4.23
Sugar, Honolulu refined, per 100-pound bag.....	5.30	4.70
Tea, 100 ½-pound packages, per pound.....	.72	.67
Vegetables, canned, per case:		
Asparagus, medium white, 24 No. 1s.....	7.25	6.90
Beans, lima, 24 No. 2s.....	2.47	2.30
Beans, stringless, 24 No. 2s.....	3.00	2.72
Corn, 24 No. 2s.....	3.85	3.52
Peas, 24 No. 2s.....	4.70	4.40
Pork and beans, 36 medium.....	3.20	3.00
Tomatoes, 24 No. 2s.....	2.50	2.40
Vinegar, cider, per gallon.....	.20	.20

Retail food prices, February to October, 1930.—Table 93 is compiled from monthly reports made to the Bureau of Labor Statistics by representative retail dealers in Honolulu and in other localities of Hawaii. The stores were selected by personal visits of an agent of the bureau. The reporting firms operate stores patronized largely by wage earners.

TABLE 93.—Retail food prices, February to October, 1930

HONOLULU

Article	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	<i>Cents</i>
Sirloin steak.....pound..	38.1	37.8	38.4	38.4	38.4	38.0	37.8	37.3	37.1
Round steak.....do.....	32.7	32.5	32.7	35.2	32.7	32.7	32.4	32.4	31.8
Rib roast.....do.....	33.2	32.9	32.8	32.8	32.8	32.3	31.7	32.0	31.4
Chuck roast.....do.....	25.1	25.0	25.0	25.0	25.0	25.0	25.6	25.6	25.5
Plate beef.....do.....	23.8	23.7	23.8	23.8	23.5	23.5	22.7	23.0	22.9
Pork chops.....do.....	43.2	43.4	43.4	43.4	43.2	43.4	41.3	40.7	40.8
Bacon, sliced.....do.....	54.1	54.1	54.4	54.4	55.2	55.2	55.1	55.8	54.2
Ham, sliced.....do.....	64.5	64.2	64.6	64.6	64.6	64.2	64.0	63.6	61.8
Lamb, leg of.....do.....	40.8	40.7	40.4	39.8	40.3	40.2	39.2	39.4	38.9
Hens.....do.....	53.0	52.4	51.9	50.4	45.0	51.0	50.0	48.6	49.1
Salmon, red, canned.....do.....	30.1	30.0	29.7	30.0	30.0	30.1	30.0	32.6	32.4
Milk, fresh.....quart.....	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3
Milk, evaporated.....16-ounce can.....	10.2	10.1	10.1	10.2	10.2	10.1	10.2	10.2	9.9
Butter.....pound.....	49.1	53.6	53.4	53.9	53.5	52.8	52.7	52.4	52.6
Cheese.....do.....	37.1	37.3	37.3	37.9	37.7	36.8	37.0	37.1	36.4
Lard.....do.....	24.4	24.4	24.4	24.4	27.5	25.0	25.0	27.5	30.0
Vegetable lard substitute.....do.....	27.1	27.2	26.8	26.8	27.1	27.3	27.1	27.1	26.2
Eggs, strictly fresh.....dozen.....	50.6	49.2	49.3	49.4	48.7	52.4	66.0	76.3	78.1
Bread.....pound.....	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
Flour.....do.....	5.8	5.8	5.7	5.8	5.8	5.6	5.8	5.5	5.4
Corn meal.....do.....	11.0	10.8	10.9	10.6	10.8	10.8	10.9	10.8	10.9
Rolled oats.....do.....	12.7	12.7	12.8	12.7	12.6	12.6	12.7	12.5	12.3
Corn flakes.....8-ounce package.....	12.9	12.9	12.8	12.9	13.0	12.8	12.8	12.9	12.7
Wheat cereal.....28-ounce package.....	27.3	27.3	27.3	27.1	27.3	27.1	27.1	27.3	27.3
Macaroni.....pound.....	19.2	19.1	19.1	19.1	19.3	19.2	18.8	19.0	18.0
Rice.....do.....	6.1	6.1	6.1	6.1	6.1	5.9	5.9	5.9	5.6
Beans, navy.....do.....	14.6	14.4	14.1	14.3	14.4	13.9	14.0	13.9	13.7
Potatoes.....do.....	4.5	4.5	4.5	4.9	4.8	4.8	4.5	4.1	3.9
Onions.....do.....	4.1	4.1	4.0	4.1	4.3	4.1	4.0	3.9	3.6
Cabbage.....do.....	5.9	5.7	6.3	7.0	6.3	5.2	4.9	5.0	6.6
Pork and beans.....No. 2 can.....	11.0	11.0	11.1	11.3	11.2	11.1	10.8	11.0	10.5
Corn, canned.....do.....	19.3	19.0	19.0	18.7	18.8	18.2	17.8	18.2	18.0
Peas, canned.....do.....	19.1	18.8	18.8	18.6	18.4	18.7	18.2	18.7	18.0
Tomatoes, canned.....do.....	14.8	14.7	14.7	14.7	15.0	15.3	15.1	15.4	14.8
Sugar, granulated.....pound.....	6.3	6.2	6.2	6.2	6.2	5.9	5.9	5.5	5.5
Tea.....do.....	86.2	86.1	86.1	85.1	85.6	85.9	85.4	87.3	86.4
Coffee.....do.....	41.8	41.6	40.9	40.7	40.8	40.7	40.2	38.9	38.1
Prunes.....do.....	17.8	17.9	18.1	17.2	16.6	15.9	15.3	14.4	15.0
Raisins.....do.....	13.1	12.9	12.7	12.4	12.2	12.2	11.8	11.9	11.4
Bananas.....do.....	4.4	4.4	4.4	4.7	4.7	4.6	4.4	4.3	4.3
Oranges.....dozen.....	55.3	58.2	58.5	59.4	62.7	64.8	63.4	65.7	65.5

