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# THE AGRICULTURAL OUTLOOK FOR 1933

Prepared by the Staff of the Bureau of Agricultural Economics

Assisted by Representatives of the Agricultural Colleges and Extension Services and the Federal Farm Board

CONTENTS



## SCOPE OF THIS REPORT

This report summarizes facts, not readily available to farmers, on the supply, demand, and price aspects of the principal crops and classes of livestock. These facts are analyzed and interpreted so far as possible to show the probable trend of conditions during the coming year in order to aid farmers in making plans for the season's operations. The statements are necessarily general in nature, because this report is prepared from the national viewpoint. The agricultural colleges and extension workers of the various States are preparing reports more closely adapted to local conditions.

The unusual situation this year makes it particularly difficult to show the probable trend of affairs, because of the changes in national and international policies which are under consideration by many legislative bodies. The following statements may have to be modified, in view of changes in political and economic conditions which can not now be foreseen, and all readers are cautioned to consider them with such conditions in mind.

This report has been prepared after consultation with economists and extension workers from the northern and western States. A report for the Southern States was prepared at Atlanta, Ga., November 8 to 12. Those who consider these reports are urged to secure from their State agricultural colleges and extension services, interpretations that apply particularly to local conditions.

## DOMESTIC DEMAND

The domestic demand for farm products in general has improved only slightly from the lowest level, reached last July. No marked changes from this level are probable during the next few months. Numerous political and

financial elements with uncertain influence on business sentiment and business activity still exist; but the need for replenishing accumulated shortages of goods and the existence of sounder credit conditions and more confidence than prevailed during the financial crisis of late 1931 and early 1932, point to the possibility that domestic demand during the 1933–34 season may show some improvement over present conditions. Substantial general improvement in the domestic demand for farm products, however, waits on recovery in the industries that produce durable goods (such as buildings, railroad equipment, and automobiles) and consume large quantities of iron and steel, where extensive unemployment exists. Much will also depend upon changes in political and economic conditions abroad bearing on the removal of some of the foreign-trade and foreign-exchange restrictions which now hamper domestic industrial activity for export markets.

Industrial production, which was reduced from 125 per cent of the 1923–25 average in June, 1929, to 58 per cent in July, 1932, advanced to 66 per cent during the last quarter of 1932. The fairly sharp advance during the summer occurred chiefly in the textile industry, partly as a result of shortage of finished goods in the face of a small cotton crop and rising prices; but some recession has occurred since then. By November, substantial increases in the output of other industries such as iron and steel and automobiles occurred, and partly offset the declining output in industries producing consumer goods for current consumption; but by the end of the year even these basic heavy industries showed a declining tendency. The total volume of production of consumer goods rose during the period July to September from 78 to 102 per cent of the 1923–1925 average, but receded to 95 per cent in December. The output of the more durable products advanced from their low of 43 per cent in August to 52 per cent in December. At the beginning of 1933 the moderately improved industrial situation as contrasted with the low point reached last July was somewhat unstable, with no definite upward tendencies for the first half of 1933. The food industries will apparently continue to be sustained at a stable level by the fairly even flow of products from the farms. In the automobile industry production is far below the rate required to replace cars currently worn out, but for some time low-consumer incomes will restrict automobile production and employment. Low-purchasing power similarly influences the iron and steel industry, which depends on orders from the automobile, railroad, and building industries. Orders from each of these three sources are now at extremely low levels with no certain prospects for immediate marked improvement.

Building activity, as measured by contracts awarded, declined from 126 per cent of the 1923–1925 average in June, 1929, to 26 per cent in March, 1932. Between July and September, 1932, building activity increased by about 10 per cent, owing to an improvement in nonresidential construction, but lost most of that very moderate gain during the last quarter of 1932 when all lines of construction work receded more than seasonally, particularly in the case of public works and utilities. Practically no long-term real-estate bonds were issued during 1932 to finance new construction. Building activity in general is being retarded by the existence of surplus industrial and commercial capacity, by declining rents, by numerous mortgage foreclosures, and by relatively high building costs in many localities. Long-term loans for residential or other building are difficult to obtain. Individuals and institutions are burdened with past debts, real estate and other, and with insecurity of income. Furthermore, appropriations for construction work by Federal, State, municipal, and public works and public-utility agencies are lower for 1933 than they were for 1932. Extensive new financing is not yet in sight in spite of some recovery in high-grade bonds. Industrial activity is, therefore, not likely to receive any marked stimulus during 1933 from construction work.

The national income has declined about 40 per cent, from about $91,000,000,000 in 1929 to about $55,000,000,000 in 1932, but the incomes of certain large groups of urban wage earners have declined much more. Thus the combined wage payments by factories, railroads, and construction activities have declined about 65 per cent since the summer of 1929. This reduction was caused by complete unemployment of millions of workers, by part-time employment, and by reductions in wages. In addition, many consumers have drawn heavily on their savings and others have incurred additional debts. Part of the gain in pay rolls and employment which occurred around September has since been lost. The total number of unemployed in the United States at the beginning of 1933

is generally estimated to be about 11,000,000 to 12,000,000—about equal to the number in the summer of 1932.

Shrinkage in farm incomes is also restricting the purchase of industrial goods. For the year 1932, gross farm income is estimated at about $5,000,000,000, compared with $7,000,000,000 in 1931, and $12,000,000,000 in 1929. As most of the returns were needed to meet production costs and fixed debt charges and taxes, there has been a drastic curtailment of expenditures. Purchases have been practically limited to bare necessities.

In many respects, financial conditions have improved materially over those obtaining a year ago. The volume of bank credit, however, continues at low levels and has shown no appreciable tendency to expand. At the beginning of 1933, money rates were extremely low in the larger metropolitan centers. Gold continued to flow to the United States and holdings of Government securities by the Federal reserve banks were unusually large. Member banks of the Federal reserve system had over $500,000,000 of surplus reserves available for use in expanding credit for business enterprises. The liquidation of commercial bank credit, which was particularly rapid during the last half of 1931 and the first half of 1932, appears to have been halted during the last half of 1932. In the larger cities there has even been a moderate expansion. The drastic decline in the security markets was halted in 1932. Prices of high-grade bonds at the end of the year were slightly above the level of a year earlier, and 17 per cent above the low prices reached in June, 1932. Stock prices, as measured by the Dow-Jones Index, while 23 per cent lower than a year ago, were 46 per cent above the low reached in July 1932.

But these more favorable aspects of the credit situation are accompanied by unfavorable elements that retard business expansion. Bank failures continued at a rapid rate during 1932, the failures of that year exceeding those of any other year except 1931, and solvent banks still felt it necessary to maintain an unusually strong cash position. To date, banks have invested chiefly in Government obligations, rather than expand their commercial loans or purchases of industrial securities, because of the general lack of confidence in the business situation on the part of both business men and bankers. Lower prices and lower wages and other production costs and lower volume of business activities have reduced the demand for commercial and industrial loans. Bank deposits in agricultural areas have continued to decline with no prospects of an increase until farm income turns upward. With business activity at a low ebb, there is a dearth of sound commercial loans, and commercial banks hesitate to make substantial additions to their holdings of bonds other than United States securities.

Like other measures of business conditions, commodity prices showed some recovery during the summer months of 1932, but this had been completely lost by the end of the year when the general average of wholesale market prices was lower than the previous low level reached in June. The depression has created great price disparities among different groups of commodities and between commodity and other values. The general wholesale commodity price level at the beginning of 1933 averaged 90 per cent of the pre-war level of 1910–1914, but wholesale prices of farm products were 60 per cent and prices of house-furnishing goods were 134 per cent, with other groups between these extremes. Although price disparities of this sort are usually narrowed during periods of revival, their existence at this point in the depression is indicative of the need for adjustments. The slowness with which some of these adjustments are made tends to retard expansion.

Another factor making for weakness in the general commodity price level is the relatively lower level abroad of commodity prices in terms of gold, due in part to depreciated currencies. This situation limits the purchasing power for American goods abroad and makes American products relatively dearer in world trade.

Readjustments of various kinds are now in progress. Debts are gradually and tardily being scaled down more nearly in line with commodity prices, through default and foreclosure and through a more general acceptance of depressed conditions. Wages and salaries are being reduced. Vacancies and decreased industrial and consumer incomes are forcing rents down. Although such a readjustment of the price system is desirable from the long-time viewpoint, it creates apprehension and retards business recovery from the short-time viewpoint. Thus the fear of further wage and salary reductions and of further unemployment is tending to curtail current purchases by those still

employed. There are still many fixed charges that are greatly in excess of current earnings in agriculture, railroads, mining, and real estate. Many charges must be adjusted or reduced before profits can be made at the present level of prices.

The difficulties of correcting the existing maladjustments preclude any sharp immediate recovery. Therefore, when planning their 1933 production, farmers may anticipate no materially different consumer-demand conditions next winter from those that prevailed during the 1932–33 season, although some improvement may grow out of the favorable elements already mentioned. But the time and extent of any improvement may be influenced by several nonbusiness developments that are as yet undetermined. Efforts to increase prices and general purchasing power through some change in our monetary system and to advance agricultural income through the application of some farm-relief plan are of course viewed with favor by some and with apprehension by others. Efforts to provide some means of adjusting outstanding debts without the usual bankruptcy proceedings, through a revised bankruptcy act, are looked upon with more general favor, while attempts to relax the strangulating effects on our foreign trade of the existing foreign trade barriers and the international debt situation encounter the apprehension of a large number who believe in protection, isolation, and self sufficiency. Efforts to balance the national budget through additional taxation and through curtailment of expenditures are generally looked upon as a means of restoring confidence and strengthening the bond market, whereas others consider these efforts in the midst of deep depression as a further untimely drain on consumer incomes and business resources and as probably having a retarding effect on revival. Until some definite policies are decided upon with regard to these problems, many business men will hesitate to begin any marked expansion.

## FOREIGN COMPETITION AND DEMAND

The decline in industrial production, which has been nearly continuous since 1929 in most of the important foreign markets for American agricultural products, showed a tendency to slacken in 1932. Foreign credit conditions are much improved, a factor favorable to recovery in industrial conditions abroad. At present, however, there is little prospect for a marked improvement in the foreign demand for our agricultural products during 1933. Disorganized currency systems, exchange control, and trade barriers and restrictions of all kinds are tending to hold back any appreciable revival in international trade. The difficult problem faced by many countries in maintaining their balance of international payments stands in the way of early removal of trade barriers and restrictions, or of the stabilization of depreciated currencies. Effective international action during the present year, directed towards facilitating international payments, the stabilization of currencies, and the moderation of trade barriers, would give a strong impetus toward economic recovery throughout the world. So far as its effect upon foreign demand for our products is concerned, a start toward recovery would be reflected first, no doubt, in the continuation of the improvement in the foreign demand for cotton, since this product is less hampered by trade restrictions than are the foodstuffs items in our export trade. Foreign production of most products competing with the United States in international trade is being maintained at a high level. A notable exception is cotton production. The acreage of cotton in foreign countries has shown some reduction during the last few years.

The foreign demand for our agricultural products has fallen to a new low level for the depression. In the year ended June 30, 1932, the value of agricultural exports from the United States was more than 25 per cent less than in the preceding fiscal year and 60 per cent less than in 1928–29. The decline has continued into the present (1932–33) season. The value of exports for the first six months was about four-fifths of the value in the first half of 1931–32.

The volume of exports has held up better than the value, chiefly because of lower prices of commodities generally and because of heavier shipments of cotton. The total volume of our agricultural exports of 1931–32 was larger than in the preceding two seasons and was only 16 per cent under 1928–29. There was only a small decline in the total volume for the first six months of this season (1932–33) compared with the corresponding period in 1931–32. Excluding cotton, however, the 1931-32 export volume was 10 per cent under that of the preceding season and 35 per cent under that of 1928–29, and the first

half of 1932–33 shows a further decline from the corresponding period of the preceding year of about 25 per cent.

Over two-thirds of our agricultural exports go to the industrial countries of northwestern Europe and to Japan. Consequently increasing unemployment and the decline in European industrial activity, intensified by low agricultural returns, have been important factors in reducing the foreign demand for our products. There was some indication of a slackening in the decline of industrial activity abroad in 1932. This has been especially noticeable in the case of textiles. In practically every important country cotton-textile production late in 1932 was at a higher rate than in the corresponding months of 1931. This has contributed to the well-maintained exports of American cotton. When textiles are excluded, it appears that the general industrial production of most foreign countries at the end of 1932 was below that of 1931. In the United Kingdom industrial activity for the third quarter of 1932 reached the lowest point of the depression, being about 2 per cent under the low level reached just before the abandonment of the gold standard in 1931. German industrial activity also declined to a new low point in August, 1932, but has since made a substantial recovery and in December, 1932, was 8 per cent above December, 1931. French industrial production has expanded, to some extent, since last August, largely because of textiles, but industrial activity in France in the latter part of 1932 was still substantially below that in 1931. In Japan general industrial activity in 1932 was above that of 1931; textile activity was as high as in 1929. This high level of industrial activity is to be associated with the sharp decline in the exchange value of the yen during the last six months and with heavy military expenditures.

In all of the principal European industrial countries unemployment at the end of the year appears to have been higher than at the end of the previous year, although in a number of cases there was an improvement in the closing months of 1932. In Great Britain, despite more rigid application of relief measures, the total unemployment at the end of December 1932 was almost 30 per cent greater than at the same time in 1931. On December 1, 1932, unemployment registrations in Germany were 5 per cent above the corresponding date a year earlier. All other European countries except Poland also showed an increase in unemployment toward the end of 1932 as compared with the same period in 1931.

In appraising the possibilities of economic recovery in important European markets during 1932, credit conditions as a factor in facilitating recovery appear more favorable than they were a year ago. In January, 1931 and 1932, unfavorable credit conditions were a direct factor in restricting industrial activity. During 1932, however, short-term interest rates in important European money markets declined almost continuously and are now at unusually low levels. The surplus of short-term funds available for lending has been accompanied by advancing security prices. Representative indexes of both bonds and common stocks in England, France, and Germany were higher at the end of 1932 than at the end of the previous year. The advance in security prices in Germany from the lows of midsummer, 1932, have been particularly striking. In England, bond prices have advanced to the highest level in the post-war period. The flotation of new security issues for long-term capital requirements, which was held back during the period when the British Government was refunding a substantial portion of the public debt at lower interest rates, may be encouraged by the substantial improvement in the bond market.

Although the improvement of credit conditions in many European countries is an important factor which may bring about a renewal of international lending and may facilitate the recovery of world trade, it is essential to bear in mind that utilization of the credit resources now available is dependent upon a belief that credit advances can be repaid. Under conditions of declining world trade, precarious trade balances, low gold reserves in many countries, and trade restrictions to safeguard gold reserves and currencies, this confidence is lacking. It is apparent, however, that increased confidence in the ability of capital-deficit countries to make repayment will appear when their international payments attain a more favorable balance. Among factors that may influence such developments are: Return of funds (in the capital-surplus countries) withdrawn in the earlier stages of the depression, increased demand for raw materials on the part of industrial countries, balancing of budgets, and reduction of trade barriers.

One of the greatest handicaps to a free flow of goods in international trade is the disorganized state of the various national currencies. Thirty-four coun-

tries have officially suspended the gold or gold-exchange standard and 11 other countries, through special control of exchange dealings, are practically in the same category. Silver, and the currency of China, have fallen to new low levels. In our important foreign markets the depreciation of the pound sterling has been a particularly adverse feature. From a par of $4.86, the pound declined irregularly to a low of $3.15 in December, but had recovered to $3.35 by the middle of January. Inasmuch as about 50 per cent of the world's trade is carried on by countries closely associated financially and commercially with Great Britain, the downward trend of the pound sterling in 1932 has been an important factor affecting both the market for American agricultural exports and the competition offered by other exporting countries.

