

MONTHLY BUSINESS REVIEW



of the FEDERAL RESERVE BANK of Dallas

Volume 32

Dallas, Texas, November 1, 1947

Number 11

THE RICE INDUSTRY IN TEXAS

WILLIAM A. FAUGHT, *Agricultural Economist, Federal Reserve Bank of Dallas*

The sharp rise during the war in prices received by rice growers in the United States for their product led to a great expansion in the acreage devoted to rice culture and to an increase of 40 per cent in total rice production between 1939 and 1947. This rapid rise in production increased the dependence of American growers on foreign markets, and changes in methods of production, processing, and marketing which accompanied the expansion of output have created new problems as well as opportunities for both growers and handlers. The economic aspects of this situation warrant examination and analysis, for although rice does not rank among the most important farm commodities grown in the United States as a whole and does not employ a large segment of the farm population, it is of great importance in certain areas, particularly portions of the coastal region of Texas and Louisiana, the Grand Prairie of Arkansas, and the interior valleys of northcentral California. In these areas, according to the United States Department of Agriculture, "rice can be grown more profitably than any other crop for which there is a ready market. It is the principal money crop of many counties and parishes." Consequently the farm economy here rests primarily upon rice culture, and the entire community generally is organized around the production of this crop. To the people of these areas, the future of export trade, the prospective domestic market for their product, and the proposed adjustments in the production and handling of rice to solve existing problems are vitally important.

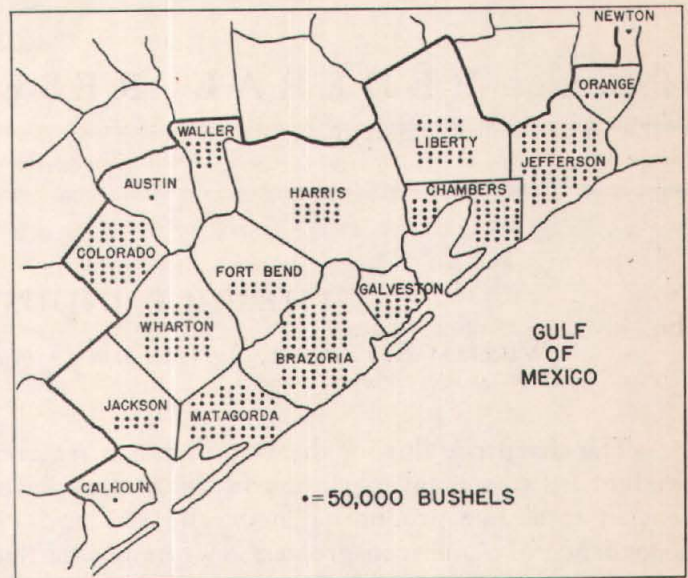
Rice production has been carried on in America since colonial times, when it was established along the Atlantic Seaboard in North and South Carolina and Georgia. There it continued as an important part of the economy until the Civil War. During that conflict many rice plantations were disorganized, their livestock, equipment, and buildings destroyed, and the slave labor on which rice culture was based disappeared. Rice culture, therefore, declined in the eastern section following the close of the war, and this decline stimulated the growth of the rice industry already established on a small scale in southern Louisiana. During the latter part of the nineteenth century, the southern rice area was extended, and the crop became firmly established in southwestern Louisiana and southeastern Texas after it was found that rice could be grown profitably by irrigation on the coastal prairies. By 1905 rice as a money crop became established on the prairies of eastern Arkansas. Seven years later, as the result of investigations by the United States Department of Agriculture as to the possibilities of rice culture in California, the first commercial crop was grown and harvested in the the Sacramento Valley of that state. Today rice growing in the United States is not commercially important except in the four states just mentioned. No other state now grows as much as a thousand acres per year.

Though some rice had been produced earlier in Texas on unirrigated fields in the fertile new land around Beaumont and Orange, production was not extensive in that area until after the construction of an irrigation system about 1898. Since then, production has spread southward and

westward on the prairie lands along the Gulf Coast of Texas, and at the present time, more than 440,000 acres in this section of the State are devoted to the growing of rice.

This Gulf Coastal Prairie of Texas is a nearly flat strip of country comprising about 8,000,000 acres, varying in width from 20 to 80 miles and stretching from the Louisiana line southwestward to the San Antonio River. Elevation varies from only a few feet above sea level along the Coast to about 100 feet in the more northerly sections. The soils of this area are inherently fertile and generally are underlain by a dense clay subsoil almost impervious to water. Rainfall, which varies from an annual average of about 35 inches in the western section to about 50 inches in the eastern, can be supplemented by irrigation water from wells or from the waters of the Nueces, Sabine, Trinity, Brazos, Colorado, and Lavaca Rivers, or other streams and bayous which cross the area. A long growing season, ranging from 240 to 280 days, and mild winter temperatures prevail throughout the area. The combination of these conditions of soil and climate creates an almost ideal environment for the cultivation of rice; and the expanse of the area provides opportunity for increasing the acreage devoted to rice growing.

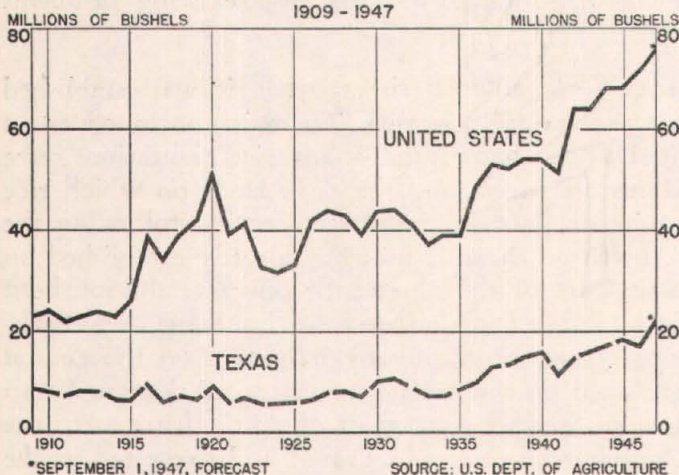
RICE BELT OF TEXAS
PRODUCTION BY COUNTIES - 1945



Production

Rice production increased markedly in Texas after the first irrigation system was constructed, rising from 259,000 bushels in 1899 to 17,716,000 bushels in 1946 and a forecast crop of 22,491,000 bushels in 1947. Although the trend in production has been generally upward, it should be noted that sharp deviations have occurred. These deviations may be accounted for in part by year-to-year variations in yield, but the sharp drop in production during the early Twenties was the result of a reduction in the Texas rice acreage from 281,000 acres in 1920 to 145,000 acres in 1923 following a disastrous fall in the price of rice. Acreage and production rose again after 1923 until the early Thirties, when, with a decline in prices and the inauguration of Government controls over production, output again declined. Since 1934, however, acreage and production have expanded as prices have tended upward, and in recent years, Texas has ranked second only to Louisiana among the rice-producing states in the Nation. For the past several years the State has accounted for about one-fourth of all the rice grown in the United States. Yields in Texas have averaged about 48 bushels per acre during the past 10 years and have shown a tendency to increase as improved varieties have been introduced and widely accepted.

ANNUAL PRODUCTION OF RICE
UNITED STATES AND TEXAS



Trends in production in the rice-producing areas in Louisiana, Arkansas, and California have been similar to those in Texas, except that in the newer producing areas in California and Arkansas, the rate of increase in production was more rapid than in Texas between 1910 and 1920. Yields in these other areas also have risen slightly in recent years, and California now leads all other areas, with a 10-year average yield of 67 bushels per acre. Arkansas is second, with an average of 50 bushels, while Louisiana follows Texas in fourth place, with an average of only 40 bushels per acre.

The rise in production during and following the war and increases to new record levels in prices received for rice have brought great prosperity to Texas and United States rice growers; but the specter of the early Twenties has not been obliterated, and many growers and handlers fear that another postwar collapse may occur, that their foreign markets may dry up, and that prices may fall to a very low level. In view of this possibility, it is vitally important that the industry examine the historical trends in domestic consumption, exports, and prices of rice and consider possibilities of improving production and marketing methods and of expanding domestic and foreign markets.

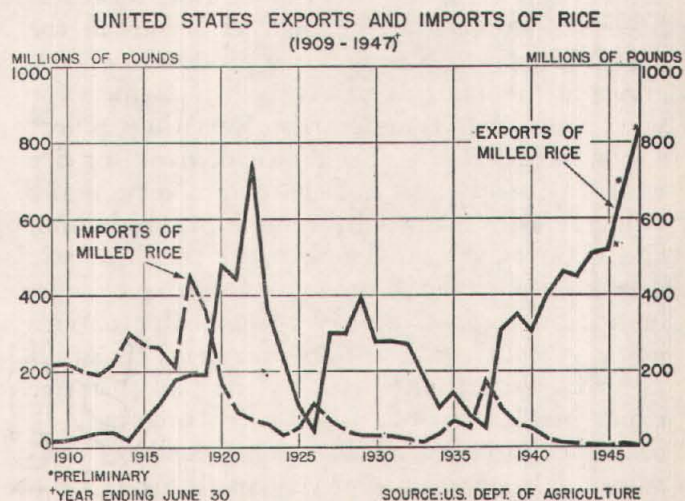
Domestic Utilization

Rice, including both whole and broken grains, is utilized as a food in the home, as a raw material for industry in the manufacture of breakfast cereals, canned foods, or alcoholic beverages, and in small amounts as feed for livestock. Byproducts of the rice milling industry, such as bran and polish, are used largely as animal feed, though in recent years they have been used also as a source of natural vitamins. Hulls generally are treated as waste or burned for fuel in the rice mill, but they have been used to some extent as packing or insulation material, as abrasives, as a binder in cement blocks, and as a raw product for the production of furfural.

Although domestic consumption has risen slowly, the increase has been due primarily to an increase in population, for the present per capita consumption, averaging less than six pounds in recent years, is only slightly above that of twenty-five years ago. In the prewar period, 1935-39, the average annual domestic utilization of milled rice totaled about 960,000,000 pounds. Of this total, 760,000,000 pounds were consumed as food or used in the manufacture of food products, and about 200,000,000 pounds were used by the brewing industry. In addition, 3,400,000 bushels of rough rice, equivalent to 94,000,000 pounds of the milled product, were utilized on farms as seed, feed for livestock, or in the farm home. Total yearly domestic utilization during this period, therefore, was equivalent to 1,054,000,000 pounds of milled rice or approximately 75 percent of the domestic production and about 70 percent of the total supply—domestic production plus imports. Since 1940 the best estimates available indicate that domestic utilization of milled rice has averaged about 860,000,000 pounds per year. Domestic consumption of rice as food declined in this period to an annual average of 735,000,000 pounds; and, while consumption by brewers also declined, the amount used on farms increased to the equivalent of 142,000,000 pounds of milled rice per year. Since 1940, therefore, total domestic utilization is estimated to have averaged about one billion pounds of milled rice, or its equivalent, per year and to have been equal to about 55 per cent of the annual average domestic production.