HAWAII, OUTSIDE HONOLULU

Sirloin steak.....pound..	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	31.4
Round steak.....do.....	30.8	30.8	30.8	30.8	30.8	30.0	30.0	30.0	30.0
Rib roast.....do.....	30.0	30.0	30.0	30.0	30.0	29.0	29.0	29.0	27.5
Chuck roast.....do.....	26.5	26.5	26.4	26.5	26.5	26.0	26.0	26.0	24.5
Plate beef.....do.....	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.0
Pork chops.....do.....	36.8	36.6	36.6	36.6	36.8	36.8	36.2	36.2	35.4
Bacon, sliced.....do.....	55.7	55.7	53.0	52.5	52.1	52.1	52.1	52.1	52.5
Ham, sliced.....do.....	55.0	55.0	58.3	58.3	58.3	56.7	58.3	58.3	55.0
Lamb, leg of.....do.....	48.3	48.3	48.3	48.3	46.7	46.7	46.7	46.7	45.0
Hens.....do.....	53.3	53.3	53.3	53.3	55.0	50.0	50.0	50.0	45.0
Salmon, red, canned.....do.....	30.8	30.9	31.3	31.3	30.7	30.8	31.1	31.6	30.8
Milk, fresh.....quart.....	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Milk, evaporated.....16-ounce can.....	11.1	10.9	11.0	11.0	10.8	10.6	10.6	10.7	10.3
Butter.....pound.....	57.6	56.3	56.2	55.7	55.3	54.0	54.2	55.4	55.4
Cheese.....do.....	37.4	37.2	37.7	37.7	36.7	36.4	36.3	35.5	35.0
Lard.....do.....	25.4	25.4	23.9	27.5	26.7	26.7	28.3	28.3	27.5
Vegetable lard substitute.....do.....	26.8	26.6	26.6	26.2	26.8	26.8	26.2	26.4	25.6
Eggs, strictly fresh.....dozen.....	53.8	50.0	51.4	51.8	52.5	54.6	58.6	65.0	68.1
Bread.....pound.....	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

TABLE 93.—Retail food prices, February to October, 1930—Continued

HAWAII, OUTSIDE HONOLULU—Continued

Article	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	<i>Cents</i>
Flour.....pound..	5.3	5.3	5.1	5.1	5.0	5.0	4.8	4.7	4.4
Corn meal.....do...	11.9	11.9	12.2	12.2	12.2	12.2	12.0	13.0	13.8
Rolled oats.....do...	14.2	14.2	13.9	13.9	13.7	13.7	14.0	14.3	13.2
Corn flakes.....8-ounce package..	13.5	13.7	13.8	13.8	13.6	13.8	13.9	13.9	12.7
Wheat cereal.....28-pound package..	28.6	28.6	29.1	29.1	28.6	28.1	28.1	28.1	29.0
Macaroni.....pound..	20.2	19.4	20.6	20.6	20.4	20.4	20.2	20.1	19.6
Rice.....do...	5.6	5.5	5.4	5.5	5.4	5.4	5.5	5.5	5.2
Beans, navy.....do...	13.5	13.5	13.4	13.4	13.2	12.8	12.5	12.2	11.9
Potatoes.....do...	4.2	4.3	4.3	4.5	4.9	4.8	4.4	4.3	4.0
Onions.....do...	4.1	4.1	4.5	4.5	4.6	4.3	3.9	3.8	3.6
Cabbage.....do...	4.3	4.3	4.5	4.5	4.5	4.5	4.0	4.0	3.7
Pork and beans.....No. 2 can..	10.9	10.9	11.1	11.1	10.8	10.8	10.8	10.8	10.8
Corn, canned.....do...	19.7	19.7	21.1	21.1	20.8	20.1	19.6	19.9	19.5
Peas, canned.....do...	19.3	19.5	19.8	19.6	19.4	19.4	19.0	18.3	18.1
Tomatoes, canned.....do...	18.1	18.1	18.6	18.1	17.9	17.9	16.9	16.4	17.0
Sugar, granulated.....pound..	6.6	6.6	6.6	6.5	6.3	6.2	6.1	5.9	5.8
Tea.....do...	85.6	85.6	84.7	85.6	84.8	85.6	86.3	85.3	84.8
Coffee.....do...	46.2	45.8	45.3	44.4	45.3	44.8	43.9	43.0	42.8
Prunes.....do...	18.1	18.1	18.1	18.1	17.6	17.4	17.1	16.6	16.0
Raisins.....do...	14.0	14.0	14.5	14.7	14.5	13.8	13.4	13.1	11.8
Bananas.....do...	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Oranges.....dozen..	57.7	57.7	59.6	62.5	67.5	71.7	68.6	70.0	71.7