As long as the aggregate of wages and the level of internal prices in an importing country having a depreciated currency do not rise to offset the currency depreciation, the relative purchasing power of that country in international trade is decreased. If the total consumer income does not rise so rapidly as does the increase in prices of imported commodities, in terms of the depreciated currency, there is a reduction in the demand which can be offset only by reducing the gold price of commodities to a level that is more in keeping with the real purchasing powers of depreciated-currency countries. It should be recognized, however, that the countries with depreciated currencies would have suffered an impairment in their purchasing power under conditions of falling wage and price levels and increasing unemployment, even if the gold standard had been maintained.

Wage and price levels have not risen significantly in the currency-depreciated countries. Currency depreciation in these countries has, therefore, represented sharp and substantial reductions in prices, wages, and overhead costs, in terms of gold currency. Currency depreciation has tempered or offset the deflation that has occurred in gold prices and has obscured the impairment of internal purchasing power in international trade with gold-standard countries. The equilibrium of price levels in terms of gold among different countries has been materially altered, and although economic adjustments will sooner or later restore a new equilibrium, the process is operating slowly in many countries. The actual foreign-exchange rate is the immediate factor and reality encountered by exporters and importers. With some American farm exports the prices in depreciated currencies which can be secured become extremely low when converted to American money; with others, the export outlet is curtailed by prices in terms of gold which become restrictive or prohibitive when converted to foreign currencies. The instability of exchange rates is in itself an uncertain and hazardous factor in undertaking and completing transactions; accordingly it greatly handicaps international trade.

Among the principal exporters of farm products only the United States maintains an undepreciated currency. The competitors of the United States in world markets have depreciated currencies varying from about 15 per cent for Canada to 40 and 45 per cent for Argentina and Australia, respectively. In Australia and Argentina wheat prices for the 1931–32 crop reached as high a figure as the prices for a part of the 1929–30 crop. In depreciated-currency countries there is less reluctance in shading prices to obtain world markets and the influence of these high internal prices in maintaining acreages may be considerable. The extent to which this situation has altered and will continue to influence the sources and volume of world trade in farm commodities is, however, difficult to establish or to suggest, because of many other influences operating simultaneously.

Wholesale prices, in terms of gold, are at the lowest level of the depression. Compared with those of a year ago, price levels in depreciated-currency countries are unchanged or are slightly higher than a year ago, and in gold-standard countries they are about 10 per cent lower.

Throughout 1932 the situation with reference to foreign-trade barriers to American agricultural exports followed, in general, the unfavorable lines foreshadowed in the Agricultural Outlook Report for 1932. By and large, there was no abatement of the earlier severe restrictions affecting our agricultural exports. On the contrary, new restrictions were imposed. In the United Kingdom ratification of the Ottawa Agreements raised new barriers to American and other non-Empire fruits (apples, grapefruit, oranges, raisins, prunes) and to wheat; and late in 1932 quota restrictions on pork imports also went into effect, followed by others on beef and mutton effective the first of the present year. In France import licensing and quotas were applied to a long list of agricultural products. In Germany the butter-quota restric-

tions were further tightened; the authority of the corn-importing monopoly was broadened to include grain sorghums; and at the end of the year, application of a temporary import quota to lard was announced. In several countries that had been restricting imports through control of foreign exchange, trade with various other countries was reduced virtually to the level of barter exchange through the adoption of "clearing agreements" with such countries whereby the total value of current trade one with the other was arbitrarily counterbalanced.

In view of the continued tightening of restrictions during recent years, caution in predicting a cessation or a reversal of this trend during the coming year is manifestly in order. Yet there are some indications that 1932 may have been the peak; that the force of the earlier upward tendencies may have been spent; and that some moderation of existing barriers may get under way during the present year. Apparently no major projects in further tightening of barriers are now under contemplation. In Germany the contemplated import quotas on pork and pork products, fruits, and various other agricultural products (except on lard) were finally abandoned late in 1932. Agreements modifying previous drastic trade restrictions have recently been reached among various countries. There have been some signs of relaxation in the administration of exchange controls; and in various exporting countries export dumping schemes previously in effect have lost ground. These developments may possibly foreshadow at least a slackening of barriers or a cessation of further general tightening.

Meanwhile. there are two impending developments of which the ultimate outcome may be a reduction of present barriers, though perhaps not in 1933. One is the indication from various directions that a new impetus to tariff reduction by the bargaining process appears to be in prospect. Should the United States be a party to such negotiations, agricultural products, because of their importance in our export trade, would naturally have a prominent place. Although experience indicates that progress in such matters is necessarily slow and difficult, it may be that a period of general scaling down of barriers by international negotiation is about to begin and that its effects may be felt to some extent before the expiration of the crop year 1933–34. The possibilities of achievement in this direction will be much greater if, meanwhile, progress toward world financial stabilization and general economic recovery is made in other fields. In regard to this latter, much, in turn, will hinge upon the outcome of the World Economic and Monetary Conference to be convened in London, this summer—the second of the impending major developments referred to. The precise scope of the discussion is not yet certain; but it now appears that restoration of the gold standard, revival of wholesale prices, and reduction of trade barriers, are to be the major subjects. In so far as the results may hinge upon agreements subject to ratification in the different countries, definite action growing out of the negotiations will perhaps be mainly deferred beyond the present year. But if adequate progress is made in the discussions, both preliminary to and during the conference, this may be an aid to the general revival of confidence, which would be an important step toward recovery. Such an effect might be quite in advance of the actual adoption by participating countries of any measures upon which the conference may agree. This revival in itself should tend directly to stimulate markets for our exports; and since the more extreme restrictive measures of recent date have grown directly out the financial crisis and the general collapse of confidence, it should tend also to ease the way to modification of the existing high barriers to trade.

Foreign agricultural production continues at a high level. In the deficit agricultural countries of Europe acreage and production have been maintained or have continued to mount behind the protection of high import duties and other trade restrictions. The 1932 wheat acreage in European countries, excluding the acreage of the surplus producers in the Danube Basin and Russia, was 7 per cent greater than in 1929 and 18 per cent greater than in 1920, but was still short of the average acreage before the World War. The total European acreage in 1932, including the Danube Basin but excluding Russia, was 2 per cent above the pre-war average. European hog numbers, excluding Russia's, have averaged, in the last few years, approximately 10 per cent above the average number during 1909–1913 and about 30 per cent above the average in the years immediately following the war. European cattle numbers are also above pre-war numbers, but the number of sheep has been reduced.

In surplus-producing countries like Canada, Australia, and Argentina, some shifts in crop acreages have taken place during the last three years and the total area under cultivation was less in 1932 than in 1930. But the acreage of wheat, the principal crop in these three countries, was 3 per cent larger in 1932 than in 1929, more than 10 per cent larger than the average of the five years ended in 1929, and over 80 per cent above the average for 1909-1913. The production and export of animal products in surplus countries have also been well maintained. Shipments of wool, mutton, and dairy products from the Southern Hemisphere during 1932 were at or near record figures. Only in beef was there an important decline in exports. The explanation of this well-maintained agricultural production in the surplus countries in the face of extremely low prices in terms of gold is to be found partly in the fact of depreciated currencies (which means that prices have not fallen so much in these countries in terms of their own money), in the fact that costs generally have been greatly reduced, and finally, in the fact that there is not much else to which these newer primarily agricultural countries can turn.

Russia was not an important exporter of wheat last year, but this was because of poor growing conditions and difficulties in organization and management rather than change of acreage. In spite of the small wheat exports from Russia in 1932 and the fact that no considerable expansion of wheat acreage is anticipated for the near future, it is likely that, in years when weather conditions are favorable, Russia may again become an important factor in the world wheat markets. The important rôle which general financial and economic policies of the Soviet Government play in the Russian export situation, the management and organization difficulties of Russian agriculture, and the fact that greater attention may have to be paid in the near future to supplying more products for domestic consumption, make Russian export prospects extremely uncertain.

There has been some contraction in foreign cotton acreage. The cotton acreage in India in 1931–32 was the smallest since 1922–23, and the acreage for 1932–33 has shown a further decline. The cotton acreage in Egypt in 1932, largely because of restrictions by the Government, was the smallest since 1896. These restrictions have been relaxed for 1933, and a considerable increase in Egyptian acreage is to be expected but probably not to the level of years preceding 1930. The prevailing low prices for cotton seem to be forcing contraction in cotton acreage in some of the newer cotton-growing areas in Africa. On the other hand, cotton acreage in Russia has continued to mount, but it may be significant that the increase in production during recent years has been at a considerably lower rate than the increase in acreage.

## AGRICULTURAL CREDIT

The farm credit outlook for 1933 is affected by opposing factors. The loanable resources of country banks decreased further during 1932. The intermediate credit banks have ample loanable funds at rates substantially lower than a year ago, but local credit institutions are in a less favorable position to take advantage of these rediscount facilities. Farmers with security to offer have a new source of credit available through the regional agricultural credit corporations established by the Reconstruction Finance Corporation. A surplus of funds in central money markets indicates ample marketing credit at low rates, but loans from this source require security which many farmers can not supply. Funds for mortgage loans are scarce, owing in part to the lack of funds at the command of agencies lending on farm real estate security, and in part to the uncertainty of land values and the low farm incomes which have caused a further increase of delinquencies on outstanding loans.

Country banks, which in most areas are the chief source of production credit for farmers, experienced a further shrinkage in deposits during 1932. In the year ended in November, 1932, total deposits of member banks of the Federal reserve system, located in places of less than 15,000 population in 20 of the leading agricultural States, declined 15 per cent. From November, 1929, deposits in this group of States declined 34 per cent. Because of the low level of farm incomes, country banks in most areas have been unable to liquidate their production loans even to the extent that they did in the fall of 1931. Moreover, such institutions have large borrowings from city correspondents, the Federal reserve banks, and the Reconstruction Finance Corporation. Because of these factors and the desire of country bankers to

safeguard their solvency by holding liquid and marketable assets, bank loans in most agricultural areas will very probably be more restricted in 1933 than in 1932.

Although the number of bank failures in 1932 was materially smaller than in 1931, such failures were more numerous than in any other preceding year. These failures have been an appreciable factor in curtailing the usual credit facilities in agricultural areas.

Credit from merchants and dealers also is likely to be more limited during 1933 than during 1932. The merchants and dealers as well as the farmers have suffered heavy losses and are carrying so many overdue accounts that they are unable to obtain credit for purchasing the usual volume of supplies for resale, on time, to farmers. Reports from manufacturers of fertilizer indicate, for Southern States, that the proportion of credit sales to total sales for the year will be slightly less than it was in 1932, despite an increase in the number of dealers requiring credit accommodations.

The ability of the Federal intermediate credit banks to obtain loan funds has improved materially since a year ago. Their debentures are selling at rates of interest as low as 2½ per cent and they, therefore, are prepared to accept for rediscount good eligible paper at low rates in any amounts offered. A large percentage of the farmers, however, will be unable to provide security of the necessary quality. Moreover, many of the agricultural-credit corporations and livestock-loan companies, which rediscount with these banks, are "loaned up," or have their capital impaired, and thus will not be able to advance new credit. Although the number of rediscounting credit corporations increased from 378 to 402 last year, it is not likely that many new ones will be formed in 1933, or that many of those existing will materially increase their capital.

A new source of credit for farmers, as indicated, has been provided under authority of the Emergency Relief and Construction act of 1932. The Reconstruction Finance Corporation under this authority has established and is operating a regional agricultural-credit corporation in each of the 12 Federal land bank districts. In addition, 20 branch offices have been set up. These regional corporations are making loans directly to farmers and stockmen, when the proceeds are to be used for an agricultural purpose and when acceptable security is offered. The cost of these loans to farmers is 6½ per cent, which includes appraisal and inspection costs. Loans are made for the usual crop-production period. On livestock loans, the maximum period allowed is one year with the possibility of renewal under certain conditions. Applications for loans are submitted directly by the farmer to the regional office or its branch office. Up to January 27, 1933, these regional credit corporations had made loans of $41,000,000 and had approved additional loans of $53,000,000. Applications pending totaled $66,000,000. The loans made so far have been chiefly based on livestock security.

The prospects for an ample supply of marketing credit during 1933 are good. At present, interest rates in financial centers are substantially lower than they were a year ago. Large city banks, which finance the holdings of farm products by means of commodity loans and acceptance credits, are better supplied with funds than last year. Availability of marketing credit through the Federal intermediate credit banks has been substantially improved by the recently enacted legislation making their debentures eligible as collateral for member-bank borrowings from the Federal reserve banks. Such debentures have recently been sold with the lowest interest rates in the history of the system. Loan and discount rates of the Federal intermediate credit banks now range from 2½ to 3½ per cent. Commodity loans by the Federal intermediate credit banks to cooperative marketing associations decreased sharply from $43,000,000 in January, 1932, to $16,000,000 in October. This decrease is due to the lower interest rates quoted by commercial banks to cooperative associations, to lower commodity prices, and to the liquidation of loans to Federal Farm Board stabilization corporations.

Farm-mortgage credit conditions continued generally unfavorable throughout 1932, and the prospect at the beginning of 1933 does not suggest any immediate improvement. Supplies of funds for lending on farm-mortgage security have continued meager, and the outstanding volume of credit of all principal lending agencies has steadily declined since a year ago. Decline in the prices of farm products to new low levels has greatly handicapped borrowers in meeting interest and debt charges due on loans outstanding. Record numbers of delinquencies and foreclosures on loans previously made have tended to make lend-

ers cautious in extending new credit. The Federal land banks have continued unable to sell their bonds at rates that would permit operation within the margin of charges permitted by the Federal farm loan act. The actual margin of 0.41 per cent between the year's average bond yields and the 6 per cent maximum permitted on loans to borrowers is inadequate to cover operating costs. The banks have borrowed from the Reconstruction Finance Corporation to maintain supplies of loanable funds. While the present market condition continues, it is evident that it will be difficult to obtain funds by bond issues. Federal land bank bonds yield monthly average rates ranging from 5 to 5.95 per cent per annum during 1932. The average yield was 5.82 per cent in January and 5.56 per cent in December, with an average of 5.59 per cent for the 12 months. The average yield for the 15 years during which these banks have been in operation is 4.62 per cent.

Loans of the 12 Federal land banks amounted to $24,000,000 for the first 11 months of 1932 as compared with $48,000,000 during 1931. Joint-stock land banks have continued virtually inactive in so far as new loans are concerned. Delinquencies in farm-mortgage loans increased considerably during the concluding months of 1932.

The demand for policy loans from life insurance companies has materially abated, thus leaving a larger proportion of the premium and other income of the companies available for new loans. Country banks, however, have had further notable declines in the volume of their deposits, and consequently are in less favorable position to advance credit than they were a year ago.

Funds appropriated by Congress in 1932 for the specific purpose of permitting extensions to delinquent borrowers from the Federal land banks have been largely consumed. Under the necessities of the situation, most lending agencies have adopted lenient methods of dealing with their borrowers. The term of loans has been extended, payments have been postponed, and in many cases of foreclosure the farm has been sold back to the farmer on reasonable terms. A continuation of this policy of leniency and adjustment is urgently needed. During recent months there have been set up in some States local conciliation committees to assist in effecting voluntary debt adjustments between creditors and debtors. The further extension of this movement seems probable. Recent new loans have been small in volume and generally have represented amounts that were manageable by the farmer borrower. The best efforts of creditors and of agencies qualified to extend new credit, as well as some governmental assistance, will be required to hold distress to a minimum during the coming year.