Exports

Although the average annual production of rice in the United States is relatively small, accounting for less than one percent of the world's supply, a large portion of the domestic crop usually is shipped abroad, making rice an important constituent of United States exports. From about 1730, when the first shipments were made from Carolina to Great Britain, foreign shipments of American rice increased steadily as production expanded, up to the beginning of the Civil War. The decline in rice production after that time, however, caused a sharp reduction in the rate of exports, and, in fact, the United States became an important importer of rice in spite of a 15 percent advalorem import tax. Exports recovered after the turn of the century as new producing areas in the Southwest and West were expanded, but, as shown in the accompanying chart, imports continued to outrun exports until 1920. The Tariff Act of 1921 doubled the tariff rates on rice, raising them to two cents per pound on cleaned rice and to three-fourths of a cent per pound on paddy rice.¹ Thereafter, except in 1926 and



¹In 1930 the rates on both types of rice were increased by one-half cent per pound, bringing them to their present levels of two and one-half and one and one-fourth cents per pound, respectively.

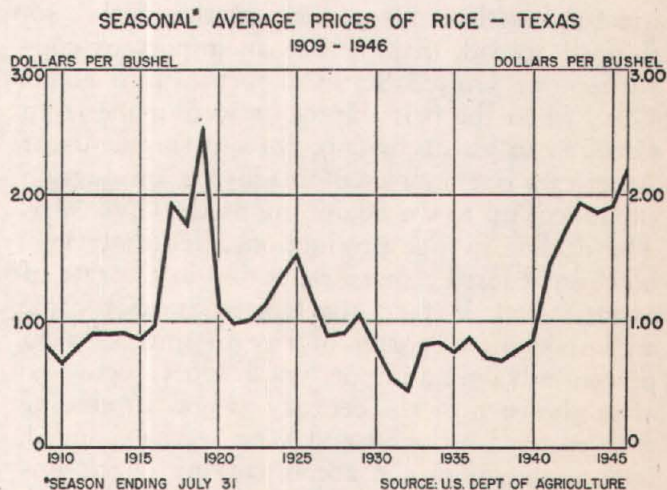
1937, imports have fallen below exports, although between 1929 and 1937 exports declined due to the generally depressed condition of world trade. A particularly sharp reduction occurred after 1932, when the Government price-support program boosted the domestic price above world levels.

In the period 1937-38 through 1941-42, exports of rice from the United States increased substantially, averaging about 358,000,000 pounds of milled rice, or its equivalent, per year and equal to 23 percent of the average annual production. Cuba became the most important foreign market for American rice during these years, receiving over 75 percent of the exports, while European countries received only 12 percent and Canada five percent, the remainder being distributed among countries in South America and the Far East. The marked increase in shipments to Cuba was due primarily to reciprocal trade agreements between the United States and that country permitting the importation of American rice into Cuba at a preferred rate, about 50 percent below that paid on imports from other countries.

During the recent war period American exports continued to rise as supplies from the Far East were cut off and as production was sharply reduced in that area by the Japanese invasion. During this period United States shipments to Cuba and Canada increased substantially, and very large shipments were made to the United Kingdom and to the Soviet Union. Shipments to Europe were sharply reduced during the first postwar season, 1945-46, as other grain shipments increased, and rice exports to that area totaled only 12,600,000 pounds. In that season, however, large shipments were made to the Philippine Islands and the West Indies, so that our total rice exports for the year increased 47 percent above 1944-45 and doubled the prewar average. In the 1946-47 season, 835,000,000 pounds—equivalent to about 42 percent of the crop—were exported from the United States, or about 100,000,000 pounds more than the record exports of the previous season and 130 percent above average shipments in the 1937-38 to 1941-42 seasons. Approximately one-half of the total United States exports in 1946-47 were to Cuba, one-third to the Philippines, and about one-tenth to China. Shipments to all of Europe, including the United Kingdom and the Soviet Union, totaled only 308,000 pounds, compared with a prewar average of 42,800,000 pounds.

Prices

Prices in dollars and cents received by farmers in the United States for their rice have varied widely since 1909, the earliest year for which price data are available. From that date through 1946, annual average prices per bushel have ranged from a low of 44 cents in 1932 to a high of \$2.51 in 1919, with a median of 91 cents. From 1916 to 1917, the average price doubled; from 1919 to 1920, it declined by more than half. To a considerable extent, rice prices respond to the same influences as the general price level, for both tend to rise and fall as economic activity expands or contracts. Variations in the price of rice, however, have been more extreme than variations in the general level of prices of farm products or variations in the index of prices paid by farmers for what they buy. These extreme variations reflect a relative inelasticity of domestic demand for rice which makes the price of this commodity highly vulnerable to changes in volume of production and exports. The inelasticity of the domestic demand is reflected in the fact that sharp changes in rice prices cause only very small fluctuations in per capita consumption of rice. This situation may be accounted for by the fact that rice is not used extensively in industry and the bulk of the commodity utilized domestically is consumed as food by a relatively small group of people who will continue to purchase about the same amount of rice in spite of substantial price increases.



That changes in the volume of production and exports of rice and fluctuations in the general price level are dominant influences on domestic rice prices is confirmed by the following summary of the major fluctuations in the prices of Texas rice since 1909, which closely paralleled the changes

in United States rice prices over the same period. In the five years (1909-14) just preceding World War I, neither prices, total production, nor exports changed greatly, but with the general rise in prices and the expanded volume of rice exports during the war period, prices rose to very high levels in spite of a considerable increase in production. In 1919, Texas farmers received an average of \$2.51 per bushel for their crop, but under the impact of a very large crop in 1920 and a general recession in economic activity, the price declined 61 percent in a period of two years, falling to an average of 98 cents per bushel in 1921. With reduced production and a general recovery in business conditions, prices rose substantially between 1922 and 1925, reaching \$1.48 per bushel for the United States and \$1.51 for Texas, but then started a long downward movement, ultimately falling to a depression low of 44 cents in Texas in 1932. Thereafter they moved slowly and unevenly upward with the gradual recovery of the national economy until 1941, when the impact of a rising price level and an increase in exports greatly accelerated their rise. In two years the average Texas price rose from 84 cents per bushel to \$1.70. Continuing upward, with one slight recession in 1944, the price averaged \$2.19 in 1946 and reached a new high of \$2.70 in August 1947.

Recent Changes in Production Methods

The rapid expansion in rice acreage which occurred during the war period has been accompanied by significant changes in the type of rice produced and in production and harvesting methods. Medium-grain varieties of rice made up the bulk of the crop produced in Texas and in other southern rice-growing states prior to the war. These varieties possess some advantages over the long-grain, higher-priced varieties, for having a shorter growing season, they are less subject to loss due to weather conditions. Also, these varieties generally yield larger amounts of head rice when milled than do the long-grain varieties, for the shorter, thicker grains are less likely to be broken in the milling process. At the present time, however, local estimates indicate that about 75 percent of the rice acreage in Texas is planted in long-grain varieties, such as Bluebonnet, Texas Patna, Fortuna, Nira, and Prelude. These varieties have their advantages and command a premium price in the market. They are generally harder than the medium-grain varieties, and the grains retain their form and structure better when cooked. Moreover, through the breeding of earlier-maturing plants, the growing season of the long-grain varieties has been shortened, thus removing one of the disadvantages formerly attached to these varieties. Although these improved species as yet have not been grown extensively, limited plantings in the Texas Rice Belt indicate that they can be grown successfully and that yields at least comparable with the older long-grain type can be attained with the new species. The substitution of artificial drying for the former method of curing the grain in the field has revealed one other advantage of the long-grain varieties, for these varieties can be handled more easily and successfully in artificial dryers than the thicker short grains of the medium varieties.

Another significant change affecting the production of rice has been the development and inclusion of a program of improved pastures in the crop rotation plan of many rice farms. Under such a program, rice usually is grown on the land one out of every three to five years, and in the years between rice crops, the land is left fallow, or, more generally, pastured. Such pastures formerly consisted mostly of native grasses and weeds which sprang up on the idle rice land. The quality and quantity of the feed furnished by such pastures were low, and only a small amount of organic matter was added to the soil when the sod was turned under for the next rice crop. Even where the attempt was made, it was difficult to establish desirable pasture plants on this land, for the irrigation water used on the rice had washed out a great part of the calcium content of the soil, leaving it in an acid condition. In recent years, however, it has been demonstrated both on experimental plots and under actual farming conditions that improved, profitable pastures can be established through the application of lime and fertilizers and the seeding of desirable grasses and legumes. These improved pastures have increased the profitableness of the livestock enterprises so frequently carried on in combination with rice production, and, at the same time, when plowed under and returned to rice, they have materially improved the physical condition of the soil and increased its fertility by increasing the supply of organic matter. Experiments have shown also that the increased supply of organic matter improves the response of rice to applications of commercial fertilizers.

An innovation in rice production recently introduced in Texas which shows promise of being exploited more fully is the use of airplanes in planting. In California this method of planting had been used extensively for several years, but it had not been tried in Texas. In the past year, how-

ever, several thousand acres of rice in this State were sown by this method, and through the use of sprouted seed, better stands were attained, and the crop got an earlier start. An additional advantage of airplane planting is the possibility of controlling noxious plants more effectively, for the fields can be covered with water from before planting time until just prior to harvest, thus retarding the development of weeds and grasses. If rice is planted on dry land by traditional methods, however, and not irrigated until it is six to eight inches high, it sometimes becomes choked with foreign growth. Although chemical weed killers have been utilized to some extent in controlling this growth, the possible damage to other crops if the chemical dust or spray drifts to adjoining areas tends to limit this method of control. Thus the planting of the grain on flooded fields from planes may prove to be the best solution of the problem of controlling weeds and grass.

A very rapid shift in recent years from the use of binders and stationary threshers to the use of combines in harvesting is another change which has had a significant and far-reaching effect on the rice industry of Texas. This development was given impetus by the acute shortage and high cost of labor during the war period, just when larger plantings of rice sharply increased the demand for labor. The shift in method of harvesting enabled growers to reduce substantially the amount of labor. According to estimates of rice growers, a large self-propelled combine with a crew of five men can perform the work formerly done with a binder, thresher, and crew of 20 men. Moreover, the shift to combines has lessened one of the greatest risks involved in rice farming, for combines can enter the fields shortly after rains or after irrigation water is removed, thus hastening the harvesting operation. Risk of loss is further reduced by the fact that the grain can be moved directly to storage after cutting without being exposed to rain in the field as it would be during the process of natural drying.

The expanded use of combines created a need for artificial dryers, for as the cutting and threshing were performed in a single operation, the rice could not be stacked in bundles in the field and left to be dried by the sun and air. The dryers which were constructed throughout the Texas Rice Belt were capable of reducing the moisture content of the grain to a point where it was safe for storage. For a time, however, many difficulties were encountered in the change-over in harvesting and drying methods. Available harvesting machines, which were generally modified wheat combines, were not well adapted to harvesting rice. The inexperience of operators resulted in some waste of the crop. Artificial drying facilities also were inadequate, and due to the great pressure placed upon the inexpert operators of the dryers to handle as much of the crop as possible, some of the crop was inadequately dried or dried too rapidly and burned. By now these difficulties generally have been overcome. More adequate and better adapted equipment is available, and operators of both harvesting and drying facilities have become more efficient in the performance of their work.