Conditions in the central money markets have improved substantially during recent months. A year ago our monetary gold stock was being rapidly depleted by transfer abroad and money in circulation was increasing at a rapid rate. Between July 1, 1931, and July 1, 1932, the monetary gold stock decreased approximately $1,000,000,000, and as a result of extensive withdrawals for hoarding, money in circulation increased by more than $900,000,000. Meeting these demands placed a tremendous strain on the reserve funds of commercial banks. This strain was only partly offset by the purchase of $1,100,000,000 of Government securities by the Federal reserve banks and by increased discounts for member banks. As bank reserves declined there was a drastic liquidation of credit accompanied by falling commodity and security prices. During the last half of 1932, however, this liquidation was apparently checked and in the larger cities there was a nominal expansion of commercial bank credit.

Since the middle of June, 1932, the tides of gold movement and money in circulation have turned. The monetary gold stock increased 17 per cent up to January 25, 1933, and money in circulation had shown less than the usual seasonal increase. Although the net increase of holdings of Government securities by Federal reserve banks during that period amounted to only $71,000,000, member banks were able to reduce their borrowings from Federal reserve banks from $496,000,000 to $265,000,000 and to increase their legal reserves by $412,000,000. An increase in national bank notes by about $160,000,000, under authority of recent legislation, was a factor in this improvement in the condition of member banks. Member-bank reserves in the amount of $2,513,000,000 are materially above those held a year ago and about $550,000,000 in excess of legal requirements. Reserves of member banks of the Federal reserve system are now practically at the highest level in their history and would permit an expansion of member-bank credit to a level which would equal that existing in 1927 and 1928. The expansion of member-bank credit, however, will depend mainly on improvement in business conditions.

So far, banks have placed a high premium on the more liquid types of loans and investments, and rates borne by United States Government securities, call loans, and prime bankers' acceptances have declined to unusually low levels. On January 21, 1933, the rates on prime bankers' acceptances were three-eighths of 1 per cent, on commercial paper 1¼ to 1½ per cent, and on call loans 1 per cent. These rates are substantially below those prevailing a year ago.

## FARM LABOR, EQUIPMENT, AND FERTILIZER

From 1929 to December, 1932, the level of the combined index of farm wages and of commodities bought for use in production declined approximately 36 per cent, or to about the same level as prevailed in the years 1910–1914. The greatest declines occurred in the prices of feed and seed, and in farm wages, all of which are now decidedly below pre-war levels. Prices of fertilizer and miscellaneous supplies are slightly below pre-war levels, but prices of farm machinery and building materials are considerably above pre-war levels. Farm purchases of commodities used in production have declined materially, in many instances much more sharply than prices have declined, so that the farmers' cash outlay for production goods and for services, in 1932, was at an unusually low level. Although the prices of some things farmers buy showed little change in 1932, the general trend of prices paid by farmers was downward, and this decline is continuing into 1933.

### FARM LABOR AND WAGES

The sharp decrease in industrial employment during the last few years has brought about an unusually large supply of labor for farm work in the United States, and farm wages are the lowest they have been in a quarter of a century. This large unemployment has not only checked the usual movement of surplus labor from the farm to the cities, but has resulted in a movement of urban labor back to the farm. No substantial decrease in the supply of labor and no increase in the rates of farm wages are likely until there is a material improvement in industrial employment or in farm prices.

After declining to 57 per cent of the 1923–1925 level of employment in July, 1932, industrial employment increased to 62 per cent in October but has since shown a slight decline. This is still somewhat below the index of employment in 1931. From December, 1931, to December, 1932, prices of farm products declined from 66 per cent to 52 per cent of the 1910–1914 average. This decline in the prices of farm products has resulted in a marked decrease in the demand for farm labor.

From January, 1932, to January, 1933, the farm-labor supply as reported by farmers increased from 121 to 127 per cent of normal and farmer demand for labor decreased from 60.5 to 54 per cent of normal. The combined effect of oversupply of hired farm labor, and subnormal demand for it, has increased the supply, expressed in terms of the percentage of the index of demand, from 200 per cent of normal in January, 1932, to 237 per cent in January, 1933.

On January 1, 1933, farm wages for the country averaged as follows: Per month with board, $14.77; per month without board, $23.62; per day with board, 76 cents; per day without board, $1.06. These wage rates were the lowest in many years. They were nearly 25 per cent lower than they were one year earlier, and 43 per cent lower than two years earlier. Average wages in January, 1933, were as low as 55 cents per day without board, in three Southeastern States. January wages were highest in the New England States, averaging $1.96 per day without board. In the Pacific Coast States the average for January was $1.70 per day without board.

### BUILDING MATERIALS

During the peak of residential construction in 1928, monthly contracts awarded averaged $233,000,000. Since then, residential construction has decreased sharply and during the first 10 months of 1932, contracts awarded averaged only $25,000,000. Although the decline in building activity has been accompanied by a marked decline in construction costs, both for material and for labor, prices of building materials are still relatively high compared with prices of most of the things farmers buy. In 1929 wholesale prices of lumber, the principal building material used in residential construction and on farms, was 175 per cent of the prices in the pre-war period, 1910–1914; but by Septem-

ber, 1932, they had declined to 105 per cent of pre-war prices. During this same period the index number of prices paid by farmers for building materials declined from 162 to 126 per cent of the index for the pre-war period.

### FARM MACHINERY AND EQUIPMENT

The average wholesale prices of farm machinery remained fairly constant from January, 1925, to September, 1929. From September, 1929, to September, 1932, the index of wholesale machinery prices declined about 14 per cent, according to the revised index of the Bureau of Labor Statistics. During this same period prices of automobiles and 10–20 horsepower tractors declined about 11 per cent. From October, 1931, to October, 1932, wholesale prices of automobiles, tractors, and general farm machinery have remained steady, but prices of trucks have declined. Wholesale prices of ¾ to 3½ ton trucks in October, 1932, were about 10 per cent below wholesale prices of a year earlier. Although the wholesale prices of most farm implements in December, 1932, were still somewhat above pre-war prices, those of trucks, tractors, gas engines, and automobiles were below pre-war levels.

The farm-machinery price situation during a considerable part of 1932 was not entirely indicated by list prices, as some manufacturers announced plans that contemplated discounts, if prices of specified farm commodities failed to rise above certain price levels.

To what extent this practice will be followed in 1933 is not known at this time. No material changes in wholesale prices were announced in the fall of 1932, but late in January, 1933, one manufacturing company announced general reductions in wholesale prices of its farm implements.

Since 1929, the retail price of farm machinery, including automobiles, has declined from 162 per cent of pre-war prices to 147 per cent in September, 1932. This comparison is based on the prices paid by farmers for given machines and does not take into account the changes in design, quality, and adaptability that have taken place during the last 20 years.

Manufacturers' sales of farm machinery for use in the United States in 1929, exclusive of trucks, were the largest in any postwar year and amounted to about $459,000,000. The value of sales in 1930 was 85 per cent, and in 1931, 42 per cent of the 1929 sales. Sales in 1932 were materially below those of 1931. This sharp drop in machinery sales indicates that farmers are decidedly curtailing their expenditures for goods used in production.

### FERTILIZER

In the three years from September, 1929, to September, 1932, retail prices of fertilizer to farmers declined 25 per cent. During the same period prices of farm products declined 58 per cent. In September, 1932, prices of farm products were 59 per cent of pre-war prices, while retail prices of fertilizers were 98 per cent of pre-war prices. With the decline in farm prices, the consumption of commercial fertilizers has been curtailed. Sales of fertilizer-tax tags for the 1931–32 season were 54 per cent less than in 1929–30.

Fertilizer manufacturers buy fertilizer materials during the last half of the year for the fall and for the following spring season. During the five months, July to November, 1932, wholesale prices of fertilizer materials were 12 per cent lower than during the same period of 1931. The decline in wholesale prices of fertilizer materials in the last year has been most marked in the case of ammoniates. From July to November, 1932, prices of sulphate of ammonia and of nitrate of soda were 26 per cent less than a year earlier. The decrease in the price of tankage was 21 per cent and in the price of cottonseed meal, 8 per cent. Prices of other important materials showed very little change. Prices of superphosphate were 5 per cent lower than a year earlier. Prices of muriate and of sulphate of potash were only 1 to 2 per cent lower than a year earlier. Lower wholesale prices of fertilizer materials in the fall have tended, in the past, to be reflected in lower retail prices to farmers.

## WHEAT

The slowness with which the level of world wheat production is likely to be further readjusted is indicated by acreage changes in the last two years. The wheat acreage of the world, excluding Russia and China, was significantly lower in 1931–32 than in the preceding year (the first decrease in acreage in

seven years) but it increased slightly in 1932–33. The decreases in 1931–32 were partly due to unfavorable weather conditions, and the current season's area of 254,700,000 acres appears to be more nearly normal than the acreage of last year. These facts, together with the history of acreage changes during previous periods of low wheat prices, suggests that the world area is not likely to fall below about 250,000,000 acres, save in years of generally unfavorable weather conditions or as the result of a very long-continued period of low prices. However, any material modification of import restrictions which have maintained high prices and stimulated acreage in some importing countries would affect the world total. Substantial reduction of the present burdensome stocks is likely to wait upon increased consumption rather than upon curtailment of the world wheat area.

The principal increases in the wheat area in 1932–33 occurred in Canada, Argentina, and Australia. In each of these countries unfavorable weather conditions during the 1931–32 season had been instrumental in reducing or holding down acreage for that year, and with more favorable conditions for planting and harvesting in 1932–33, wheat areas were increased slightly. The increase in Canada is estimated to be nearly 1,000,000 acres, that in Argentina 2,500,000 acres, and that in Australia 900,000 acres. The acreage of the United States was not materially changed, whereas in Europe there was a net decrease of 900,000 acres. This decrease was the result of reduced acreages in the exporting countries of the Danube Basin, due partly to price declines in recent years, but largely to an unfavorable season. These decreases were not entirely offset by increased acreages in several of the deficit countries of western Europe where high tariffs and other restrictions on wheat importations have resulted in relatively high prices.

As the net result of these changes and of the larger acreages in other countries (primarily India) the total wheat area of the world increased in the 1932–33 season, according to present estimates, by 4,500,000 acres. The 1932–33 acreage level, however, is approximately 3,000,000 acres below the estimated level of 1930–31. At the acreage level of 1932–33 the world, excluding Russia and China, would produce with average yields (14.7 bushels per acre in the last 12 years) crops totaling about 3,740,000,000 bushels compared with an average disappearance during the last 5 crop years of almost exactly the same quantity. During the last five years disappearance has ranged from 3,582,000,000 bushels in 1927–28 when world prices were much higher than in recent years, to about 3,840,000,000 in each of the last two years. If consumption can be maintained at an average level of about 3,800,000,000 bushels or can be increased slightly, present acreage levels, in the absence of material shipments from Russia, would permit a fairly rapid reduction of stocks.

Russia, however, may export considerable quantities of wheat in years when its yields are good. Estimates of the Russian wheat area for 1932–33 were below those of the previous year; this was the first decrease in such an estimate since 1928. The estimated area increased from an average of 40,000,000 acres in the five years 1920–1924 to 92,100,000 acres in 1931. The larger production from this rapidly expanding wheat area was mostly absorbed by increased consumption within Russia. Nevertheless there has been an upward trend in Russian exports during the period. From 1922–23 to 1929–30 Russian shipments fluctuated from none to 50,000,000 bushels yearly, but in 1930–31 they rose to 112,000,000 bushels. This high level of shipments was followed in the next year by exports of 72,000,000 bushels, but in the current season shipments during the first six months of the crop year have totaled only 15,192,000 bushels compared with 66,640,000 bushels during the corresponding period of last year. Russian wheat exports are probably more dependent on governmental policy, both domestic and international, than are the wheat exports of any other country. During the last three years governmental policy has probably resulted in larger exports than would otherwise have been made, whereas a policy emphasizing an improved standard of living and a consequent increase in consumption might serve as a check on exports unless production were considerably expanded.

Altogether, from a long-time standpoint the outlook is for a rather slow recovery from the present situation of burdensome world stocks of wheat. Year-to-year changes in stocks will depend largely upon the fluctuations of yields. A very short world crop of wheat, corresponding to that of 1924–25 or of 1897–98, would result in a very great reduction of stocks—possibly to normal proportions. In the absence of such an occurrence, however, a level of stocks which, although fluctuating from year to year, will have a gradual downward trend, may be

expected. This downward trend will be the result of a gradually increasing consumption of wheat, and possibly of some decrease from the present level of world acreage. The increase in the consumption of wheat will be hastened whenever there is a marked recovery of business in the world generally.

United States wheat exports during the next few years may be expected to face strong foreign competition, coming not only from important surplus areas, but from deficit areas where trade barriers and domestic agrarian aids have expanded wheat production. The competition from the great wheat-export regions of Canada, Argentina, and Australia continues strong because of the outstanding place that wheat holds in the agricultural economy of these countries; the generally lower transportation costs to seaports, especially in Argentina and Australia; and the depreciated currencies in each country. These factors for the most part favor Canada less than they do Australia and Argentina. Upward adjustments of wages and other cost items, usually associated with depreciated currencies, have been slight during the present depression. Wheat prices, in the domestic currencies of Australia and Argentina, were as high during part of 1932 as during corresponding periods two years earlier, while prices in the United States and Canada were generally only about one-half as high as in 1930. But Canada as well as Australia shares the benefit of British Empire preference.

In most important deficit areas demand for foreign wheat is being reduced largely by increased domestic production and utilization, or is being shifted to sources of supply where preferential trade situations exist. No general relaxation of world trade barriers is in prospect in most countries until considerable progress is evidenced in international agreements relative to trade barriers or in financial stabilization and general economic recovery. Even then, a return in Europe to the low postwar level of production is scarcely to be expected. Efforts to increase yields per acre have been an important factor in the larger European production, and may have a continuing influence. Although immediate factors other than possible special trade-treaty developments are not particularly favorable for United States exports, our competitive position should improve with a lessening of foreign currency depreciation or with readjustments to it, as well as through generally improved economic conditions with some reduction in trade barriers, and reduced costs which may come as a result of some acreage shifts taking place in the United States, notably the expansion in the Southwest. In the light of the above conditions there seems to be no present prospect that foreign competition will drive the United States completely out of the world wheat market.

During the crop year 1931–32, domestic stocks, movement, and prices for wheat were subject to unusual influences. Chief among these were the extraordinarily small outturns of winter wheat, the reluctance of producers and other holders to release wheat for domestic milling or export, and the organized liquidation of wheat held by the Grain Stabilization Corporation. As a result of these factors, United States prices ruled high relative to the world level, commercial exports were very small, and despite export sales of 79,000,000 bushels by or for the Grain Stabilization Corporation, total net exports (wheat and flour) were almost as small as in 1930–31, amounting to only 124,000,000 bushels. Wheat feeding was large, but not materially larger than during the previous year; flour production for domestic use was somewhat smaller; and as a result year-end stocks in all positions totaled 363,000,000 bushels as compared with 319,000,000 bushels at the end of 1930–31.

In consequence of the very large carry-over, domestic prices during July and August, 1932, were not only low, but were lower as compared with the world price than during the previous few months. As the season progressed, however, receipts at primary markets were much smaller than normal, and after November, when the new-sown winter wheat failed to progress favorably, domestic prices rose somewhat in comparison with the world price, until by January 1 they stood approximately equal to Liverpool prices.

United States net exports (including flour) to January 1 totaled approximately 25,000,000 bushels. Continued exports at this rate would result in a season's total of around 50,000,000 bushels. If exports should equal this total and if wheat fed and lost should amount to about 100,000,000 bushels, apparently the domestic carry-over of wheat on July 1, 1933, would be about the same as that of a year earlier.