Problems to Be Faced

In the years ahead, as surplus-producing countries of the Far East resume production on a pre-war scale, American rice growers will be faced with greatly increased competition and possibly restriction of their present foreign markets, particularly if domestic prices are artificially maintained at levels above world prices. Competition will be intensified further by growers in new producing areas—particularly in Brazil, where total output increased about 70 percent during the war period and is now about 60 percent above that of the United States. American growers may be forced out of their postwar markets in the Philippine Islands, China, and the West Indies or may find it necessary to accept competitive prices. Even the Cuban market, where importers of American rice enjoy an advantage in the form of a lower tariff rate, may be invaded by competitive shipments from either the Far East or South America.

The Government's commitment to support the price of rice at a level equal to 90 percent of parity through 1948 and an indefinite commitment to support the price at some lower level after that may be counted upon to prevent for awhile a sharp fall in prices such as occurred in 1920-23 and to allow some time for the industry to make adjustment to the new market conditions which may develop. As a first step toward such adjustment, it is well to appraise the problems which may confront the industry in the period ahead and the means for dealing with them. These various problems may be grouped into two major categories: first, problems of adjustment in production; and second, problems of establishing more orderly and efficient marketing methods and of expanding the domestic market to offset a possible decline in foreign shipments.

a. Problems of Adjustment in Production

The first problem to be faced may be a downward adjustment in acreage necessitated by the continuous cropping of much of the rice land during the war period. In order to supply the increased demand for rice and to take advantage of the high prices, many operators abandoned the usual crop rotation which called for growing rice on the land only one out of every three to five years. The effect of this overcropping is already apparent in the form of lower yields on many rice farms in Texas. If such heavy exploitation of soil continues, the effects may more than offset the gains made through the increased use of fertilizers, the planting of new varieties of rice, and the application of other improved production methods. A return to the former rotation system, the inclusion of improved pastures, and the judicious use of commercial fertilizers would do much to repair the damage done to the soil and, after a time, should result in a substantial increase in productive capacity.

Opposing a downward adjustment in acreage while the depleted soil is being rebuilt, will be the urge of many rice farmers to obtain an uninterrupted return on recent substantial increases in capital investment. The shift to combines made it necessary for most growers to purchase expensive new equipment, and the demand for artificial driers to handle combined rice resulted in construction of many drying plants in the Texas Rice Belt. Wartime expansion of acreage required additional irrigation facilities and purchase of new pumping equipment. Such capital investments have increased the efficiency of the Texas industry and enabled it to hold costs of production down to some extent. The cost of these capital items, however, must be recovered over a long period of time, and a reduction in their utilization due to a reduction in acreage and output of rice might reduce the returns realized from their use just as much as a fall in price of rice would reduce them. It is expected, therefore, that the increase in capital investments and fixed costs will tend to make the volume of rice production less flexible and that growers may continue to produce large crops of rice in spite of sharp downward movements which may occur in prices. As long as the operator can secure a return above operating costs to apply toward retiring the investment, he may be expected to continue in production rather than write off the cost of his investment as a loss. Moreover, the lack of equally profitable alternative uses of land and labor characteristic of many rice farms also tends to discourage reduction in the acreage of rice. Apparently the best solution for this problem would be a clear realization on the part of the owners of overcropped rice lands that the long-range advantages of restoring and conserving the fertility of their lands will outweigh the temporary gains of persistent overcropping.

A problem in adjusting production upward through improving the productivity of the soil by comprehensive programs of crop rotation and soil conservation arises out of existing tenure arrangements on many rice farms. Some of the land, particularly in central and southern coastal counties of the Rice Belt, is owned by absentee landlords and operated by tenants, who are not as concerned with maintaining the fertility of the soil as owner-operators generally are. Also, some resident owners follow the practice of renting the rice acreage on their farms to tenants and retaining only the pasture land for their own use. The tenant operator of the rice land is not only less concerned with maintaining soil fertility than the owner but he also lacks the opportunity to carry out many soil-conserving practices. As he rents only the rice land, and frequently for only one year, he cannot determine the rotation or establish such conservation measures as improved pastures. Such tenure arrangements are likely to result in disregard of conservation programs and damage to the soil resources of the area. To solve the problem thus presented, owners of such lands could either become resident operators observing sound principles of soil conservation or make long-term lease contracts which provide incentives to tenants to follow a proper program of crop and pasture rotation and of soil care.

A final problem in adjustment of production relates to methods of increasing the yields of rice per acre as a means of lowering unit production costs, so as to insure a profit on operations and to offset the effect of periodic declines in prices. Progress made so far in increasing domestic yields has resulted chiefly from use of improved varieties of seed and adoption of comprehensive conservation programs in some areas. Additional gains may reasonably be expected from a wider use of those methods. There are other difficulties, however, in the matter of increasing rice yields about which little has been done. Plant diseases, such as seedling blank, leaf and kernel spots, and sheath and stem rot, attack the Texas crop and reduce yields appreciably each year. There is need, therefore, to develop and plant disease-resistant varieties of rice and to devise other measures of control. Also, satisfactory methods must be

developed for reducing the loss of yields caused by the ravages of such insects as the rice stink bug, beetles, borers, and rice water weevils. Wastage in harvesting constitutes another drain upon yields, and poses the problem of developing varieties of rice which are better adapted to combining and which mature uniformly, are resistant to lodging, and can be satisfactorily dried after harvest.

Additional knowledge of the use of commercial fertilizers and of trace elements such as boron, copper, zinc, manganese, and iron also will be required for any program undertaken to increase yields. Rice does not respond very well to applications of commercial plant foods, and, although the response is improved by the addition of organic matter to the soil, further improvement must be secured if the wide use of commercial fertilizers is to be profitable. More complete knowledge of the chemical action of the soils of the Rice Belt under irrigation would be helpful in determining the most effective methods of fertilization. Little or no work is being done along these lines in Texas at the present, and an expanded program of soil research would be of great benefit to the industry in its efforts to increase rice yields.

b. Problems of Processing and Marketing

Equally as important to the rice industry as the problems of adjustment in production are certain problems of processing and marketing. Many of the difficulties of operation at first encountered in the rice drying process have been overcome; but information has not been developed on such basic factors as the most satisfactory time and rate of drying and the effects of the process on the quality of the rice. Operators of drying plants urgently need this information in order to perform their operations successfully and with maximum benefit to their customers. Excess drying capacity does not exist at present in the Texas Rice Belt, but if production should fall to the point that driers' facilities could not be fully utilized, profits from drying plants would be severely squeezed, and only the more efficient operators would be able to survive.

Storage facilities in the Texas Rice Belt are inadequate at the present time to permit the most orderly marketing of the crop. Moreover, existing facilities designed mostly for storing rice in bags may not be the type which can be utilized most effectively in the future. Before the war, there was a trend toward increased use of bulk storage, and men in the industry now expect that trend to be resumed. Rice can be stored in bulk more cheaply than in bags, and some warehousemen and millers are of the opinion that it also can be handled more easily in this manner. However, before extensive construction of new storage facilities is undertaken, more tests should be made to determine the type of facilities best suited to the storage of rice. For successful bulk storage, means must be discovered for preventing damage to the rice from insects or from overheating, and equipment must be devised for moving the grain into storage bins and out of these bins into box cars.

The possibility of expanding the domestic market for rice appears to offer the greatest opportunity for the industry in meeting its future problems of disposing of its product. As pointed out above, the domestic consumption of rice is relatively small, averaging less than six pounds per person. Moreover, much the greater part of that used in this country is consumed in the Southern States. The domestic market, therefore, offers great promise for expansion if it is properly exploited. It appears possible that an extensive advertising campaign to acquaint the public, particularly in northern and western states, with the nutritional and savory qualities of rice could bring about an increase in consumption. The packaging of rice for the retail trade in attractive containers exclusively, carrying accurate grade descriptions or dependable brand names, also might expand consumption. Old recipes for the proper preparation of rice might be standardized and made freely available to all housewives, either by being printed on the package or distributed in some other manner. New methods of home preparation also might be developed and made available, and perfection of such new processes as par-boiling rice before packaging may offer opportunities for increasing appreciably domestic consumption.

True, the rice industry at present faces many problems which may prove difficult to solve, but the adjustments in both production and processing made during the war period have tended to increase the efficiency of the industry and to improve its competitive position. Also, growers, processors, and other handlers of rice have started the postwar period in good financial condition. Equipment generally is new and efficient, and financial reserves are adequate to meet adjustment demands. A realization of the nature of the problems ahead is spreading among the various branches of the industry, and this realization generally is coupled with a determination to provide solutions for foreseeable problems in advance of their occurrence and to care for other problems as they arise.

Review of Business, Industrial, Agricultural, and Financial Conditions

DISTRICT SUMMARY

After following a downward trend for three consecutive months, the dollar volume of department store sales in this district turned upward in September, rising moderately above the total for the same month a year ago, and showing a near normal seasonal gain over August. Retail furniture stores exhibited an even stronger upward trend than department stores in the volume of their September sales, reflecting perhaps the effect of widespread cashing of Armed Forces Leave Bonds to furnish the new homes and other dwelling units of veterans' families.

Continuation of drought conditions over most of the western half of the district in September and October caused a sharp reduction in range feed and stock water and a deterioration in the condition of range cattle, necessitating heavier than average use of supplemental feeding. The drought in that area also retarded growth and development of field crops, and seriously delayed the seeding of winter wheat. Elsewhere farm and ranch conditions were about normal for the season of year, with harvests proceeding rapidly in generally dry, open weather. The Texas rice crop is the largest on record, and the State's cotton crop, which is only slightly above the 1936-45 average, is nearly double the short crop of 1946. The year's production of corn, grain sorghums, peanuts, and sweet potatoes is smaller than that of a year ago, and, in the case of corn, less than the 10-year average.

Nonagricultural employment in Texas at the end of August was three percent greater than at the same date in 1946 and about 20 percent higher than in 1939. The numerical gains during the past year were about evenly divided between manufacturing and nonmanufacturing establishments, the percentage increase being greatest in plants manufacturing nondurable goods. Construction activity in the district continued at a high level in September and October despite hampering shortages of some building materials, and present indications are that the decline in volume of construction during the rest of the year will be less than seasonal. Crude oil production in the district, as in the Nation, rose to new peaks in September, under the pressure of a demand for petroleum products which is drawing crude oil to refineries in record volume and creating the need and the prospect of early expansion of refinery capacity, especially in the Texas Gulf coastal area.