In view of this prospective large carry-over, and considering the poor condition of growing winter wheat, the market outlook for wheat in the United

States during 1933–34 is dependent to an unusual extent upon the acreage sown to spring wheat. On a spring-wheat acreage approximately equal to that of last year, average yields would result in a crop of around 250,000,000 bushels. If winter-wheat production totals around 400,000,000 bushels as now seems probable, and if the carry-over is about the same as last year, a spring-wheat outturn of 250,000,000 bushels would result in a total supply of about 1,015,000,000 bushels, or around 350,000,000 to 375,000,000 bushels in excess of probable domestic utilization for the season.

Such a surplus would involve either a United States-Liverpool price spread in 1933–34 sufficient to move significant quantities of wheat into export or a maintenance of surplus stocks in this country. Even if the latter situation should eventuate, marked improvement in the domestic market situation would have to await either improvement in the world market or further domestic acreage reductions.

A marked reduction in spring-wheat sowings for the 1933 harvest would be a factor of great significance. Such a reduction, especially if followed by smaller winter-wheat sowings, would give indication of a lower level of production and would modify the depressing market influence of the supplies already accumulated.

The world wheat market as well as the wheat market of the United States will again be burdened by heavy stocks of wheat at the beginning of the 1933–34 season. The surplus of wheat for export or carry-over in the four principal exporting countries (United States, Canada, Argentina, and Australia), plus United Kingdom port stocks and quantities afloat, is estimated to be 1,024,000,000 bushels as of January 1, 1933, compared with 1,035,000,000 a year earlier. These estimates are subject to some change if changes occur in estimates of crops or in domestic utilization in the various countries, but in any event supplies in these positions are about as large as were similar supplies a year earlier.

The extent to which these surpluses will be reduced by July 1 is largely dependent upon how much importers take in the six months from January to June, but is also dependent upon supplies available from other exporting countries. Continental European import takings during the first six months of this season have been much below those of the previous season, primarily because of large crops. Although the takings of importing countries can hardly be as much below last season's level during the second half of the season as during the first, it is probable that they will be smaller from January to June, 1933, than during the corresponding months of 1932. The influence of these reduced takings on exports from non-European countries will be at least partly offset by the fact that smaller supplies are available in the Danube Basin and in Russia. Total January-to-June shipments from these sources last year amounted to 13,000,000 bushels, whereas in the current year they are expected to be insignificant. Altogether it seems probable that the reduction of surpluses in the four principal exporting countries, plus United Kingdom port stocks and quantities afloat, will be no larger and may not be as great from January 1 to July 1 this year as they were during that period last year. Hence the carry-over in these positions on July 1 will probably be about as large as it was on July 1, 1932, or possibly a little larger.

There is little available to indicate the probable size of the 1933–34 world wheat crop. Yields for the world, excluding Russia and China, in 1932–33 were slightly above the average of the preceding 12 years, the very low yields in the United States being more than offset by higher-than-average yields in other countries. If yields outside the United States should be average in 1933–34, and if there should be no change in acreage, then the total production for the world, excluding Russia and China, would probably be somewhat below that of 1932–33, for there is the prospect of an even smaller winter-wheat crop in the United States in 1933 than in 1932. Such a decrease in the world crop, outside Russia and China, would more than offset any increase in accounted-for carry-over that might occur.

Acreages of winter wheat sown for the 1933 crop show divergent tendencies in various countries. In the United States there has been a decrease of about 500,000 acres; in 12 countries of Europe thus far reported an increase of 1,442,000, and in India a decrease of 1,249,000 acres. Acreages in these countries, together with the Canadian winter-wheat acreage, result in a total of 125,167,000 acres of winter wheat sown in those 15 countries for harvest in 1933 compared with 124,830,000 acres in 1932. It is to be borne in mind,

however, that changes of acreage in India may be expected to be less significant in affecting the world wheat market than are similar changes in most other countries except China and Russia.

Russia remains a rather uncertain factor in the world situation. Although its wheat exports may not be so small as in the current season, they are not expected to be very large in the 1933-34 crop year. The 1933 outturn is unknown, but several factors in the present situation suggest that exports will not be so important in the coming year as in 1930–31 and 1931–32 seasons. In the first place the wheat acreage for harvest in 1933 is expected to be below that of the last two years. Fall wheat sowings (which make up at least one-third of the total of the area) are about 13 per cent below those of a year earlier, and the acreage seeded to winter rye (which comprises almost the entire rye area) is about 2 per cent less. The 1933 spring-sowing plan for wheat is only moderately above the actual spring sowings of 1932 and is considerably below the 1932 planned spring acreage. It is reported that emphasis is now being placed on the desirability of increased yields rather than increased acreage. This, if effective, will result in a larger production on the present acreage, but a considerable part of the 1932 fall sowing was put in after the best sowing period—this increases the possibility of winter damage. Crops appear to have got off to a poor start in the important wheat regions of southern Russia. Some delay in spring seedings may likewise occur, inasmuch as fall plowings for spring planting were markedly less extensive in the fall of 1932 than at the same time in 1931. In addition, some modification in the procurings or collecting system, which would not exact so large a portion of the crop produced as formerly, appears imminent for the coming year.

Altogether, then, although accounted-for carry-over as of July 1, 1933, may be about the same as a year earlier, there is some prospect that smaller new-crop supplies will be available to the world outside Russia and China even when shipments from Russia are added. In such an event the world carry-over at the end of the 1933–34 season may well be considerably smaller than at the beginning. The precise outcome will depend largely upon the wheat yields of the various countries in the 1933–34 season, as well as upon consumption during the season.

## FLAX

Because of unusually low yields the 1932 production of flaxseed is well below prospective 1932–33 domestic requirements. Average yields in 1933 on an acreage as large as that seeded in 1932 (2,600,000 acres) would produce a crop closely approximating the estimated 1933–34 domestic requirements. If such a crop is realized in 1933, benefits derived from the tariff (65 cents per bushel) would be reduced since domestic prices would recede toward those in foreign surplus areas. Unless business and building activities increase materially from their unusually low levels the acreage seeded in 1932 seems to be about the maximum warranted.

From present indications the 1932-33 world flaxseed crop will be much smaller than the 155,000,000 bushels harvested in 1931–32. The 1932 world flaxseed acreage was about 7 per cent smaller than that of 1931. Estimates of production for 14 countries reporting to the close of 1932 aggregated 85,751,000 bushels, or 70.8 per cent of the total quantities harvested by the same countries last season. The greatest reduction was in Argentina and was due to reduced acreage and low yields brought about by heavy grasshopper damage. The 1932 crop in that country was 53,147,000 bushels, or only 59.7 per cent of the 89,067,000 bushels harvested in the preceding season. The European crop, outside of Russia, is generally smaller than it was a year ago. The 1932 Canadian crop of 2,446,000 bushels was only 0.8 per cent smaller; the 1932 Indian crop was 9 per cent larger than that of 1931. The 1932 production of flaxseed in the United States was 11,841,000 bushels, or practically the same as the 11,798,000 bushels harvested in 1931. Seeded acreage in 1932 was less than in 1931 in North Dakota, South Dakota, and Montana, and drought during July and August, together with insect damage, caused reduced yields and extensive abandonment. In Minnesota sowings were less than in 1931. The yield for the United States was 5.7 bushels per acre, compared with 4.9 bushels in 1931 and the 10-year average of 7 bushels.

The commercial supply of flaxseed available for crushing October 1, 1932, was 10,526,000 bushels. This estimate is based on the factory, warehouse, and

market stocks on October 1, plus the 1932 crop, but minus an estimated seed requirement and new-crop marketings prior to October 1. Data for the same positions a year ago indicated a supply of 10,879,000 bushels. The average for the preceding five years was 17,750,000 bushels.

Utilization of the flaxseed supply may be measured by crushings which during the last season (October 1, 1931–September 30, 1932) totaled 19,751,000 bushels, compared with 28,777,000 bushels in 1930–31 and a 5-season (1924–25 to 1928–29) average of 40,991,000 bushels.

The 1931–32 domestic supply of flaxseed was supplemented by 9,083,000 bushels of imported seed, a quantity nearly equal to the October 1, 1931, domestic commercial supply available for crushing. Since domestic requirements for 1932–33 are larger than available supplies, it will be necessary to continue importation of flaxseed during the first half of 1933. Assuming crushings during 1932–33 (October 1, 1932–September 30, 1933) of about 16,000,000 bushels, and no change in stocks at the close of the season compared with those at the first of the season, about 5,500,000 bushels of seed must be imported during 1932–33. Imports during the period from September through December, 1932, aggregated about 2,450,000 bushels compared with 5,367,000 bushels during the same months of 1931.

Domestic demand for flaxseed and flaxseed products during 1931–32 and during the first four months (September through December) of the 1932–33 season was low, reflecting unusually light building and business activities, reduced purchasing power, and a limited outlet for linseed meal. Awards of building contracts were only about one-half as large as in 1931–32 and were near the lowest levels of the depression. Improvement from this level during 1933–34 sufficient to increase materially the demand for linseed oil is not probable. A factor that limits not only new construction but even repairing, especially of dwellings, is the low buying power of the general public. Less competition from cheaper drying oils may be a factor in increasing the use of linseed oil.

The very low level of farm income for 1932–33 restricts normal use of high-protein feeds, including linseed meal. Continued active competition from gluten feed, gluten meal, soybean meal, tankage, and, to a somewhat lesser degree than last season, from cottonseed meal, and liberal supplies of feed grains, are other restricting factors. Prices of feed grains and by-product feeds are low but because returns from feeding are also low, purchases of feeds have been restricted.

European demand for flaxseed was not very active during the calendar year 1932. Reduced 1932 flax crops in many of the smaller European countries may increase the demand for Argentine seed. However, since the 1932 European feed-grain crops are fairly large, demand for linseed cake and meal will remain small.

The gross return from an acre of flax in the United States in 1932 averaged about 25 per cent more than the gross return from an acre of wheat. From 1920 through 1930, the flax acreage tended to increase whenever the gross return from a harvested acre of flax was about 10 per cent or more above the gross return from a harvested acre of wheat. In 1931 and 1932, however, price response was modified somewhat because of heavy abandonment of flax acreage, greater reduction in flax yields than in wheat yields as a result of insect damage and drought, and the shortage and high price of flaxseed for planting purposes as compared with seed wheat in 1930 and 1931.

Flaxseed prices in the United States at the close of 1932 were the lowest since 1905, when a large crop, together with some reduction in consumption, placed domestic supplies on an export basis. Prices were also very low in 1906 and 1907 when exports were unusually large. Smaller United States crops in years following 1907, increased domestic requirements, and a gradually higher tariff, caused advanced prices. No. 1 flaxseed at Minneapolis averaged $1.09 per bushel in December, 1932, compared with $1.43 in December, 1931, and $1.04 in December, 1905.

## MEAT ANIMALS AND MEATS

The supply of meat animals on farms, in terms of total live weight of the three species, was larger on January 1, 1933, than a year earlier. This increase was due to the larger numbers of cattle and calves, which more than offset a decrease in sheep, for there was little change in hog numbers. Since January

1, 1928, the supply of meat animals has gradually increased each year and on January 1, 1933, it was about 10 per cent larger than in 1928. From 1928 to 1930, the steadily increasing numbers of cattle and sheep offset the decreasing hog numbers. From 1930 to 1932, the numbers of all species increased.

The commercial supply of meat, as measured by the total dressed weight of animals slaughtered under Federal inspection, did not reflect the increase in total meat animals from 1928 to 1932. The supply from slaughter in 1932 was 2.7 per cent smaller than in 1931 and 6.7 per cent smaller than in 1928. The supply in 1928 was the largest for the five years. It decreased in 1929 and 1930, increased slightly in 1931, and decreased to the lowest volume of the period in 1932.

Although the total dressed weight for each species of livestock tends to change from year to year as the number slaughtered changes, it is also affected by changes in the average live weight and to a very minor degree by changes in dressing yield.

The per capita supply of meat is affected by changes in population as well as by variations in the numbers and weights of animals slaughtered. The per capita supply (dressed-weight basis) obtained from federally inspected slaughter was 116.3 pounds in 1928, 112.9 pounds in 1929, 106.3 pounds in 1930, 106.8 pounds in 1931, and 103.3 pounds in 1932.

The fact that meat supplies have not increased with the increase in total number of meat animals on January 1 from 1928 to 1933, is explained by the failure of cattle and calf slaughter to increase during the period and by the varying relationship between January 1 hog numbers and total live weight of hogs slaughtered under Federal inspection during the following 12 months. This changing relationship of inspected hog slaughter to numbers on January 1 is due to several causes—the different proportions of total hog numbers on January 1 that are in areas outside the North Central (Corn Belt) States, the change in average live-weight from year to year, and the varying proportion of new-crop hogs that are marketed during the first three months of the hog-marketing year (October to December). The two latter causes are closely associated with the supply and the relative price of corn in the surplus hog-producing areas.

Whether the total inspected meat production in 1933 will exceed the small production in 1932 will depend upon whether cattle and calf slaughter increases sufficiently to offset the prospective decreases in the slaughter of hogs and of sheep and lambs.

The domestic demand for meats and lard, measured in terms of quantities taken at actual prices paid by consumers, continued to decline during 1932, as a result of a further reduction in consumer incomes. The per capita consumption of all meats and lard produced under Federal inspection during the year, amounting to 98.8 pounds, was 2 per cent smaller than in 1931, and the weighted average retail price of such products at New York was about 20 per cent lower. According to the weighted index numbers of retail prices of food for the entire country, published by the United States Bureau of Labor Statistics, retail prices of meat in 1932 were about 21 per cent lower than in 1931, those of cereal foods 11 per cent lower, and those of dairy products 16 per cent lower.

The reduction in demand apparently was about the same for all kinds of meat. Per capita consumption of federally-inspected hog products was slightly larger than that of a year earlier, whereas that of other meats was smaller, but the decline in retail prices of hog products was greater than that for either beef or lamb.

In addition to the depressing influence of lower consumer incomes, the domestic demand for meats produced under Federal inspection during 1932 also was adversely affected by an increase in farm and retail slaughter. This was especially true in the case of pork and lard. In the South, where only a small proportion of the supply of hogs is slaughtered under Federal inspection, hog production has increased sharply during the last two years. The number of meat animals slaughtered on farms and in retail establishments during 1932 was larger in nearly all parts of the country than in any other recent year.

Although a slight recovery in the general business situation occurred during the last half of 1932, there has been no improvement in the demand for meats. In view of the prospects for a continued low level of consumer incomes during the first half of 1933 and of the tendency for changes in the demand for meats to occur somewhat later than changes in consumer incomes, no material improvement in the demand for meats may be expected during the year.

The average price paid by packers for meat animals slaughtered under Federal inspection during 1932 was $4.34 per 100 pounds, compared with $6.26 in 1931, and $10.54 in 1929—the postwar peak. These declines were accompanied by reductions in the total live weight of federally inspected slaughter in 1932 from that of 1931 of 3 per cent and from that of 1929 of 6 per cent. The decline in both price and supply resulted in a reduction of $421,000,000, or 33 per cent, in the amount paid in 1932 from that paid in 1931, and $1,366,000,000, or 61 per cent, from that paid in 1929.

The reductions in livestock prices since the depression began have not been greatly different from those of other agricultural products. Comparing average United States farm prices for December, 1932, with those of December, 1929, the declines were as follows: Hogs, 68 per cent; beef cattle, 60 per cent; lambs, 63 per cent; sheep, 69 per cent; dairy products, 51 per cent; fruits and vegetables, 64 per cent; wheat, 71 per cent; corn, 76 per cent; cotton, 66 per cent; poultry, 52 per cent.