BUSINESS

The downward trend in dollar volume which had characterized sales of department stores in this district since June was reversed in September, when total sales showed a moderate year-to-year gain of three percent. This brought the gain in cumulated sales for the first nine months of this year over the same months of 1946 to four percent. The seasonal gain over August was 16 percent, the highest month-to-month increase in sales since March and the second highest for the year to date. This development among department stores may reflect the shift of emphasis in consumer spending from durable to nondurable goods which has been observed recently in total retail sales in this area. Credit sales in September constituted 63 percent of total sales, compared with 58 percent in the same month a year ago. The average rate of collections on charge accounts was 56 days.

Sales of retail furniture stores in the district in September showed a gain of 18 percent over those of September 1946 and of 17 percent over those of the preceding month. This was the greatest year-to-year increase for any month since last December and the strongest month-to-month gain since October 1945. The explanation appears to lie in the fact that the cash-

ing of large numbers of Armed Forces Leave Bonds in September provided veterans the means of buying furniture for newly occupied homes or apartments. The ratios of cash and credit sales stood at 21 percent and 79 percent, respectively, during September, compared with 18 percent and 82 percent in other recent months. Collections during the month showed a greater rate of gain over August than end-of-month receivables.

WHOLESALE AND RETAIL TRADE STATISTICS

	Number of reporting firms	percentage change in			Stocks †	
		Sept. 1947 from Sept. 1946	August 1947	Jan. 1 to Sept. 30, 1947 from 1946	Sept. 1947 from Sept. 1946	August 1947
Retail trade:						
Department stores:						
Total 11th Dist.....	48	3	16	4	8	6
Dallas.....	4	4	5	5	15	3
Corpus Christi.....	7	-1	26	-1	-5	1
Fort Worth.....	4	7	15	6	24	8
Houston.....	7	5	17	6	8	14
San Antonio.....	5	†	-5	4	20	8
Shreveport, La.....	3	5	33	7	..	..
Other cities.....	18	7	19	4	10	4
Retail furniture:						
Total 11th Dist.....	49	18	17	..	19	-2
Dallas.....	3	8	21	..	-2	-7
Houston.....	5	44	37	..	..	..
Port Arthur.....	4	83	45	..	7	-9
San Antonio.....	4	10	18	..	..	..
Shreveport, La.....	3	-16	7	..	48	-4
Wholesale trade:*						
Electrical supplies..	3	74	18	..	..	..
Groceries.....	23	20	2	16	50	10
Hardware.....	8	6	3	20	48	-2
Tobacco & products..	9	7	-17	..	N.C.	-5

*Compiled by United States Bureau of Census (wholesale trade figures preliminary.)
 †Stocks at end of month. ‡Indicates change of less than one-half of one per cent.
 N.C.—No change.

INDEXES OF DEPARTMENT STORE SALES AND STOCKS

	Daily average sales—(1935-1939=100)							
	Unadjusted*				Adjusted			
	Sept. 1947	August 1947	July 1947	Sept. 1946	Sept. 1947	August 1947	July 1947	Sept. 1946
District.....	387	327	258	392r	368	376	378	373r
Dallas.....	389	308	267	408r	351	362	371	368r
Houston.....	386	331	305	384r	361	376	377	359r
	Stocks—(1935-1939=100)							
	Unadjusted*				Adjusted			
	Sept. 1947	August 1947	July 1947	Sept. 1946	Sept. 1947	August 1947	July 1947	Sept. 1946
District.....	319	318	299	299	285	282	277r	267

*Unadjusted for seasonal variation.

r—Revised.

Merchandise stocks of reporting department stores at the end of September showed moderate gains of eight percent within the year and of six percent over the previous month. In view of recent and current price increases, these gains in dollar values are not large enough to suggest much, if any, increase in the total units or physical volume of merchandise on hand. Inventories of retail furniture stores, reflecting the influence of rising sales volume, were fractionally smaller at the end of September than a month earlier, and despite an improved supply situation since last year, were only 19 percent greater than at the end of September 1946, as compared with a gain of 30 percent at the end of August of this year over the same date a year ago.

Instalment credit outstanding has been increasing rapidly for more than a year, and now approximates the prewar record reached in 1941. Instalment sale credit and consumer instalment loans have more than doubled since V-J Day. With increased production of automobiles and other major consumer durables, credit for the purchase of those items has accounted for a large portion of the total increase in instalment sale credit, even though down payments and payout periods for such sales have remained until now under the restrictions of Regulation W. Discontinuance of those restrictions on November 1 creates the possibility of a highly inflationary increase in instalment-credit buying of automobiles, major appliances, and furniture, unless dealers practice restraint in liberalizing terms of sale.

Monthly and Seasonal Patterns in Merchandise Preferences of Department Store Customers

Monthly and seasonal variations in the preferences of consumers for different items of merchandise sold in department stores of this district are disclosed by an analysis of the monthly distribution of yearly sales of each department during the nine-year period, 1938-1946. This analysis brings to light best months, poorest months, good months, and favorable seasons for sales of merchandise in each department of these stores. Experienced store executives and department heads have charted this information in various ways through the years as to their own stores and customers. Hence, the average experience of department stores in this district revealed in the following table may be expected generally to confirm the lessons of individual experience except insofar as conditions in certain localities may vary from the district average.

holstery, and awnings. Months which failed to rate as best in any department for as much as three years (i.e., months not to be found in Column 2 of the table) were February, April, June, July, and August. These same months, however, appear occasionally to frequently in Column 4 as being above the monthly average in sales in one or more departments for five years or more during the nine years. July appears only once in this column—in connection with sales of refrigerators, stoves, and other household appliances.

Favorable seasons from the standpoint of departmental sales occurred predominantly in the fall or in fall and early winter (September-December). This was particularly true in the case of departments selling housefurnishings, jewelry, and silverware. Many departments such as silks and velvets, hosiery, shoes, millinery, women's and misses' dresses, and men's clothing, which reached seasonal peaks in the spring, enjoyed a second (and some-

MONTHLY AND SEASONAL MERCHANDISE PREFERENCES OF DEPARTMENT STORE CUSTOMERS AS SHOWN IN DEPARTMENTAL SALES, 1938-1946

Eleventh Federal Reserve District

(The use of all capital letters in printing the names of certain best months and poorest months signifies that the description was true of the month in question every year of the nine-year period, 1938-1946)

1	2	3	4	5
Department	Best month three or more years	Poorest month three or more years	Months—other than best—with sales above 1/12 of annual total five or more years	Favorable seasons (2 plus 4)
Main Store—Total	DECEMBER	July	Sept., Oct., Nov.	Sept., Dec.
Piece goods	DECEMBER	July	Jan., May, Sept., Oct., Nov.	May; fall; winter
11. Silks, velvets	March	July	Feb., Apr., May, Sept., Oct., Nov.	Spring; fall
12. Woolen dress goods	October	May, June	Jan., Feb., Aug., Sept., Nov., Dec.	Fall, Winter
13. Wash goods and linings	May	December	Feb., Mar., Apr., June	Spring
14. Linens, household	DECEMBER	Feb., Mar., Apr.	Jan., Nov.	Nov.-Jan.
15. Domestic	January	Apr., July	Nov., Dec.	Late fall; winter
18. Blankets, comforters, spreads	DECEMBER	Apr., June	Aug., Sept., Oct., Nov.	Aug.-Dec.
Small wares	DECEMBER	Jan., July	Oct., Nov.	Oct.-Dec.
21. Laces, trimmings, embroideries, ribbons	May, Dec.	Jan., Aug.	Mar., Apr., May, Nov.	Spring; late fall
23. Notions	DECEMBER	January	Apr., May, Sept., Oct., Nov.	Apr.-May; Sept.-Dec.
24. Toilet articles, drugs	DECEMBER	Feb., July	November	Nov.-Dec.
25S. Silverware	DECEMBER	January	November	Nov.-Dec.
25J. Jewelry	DECEMBER	Jan., July	Sept., Oct., Nov.	Sept.-Dec.
27. Art needlework and art goods	Nov., Dec.	June	Jan., Feb., Sept., Oct., Nov.	Fall; winter
28. Stationery	DECEMBER	Jan., July	Oct., Nov.	Oct.-Dec.
Ready-to-wear accessories	DECEMBER	Jan., July	Mar., May, Sept., Oct., Nov.	Spring; Sept.-Dec.
31. Neckwear, scarfs	DECEMBER	June, July	Feb., Mar., Apr., Sept., Oct., Nov.	Feb.-Apr.; Sept.-Dec.
33. Handkerchiefs	DECEMBER	Jan., July	May, Nov.	May; Nov.-Dec.
34. Millinery	SEPTEMBER	JULY	Feb., Mar., Apr., Oct.	Feb.-Apr.; Sept.-Oct.
35. Gloves	DECEMBER	JULY	Mar., Sept., Oct., Nov.	March; Sept.-Dec.
36. Corsets and brassieres	October	July	Mar., Apr., May, Sept., Oct., Nov., Dec.	Spring; Sept.-Dec.
37. Hosiery	DECEMBER	January	Mar., May, Oct., Nov.	Spring; Oct.-Dec.
38. Knit underwear	DECEMBER	January	Oct., Nov.	Oct.-Dec.
39. Silk and muslin underwear	DECEMBER	Jan., Feb.	May, Nov.	May; Nov.-Dec.
42. Negligees, robes, lounging apparel	DECEMBER	Jan., Feb.	Oct., Nov.	Oct.-Dec.
43. Infants' wear	December	June	Sept., Oct., Nov.	Sept.-Dec.
46. Small leather goods, umbrellas, etc.	DECEMBER	Jan., July	Mar., Apr., May, Sept., Oct., Nov.	Spring; Sept.-Dec.
47. Shoes	September	July	Mar., Apr., May, Sept., Oct., Dec.	Spring; Sept.-Oct.; Dec.
Women's and Misses' ready-to-wear	Sept., Dec.	June, July	Mar., Aug., Sept., Oct., Nov.	March; Aug.-Dec.
51. Women's and misses' coats	Sept., Oct.	June	Jan., Feb., Aug., Sept., Oct., Nov., Dec.	Fall; winter
52. Women's and misses' suits	December	Jan., July	Mar., Apr., Aug., Sept., Oct., Dec.	Early spring; early fall; Dec.
53. Women's and misses' dresses	May, Sept.	Jan., July	Mar., Apr., May, Sept., Oct.	Spring; Sept.-Oct.
54. Blouses, skirts, sportswear	DECEMBER	January	Aug., Sept., Oct., Nov.	Aug.-Dec.
55. Juniors' coats, suits and dresses	December	Jan., July	Aug., Sept., Oct., Nov.	Aug.-Dec.
57. Housedresses, aprons, uniforms	May	Oct., Nov.	Apr., June, July, Dec.	Spring; early summer; Dec.
59. Furs	December	May, June	Jan., Aug., Sept., Oct., Nov.	Aug.-Jan.
Men's and Boys' wear	DECEMBER	Jan., Feb.	May, Oct., Nov.	May; Oct.-Dec.
61. Men's clothing	December	February	Jan., Apr., May, Oct., Nov.	April-May; Oct.-Jan.
62. Men's furnishings, hats and caps	DECEMBER	Jan., Feb.	June, Oct., Nov.	June; Oct.-Dec.
66. Boy's clothing and furnishings	DECEMBER	Jan., July	Apr., Sept., Oct., Nov.	April; Sept.-Dec.
67. Men's and boys' shoes and slippers	December	February	May, Sept., Oct., Nov.	May; Sept.-Dec.
House furnishings	December	January	Aug., Sept., Oct., Nov.	Sept.-Dec.
71. Furniture	December	Jan., June	Sept., Oct., Nov., Dec.	Aug.-Dec.
73. Domestic floor coverings	October	Jan., July	Aug., Sept., Nov., Dec.	Aug.-Dec.
74. Draperies, upholstery, awnings, etc.	OCTOBER	Jan., July	Sept., Nov., Dec.	Sept.-Dec.
75. Lamps, shades	DECEMBER	Jan., June, July	Sept., Oct., Nov.	Sept.-Dec.
76. China, glassware	DECEMBER	January	November	Nov.-Dec.
77R.S.O. Mechanical refrigerators, stoves, etc.	December	January	Apr., May, June, July, Aug.	Spring; summer
78. Housewares	DECEMBER	January	Sept., Oct., Nov.	Sept.-Dec.
81. Pictures, framing, mirrors (1940-1946)	December	Feb., Mar., June, July	November	Nov.-Dec.
93. Luggage	DECEMBER	Jan., Feb.	May, Nov.	May; Nov.-Dec.
Basement store	DECEMBER	January	Sept., Oct., Nov.	Sept.-Dec.
110. Piece goods, all materials	December	Jan., Feb., July	May, Aug., Sept., Oct., Nov., Dec.	Apr.-May; Aug.-Dec.
130. Women's, misses', children's, infants' wear	DECEMBER	January	Sept., Oct., Nov.	Sept.-Dec.
150. Hosiery, underwear, corsets, millinery	DECEMBER	January	Mar., Apr., May, Sept., Oct., Nov.	Spring; Sept.-Dec.
160. Men's and boys' clothing and furnishings	DECEMBER	Jan., Feb.	June, Sept., Oct., Nov.	June; Sept.-Dec.
170. Housefurnishings (1940-1946)	December	Apr., June	Sept., Oct., Nov.	Sept.-Dec.
190. Shoes	December	Jan., Feb.	Apr., May, Sept., Oct., Nov.	Spring; Sept.-Dec.