## HOGS

Slaughter of hogs under Federal inspection during the remainder of the present marketing year, which ends September 30, 1933, is expected to be somewhat smaller than in the corresponding period of 1932, with all the reduction occurring during the four months, January to April. The decrease in numbers will be offset in part by an increase in average weights. Little increase in the 1933 spring pig crop in the United States is indicated, but a substantial reduction in European hog production seems probable. The domestic and foreign demand for United States hog products during 1933 probably will not be improved materially.

### DOMESTIC SUPPLIES

The number of hogs on farms January 1, 1933, was probably but little different from that on January 1, 1932, although the combined pig crops of 1932 were smaller than in 1931. The number of pigs saved in the spring of 1932 was estimated at about 49,600,000 head, and in the fall at about 29,100,000 head, making a total of about 78,700,000. The number saved in the spring of 1931 was estimated at 53,300,000, in the fall at 27,900,000, and the total for the year at 81,200,000. The total number saved in the North Central (Corn Belt) States was estimated at 59,400,000 in 1932 and 63,200,000 in 1931.

The 1932 spring pig crop was smaller than the average spring crop for the five years, 1927–1931, but the 1932 fall pig crop was much above the average fall crop for those years. As a result of this distribution, the proportion of the 1932–33 crop-year slaughter in the period October 1, 1932, to April 1, 1933, is expected to be smaller than usual.

Inspected slaughter during the 1932–33 crop-marketing year is expected to reflect the reduction in the number of pigs saved in the Corn Belt and the increased local and farm slaughter in that region, with this reduction offset somewhat by larger supplies from the increased production outside the Corn Belt. Total inspected slaughter in the 1931–32 marketing year was 46,655,000 head and present indications are that slaughter in the 1932–33 marketing year will be between 43,000,000 and 44,000,000 head, or not greatly different from that in 1930–31.

Inspected slaughter during the first three months of the 1932–33 year was 11,967,000 head, a decrease of 1,410,000 from the slaughter in this period in the 1931–32 year. The decrease in slaughter during the remainder of the 1932–33 year (January 1 to September 30, 1933) is indicated as 1,250,000 to 2,250,000 head. All of the reduction is expected to be in the total for the four months, January to April.

Because of the large supplies of corn and other feeds, and a hog-corn price ratio encouraging for feeding, the weights of hogs slaughtered in the 1932–33 year will be greater than in the preceding year, and probably above average, and will tend to offset in part the decrease in the number slaughtered.

Present indications are that the number of sows to farrow in the spring season of 1933 will not be much larger than in 1932, either for the whole country or for the Corn Belt States. The estimated number to farrow in the spring of 1933, based on breeding intentions shown by the December, 1932, pig survey, was about 2 per cent larger in each case. In other periods, similar to the present, in which hog prices were low and corn prices were relatively lower than hog prices, thus resulting in high hog-corn price ratios, sharp increases in hog production have occurred. Hence, the breeding inten-

tions reported seem low, especially in the western Corn Belt States, where the 1932 spring pig crop was short and where corn production is above average and corn prices are very low. On the other hand, hog prices for some months have been much lower than those ever before experienced by present-day hog producers; hence, the conditions that usually have controlled hog production in the past may not operate in the usual way.

The size of the 1933 spring pig crop also will depend upon the number of pigs saved per litter. The average number of pigs saved per litter in the spring season of 1932 was below that of both 1930 and 1931, but above that of the preceding three years.

Storage stocks of pork at the beginning of the storage season of the current marketing year were about average, but by January 1, 1933, such stocks, amounting to 494,000,000 pounds, were 12 per cent smaller than those of a year earlier and the smallest for that date since 1927. Lard stocks were relatively small throughout 1932, and storage holdings on January 1, 1933, amounting to 40,000,000 pounds, were 21 per cent smaller than those of a year earlier and the smallest on record for that date. The total reduction of pork and lard stocks from those of January 1, 1932, is equivalent to about 500,000 hogs.

Because of the rather unfavorable results of their storage operations during the last three years, packers have adopted a conservative attitude toward accumulating storage stocks this winter. This attitude has been influenced also by the expectation that supplies of hogs for slaughter next summer will be relatively large. The weakness of the hog market this winter compared with that of a year earlier, notwithstanding the reduction in slaughter supplies, is due in part to this reduced storage demand.

## FOREIGN OUTLET

The downward trend in exports of United States hog products, which has been under way for several years, continued during the 1931–32 marketing year. Pork exports during the year were 30 per cent smaller than in 1930–31, but lard exports were only 1 per cent smaller. This reduction in exports was due mainly to larger slaughter supplies of hogs in foreign countries and the adoption of more stringent restrictions to international trade in the principal importing countries.

The foreign demand for United States pork during 1933 is expected to be somewhat stronger than that of a year earlier. Hog numbers in the principal foreign producing countries have been declining since the summer of 1931 and slaughter supplies in those countries during the current year probably will be considerably smaller than in 1932. By a system of voluntary agreements, imports of hams and bacon into Great Britain during December, 1932, and January, 1933, are being limited to a level 20 per cent under that of the corresponding period in 1931–32. The allotment to the United States for the period, however, permits a 12 per cent increase in exports of hams and bacon to Great Britain over those of a year earlier. Present indications are that permanent restrictions somewhat similar to those now in force will be adopted.

From the standpoint of foreign hog production, a somewhat stronger demand for United States lard during 1933 is in prospect. Because of the trade barriers now in effect and pending, in the chief lard-importing countries, however, exports of this product during 1933 may be somewhat smaller than those in 1932. No significant change in exports of United States lard to Great Britain, the principal foreign outlet, appears probable during the present year. Shipments to that country have been relatively stable during the last 10 years. During 1932, British takings of lard were smaller than in 1931, but they were about the same as the average for the last five years. Lard exports to Germany in 1932 were considerably larger than in the preceding year, chiefly because of the decrease in hog slaughter in that country. Although hog slaughter in both Germany and Denmark during 1933 is expected to be smaller than in 1932 imports of American lard into Germany may be reduced because of regulations with respect to tariffs, quotas, and control of available foreign exchange.

## PRICES

Hog prices declined almost steadily throughout 1932, reaching the lowest levels in more than 50 years in late December. Although slaughter supplies in the 1931–32 marketing year were somewhat larger than in the preceding year,

the continued reduction in both domestic and foreign demand was largely responsible for the decline in hog prices.

From early August, 1931, to mid-February, 1932, prices followed a sharp downward trend. After a seasonal rise of brief duration in late February and the first half of March, the decline in prices was resumed and was not checked until the last week in May, when the weekly average at Chicago was $3.19 per 100 pounds, the lowest in more than 35 years. A sharp advance in prices occurred during June and early July, largely as a result of a very marked temporary reduction in slaughter supplies. The high point of the advance was reached during the week ended July 9, when hog prices at Chicago averaged $4.89, which was the highest weekly average since mid-November, 1931. Except for a temporary rise in early November, the downward course in prices was practically unbroken from mid-July until the last week in 1932 when the weekly average price at Chicago of $2.95 per 100 pounds was the lowest since 1878. As compared with pre-war (1910–1914) farm prices, hog prices are relatively lower than prices of other meat animals, about as low as prices of feed grains, and much below the average price of all farm products.

The total live weight of hogs slaughtered under Federal inspection during the 1931–32 hog marketing year was about 4 per cent larger than that of a year earlier. The average price paid by packers was $4.05 per 100 pounds, compared with $7.21 in the previous year and a 5-year average of $9.35. Packers paid $430,000,000 for the hogs slaughtered under Federal inspection during the 1931–32 marketing year, as compared with $735,000,000 in the year previous. This represents a decline of 42 per cent.

### PRODUCTION TREND

From the point of view of supplies, both at home and abroad, the hog situation at the beginning of 1933 is more favorable than it was a year earlier. Inspected slaughter in this country is expected to be somewhat smaller in 1933 and a further reduction in slaughter in the leading European hog-producing countries is not unlikely. These prospects of an enlarged foreign outlet for pork and decreased domestic production, together with smaller storage stocks, indicate that the supply of hog products to be offered in the American market during 1933 will be smaller than in 1932. Whether the reduction in supply will result in an improvement in hog prices will depend upon improvement in the general economic situation affecting consumer demand.

It is highly probable that hog slaughter during the first half of 1934 will be increased somewhat over that in prospect for the first half of 1933, although no large increase in the spring pig crop of 1933 is now indicated. With large supplies of corn and with hog production below average in the western Corn Belt, it is to be expected that hog production in that area will tend to return to more normal volume as soon as prices offer any incentive to such increase. Further expansion in the eastern Corn Belt, where production is now on a relatively high level, is likely to be small unless developments during 1933 should make hog production relatively more profitable than alternative enterprises in that area. Further expansion after 1933 in the South would not be expected unless there is a further shift to feed crops. The increase in hog production in the South in spite of the very low prices of hogs, has been largely a move to establish a more self-sustaining food supply on farms, and this objective now seems to have been largely accomplished

## BEEF CATTLE

Cattle numbers in the United States increased in 1932, making the fifth consecutive yearly increase since the low point reached at the beginning of 1928. Total numbers now are nearly 14 per cent larger than in 1928 and almost as large as in early 1924. The expansion during the last two years has resulted largely from the holding back of cows; the number of these, beef and dairy combined, is now the largest on record.

The estimated number of cattle on feed was slightly larger on January 1, 1933, than on that date a year earlier and increased feeding during all of 1933 seems probable. Slaughter supplies of both cattle and calves during 1933 are expected to be somewhat larger than those in 1932, but total slaughter is not likely to be sufficient to prevent numbers on farms from showing another increase at the beginning of 1934.

No significant improvement in the demand for beef can be expected until there is an increase in consumer buying power.

### CATTLE SUPPLIES

Cattle numbers increased again during 1932, and on January 1, 1933, were probably about 64,500,000 head, or about 2,000,000 more than a year earlier. Because of the small slaughter of cows and calves in 1932, it is probable that the increase was mostly in these classes, with little increase in steers. This brings the total of beef and dairy cows combined to the largest number on record, and the calf crop in 1933 will be the largest ever raised in this country.

Cattle numbers now are nearly as large as at the beginning of 1924, but there is a considerable difference in the distribution of the total by classes. The proportion of cows and calves is considerably larger and that of steers smaller than at the earlier date. Although cattle numbers have increased steadily since 1928, this increase has not yet been reflected in market supplies or in inspected slaughter. Slaughter of cattle under Federal inspection in 1932 was the smallest in the last five years and calf slaughter was the second smallest. It is probable, however, that farm and retail slaughter of cattle was somewhat larger, and that of calves considerably larger, than in 1931; hence, total slaughter of all kinds may have been about the same in the two years.

On the whole it seems probable that the slaughter of both cattle and calves during 1933 will be larger than in 1932. Whether this slaughter will greatly exceed that of 1932, depends on the policy followed by producers in disposing of their old cows and in selling calves for slaughter. Undoubtedly, the very low prices of cows, especially of the lower grades, have tended to restrict the marketing of these during the last two years. In many cases, such cows will bring little more than transportation and marketing costs if shipped any considerable distance for sale. Furthermore, the relationships between prices of feed and prices of calves, steers, and dairy products during 1932 may have tended to encourage the retention of cows for production purposes. If these conditions continue, large numbers of old cows may be kept on farms and ranches to raise calves, as long as they continue to reproduce.

Steer slaughter in 1932 was smaller than in 1931, but it is very probable that such slaughter will be larger in 1933 than in 1932 and the largest for any year since 1928. The estimated number of cattle in the Corn Belt States on feed for market as of January 1, 1933, was 5 per cent larger than the relatively small number on feed in those States a year earlier, but in the 11 far western States some decrease in the number on feed was indicated. Judging from the weights and number of cattle on feed and the intended months of marketing as reported by a large number of feeders, it seems probable that the supply of fed cattle will be somewhat smaller during the first quarter of 1933 than a year earlier, but larger during the second quarter. With abundant supplies and low prices of feed grains in all sections, increased feeding during all of 1933 seems probable. Market supplies of fed cattle during the last half of the year, therefore, probably will be larger than during the corresponding period of 1932.

Although growers apparently carried considerable numbers of steers and feeder calves into 1933 because of low prices, it hardly seems probable that such a holding policy will be continued through the year. Many cattle producers, however, are being refinanced by the regional agricultural credit corporations and to some extent the marketing of steers in 1933 will be determined by the policies adopted by these organizations and by the general financial situation during the second half of 1933.

### FOREIGN SUPPLIES

Supplies of cattle and beef in foreign countries, available for export to the United States during 1933, are expected to be larger than during 1932, but the actual imports are likely to continue relatively small. With northern Mexican ranges reported to be well stocked with marketable animals, cattle imports will be as large as in 1932, and probably larger if there is any improvement in cattle prices in the United States. Cattle imports into the United States during 1932 totaled 104,000 head as compared with 93,000 head in 1931, and 232,000 head in 1930. Of the 1932 total, Mexico supplied 91,000 head, and only 13,000 head came from Canada. Cattle numbers appear to be increasing in both Mexico and Canada. It is not yet clear what influence the Ottawa Agreements may have on disposals of Canadian cattle, but it appears that British markets will provide a larger outlet for these cattle than they have in recent years.

Canned beef inspected by the Bureau of Animal Industry for entry into the United States during 1932 totaled 21,854,000 pounds, compared with 18,121,000 pounds in 1931 and 48,533,000 pounds in 1930. Practically all of these imports came from South American countries. Under existing regulations this is the only type of beef admitted from those countries. Total exports of beef from South America declined in 1932. The reduction was due largely to increased European cattle numbers and new trade restrictions on the part of importing countries, especially Great Britain, the principal outlet for South American beef.

The regulations on meat imports into Great Britain do not restrict beef imports from Canada and New Zealand, the principal sources of the small imports of fresh and frozen beef into the United States. British markets, therefore, are expected to provide larger outlets for beef from those sources than heretofore. Imports of fresh and frozen beef into the United States in 1932 totaled only 882,000 pounds compared with 1,857,000 pounds in 1931. Receipts from New Zealand were reduced sharply.

### FEEDER DEMAND

Demand for feeder cattle during the last half of 1932 was probably not greatly different from that during the corresponding period a year earlier. Although shipments of stocker and feeder cattle from stockyards markets into the Corn Belt States during the last six months of 1932 were 10 per cent smaller than in the corresponding months in 1931 and were the smallest for those months in at least 14 years, reports from cattle feeders on the origin of cattle on feed on January 1, 1933, showed a marked increase in the proportion of locally produced cattle among those on feed in the Corn Belt and some increase in the proportion obtained from outside points other than public stockyards. Although prices of feeder cattle averaged slightly lower during the last half of 1932 than during the corresponding period in 1931, the spread between this average and the average price of the better grades of finished cattle was considerably smaller than that of a year earlier and somewhat smaller than the averge of the last five years.

The weak feeder demand which prevailed from early 1930 through the first half of 1932 was largely the result of unprofitable returns from cattle-feeding operations, the difficulties encountered by feeders in obtaining credit, and scarcity of feed in some areas. Because of the advance in the prices of fed cattle during the summer, returns from such cattle marketed during most of the summer and early fall of 1932 were relatively favorable for feeding. The 1932 corn crop was relatively large. Corn production in the western Corn Belt, where cattle are fed in largest numbers, was about 40 per cent larger than in 1931. The amount of credit available to cattle feeders was increased somewhat by the recently established regional agricultural credit corporations.

Present indications point to an increase in cattle feeding during 1933. The supply of cattle available for feeding is expected to be larger than in 1932, and there is an abundant supply of low-priced feed in all of the principal cattle-feeding areas. The regional agricultural credit corporations are now making funds available in all areas for financing the operations of feeders whose experience and financial situation seem to justify advances.