There is no great surprise in the fact that December was the best month every year in the main store and in more than half of all the departments, including the basement store. December was also the best month for three or more years out of the nine-year period in 16 other departments. The only other months which were best months every year in any department were September in millinery and October in draperies, curtains, up-

times greater) period of customer preference in the fall. The only departments in which summer was a distinctly favorable season were house dresses and aprons, and refrigerators, stoves, and other household appliances.

The poorest month in the main store was July in seven (1938-1944) of the nine years, with January occupying that position

in 1945 and 1946. In the basement store the poorest months were January and February, the former bearing that rank in seven of the nine years. In terms of the sales of individual departments, January and July were about evenly matched for the dubious distinction of poorest month, although some other months bore the title or shared it in a considerable number of departments. In two departments, millinery and gloves, July was the poorest month in each of the nine years. The total absence of June, July, and August from the list of best months in Column 2 confirms the common opinion that summer is the season of least sales activity in department stores.

Most of the peaks and valleys in the movement of sales of different departments throughout the year were, of course, direct reflections of the suitability or unsuitability of each department's merchandise to the seasonal needs of the store's customers. But salesmanship based upon anticipation of needs apparently accounted for August's being a good month in sales of furs, blankets, and comforts. End-of-season sales and other clearances also modified to some extent the strictly seasonal pattern of sales. The primacy of December in the sales volume of such departments as toilet articles, silverware, jewelry, lamps, china, glassware, and luggage, carrying merchandise which, in a sense, is nonseasonal, may be rightly attributed to the influence of the Christmas season with its accompaniment of lavish giving of luxury items.

Wartime shortages and imbalance in supply of certain important civilian consumer goods caused some shifts, not shown in the table, in buying habits of the customers of department stores. The shortage which developed early in the war in domestic sheeting and muslins and in household linens generally led store executives to discontinue the traditional midwinter "white sales," with the result that, after 1942, January lost its position of best month in sales of domestics and disappeared from the list of better-than-average months in sales of household linens. Heavy buying for Christmas gifts of such staple and luxury goods as were available reduced stocks to such a level that pre-inventory sales and other after-Christmas clearances were generally abandoned. As a result, sales volume dropped so low in some departments during the first month of the year that January supplanted July or some other month as the poorest in sales of small wares, especially silverware, jewelry, and watches; of women's accessories, such as handkerchiefs, negligees, robes, handbags, and small leather goods; of women's and misses' dresses and girls' wear; and of men's furnishings. During the war, as household appliances became more and more scarce, the seasonal pattern in sales of those items underwent two shifts, the best season changing from summer to spring in the first two years of war and from spring to December in 1944-1946. This latter shift reflected the disposition of both retailers and customers to regard new household appliances—refrigerators, stoves, washers, vacuum sweepers, and radios—as luxury goods to be hoarded for Christmas holiday trade.

The foregoing comments relate to some of the principal uniformities in the monthly and seasonal patterns of consumer preference and to divergencies from the norm which occurred during the war period. Close examination of the accompanying table will disclose other features of the monthly distribution of departmental sales which may be of interest to the layman as well as to the department store executive.

AGRICULTURE

Growing crops and ranges deteriorated during September and early October in the wake of high temperatures and continued drought over the western and northwestern parts of the district, but pastures and crops in the eastern and coastal sections were benefited by mid-September rains. Largely on account of unfav-

orable weather conditions over much of the State, the estimated production of some Texas crops, especially sorghums, peanuts, and sweet potatoes, declined during September, as compared with earlier estimates. On the other hand, record crops of rice, oranges, and grapefruit were indicated. Harvest operations went forward in most areas under dry, open weather. Seeding of grains on the High Plains and on the Low Rolling Plains was seriously retarded by lack of moisture. Cattle and other livestock in the dry range areas continued to lose flesh in spite of supplemental feeding. In other areas they were in fair to good condition.

A United States cotton crop of 11,508,000 bales was forecast by the United States Department of Agriculture on October 1. This estimate, though 341,000 bales below the September 1 forecast and about seven percent below the 10-year (1936-45) average, is approximately one-third larger than the crop harvested last year. The indicated yield of 261.3 pounds per acre is 26 pounds above that of last year and 10.7 pounds above average. Cotton ginned prior to October 1 this year was reported by the Bureau of the Census to be 3,898,767 bales, or 34 percent of the indicated production, compared with 27 percent of the total crop ginned prior to the same date last year. For Texas the forecasts, unchanged from a month earlier, of a crop of 3,150,000 bales and a yield of 183 pounds per acre were slightly larger than the average production and yield and far above last year's. Cotton harvest at mid-October was complete in the southern counties and was proceeding rapidly in other areas, with ginnings relatively far advanced for the time of year. Many gins in Texas were operating at capacity. The Louisiana crop was estimated on October 1 at 500,000 bales, or 25,000 bales below the estimate of a month earlier and 22 per cent below the 10-year average, but slightly more than double last year's crop. The Oklahoma crop, estimated on October 1 at 275,000 bales, was likewise down 25,000 bales from the September 1 forecast and was only about one-half the 10-year average, but five percent above last year's crop. In Louisiana the crop was seriously damaged by the hurricane of September 19, while the Oklahoma crop, especially the late planted acreage, was affected adversely by drought conditions and boll weevils.

TEXAS—COTTON PRODUCTION BY CROP REPORTING DISTRICTS

	(Thousands of 500-pound gross weight bales)		
	October 1, 1947 forecast	1946	10-year average 1936-1945
1-N. North High Plains.....	55	35	55
1-S. South High Plains.....	785	198	462
2. Permian Plains.....	530	270	539
3. North Central.....	20	14	51
4. Northern Texas Prairies.....	750	482	816
5. East Texas.....	155	96	383
6. Trans-Pecos.....	110	99	74
7. Edwards Plateau.....	25	15	52
8. Southern Texas Prairies.....	330	185	327
9. Coastal Prairies.....	125	46	133
10. South Texas.....	275	229	129
State total.....	3,150	1,669	3,021

SOURCE: United States Department of Agriculture, Bureau of Agricultural Economics.

The October 1 forecast of the corn crop in the United States was placed at 2,458,674,000 bushels, 54,761,000 bushels higher than on September 1, but only three-fourths as great as last year's record crop. The Texas crop was forecast at 50,193,000 bushels, unchanged from the September 1 estimate, but nine percent below the production in 1946 and 30 percent below the 1936-45 average. The decline in Texas production has been due partly to reduced acreage and partly to unfavorable weather, but in yields the weather factor has been significantly offset by an increased use of hybrid varieties which has raised the current yield to the better-than-average level of 16.5 bushels per acre. The Texas grain sorghum crop was forecast at 57,849,000 bushels on October 1, a drop of 3,506,000 bushels from the forecast of a month earlier. Although above average, this year's crop is 22 percent below that of last year. Despite the effects of ex-

tended dry weather on the development and early ripening of the grain sorghum crop, the estimated yield of 16.5 bushels per acre this year is slightly above that harvested last year. Harvest was well under way at mid-October on the High Plains, having passed the peak or being near completion in many of the southern counties in that area. The estimated production of hay in Texas was unchanged on October 1 from the 1,310,000 tons forecast in previous months.

Texas peanut prospects deteriorated during September due to prolonged drought in the important northcentral and western areas. Harvest of a good crop of late peanuts was under way, however, in southern counties at mid-October. Total production for the State is estimated at 319,600,000 pounds, a decrease of almost six percent from the September 1 forecast, but about 50 percent above the 1936-45 average. The Texas rice crop forecast of 22,491,000 bushels on October 1, as compared with a September 1 forecast of 21,168,000 bushels, is 27 percent above last year's crop and 51 percent above the 10-year average. Good yields of high quality rice were reported from the part of the crop harvested during September and early October. There was no change in the October 1 forecast of pecan production from the 21,000,000 pounds reported a month ago. The estimate of production of sweet potatoes, however, was reduced by 300,000 bushels, or about six percent, from the September 1 estimate. Digging was active in the east Texas area in late September and early October.

The first forecast of Texas citrus production in the 1947-48 season indicated record crops of 25,000,000 boxes of grapefruit and 5,600,000 boxes of oranges, compared with revised estimates of 23,300,000 boxes of grapefruit and 5,000,000 boxes of oranges produced during 1946-47. Shipments of citrus fruits got under way in the first part of October, but the movement was comparatively light and consisted largely of oranges. The United States grapefruit production (exclusive of the California summer crop) is estimated as only slightly less than the record crop of 1945-46 and about six percent above last season's total, while the production of oranges is nine percent below that of last season.

CROP PRODUCTION—(Thousands of units)

Crop	Unit	Texas		Eleventh District	
		Estimated Oct. 1, 1947	1946	Estimated Oct. 1, 1947	1946
Cotton	Bales	3,150	1,669	4,285	2,478
Winter wheat	Bushels	129,420	62,916	244,492	154,393
Corn	Bushels	50,193	55,012	87,736	98,502
Oats	Bushels	31,248	30,366	65,374	65,022
Barley	Bushels	2,572	2,610	9,004	8,005
All hay	Tons	1,310	1,454	4,690	4,649
Potatoes, Irish	Bushels	4,488	5,883	9,329	11,839
Potatoes, sweet	Bushels	4,960	6,570	12,461	17,890
Rice	Bushels	22,491	17,716	44,127	40,392

Weather conditions generally were favorable in the fall and early winter commercial vegetable districts of south Texas during most of September and the first part of October. The Lower Rio Grande Valley had the highest water table for the time of year in many seasons. Subsoil moisture was satisfactory in the Coastal Bend, but in some sections surface moisture was needed for planting crops. Tender fall-crop vegetables are responding to the good growing conditions, especially in the Laredo and Eagle Pass sections, where the crops are further advanced than usual for the season.

Range feed conditions in New Mexico, Arizona, and most of the western two-thirds of Texas showed more than the usual seasonal decline during September and early October, due to above average temperatures and extreme dryness. Mid-September rains in the upper coastal and northeastern counties of Texas revived grass in those areas. In southern counties very good range feed was maturing at the beginning of October. In the High and Low Rolling Plains and adjoining areas, range feed is critically

short and dry, and stock water shortages exist in some counties. Texas ranges as a whole were reported on October 1 to be about seven percent below average for the season of the year. Wheat pasture prospects are very poor, as volunteer wheat has not sprouted and only a limited acreage of winter wheat has been seeded in the dust.

Cattle and calves were showing heavy shrinkage in the range areas of the district in early October, and supplemental feeding, which had been practiced for sometime, was being increased. Cattle were being moved out of some of the most critically dry areas because of lack of range feed and water. In the extreme southern parts of Texas, cattle and calves were carrying good flesh. Range sheep were generally in only fair condition, and some shrinkage was reported from all range areas except those where ranges were improved by local rains in August and September. At mid-October movement of lambs to northern feed lots was under way.

LIVESTOCK RECEIPTS—(Number)

	Fort Worth			San Antonio	
	Sept. 1947	Sept. 1946	August 1947	Sept. 1947	August 1947
Cattle	91,713	59,341	70,561	46,914	18,598
Calves	51,080	45,827	45,276	33,558	14,623
Hogs	36,183	6,582	30,300	6,677	5,204
Sheep	115,947	144,075	102,291	85,148	81,575

COMPARATIVE TOP LIVESTOCK PRICES

(Dollars per hundred weight)

	Fort Worth			San Antonio	
	Sept. 1947	Sept. 1946	August 1947	Sept. 1947	August 1947
Beef steers	\$28.00	\$18.50	\$25.00	\$24.00	\$16.00
Stocker steers	22.50	17.50	22.00	.....	.....
Heifers and yearlings	27.50	19.00	25.00	23.00	17.00
Butcher cows	18.00	14.25	18.00	17.50	13.25
Calves	24.00	18.00	24.00	23.25	17.00
Hogs	29.00	16.05	28.10	27.75	16.05
Lambs	23.50	17.00	24.00	22.00	15.00

Receipts of livestock at the Fort Worth and San Antonio markets during September were 32 percent above those of the preceding month and 25 percent above those of September 1946. Receipts of sheep and lambs at Fort Worth, however, were 20 percent less than in September a year ago, thereby constituting an exception to the general pattern of heavy livestock receipts. Marketing of livestock in Texas usually shows a marked seasonal increase in September, but the unusually large increase in total marketings this year appears to be due in part to the dry range conditions and to high feed prices.

The September 15 price report of the United States Department of Agriculture indicated that prices received by farmers for wheat, hogs, and butterfat had made sharp gains since mid-August and that significant gains were registered by all feed grains, livestock, and dairy and poultry products. Prices received for cotton, cowpeas, and rice were lower than in the previous month.

CASH FARM INCOME

(Thousands of dollars)

	July 1947		July 1947		Total receipts	
	Receipts from Crops	Receipts from Livestock*	July 1947	July 1946	Jan. 1 to July 31 1947	July 1946
Arizona	\$ 13,123	\$ 3,212	\$ 16,335	\$ 16,137	\$ 100,849	\$ 94,282
Louisiana	2,305	8,537	10,842	11,106	103,670	85,196
New Mexico	6,992	5,770	12,762	8,580	68,853	48,822
Oklahoma	37,666	42,753	80,419	65,776	351,374	227,083
Texas	82,881	73,586	156,467	138,453	864,361	640,648
Total	\$142,967	\$133,858	\$276,825	\$240,052	\$1,489,107	\$1,096,031

	August 1947		August 1947		Total receipts	
	Receipts from Crops	Receipts from Livestock*	August 1947	August 1946	Jan. 1 to Aug. 31 1947	August 1946
Arizona	\$ 4,088	\$ 2,385	\$ 6,473	\$ 5,977	\$ 107,322	\$ 100,250
Louisiana	9,181	7,177	16,358	11,768	120,028	98,964
New Mexico	4,698	4,377	9,075	6,854	77,928	55,676
Oklahoma	18,587	41,132	59,719	47,441	411,063	274,524
Texas	128,622	65,636	194,258	141,181	1,058,619	781,829
Total	\$165,176	\$120,707	\$285,883	\$213,221	\$1,774,990	\$1,309,252

*Includes receipts from the sale of livestock and livestock products.

SOURCE: United States Department of Agriculture.

Reports from spot commodity markets show that from September 15 to mid-October the prices of cotton, wheat, and oats made moderate gains; that prices of hogs, barley, and sorghums were not significantly changed; but that prices of corn, cattle, and lambs declined from the levels of a month earlier.

FINANCE

During the four weeks ended October 8, principal changes in condition of the weekly reporting member banks in the district included an increase of \$40,625,000 in total loans, a decline of \$9,016,000 in total investments, and an increase of \$44,986,000 in total deposits.

The increase in loans occurred mainly in the commercial, industrial, and agricultural group, which rose \$34,508,000 to continue at an accelerated rate the seasonal expansion of the previous month. This important category of loans has increased more than \$100,000,000 during the past year, largely due to the sustained high level of business activity at rising prices and the establishment of numerous new businesses throughout the year. Significant percentagewise, an increase of \$5,450,000 occurred in "all other" loans, reflecting mainly expansion of consumer credit. Security loans showed a small increase, while real estate loans and loans to banks decreased slightly.

The decline in investments during the four weeks ended October 8 was due to a decrease of \$26,923,000 in Treasury certificates, only partially offset by increases of \$1,154,000 and \$8,314,000 in Treasury notes and bonds, respectively. There was also a small increase in holdings of Treasury bills, and investments other than United States Government securities rose for the third successive month. Reports generally indicate that rising operating costs are becoming a factor of increasing importance to banks, and this trend may be influencing some banks to shift from short-term government securities to intermediate and long-term governments.

The rise in total deposits resulted from increases in government and interbank deposits of \$14,665,000 and \$50,876,000, respectively. The marked increase in the latter probably reflects the seasonal liquidity of country banks. At this time of year, as crop proceeds find their way to these banks, there is a tendency to shift funds into balances with correspondent banks. Demand deposits adjusted declined during the period, largely due to the usual September tax payments. There was also a slight decrease in time deposits of banks in leading cities, possibly an indication of the pressure of rising living costs in urban areas. The decrease in time deposits shown for September by all member banks in reserve cities would tend to substantiate this. How-

ever, this type of deposit increased slightly at country banks, and savings deposits reported by 102 banks for September also showed a token increase, though less than one-quarter of one percent.

GROSS DEMAND AND TIME DEPOSITS OF MEMBER BANKS

	Eleventh Federal Reserve District (Average of daily figures in thousands of dollars)					
	Combined total		Reserve city banks		Country banks	
	Gross demand	Time	Gross demand	Time	Gross demand	Time
September 1945	\$4,518,798	\$438,792	\$2,276,265	\$281,535	\$2,242,533	\$157,257
September 1946	4,860,403	498,697	2,360,709	316,209	2,499,694	182,488
May 1947	4,600,179	583,254	2,207,446	335,549	2,392,733	197,705
June 1947	4,649,262	540,000	2,234,857	338,684	2,414,405	201,316
July 1947	4,758,677	542,083	2,288,215	339,590	2,470,462	202,493
August 1947	4,845,031	540,172	2,324,633	338,401	2,520,398	201,771
September 1947	4,925,009	540,511	2,360,755	337,863	2,564,254	202,648

SAVINGS DEPOSITS

Reporting Banks—Eleventh Federal Reserve District

	Number reporting banks	September 30, 1947		Percentage change in savings deposits from	
		Number of savings depositors	Amount of savings deposits	Sept. 30, 1946	August 31, 1947
		Beaumont	3	12,335	\$ 6,796,797	-11.4	-0.6
Dallas	8	134,081	78,060,931	5.5	0.02
El Paso	2	34,344	23,669,133	2.9	0.2
Fort Worth	3	42,307	34,570,804	4.1	0.03
Galveston	4	23,052	22,198,291	7.0	1.4
Houston	8	106,723	70,365,547	-0.2	0.3
Lubbock	2	1,195	1,847,596	-23.0	2.3
Port Arthur	2	6,673	5,086,757	-5.6	-1.9
San Antonio	5	39,350	46,968,032	5.6	0.1
Shreveport, La.	3	33,086	26,294,173	0.3	0.1
Waco	3	9,838	9,662,198	6.2	1.3
Wichita Falls	3	6,956	4,700,445	0.6	0.7
All other	56	63,859	54,229,002	4.8	0.4
Total	102	513,799	\$384,449,706	3.0	0.2

Bank debits for September as reported by 24 cities were up 20 percent on the average from a year ago, and also showed a seasonal rise of five percent over the preceding month. Only three cities reported decreases from August, the largest being the five percent declines at Amarillo and Corpus Christi. Among the numerous increases, the greatest were those of 23, 26, and 34 percent reported by Roswell, New Mexico, Monroe, Louisiana, and Corsicana, Texas, respectively. Annual rate of turnover figures reflected this general rise in bank debits, an average of 11.9 being shown for September, as compared with a rate of 11.4 in the preceding month.