### PRICES

The downward trend in cattle prices which began in early 1930 continued during 1932, and at the end of the year prices of all kinds of slaughter cattle were at the lowest levels reached in more than 25 years. Prices of the better grades of slaughter cattle declined sharply from early January to mid-May. Following the low point in mid-May, they advanced until mid-September as the result of an extreme scarcity of fed cattle and the usual improvement in the demand for the better grades of beef during that season of the year. The price decline on these grades during the last three months of the year was much greater than usual, amounting to about $3 per 100 pounds. The price of Choice grade steers at Chicago during December, 1932, averaged only $6.66 per 100 pounds as compared with $11.14 in December, 1931.

Prices of the lower grades of slaughter steers fluctuated around a fairly stable level during the first half of 1932, advanced somewhat during the early summer, and then declined almost steadily until the end of the year. The average spread between prices of Common and Choice grade steers at Chicago during December,

1932, was $2.92 as compared with $6.53 in December, 1931, when the spread was one of the widest on record. The decline in beef-steer prices from December, 1931, to December, 1932, amounted to $4.48 for Choice and Prime grades, $2.96 for Good grade, $1.55 for Medium grade, and 87 cents for Common grade. Prices of stocker and feeder cattle declined only 43 cents per 100 pounds during the same period.

The fluctuations in the prices of slaughter cows during 1932 were somewhat similar to those in the prices of the lower grades of slaughter steers, and prices of Common cows at Chicago in December, 1932, probably were as low as ever reached for such cattle on that market.

The decline in the prices of calves during 1932 was greater than the average decline in cattle prices and the margin between calf prices and cattle prices was the smallest in many years. The price of slaughter cattle during 1932 averaged $4.94 per 100 pounds compared with $6.23 in 1931, and $8.54 in 1930. The average price of slaughter calves was $5.05 per 100 pounds in 1932, $7.10 in 1931, and $9.67 in 1930. The price declines in 1932 were accompanied by reductions of 7.5 per cent in total live weight of cattle, and 5 per cent in total weight of calves slaughtered under Federal inspection. The decline in both price and supply resulted in a reduction when compared with 1931 of about $148,000,000, or 27 per cent, in the gross return to producers for the cattle and calves slaughtered under Federal inspection.

## LONG-TIME PRODUCTION TRENDS

Cattle production in this country has moved through three complete cycles of increasing and decreasing numbers since 1880. The upswing of the second cycle was eight years in length and that of the third, six years. The upswing of the present cycle, which had its beginning in 1928, has been under way for five years but the increase in total cattle numbers has not yet been reflected in an expansion in cattle slaughter.

If changes in slaughter had followed changes in numbers, as in corresponding periods in previous production cycles, slaughter would have begun to increase in 1931 and would have tended to restrict the increases in numbers that took place in 1931 and 1932. Lacking this restraining factor, numbers at the beginning of 1933 were about 8,000,000 head larger than in January, 1928. Nearly half of this increase, or 4,000,000 head, was in cows and heifers 2 years old and over, and the number of these on January 1, 1933, was the largest ever reached in this country, and the number of calves born in 1933 will be the largest.

The potential yearly production of cattle and calves, based on total cattle, and on cows of reproductive age, January 1, 1933, is ample for supplying a relatively large per capita quantity of beef and veal and probably excessive for remunerative prices. Production in 1932, if there had been no change in inventory numbers between the beginning and end of the year, would have furnished about 23,300,000 head of cattle and calves for slaughter of all kinds, wholesale, retail, and farm. In 1925, when the inspected slaughter of cattle was the fifth largest and of calves the largest on record, total slaughter of cattle and calves reached an estimated figure of about 24,600,000 head.

With both total cattle and total cow numbers larger at the beginning of 1933 than a year earlier, total slaughter of cattle and calves in 1933 could equal that of 1925, with no decrease in inventory numbers. This means that a substantial increase in slaughter during 1933 is necessary if cattle numbers are not to show a further increase by January, 1934. Whether such an increase in slaughter occurs will depend upon the policy followed by producers in disposing of veal and other calves and in shipping old cows and dry cows and yearling heifers. The marketing of low-grade cows for slaughter, however, has been greatly restricted, largely because of the relatively low prices obtainable for them; it is expected to continue small until prices for such cattle improve considerably.

Present production of meat animals (cattle, hogs, and sheep) seems fairly well adjusted proportionately among the three species, as well as to present average production of feed grains and feeds, and to available pasture and range. It also seems ample for consumer demand, under more prosperous business conditions, at reasonably remunerative prices. A further expansion in cattle numbers is likely to result in a situation wherein any general improvement in commodity prices during the next few years, resulting from improved business conditions, will not be reflected in higher cattle prices because of increased supplies of cattle and calves for slaughter.

## SHEEP AND WOOL

A material reduction in numbers of lambs and sheep on feed and apparently some reduction in total breeding sheep in the United States January 1, 1933, resulted from the reduced lamb crop and heavy death losses in early 1932. The lamb crop is likely to be larger in 1933. The prospect of extensive forced liquidations in the sheep industry has now been reduced, at least for the time being. It appears unlikely that sheep numbers will increase in the United States during the next few years, but decreases are likely to be moderate. Although slaughter in 1932 was reduced slightly, declining consumer demand caused prices to fall. Improvement in demand awaits increased employment and consumer buying power.

Wool production is high both in the United States and in foreign countries. The general business depression affected wool-textile industries adversely, but since early summer wool consumption has increased. Although some of the increase has been lost in the United States, consumption is still well above the average rate for 1932. The improvement in domestic consumption has strengthened domestic wool prices. Unusually heavy offerings in foreign countries have been taken at stable prices.

### SHEEP AND LAMBS

Sheep numbers on January 1, 1933, have not yet been estimated, but they were apparently smaller than on January 1, 1932. Such decrease as occurred was in the number of lambs on feed for market and in breeding flocks in the Western States.

The number of lambs and sheep on feed for market January 1, 1933, was estimated at 5,239,000 head, a decrease of about 900,000 head, or 15 per cent, from the number on feed January 1, 1932, and the smallest number on feed January 1, since 1929. About two-thirds of the decrease (or 600,000 head) was in the number on feed in the Corn Belt States, with most of this in the area west of the Mississippi River. The decrease in the Western States, including Texas and North Dakota, was about 300,000 head. Although there were decreases in nearly all the Corn Belt States, the situation in the Western States was more varied, about half the States having decreases and the other half increases. The decrease in lamb feeding was due in part to the decrease in the lamb crop and in part to the larger proportion of the lambs marketed going to immediate slaughter during the period from August to November, inclusive.

The lamb crop of 1932 was estimated at 29,717,000 head, a decrease of 2,650,000 head, or 8 per cent, from that of 1931, and a decrease of 1 per cent from that of 1930. This reduction was caused by the sharp decrease in the number of lambs saved per 100 ewes on January 1, which was the smallest in the nine years for which estimates have been made. All of the decrease was in the western sheep States, where the decrease in the lamb crop of 1932 was 12 per cent. The native-lamb crop of 1932 was a little larger than that of 1931. The small lamb crop in the Western States was caused by the very unfavorable weather at breeding time, the heavy losses of ewes in the late winter and early spring resulting from the severe weather and shortage of feed, and the rather heavy losses of young lambs in the early lambing areas.

Although the lamb crop was 8 per cent smaller in 1932, this was only partly reflected in slaughter during the first eight months of the crop-marketing year, May 1 to December 31. Inspected slaughter during these months was 11,855,000 head, a decrease of about 750,000, head from the same period in 1931. Nearly all of this decrease came in October, November, and December. The proportion of sheep to lambs in the slaughter during this 8-month period in 1932 was smaller than the small proportion in 1931, for the very low prices for old and cull ewes restricted the marketing of these even more this year than last.

Although there may have been a reduction in the number of breeding ewes in the Western States on January 1, 1933, this may not result in a decrease in the 1933 lamb crop in those States. The number of lambs saved per 100 breeding ewes on hand January 1 has averaged 80 for the last eight years. In 1932 it was 70.9. Evidence now available on ewe numbers indicates that there will be an increase in the lamb crop if the number saved per 100 ewes is equal to the average.

The number of lambs saved per 100 ewes in the native-sheep States in 1932 was somewhat above average. If it should be only about average in 1933, the decrease in this factor would probably only about offset the probable increase

in number of breeding ewes in these States. Thus there is fair likelihood that the 1933 lamb crop may exceed that of 1932.

The condition of sheep in the Western States early in 1933 is considerably better than it was a year earlier, the January 1 condition being 87 this year compared with 82 last year and a 10-year average of 91. Range conditions are considerably better than they were a year earlier and supplies of hay and feed grains are much larger. Rather severe weather about the middle of December, which carried temperatures in some States to near-record lows, came in the midst of the breeding season. This may tend to cause a smaller lamb crop than might otherwise be expected from the condition of sheep and feed supplies.

Weather and feed conditions in California during November and December were very unfavorable in the early-lambing areas. Lack of seasonal rains in late 1932 has greatly delayed the growth of early grass, and unusually cold weather in early December caused considerable losses of lambs and some losses of ewes. Supplies of old pasture feed are almost exhausted, and although hay and grains are abundant and cheap, the financial conditions of most sheepmen limits their ability to buy. Lack of green feed and shortage of other feed are expected to delay the development of the early lambs and may lower the quality of the lambs at marketing time.

The trend of sheep and lamb prices has been sharply downward since early 1929. In April, 1929, when the decline began, the average price of lambs at Chicago was $16.82, and in December, 1931, it was $5.32. Prices in early 1932 recovered somewhat from this very low level, but again declined during the spring, reaching the lowest levels in 30 years in late May. From June to mid October, prices declined moderately. Since late October some advance in prices has occurred, and the average price of lambs at Chicago in December was $5.82. The average price paid by packers for sheep and lambs slaughtered in 1932 was $5.64 as compared with $7.04 in 1931 and $8.97 in 1930. The total value of sheep and lambs slaughtered under Federal inspection during the calendar year 1932 amounted to about $81,000,000, which was about 21 per cent less than the value in 1931.

Prices of feeder lambs have been fairly steady during the last half of 1932. The average price of Good and Choice feeder lambs at Chicago was $4.99 during this 6-month period as compared with $5.13 during the last half of 1931. The spread between prices of feeder lambs and slaughter lambs has been smaller during recent months than during the same period last year. During the period from July to December in 1932 prices of Good and Choice slaughter lambs at Chicago averaged about $1 per 100 pounds higher than prices of Good and Choice feeder lambs at that market. During the same months in 1931 the average margin was $1.55. Prices of slaughter ewes advanced somewhat during the winter and early spring of 1932, but declined to the lowest levels on record during May and June. Since then some recovery has occurred and prices in December were only slightly lower than in the corresponding month a year earlier. The average price of aged sheep at Chicago in 1932 was $2.20 per 100 pounds, as compared with $2.79 in 1931 and $4.32 in 1930.

## WOOL

World wool production, favored by good weather and ample feed supplies in the principal producing countries of the Southern Hemisphere, has been at a high level in recent years, with no prospect of any great reduction during the coming season. However, supplies have been fairly readily absorbed, and the outstanding feature of the current wool-marketing season in the Southern Hemisphere has been the increased movement of wool during the first half of the season as compared with the same period last season.

The low level of wool prices during the last four seasons might be expected to cause a shift from sheep and wool to alternative products. But prices of alternative products are also depressed, and alternative opportunities are limited in the important sheep-and-wool-producing areas abroad. Moreover, to a great extent the depreciation of currencies has offset much of the decline in gold prices of wool in many foreign-producing countries.

Wool production in 1932 in 20 countries for which preliminary figures are available, is estimated at 2,814,000,000 pounds, a decrease of 14,000,000 pounds or 0.5 per cent as compared with the large clip of 1931. These 20 countries furnish a little over four-fifths of the world's clip, exclusive of Russia and

China. The fairly heavy decreases in the 1932 clips of the United States and New Zealand, and slight decreases in Argentina and the Union of South Africa, are almost balanced by increases in Australia and the United Kingdom.

The production of shorn wool in the United States increased from 228,000,000 pounds in 1922 to 369,000,000 pounds in 1931, and decreased 7.3 per cent in 1932 to 342,000,000 pounds. The 1931 production of pulled wool was 66,000,000 pounds. The decrease in the United States wool production in 1932 was due partly to death losses that reduced the number of sheep shorn compared with numbers January 1 and to a lower-than-average yield per sheep. Although sheep numbers in the United States were probably lower on January 1, 1933, than a year earlier, it does not necessarily follow that the wool clip in 1933 will be below that of 1932, as weather and feed conditions on western ranges this winter have been much better than they were last year.

The Australian wool clip for 1932 was estimated in the early part of the season at 984,000,000 pounds, an increase of 4 per cent above 1931 and 8 per cent above 1930, but this is only 2 per cent higher than the clip in 1928. The 1932 estimate is expected to be revised slightly downward. In New Zealand production in 1930 and 1931 reached 266,000,000 pounds each year, but fell to 250,000,000 pounds in 1932, according to preliminary estimates. The clip in the Union of South Africa reached 311,000,000 pounds in 1928, fluctuated slightly in the following years, and in 1932 was estimated at 301,000,000 pounds, a decrease of 2 per cent compared with the 1931 clip. Production in Argentina in 1932 was estimated at 331,000,000 pounds, or 1 per cent below 1931, compared with 351,000,000 pounds in 1930 and 352,000,000 pounds in 1928. The Uruguayan clip of 121,000,000 pounds was approximately the same in 1932 as in 1931, compared with the record production of 154,000,000 pounds in 1930.

The number of sheep in Australia on January 1, 1932, was the largest on record. Numbers in New Zealand have decreased 6 per cent during the last two years. The June, 1932, estimate for the Union of South Africa also shows that wooled sheep decreased 2 per cent. In Uruguay there has been a decrease of 25 per cent since 1930, largely because of poor feed conditions and unfavorable weather.

After a decline in May, 1932, to the lowest level of the past 14 years, consumption of combing and clothing wool reported by the United States manufacturers rose rapidly and for September was only 7 per cent below the 1931 high point. By November, consumption had declined 20 per cent but was still well above the monthly average for 1932. Consumption of combing and clothing wool for the first 11 months of 1932 was only 77 per cent as large as for the comparable period in 1931, but it was 93 per cent as large as during the first 11 months of 1930. The decline for mills reporting in 1932 compared with those reporting in 1931 was 90,000,000 pounds.

During the first 11 months of 1932 only 14,822,000 pounds of combing and clothing wool were imported into the United States, compared with 33,777,000 pounds imported in those months in 1931 and 97,697,000 pounds in 1929. Figures on total imports for the year will probably be the smallest in the last 50 years.

Consumption of combing and clothing wool in the United States for the five years 1927–1931 averaged about 465,000,000 pounds annually. The decline in 1932 probably carried consumption below production, but there is no indication of a burdensome accumulation of stocks. Over the next few years it is probable that production and consumption in the United States will be fairly well balanced, and that imports, although probably continuing, will be small. Any downward trend in domestic production would strengthen the position of the domestic wool-growing industry.

Foreign demand on the whole continued low last year, but since July it has shown improvement. Improvement in wool-textile industries abroad, although slight, is associated with an improvement in activity in cotton textiles and some other industries. The steadiness of wool prices abroad while marketings from the Southern Hemisphere have been particularly heavy, indicates the degree of improvement in demand.

Great Britain's tariff on yarns and tissues and its depreciated currency reduced imports of wool manufactures and increased the activity in the British industry in 1932. Also, British exports of wool manufactures and semimanufactures increased. In Germany, France, and Belgium, on the other hand, activity was greatly reduced in the first half of 1932 and imports of raw wool

decreased. Since July, activity appears to have improved in these countries. Imports of wool into Italy and Japan increased in 1932.