BANK DEBITS, END-OF-MONTH DEPOSITS, AND ANNUAL RATE OF TURNOVER OF DEPOSITS

City	(Dollar figures in thousands)			Annual rate of turnover			
	Debits			End-of-month deposits*			
	Sept. 1947	Aug. 1947	Pctg. change over 1947	Sept. 1947	Sept. 1946	Aug. 1947	
Tucson, Ariz.	\$ 51,464	12	9	\$ 80,666	7.7	7.4	7.2
Monroe, La.	32,587	33	26	39,222	10.1	7.7	8.2
Shreveport, La.	123,678	7	15	146,224	10.2	9.5	9.0
Roswell, N. M.	13,335	10	23	17,344	9.2	7.7	7.4
Abilene	30,563	26	12	38,736	9.6	7.2	8.5
Amarillo	78,419	32	-5	82,124	11.6	9.8	12.5
Austin	98,310	-2	9	104,217	11.8	12.5	11.2
Corpus Christi	75,159	23	7	86,862	10.4	9.0	10.1
Corsicana	77,839	30	-5	73,570	13.0	10.1	14.3
Dallas	10,922	20	34	19,520	6.8	5.9	5.3
Dallas	858,181	22	6	679,897	15.4	12.5	14.6
El Paso	92,155	3	4	105,056	10.6	10.1	10.2
Fort Worth	294,934	28	1	276,300	13.0	9.8	13.0
Galveston	62,021	25	7	90,089	8.3	7.1	7.8
Houston	832,437	20	2	797,125	12.7	10.9	12.7
Laredo	14,772	2	2	20,178	8.8	8.3	8.4
Lubbock	55,711	44	12	57,209	11.9	8.4	10.9
Port Arthur	30,897	17	-1	38,783	9.6	7.7	9.6
San Antonio	28,001	17	9	38,706	8.9	7.3	8.4
San Antonio	230,928	17	11	319,371	8.8	7.3	7.9
Texarkana†	14,274	13	9	21,796	7.8	6.4	7.2
Tyler	36,036	18	7	45,601	9.0	8.0	8.4
Waco	47,387	-2	6	55,079	9.0	8.8	8.8
Wichita Falls	45,902	24	8	73,948	7.6	6.4	7.1
Total—24 cities	\$3,233,972	20	5	\$3,320,623	11.9	10.0	11.4

*Demand and time deposits at the end of the month include certified and officers' checks outstanding but exclude deposits to the credit of banks.

†Includes only one bank in Texarkana, Texas. Total debits for all banks in Texarkana, Texas-Arkansas, including two banks located in the Eighth District, amounted to \$25,158.

CONDITION STATISTICS OF WEEKLY REPORTING MEMBER BANKS

IN LEADING CITIES—Eleventh Federal Reserve District

(Thousands of dollars)

	October 8, 1947	October 9, 1946	Sept. 10, 1947
Total loans and investments	\$2,175,815	\$2,207,479	\$2,144,206
Total loans	894,767	786,245	854,142
Commercial, industrial, and agricultural loans	603,644	495,177	569,136
Loans to brokers and dealers in securities	7,613	10,098	7,285
Other loans for purchasing or carrying securities	71,072	105,429	70,420
Real estate loans	75,542	56,495	75,709
Loans to banks	127	452	273
All other loans	136,769	118,594	131,319
Total investments	1,281,048	1,421,234	1,290,064
U. S. Treasury bills	18,767	48,005	17,311
U. S. Treasury certificates of indebtedness	191,914	332,588	218,887
U. S. Treasury notes	128,087	189,249	123,983
U. S. Government bonds (incl. gtd. obl.)	834,085	772,371	825,771
Other securities	108,195	79,021	104,212
Reserves with Federal Reserve Bank	487,099	446,818	479,469
Balances with domestic banks	313,646	243,717	300,979
Demand deposits—adjusted*	1,786,087	1,691,125	1,806,420
Time deposits	378,184	356,544	378,406
United States Government deposits	40,992	146,026	26,327
Interbank deposits	649,026	589,981	598,150
Borrowings from Federal Reserve Bank	None	None	None

*Includes all demand deposits other than interbank and United States Government, less cash items reported as on hand or in process of collection.

NEW MEMBER BANKS

The West Carroll National Bank of Oak Grove, Oak Grove, Louisiana, a newly organized institution located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, opened for business on October 4, 1947, as a member of the Federal Reserve System. This bank has total capital funds of \$75,000, including capital of \$50,000, surplus of \$20,000, and undivided profits of \$5,000. Its officers are: W. D. Brown, Chairman of Board of Directors; C. R. Evans, President; J. Vernon Sims, Vice President; and W. E. Huffman, Cashier.

The Security State Bank, Littlefield, Texas, a newly organized institution located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, opened for business on October 4, 1947, as a member of the Federal Reserve System. This bank has paid in capital of \$50,000, surplus of \$50,000, and undivided profits of \$25,000. Its officers are: A. C. Chesber, President; L. C. Hewitt, Vice President; and Paul Hyatt, Cashier.

The First State Bank of Green's Bayou, Houston, Texas, a newly organized institution located in the territory served by the Houston Branch of the Federal Reserve Bank of Dallas, opened for business on October 22, 1947, as a member of the Federal Reserve System. This bank has paid in capital of \$50,000, surplus of \$15,000, and undivided profits of \$10,000. Its officers are: Richard R. Law, President; Gerald S. Gordon, Vice President and Secretary; William Hyland, Vice President; and F. H. Low, Sr., Cashier.

NEW PAR BANKS

The Farmers State Bank, Brookshire, Texas, a nonmember bank located in the territory served by the Houston Branch of the Federal Reserve Bank of Dallas, was added to the Federal Reserve Par List on October 1, 1947. This bank has total capital funds of \$45,000, including capital stock of \$25,000, surplus of \$12,500, and undivided profits of \$7,500. Its officers are: W. D. Mills, President; Max Wander, Vice President (Inactive); and A. Agopian, Cashier.

The First State Bank, Big Sandy, Texas, a newly organized nonmember bank located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, was added to the Federal Reserve Par List on its opening date, October 6, 1947. This bank has capital of \$30,000, surplus of \$12,000, and unallocated funds of \$6,000. Its officers are: D. B. Beck, President; Vance Gorman, Vice President; and E. B. Lee, Vice President and Cashier.

The Mansfield Bank and Trust Company, Mansfield, Louisiana, a newly organized nonmember bank located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, was added to the Federal Reserve Par List on its opening date, October 7, 1947. This bank has capital of \$100,000, surplus of \$10,000, and unallocated funds of \$15,000. Its President is J. W. Caraway.

The Union State Bank, Carrizo Springs, Texas, a newly organized nonmember bank located in the territory served by the San Antonio Branch of the Federal Reserve Bank of Dallas, was added to the Federal Reserve Par List on its opening date, October 11, 1947. This bank has capital of \$50,000, surplus of \$25,000, and unallocated funds of \$10,000. Its officers are: A. N. Box, President, and Sam H. Alexander, Vice President and Cashier.

Earning assets of the Federal Reserve Bank of Dallas rose more than \$22,000,000 during the month ended October 15, entirely as a result of increased holdings of United States government securities. Federal Reserve notes of the Dallas Bank in actual circulation showed an increase of almost \$5,000,000, standing at \$621,229,000 on October 15. Following the large outflow of currency during the first week of September incident to the cashing of the Armed Forces Leave Bonds, there was a steady return flow of currency to the Dallas Bank until September 26. Since then, a gradual seasonal expansion has been evident, with a slight bulge on October 9, probably in anticipation of the week-end needs attendant on the Columbus Day holiday.

CONDITION OF THE FEDERAL RESERVE BANK OF DALLAS

	(Thousands of dollars)		
	October 15, 1947	October 15, 1946	Sept. 15, 1947
Total gold certificate reserves.....	\$522,315	\$491,050	\$487,866
Discounts for member banks.....	100	700	800
Foreign loans on gold.....	1,130	4,186	974
U. S. Government securities.....	972,536	909,739	950,148
Total earning assets.....	973,775	914,625	951,422
Member banks reserve deposits.....	822,587	761,747	811,651
Federal Reserve Notes in actual circulation.....	621,229	604,078	616,437

MEMBER BANK RESERVES AND RELATED FACTORS

	Eleventh Federal Reserve District (Millions of dollars)					Cumulative changes	
	Changes in weeks ended					5 weeks ended	
	Oct. 15, 1947	Oct. 8, 1947	Oct. 1, 1947	Sept. 24, 1947	Sept. 17, 1947	Oct. 15, 1947	Jan. 1 to Oct. 15, 1947
Federal Reserve Credit—							
local.....	2.7	-1.6	0.1	-2.5	-3.3	-4.6	-18.8
Interdistrict commercial & financial transactions....	9.8	-16.7	38.1	-14.5	-3.0	13.7	-395.3
Treasury operations.....	-1.0	24.4	-11.3	-9.1	4.8	7.8	456.8
Currency transactions.....	-1.8	-5.1	-4.5	4.7	6.4	-0.3	-5.5
Other deposits at the Federal Reserve Bank....	0.4	.....	0.5	-0.4	-0.1	0.4	0.5
Other Federal Reserve Accounts.....	0.1	-0.1	0.3	-0.1	0.1	0.3	1.7
Member Bank reserve balances.....	10.2	0.9	23.2	-21.9	4.9	17.3	39.4

Note: Amounts preceded by a minus sign reduce reserves; others increase reserves.

Several developments of national significance occurred during the month ended October 15. Commercial, agricultural, and industrial loans of reporting member banks of the Federal Reserve System continued to set new highs from week to week, and interest rates edged upward. On September 22, as a consequence of rate developments on Treasury bills, the Treasury increased the rate on one-year certificates to 1 percent; and effective September 25, the 1 percent rate on prime commercial paper in New York City rose to 1½ percent. Later, on October 14, a leading New York bank announced that the 1 percent interest rate on loans to brokers and investment dealers made against securities other than those of customers or of the United States government would be increased to 1¼ percent. Further signs of tightening in the money market were evident in the corporate bond market which tended to weaken in September, with declining prices pushing yields upward.

On October 8, the books were closed on the new 2½ percent issue of non-marketable Treasury bonds, Investment Series A-1965, with total sales of \$970,220,000 being reported, \$257,210,000 of which was taken by banks. In addition, it is worth noting that the gold holdings of the United States Treasury have again passed the \$22 billion mark, and are rapidly approaching the all-time high of \$22.8 billion reached in October 1941. This marked increase in gold imports means that banks are acquiring new reserve balances against which bank credit may be further expanded. The trend of gold movements represents an inflationary force which will bear careful watching over the coming months.

INDUSTRY

Employment in manufacturing establishments in Texas reached a new postwar peak of 341,500 persons in August, eight percent above the level of a year earlier. The rise in manufacturing employment reflects general expansion of activity in non-durable as well as durable goods plants. Significant increases in employment have occurred in establishments manufacturing apparel, food and kindred products, chemicals, transportation equipment (principally aircraft), and lumber and timber, with minor increases in iron and steel plants and establishments manufacturing machinery. The only important producers who have not increased their forces during the last 12 months are manufacturers of some building materials, of petroleum, paper and allied products, and of nonferrous metals.

NONAGRICULTURAL EMPLOYMENT—TEXAS

	Number of employees (000's)		
	August 1947	July 1947	August 1946
Total Manufacturing.....	341.5	335.2	315.5
Durable goods.....	139.6	139.4	131.8
Iron and steel.....	18.7	18.3	17.2
Machinery, except electrical.....	30.0	30.4	29.7
Transportation equipment, except automotive.....	26.0	25.5	22.7
Nonferrous metals.....	9.4	9.4	9.7
Lumber and timber.....	30.5	30.5	37.7
Furniture and finished lumber.....	11.8	11.8	11.1
Stone, clay, and glass.....	9.7	9.9	10.1
Other durable goods.....	3.5	3.6	3.6
Nondurable goods.....	201.9	195.8	183.7
Textiles.....	9.3	9.3	8.4
Apparel.....	27.0	25.2	23.2
Food.....	74.5	72.2	64.7
Paper and allied products.....	3.6	3.4	3.8
Printing and publishing.....	19.9	20.1	17.6
Chemicals.....	20.4	18.4	18.7
Petroleum.....	38.9	38.9	39.6
Other nondurable goods.....	8.3	8.3	7.7
Total manufacturing.....	1,317.5	1,317.0	1,291.6
Mining.....	93.1	94.1	84.5
Transportation and public utilities.....	217.2	212.5	204.2
Trade.....	391.7	396.0	410.6
Finance and service.....	278.0	277.3	261.4
Contract construction.....	96.1	96.6	81.0
Government.....	241.4	241.4	249.9
Total nonagricultural.....	1,659.0	1,653.1	1,607.1

SOURCE: Bureau of Business Research, The University of Texas.

Employment in other industrial activities also has expanded as compared with a year ago. The number of persons engaged during the summer in oilfield work and other mining operations in the State was 10 percent greater than in the summer of 1946. Employment in transportation and public utilities was up approximately six percent, and in construction, 19 percent. Moreover, commercial and service establishments have maintained employment at high levels. Total nonagricultural employment in Texas at the beginning of the fall season is estimated to have been at an all-time high of 1,660,000, or three percent greater than a year earlier, and about 20 percent above the prewar (1939) level.

Estimates of employment prospects in the major Texas labor market areas indicate strong demands for additional personnel during the fall and winter season. Moderate increases in manufacturing employment are anticipated in many areas; construction employment during the winter is expected to decline less than normally; and there will be the usual seasonal demands for more workers in wholesale and retail trade establishments. The number of skilled workers available is reported to be very small in most areas. Unskilled workers are comparatively plentiful in the State as a whole, but in some areas major construction projects and increased employment in trade and manufacturing have sharply reduced the available supply of desirable unskilled labor. In fact, the present labor market in many sections of Texas and in other areas in this district appears tighter than at any other time since the end of the war. Further substantial increases in employment may create a shortage of workers in major employment centers which can not be readily alleviated by shifts

of labor from other areas because of the continued acute scarcity of housing.

New dwellings are being provided rapidly in the district, but the speed with which residential construction can be carried on is limited still by material shortages which have improved very little in recent months, despite maintenance of output of most materials at very high levels. Hardwood flooring and lumber can be obtained somewhat more easily now than earlier in the

BUILDING PERMITS

	September 1947		Percentage change valuation from		Jan. 1 to Sept. 30, 1947		Percentage change valuation from 1946
	No.	Valuation	Sept. 1946	Aug. 1947	No.	Valuation	
Abilene.....	102	\$ 492,705	44	88	834	\$ 3,402,652	- 3
Amarillo.....	202	835,500	28	- 4	1,616	6,135,446	- 2
Austin.....	284	1,629,265	- 21	- 12	4,119	15,028,068	3
Beaumont.....	381	485,736	10	- 1	3,123	4,840,065	69
Corpus Christi.....	307	969,694	31	- 34	3,223	11,119,944	38
Dallas.....	1,537	7,197,243	114	41	12,584	41,739,320	57
El Paso.....	159	1,014,444	96	34	1,181	5,488,021	6
Fort Worth.....	867	4,035,245	219	57	5,762	19,918,065	4
Galveston.....	274	364,637	- 29	71	1,437	1,952,484	- 9
Houston.....	827	6,338,835	82	12	6,327	51,054,391	13
Lubbock.....	244	909,571	67	20	1,847	8,743,234	12
Port Arthur.....	197	211,878	51	20	1,503	1,752,624	- 2
San Antonio.....	1,481	2,744,009	99	14	10,979	19,790,643	6
Shreveport, La.....	324	1,793,044	237	151	3,113	8,692,125	18
Waco.....	230	1,038,625	78	13	1,356	6,875,818	69
Wichita Falls.....	67	189,548	95	- 49	640	1,979,826	23
Total.....	7,483	\$30,250,029	81	23	59,644	\$208,517,646	12

year, but the scarcity of gypsum products, iron and steel pipe, cast iron soil pipe, plumbing fixtures, nails, and mill work is reported to have become more acute. With building activity sustained at or near present high levels during the remaining months of 1947, as is generally expected, significant improvement in the building materials supply situation in the near future is unlikely.

VALUE OF CONSTRUCTION CONTRACTS AWARDED

	(Thousands of dollars)			
	September 1947p	September 1946	August 1947r	Jan. 1 to Sept. 30 1947p
Eleventh District—total.....	\$ 39,399	\$ 34,668	\$ 68,984	\$ 490,886
Residential.....	13,326	13,512	20,794	180,964
All other.....	26,073	21,156	48,190	309,922
United States*—total.....	649,996	619,857	823,216	5,626,111
Residential.....	268,543	293,831	308,937	2,287,287
All other.....	381,453	326,026	514,279	3,338,844

p—Preliminary.

r—Revised.

*37 states east of the Rocky Mountains.

SOURCE: F. W. Dodge Corporation.

Large commercial construction projects were initiated in several southwestern cities during September and October, and a steady volume of residential building activity is indicated by the value of contracts awarded and the large number of dwelling units started in recent months. Heavy construction activity, including public works and utilities, continues to expand in the district.

DOMESTIC CONSUMPTION AND STOCKS OF COTTON—(Bales)

	September 1947	September 1946	August 1947	Aug. 1 to Sept. 30	
				This season	Last season
Consumption at:					
Texas mills.....	11,646	18,678	11,887	23,533	37,577
United States mills.....	727,448	819,058	710,901	1,438,049	1,675,310
U. S. stocks—end of month:					
In consuming estab'm'ts.....	1,137,516	1,959,310	1,154,267		
Public stg. & compresses.....	2,583,306	4,331,089	833,113		

COTTONSEED AND COTTONSEED PRODUCTS

	Texas		United States	
	August 1 to September 30 This season	Last season	August 1 to September 30 This season	Last season
Cottonseed received at mills (tons).....	334,734	171,563	943,425	570,781
Cottonseed crushed (tons).....	154,845	82,363	447,489	323,317
Cottonseed on hand Sept. 30 (tons).....	233,122	146,554	545,275	365,270
Production of products:				
Crude oil (thousand pounds).....	45,991	23,755	135,457	97,971
Cake and meal (tons).....	73,283	39,126	203,144	139,647
Hulls (tons).....	34,030	17,788	104,286	75,470
Linters (running bales).....	50,475	27,317	136,827	100,389
Stocks on hand September 30:				
Crude oil (thousand pounds).....	7,885	13,766	36,898	46,977
Cake and meal (tons).....	8,965	10,259	37,844	55,416
Hulls (tons).....	17,213	11,290	48,427	42,151
Linters (running bales).....	31,438	25,086	114,960	93,507

SOURCE: United States Bureau of Census.

Production of crude oil reached new peak rates during September of 2,553,000 barrels daily in this district and of 2,645,000 barrels daily in the rest of the United States. Daily average production in the United States now is at the rate of more than 5,200,000 barrels, as compared with 4,780,000 barrels at the same time last year, and 3,466,000 barrels during the year 1939. Since last March, the rate of production in the United States has risen steadily, increasing nearly 10 percent in this district and about five percent in other areas. Daily average runs of crude oil to the refineries of the Nation have increased, however, from approximately 4,900,000 barrels in March to about 5,290,000 barrels late in September, an increase of eight percent, and stocks of crude oil have declined fractionally. Total stocks of refined products have increased about six percent since last spring, reflecting seasonal expansion of inventories of fuel oils which more than offset a pronounced decline in gasoline in

tion of crude oil and refining operations probably will continue at present record levels and may rise further, if consumption of petroleum products increases, as anticipated.

Although United States refining capacity now is 27 percent greater than in 1940, the industry must operate intensively (at 90 percent of capacity in 1947 as compared with 80 percent of capacity in 1940), utilizing many refining units at more than

TOTAL REFINING CAPACITY, UNITED STATES

District*	Capacity		Estimated capacity June 30, 1948
	(Daily crude oil throughput in barrels)		
	June 30, 1947		
Eastern.....	941,775		941,775
Mid-West.....	1,456,440		1,515,240
Southwest.....	2,061,825		2,118,825
Rocky Mountain.....	181,212		188,212
West Coast.....	1,006,850		1,056,850
Total United States.....	5,648,102		5,820,902

*P. A. W. districts.

SOURCE: Committee on Petroleum Refining Capacity of the National Petroleum Council and Petroleum Refiner.

CRUDE OIL PRODUCTION—(Barrels)

District	September 1947		Increase or decrease in daily average production from	
	Total production	Daily avg. production	September 1946	August 1947
1.....	727,200	24,240	4,837	734
2.....	4,822,350	160,745	12,268	1,411
3.....	14,972,700	499,090	34,113	12,007
4.....	7,444,500	248,150	28,253	6,802
5.....	1,225,800	40,860	— 163	1,339
6.....	9,276,000	309,200	—16,117	—14,358
Other	3,555,150	118,505	14,917	2,549
7b.....	1,232,550	41,085	8,223	1,845
7c.....	1,234,800	41,160	13,942	1,628
8.....	19,128,000	637,600	146,682	18,231
9.....	3,845,550	128,185	— 970	1,248
10.....	2,590,350	86,345	1,348	2,777
Total Texas.....	70,054,950	2,335,165	247,333	36,213
New Mexico.....	3,517,350	117,245	17,412	8,591
North Louisiana.....	3,025,150	100,838	13,648	1,204
Total District.....	76,597,450	2,553,248	278,393	46,008
Outside District.....	79,355,900	2,645,197	141,583	11,748
United States.....	155,953,350	5,198,445	419,976	57,756

SOURCE: Estimated from American Petroleum Institute weekly reports.

storage. Total products inventories are smaller than at the same time in 1946, however, and perhaps somewhat small relative to anticipated demands, although they constitute more than five weeks' supply at current levels of consumption. Both produc-

rated capacity and employing obsolete and other inefficient installations in order to meet current demands. Refining capacity, therefore, is being expanded rapidly to provide for anticipated further increases in domestic requirements for petroleum products and to establish a comfortable margin of capacity which will permit retirement of inefficient plants and allow for shut-downs during shifts of operations. The southwestern area, which already accounts for 37 percent of domestic refining capacity, is to be one of the principal beneficiaries of the expansion. It is reported that southwestern crude oil refining capacity will be increased by 57,000 barrels daily during the twelve months ending June 30, 1948, and many of the refineries, catalytic crackers, and natural gasoline plants which are to be built thereafter are to be located in the Southwest, primarily along the Texas Gulf coast, where an important portion of the capacity of the industry already is concentrated.