Stocks in European countries are apparently not excessive. With the improvement in the industry during the summer and fall of 1932, continental buyers became active bidders in primary markets and shipments from Australia to Germany, France, and Belgium for the first five months of the new season (July to November, 1932) were considerably larger than in those months in 1931.

Wool prices in the United States continued their downward trend during the first half of 1932, then rose. In the decline since 1928 the United States farm price of wool fell from 38.7 cents per pound in June, 1928, to 7 cents in July, 1932, when it was 40 per cent of the 1910–1914 average. The average for December 15, 1932, was 9.2 cents per pound. Although prices at Boston at the close of 1932 were 10 to 25 per cent below January prices, they were considerably higher than the year's low in July. During July, 1932, prices of wool at Boston reached the lowest levels since 1897. At the close of the year prices of grease wools were 15 to 20 cents a pound at Boston compared with 19 to 24½ cents in January, 1932. Strictly combing territory wools, scoured basis, were 31.5 cents for 46s and 45 cents for 64s, 70s, and 80s, on December 31, compared with 37.5 cents and 59 cents, respectively, the first week in January, 1932.

Foreign prices (gold basis) were more stable than domestic prices during 1932. Fluctuations occurred at all series of the London sales, and prices for fine and medium wools set the highs for the year during the September sales. At the close of 1932, however, prices of all wools were below the January level. Prices in Australia and New Zealand have been firm with a rising tendency at the 1933 sales.

The comparative positions of United States and foreign producers are indicated in part by prices. Prices received by Australian producers in several important areas in 1931 averaged 7.4 pence per pound, Australian currency. At the rates of exchange prevailing in the latter half of 1931, when most of this wool was sold, the price was equivalent to about 10 cents per pound in gold, or United States currency, but at par it would be equal to about 15 cents per pound. It is the gold price that is important generally in world markets, but to the Australian grower (who pays his bills in currency) the latter price is most important. Australian currency prices fell about 57 per cent from 1927–28 to 1930–31, and have held nearly stable since. Prices to growers in Texas averaged 15 cents per pound in 1931 compared with 38 cents in 1928, a decline of nearly 60 per cent. The unweighted farm price for Texas in 1932 was 10.6 cents per pound, a decline of 72 per cent from the 1928 level. In comparing prices of these wools it should be noted that Australian wool shrinks about 50 per cent, whereas the shrinkage loss on Texas wool is around 65 per cent.

Because of differences in the wools and in the preparation of fleeces, direct comparisons between foreign and domestic prices, even on a scoured basis, do not give exact differences in the price levels. However, for December, 1932, the margin of Boston over London prices for the most nearly comparable grades amounted to 20.6 cents, scoured basis, on 64s, 70s, and 80s, 19.2 cents on 56s, and 23 cents on 46s. These margins were wider than they were in early summer, but were below those prevailing in periods of heavy imports.

## LONG-TIME PRODUCTION TRENDS

The trend in total sheep numbers during the next few years will be determined largely by the trend in the western sheep States. As inventory numbers on January 1, 1933, showing the total and the distribution among classes in the Western States, are lacking, the situation in that area is uncertain. It is assumed that there has been some decrease in breeding flocks in these States, occurring mostly in the States where death losses of ewes were heavy in the early months of 1932. There is considerable uncertainty as to the number of ewe lambs from the 1932 crop that were kept for replacement purposes, but it seems probable that this number was smaller than a year ago and probably below the number needed for replacement of normal disappearances of older ewes.

During the last six months the financial situation of the western sheep industry has been considerably improved through the shift of a considerable part of the indebtedness to Government-sponsored financial organizations, both those operating through the intermediate credit banks and those organized by the

Reconstruction Finance Corporation. From the point of view of longer period financing and freedom from pressure, such as might come from the necessities of local banks, the situation has been materially relieved. But at the same time the financial situation of the industry, from the point of view of relation of total liabilities to value of assets, is not so good as it was a year ago. Returns from wool and lambs in 1932 were smaller than in 1931 and in many cases were hardly sufficient to cover actual operating costs, thus leaving nothing to cover taxes, interest on sheep loans, or interest on mortgage loans on ranch or grazing lands.

The present policy of the Government-sponsored loaning agencies seems to be to try to prevent any general immediate liquidation of the western sheep industry. The same policy is being followed by those local banks and loan companies that are able to do this. There has been some shifting of ownership from less efficient operators to more able or better located ones, and such shifts will continue. On the whole, the situation seems to be one of ability to maintain about present numbers during the next year, and possibly two years, awaiting developments. Given good years of weather and feed supplies it is possible that running expenses that have been sharply curtailed can be met with prices no higher than in 1932, but there would be little chance of any reduction of indebtedness or of fully meeting overhead expenses.

Maintenance of present numbers, however, would indicate that output of lambs and wool would not be greatly reduced. Any recovery in prices, then, would have to come from improved purchasing power and not from reduced supplies. The policy to be followed by the controlling interests in western sheep production after this waiting period, or the end of 1934; will be determined by the trend of prices of lamb and wool during this period.

In Texas, where the expansion of sheep numbers has been larger than in any other States and where this expansion since 1930 has been possible only because of very favorable feed conditions in the main sheep area, a series of years of poor feed and pasture, or one year of very severe drought, would probably reduce numbers sharply.

In the native-sheep States present indications do not point to much change in stock sheep numbers, but the total number of all sheep on farms on January 1 from year to year will be influenced by changes in the number on feed.

## MOHAIR

The outlook for mohair at the beginning of 1933 is no better, if as good, as it was at the beginning of 1932. In spite of very low prices of mohair in consuming centers, consumption has failed to show any increase and stocks have continued to increase. Mohair production in 1932 was probably at least as large as in 1931, but some decrease in 1933 seems fairly certain. Prices received by producers during 1932 were lower than the very low prices of 1931 and gave producers little incentive to try to keep up the quality of their flocks or even to preserve the flocks themselves if to do so involves additional expenditure for feed or care. The outlook for the next few years seems to be more favorable for fine-haired goats than for the coarse-haired kinds.

Definite figures on consumption and stocks of mohair are not available but the opinion of experienced observers is that stocks in all hands at the beginning of 1932 exceeded 28,000,000 pounds. At that time the bulk of these stocks was in the hands of the National Wool Marketing Corporation. During the course of the year the corporation disposed of nearly all of its mohair holdings. One large lot was sold to carpet manufacturers under agreement to use it only for carpet and rug production; the remainder was sold mostly in one lot to one large mohair manufacturer. This corporation was no factor in handling the 1932 clip, most of which was bought for the account of mohair manufacturers. A maximum estimate on consumption in 1932 seems to be about 8,000,000 pounds. Available records of shipments of 1932 mohair from Texas indicate that the combined spring and fall clip was larger than that of 1931, and that total production in the United States was probably no smaller than in 1931, when it was estimated at 19,000,000 pounds. It seems probable, therefore, that stocks at the beginning of 1933, excluding the quantity taken for carpet manufacture, were from 6,000,000 to 8,000,000 pounds larger than stocks of a year earlier and were equal to more than four times the quantity consumed in 1932. Imports in 1932 were negligible.

The failure of consumption to expand, in spite of the very low cost of the raw material, was due to the continued restriction of the activity in the indus-

tries that use most of the mohair products—furniture, automobile, and passenger and sleeping car manufacturers. Efforts in 1932 to find increased outlets for other kinds of mohair fabrics were not very successful, but are being continued. Apparently any considerable increase in consumption must come from the industries that utilized most of the manufactured mohair in the past. The demand for fine kid hair has been well maintained and stocks of kid hair have shown little accumulation.

Developments in foreign countries during 1932 were a little more favorable than in the United States, since consumption there apparently increased. Combined production in the Union of South Africa and in Turkey during the 1932–33 season is estimated at about 19,000,000 pounds, which is a little less than in the 1931–32 season, but above the 5-year average. Although stocks in South Africa were larger at the beginning of the 1932 season than they were a year earlier, shipments were rather large during the following months and the carry-over this season will probably be much reduced. The 1932 spring clip in Turkey was late in moving, but shipments have been heavy and by the end of 1932 remaining stocks were considerably smaller than the heavy stocks of a year earlier. Fairly large lots of mohair from Turkey have been exported to Russia for mixture with low-grade wool, and other European countries apparently have been using considerable quantities for the manufacture of carpets and coarse blankets. Imports of mohair into Great Britain during the last half of 1932 were much above those for the last half of 1931.

In South Africa, because of the low price of mohair, large numbers of goats have been sold for slaughter, and a sharp reduction in numbers and of mohair production seems probable. Unless prices for Turkish mohair make a material recovery, a drastic reduction in production in that country during the next two years is expected.

Angora-goat numbers in Texas have been maintained during the last two years, largely because of very favorable feed conditions. Losses were large in 1932, because of bad weather after shearing both in the spring and in the fall, and the kid crop was apparently insufficient to replace these losses. Numbers at the beginning of 1933 are probably smaller than those of a year earlier and 1933 mohair production probably will be reduced. Unfavorable feed conditions in the chief goat area in 1933 would probably result in very heavy losses. Since the feed utilized by goats in Texas is of little value for other livestock, possibilities for shifts to other production are not great and goat numbers and mohair production during the next few years will be controlled largely by weather and feed conditions. A somewhat similar situation exists in the other mohair-producing States.

## HORSES AND MULES

A decline in the number of horses, starting in 1918, and a decline in the number of mules, starting in 1925, continue at rates that eventually will result in a shortage of work stock. Already prices for desirable types and weights of animals reflect this growing shortage. More animal power is needed on many farms and it seems entirely probable that this need will be reflected in a rather quickly growing demand for good animals, once improvement in prices of farm commodities is under way.

On January 1, 1932, horses on farms numbered 12,679,000. This is only 59 per cent of the number reported on January 1, 1918, when the largest number on record was reported. It may be argued that even this large decrease in horse numbers has resulted in no shortage of horses and that the present number would be sufficient to serve the needs of farmers for several years to come. But the present number of work horses can not be maintained, because the number of animals reaching working age is not large enough to replace animals of working age that die. Furthermore, the efficiency of work horses is declining because of increasing average age. Moreover, the fact that, since 1929, prices of horses have declined relatively less than have those of any other important agricultural product indicates that the shortage of horses is already being felt. From December 15, 1929, to December 15, 1932, farm prices of horses declined 27 per cent and prices of all farm products declined 61 per cent. A part of the decrease in horse prices was probably due to the greater ages and poorer quality of horses being sold. On December 15, 1932, the average farm price of horses, $56 per head, was the same as the December, 1931, price, whereas the price of all farm products had declined 21 per cent.

In terms of unit amounts of other farm products required to buy a horse, horse prices at present are the highest since before the World War.

For several years the number of colts on farms has not been sufficient to maintain the present number of work horses, as shown by figures for the last three census years. In 1920 about 12.8 per cent of the horses on farms were less than 2 years of age. By 1925 the percentage had dropped to 6.7, and in 1930 it had increased slightly, to about 7 per cent. It is generally considered that the average life of farm horses is about 15 to 16 years. On this basis, census figures for 1930 indicate that the number of colts on farms was only about 55 per cent of the number needed annually to maintain a constant horse population equal to that of 1930. Stated in another way, the rate of breeding in 1928 and 1929 was so low that the average life of farm horses would need to be increased to about 25 or 30 years if the horse numbers of 1930 were to be maintained.

The mule outlook is somewhat similar to that for horses. During the period from December 15, 1929, to December 15, 1932, the average farm price of mules declined 34 per cent, or about one-half as much as all farm products. On December 15, 1932, the average farm price of mules, $61 per head, was $2 below the December, 1931, price. On January 1, 1932, there were 5,082,000 mules on farms. This was 86 per cent of the number in 1925, when mule numbers were greatest. The raising of mule colts in the States from which the Cotton Belt secures its work mules has decreased sharply during recent years. On January 1, 1925, in the six States that produce the largest number of mule colts, the number on farms was 117,000. On January 1, 1932, there were only 47,000 mule colts in the same States, a decrease of about 60 per cent.

In 1920 about 14.4 per cent of all mules on farms were under 2 years old; in 1925 only 6.6 per cent were under 2 years old; and in 1930 only about 3.1 per cent were under 2 years old. At the rate of mule-colt production in 1928 and 1929 the number of mules on farms in 1930 could be maintained only if the average life of mules were about 60 years, about three times the actual life.

The number of work horses and mules probably will continue to decline for several years, and this decline can be checked only if extensive breeding for both horse and mule colts is soon resumed. At this time the possibilities of overbreeding seem remote. Available returns from most States that have stallion and jack registration laws show that the number of such animals used for public service has continued to decline. During the 3-year period 1929–1931 the total number of licensed stallions in Illinois, Indiana, Iowa, Kansas, Michigan, Missouri, North Dakota, Oklahoma, South Dakota, Utah, and Washington decreased about 16 per cent, from a total of 9,721 in 1929. Generally, the decline in the number of registered public-service jacks was much greater than that in the stallion enrollment. A shortage of young draft stallions is now being felt in many States. The scarcity of good sires is accompanied by a decided shortage of young work mares suitable for breeding purposes. This shortage of suitable young mares and the small number of serviceable old mares discourages the keeping of good stallions in many areas. Even with a strong price incentive to increased breeding, progress would be slow for some years. Lacking this incentive the numbers of suitable breeding stock will continue to decline.

Admittedly, the horse-and-mule outlook may be modified somewhat by the future course of mechanization of agriculture. According to the census, the number of tractors on farms increased 274 per cent from 1920 to 1930, to a total of about 920,000 in the latter year. Truck numbers on farms increased about 547 per cent, to a total of 900,385 in 1930. During the same period the replacement of horses and mules by trucks in towns and cities continued. In 1920 the number of horses and mules on farms was more than ample to furnish all needed motive power on farms. At the beginning of 1932 the number of horses and mules would not have been sufficient to furnish the motive power for the farm operations of that year. The future need for more or less work stock will depend upon whether the use of mechanical power increases or decreases. From a short-time standpoint a decrease in the use of mechanical power seems the more probable. Under existing price conditions farmers are buying less power machinery and finding it difficult to meet out-of-pocket costs for operation and maintenance, but in general they have an abundance of low-priced feed for work animals. Moreover, farm wages, in general, are the lowest in a quarter of a century so that savings in hired-labor costs that may have resulted from the use of mechanical power have been greatly reduced.

Looking further ahead, there is no reason for believing that the use of tractors and trucks for farm work has reached its peak. In fact, some expansion in the use of tractors and trucks may be necessary merely to offset the rapidly decreasing number of work animals, since under the most favorable conditions it will be some time before this decrease can be halted. It is also possible that new developments in the field of mechanical power may be an important factor in setting the limits of any upward movement in the demand for work stock. But until such developments are in evidence, nothing definite can be said about them.

At present, it seems desirable to point out that horses are largely a by-product of farming. Good breeding mares may be used as a source of motive power and at the same time produce colts that will maintain the power plant. Therefore, they may be considered not only as a source of expense but as a source of income. Many farms are well suited for the economical production of a few colts to replace worn-out work animals and to be sold.

As it seems likely that farmers will not be able to replace their present work stock a few years from now at prices now prevailing, many who expect to continue to use animal power can well afford at this time to lay plans for their future supply of work stock. Mares that can work and produce colts form the economical basis for such plans. If the mares are young, the farmer will be in better position to expand colt raising as the demand for colts increases.

## DAIRY PRODUCTS

The number of milk cows increased about 3 per cent during 1932, but, because of a lower rate of production per cow, there was no increase over 1931 in total milk production. The number of yearling heifers now on hand is only slightly more than enough to provide the usual percentage of replacements. With the number of cows on farms greater than ever before, and with the supply of feed grains the largest in the last 12 years, there is the possibility of a moderate increase in milk production in 1933.

A higher proportion of the total milk produced in 1932 was utilized on farms than in 1931, primarily because of the low returns from the sale of milk and cream. City consumption of milk and of most manufactured dairy products declined further in 1932.

In the drastic decline of all prices throughout 1932 dairy-products prices suffered relatively less than those of most other farm products, and farm prices of dairy products are still high in relation to the average of other farm-products prices. Storage stocks of dairy products are very low. Foreign supplies of butter are likely to be large in 1933 but no significant import movement is to be expected.

Feed prices are very low in relation to dairy-products prices, the price of cows as slaughter animals is too low to offer a motive for severe culling of dairy herds, and farm income from all sources is so meager as to impel farmers to maintain or possibly to increase their dairy output. The steady increase in milk-cow numbers now in progress, which is likely to continue in 1933 although at a lower rate than in 1932, may be expected gradually to reduce the advantage of dairying as compared with other forms of agriculture.

### NUMBER OF MILK COWS AND MILK PRODUCTION

The number of milk cows and heifers 2 years old or older on farms increased from 22,129,000 head on January 1, 1928, to 24,379,000 on January 1, 1932, an increase of 10 per cent during the four years. During 1932 there was a further increase of about 3 per cent. Only about the usual percentage of heifers was added to the herds, but an unusually small proportion of the cows was culled out, culling during 1932 being reduced from the usual average of about 16 per cent of the cows to about 14 per cent. Under ordinary conditions about 4 per cent of the milk cows now on the farms would have been culled out during the last three years, but culling has been retarded in all States by the cheapness of grain, by the ample supply of labor on the farms, and by the low price of cows.

In response to the high price of milk cows before 1930, the number of yearling heifers being kept for milk cows increased from 4,045,000 in January, 1926, to 4,777,000 in January, 1931. The number then declined to 4,665,000 by January, 1932. The present number is probably about the same as on January 1, 1932, or only slightly more than enough to cover the normal per-

centage of culling and death losses. The price of milk cows is so low that most farmers appear to be raising only about the number of heifers they would ordinarily need to maintain the present number of milk cows on their farms. The number of cows being slaughtered and the receipts of cows at stockyards indicate that the rate of culling is still abnormally low. In some parts of the country old milk cows are now worth almost nothing for slaughtering purposes and feed is so cheap that many farmers figure it will pay better to keep the old cows and sell more butterfat and obtain more calves to sell for beef or veal, than it will to sell the extra grain for what it would now bring on present markets.

The price situation has had an effect on milk production quite different from that on milk-cow numbers. Milk production per cow increased about 12 per cent from 1924 to 1929. Production declined from 4,582 pounds per cow in 1929 to about 4,466 pounds in 1931, or about 3 per cent. There was a further drop of about 4 per cent in 1932. There have been some regional variations owing to feed shortages and differences in the pasturage available but, with the possible exception of the Southern States in the first few months of the year, reports from all the larger groups of States show lower production per cow in each month of 1932 than in the corresponding month of 1931. Most of the decrease in 1932 appears to have been due to the necessity for close economy on dairy farms and to the resulting changes in feeding practices. Thus in practically all areas farmers are depending more on home-grown feeds and less on feeds that must be shipped from a distance. As costs for grinding are high in comparison with grain prices many farmers have discontinued having oats and corn ground for their cows. The total quantity of grain and concentrates fed per head averaged 7 per cent less in 1932 than in 1931. The percentage of protein in the grain-and-concentrate ration has been reduced, the ration being fed by dairy correspondents averaging about 13.4 per cent protein on October 1, 1932, compared with 13.8 per cent on April 1, 1932, and 14.2 per cent on October 1, 1931.

Total production of milk was apparently about the same during 1932 and during 1931. In comparison with those of 1931, commercial deliveries of milk and cream have been reduced by the increase in the quantity of milk used on the farms and by an increase in the quantity of butter made on the farms. Most of the increase in farm-made butter is found in areas where there is a surplus of milk above that required for city consumption, or where there is an unusually wide percentage spread between the price that farmers receive for butterfat and the local retail price of butter.

### DAIRY FEED

The aggregate feed grain, hay, and feedstuff supplies for 1932–33 are sufficiently large to maintain milk production at the prevailing level and to permit the present rate of expansion of dairy herds. The recent shift from cash crops to feed grains has resulted in the largest feed-grain production since 1920. Available evidence suggests little or no prospective change in the 1933 feed-grain acreage compared with that of 1932, and with average yields, supplies of feed grains for 1933–34 would be large. The combined 1932 harvest of corn, oats, barley, and grain sorghums was 111,500,000 tons compared with 97,500,000 tons in 1930 and 87,180,000 tons in 1929. Larger-than-average consumption of wheat for feed continued into 1932–33.

The 1932 hay crop of 81,788,000 tons, although 10 and 11 per cent larger than the 1930 and 1931 crops, respectively, was 5 per cent less than the average production for the period 1924–1928. Some shortage of hay compared with average production occurred in 1932 in parts of important dairy and cattle-feeding States. Since 1928, numbers of hay-consuming animals on farms have increased. The last three years have been unfavorable years for hay production. More normal weather conditions for hay production should result in ample supplies on the present acreage even with a continuance of the present rate of increase in hay-consuming animals.

Production of by-product feeds during the 1932–33 season will probably be the smallest since 1923–24. Prospective domestic supplies of high-protein feeds for 1932–33 are smaller than those for recent seasons. Supplies of cottonseed cakes and meal available for 1932–33 are materially smaller compared with last season. Linseed-meal production is being restricted by the limited outlet for linseed oil.

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## MANUFACTURED DAIRY PRODUCTS

The combined factory production of manufactured dairy products during 1932 was about 1 per cent smaller than in 1931. Decreases ranged from a small reduction in creamery butter to a 23 per cent reduction in condensed milk. Evaporated milk showed an increase of about 6 per cent.

During the early part of 1932, butter was the only product produced in larger quantities than a year earlier, and it was not until midsummer that other products showed increases. During the balance of the 1932 season, seasonal production of all manufactured dairy products was more or less irregular in relation to 1931 production, because of the different seasonal and regional conditions.

Heavy surpluses of milk in the so-called fluid-milk areas of the East contributed to increased butter production in those areas during 1932. During most of the year the New England States produced larger quantities than in 1931, and during the latter part of the year there were exceptionally heavy increases over 1931 quantities in the Middle Atlantic States. The North Central States, which are the principal butter sections, naturally influenced the general production trend, although there were some important variations in individual States within this group. During the late summer, Minnesota production was lower in relation to 1931 than was production in Iowa and Wisconsin, but in the fall, when the two latter States showed material decreases, Minnesota butter production was better maintained.

Cheese production in 1932 is estimated to have been approximately 6 per cent below that of 1931. Only during August, September, and December, did 1932 cheese production exceed that of 1931. In Wisconsin, the principal cheese-producing State, 1932 production was almost 9 per cent below that of the previous year. New York State production was approximately 19 per cent below that of 1931. On the other hand, there were increases in the South Central States, the Mountain States, and the Pacific States.

Throughout all the 1932 season of flush production, and since then, evaporated-milk production exceeded that of 1931. Part of this increase may be attributed to the aggressiveness of manufacturers in moving that product into consumption by offering price concessions at numerous times during the year.

## STORAGE STOCKS

The storage situation of dairy products as a whole was generally strong throughout 1932, as compared with that of 1931. Stocks of butter in cold storage on January 1, 1932, were the lowest on record for that date and stocks of all manufactured dairy products were lighter than on January 1, 1931. In terms of milk equivalents, the reduction under stocks on January 1, 1931, amounted to 38 per cent. At the beginning of the new storing season on May 1, a somewhat similar situation prevailed, with total stocks of manufactured dairy products, on a milk-equivalent basis, 26 per cent lower than on May 1, 1931.

Slowing up of consumption during the summer, and some increase in production during August, caused cold-storage stocks of butter and manufacturers' stocks of evaporated milk to reach totals by September 1, 1932, in excess of those of a year earlier. By December 1, however, stocks of manufactured dairy products, in terms of milk equivalent, were approximately 10 per cent below those of December 1, 1931, primarily on account of unusually heavy movements into channels of apparent consumption during November, accompanied by heavy decreases in current production of all products except evaporated milk.

Stocks of creamery butter on January 1, 1933, reached a new low record for that date, totaling 22,044,000 pounds, compared with 26,643,000 pounds on January 1, 1932, and a January 1, 5-year average of 52,410,000 pounds. Stocks of American cheese on January 1, 1933, totaled 57,750,000 pounds compared with 60,804,000 pounds on January 1, 1932, and a 5-year average of 63,685,000 pounds. Stocks of canned milk on January 1 were 119,596,000 pounds as compared with 152,447,000 pounds on January 1, 1932. Total stocks on January 1, 1933, of butter, cheese, and canned milk, combined on a milk-equivalent basis, were 16 per cent lower than those of a year earlier.

## MARKET CONDITIONS

The decline in wholesale prices of dairy products, which started in the latter part of 1929, continued in 1932. A low point was reached in June with some recovery during the last half of the year. The general decline in dairy-product prices during the 3-year period was influenced by the deflation in commodity prices generally, rather than by any marked change in the output of dairy products.

As in the preceding two years, farm prices of dairy products did not decline during 1932 so much as did farm prices generally. Farm prices of all products in 1932 averaged 29 per cent lower than in 1931, while farm prices of dairy products averaged 25 per cent lower. Prices received by farmers for feed grains in 1932 were 38 per cent lower than in 1931. Prices of dairy products, although unusually low, declined less than farm prices generally, and materially less than feed grain prices.

From 1929 through 1932, prices of various dairy products did not decline at the same rate, prices of manufactured products having declined more than prices of milk used for city distribution. In 1932, however, prices of milk purchased for city use declined steadily, while prices of manufactured products during the last half of the year showed some increase, and farm prices of dairy products showed practically no change.

With the general deflation in prices, farm prices of grain declined farther than the prices of dairy products. There has been considerable variation in the rates of decline in various sections, and unusual geographic differences in price relationships of these products have occurred. Prices of grains and dairy products declined most in surplus-producing sections farthest from market. The price of butterfat in relation to grains in the North Central States during the fall and early winter of 1932–33 was unusually high, whereas in the North Atlantic States it was less favorable than a year earlier. Retail prices of all foods (11 months) averaged 16 per cent lower during 1932 than for the same period of 1931. Retail prices of dairy products in this period declined by the same amount, milk averaging 12 per cent lower, butter 23 per cent lower, and cheese 18 per cent lower.

The estimated consumption of creamery butter, cheese, and condensed and evaporated milk during 1932, converted to a milk-equivalent basis, was about 3 per cent less than during 1931. The consumption of creamery butter declined 2 per cent, that of cheese 5 per cent, and that of condensed milk 26 per cent, while the consumption of evaporated milk increased 4 per cent. Evaporated-milk consumption was stimulated during part of 1932 by the unusually low prices at which this product was offered, and probably to some extent by the curtailed consumption of fresh milk. Receipts of fluid milk and cream at principal cities declined farther in 1932, and at New York, Philadelphia, and Boston were 4 per cent less than in 1931. Oleomargarine production during 1932 was 11 per cent less than during 1931.

## FOREIGN TRADE

The volume of foreign trade in dairy products in terms of their total milk equivalent continued to decline i n1932. During the calendar year imports amounted to approximately 594,000,000 pounds (milk equivalent) against 684,-000,000 pounds in 1931, and exports dropped to 189,000,000 pounds from 322,-000,000, pounds. The excess of imports over exports amounting to 405,000,000 pounds, was somewhat greater than in 1931, representing the first increase since 1927.

Domestic prices of butter were paralleled by outside prices rather more closely than usual during 1932, the domestic butter market remaining free from any serious disturbance from foreign competition in the form of either imports or an exportable surplus. From January through October, Copenhagen prices averaged monthly from 3 to 7 cents under New York's, and reached a 10-cent margin for December when the spread is normally widest. Comparing December prices with those of December, 1931, the price of 92-score butter in New York had declined 21 per cent, while Copenhagen quotations had declined 20 per cent in Danish currency and 27 per cent in United States currency when converted at prevailing exchange rates. New Zealand butter has declined more in price than Danish on the London market, and the margin between 92-score butter at New York and finest New Zealand butter at London reached a maximum in late November of 13 cents, or 1 cent less than the import duty.

Developments affecting the distribution of butter in foreign countries have been fully as important in their influence upon price as have those affecting total world supply.

The total surplus of the 12 most important butter-exporting countries declined practically 10 per cent between the first nine months of 1931 and the first nine months of 1932. Imports into Great Britain, however, continued through 1932 to increase in actual volume as well as in proportion to total world trade.

Restrictions upon importation of butter, in the form of tariffs and contingents or quotas, were widespread in continental European countries, resulting during the last two years in continued abnormal concentration of world supplies in British markets. In 1930 Germany, Belgium, France, Switzerland, and Italy had taken 31 per cent of the combined net imports of butter into these countries and Great Britain. In 1931 they took 27 per cent, and in nine months of 1932, only 20 per cent.

Even under these conditions prices of butter have not, thus far, moved far out of line with the general price level in Great Britain. The Board of Trade index of wholesale prices adjusted to a base of 1926 as 100 stood at 63 as the average for 11 months of 1932, with London prices of Danish butter at 64 and of New Zealand butter at 62. A marked increase in consumption of butter in Great Britain has occurred in response to the low prices, particularly during 1931 and 1932.

Price margins as between London and New York, however, will tend to be wider under given conditions of world supply by as much as that supply is restricted to British markets.

In Great Britain import restrictions on butter have thus far taken the form of tariff protection only, and apply only to supplies from non-empire sources, in keeping with the policy of stimulating dairying in the Dominions.

In both New Zealand and Australia, dairy production continues to increase steadily and is now at the peak of a season of record output in each country. Australian gradings from the beginning of the seasonal year, August 1 to December 10, have increased over the corresponding period of the previous record season by 36 per cent. In New Zealand, over the same period, butter production has increased 20 per cent.

In Australia and New Zealand, which together are supplying a rapidly increasing percentage of the total butter imports of Great Britain (43 per cent in 1932), production is being stimulated by recent trade developments, whereas indications are that European production has been checked.

### REGIONAL READJUSTMENTS

All regions of the United States shared in the increase in the number of milk cows on farms in 1932. Prices of feeds and feed grains throughout the country continue low in comparison with prices of dairy products, and encourage further dairy production. On the basis of farm prices in every region except the West, a pound of butterfat would buy more feed grain in 1932 than at any other time during the last five years. However, the actual number of pounds of feed grains purchasable with a pound of butterfat varied widely. It ranged from 23 in the South Atlantic States to 38 in the West North Central States. In the Northeastern States it was 27.

In the Northeastern States the number of cows has continued to increase at about the rate that has obtained during the last two or three years. There has been a continued decline in the rate of production per cow so that this increase in the number of cows has not increased total production. At the same time, there has been a further decline in the rate of feeding, particularly of concentrated feeds. During 1932, prices of fluid milk in most of the cities have continued to be adjusted downward. The rate of reduction has been far from uniform, and the relation between feed costs and receipts from the resulting production, when sold for city milk trade, varies greatly.

Retail prices of fluid milk in most of this area are still adequate to encourage feeding, and as a result, an increasing number of dairymen are retailing their milk. On the other hand, the price of surplus milk is so low that its production is often unprofitable. The supply of farm labor in the Northeastern States has been increasing and will probably increase still further as a result of industrial depression. This is probably an important factor in maintaining the volume of dairy output.

Dairying in the Middle West is of two distinct types, the first in the more highly specialized dairy areas where the product is disposed of partly as fluid

milk and partly through a highly developed system of local creameries and other manufacturing plants. These areas are for the most part characterized by land and climatic conditions that make dairying unquestionably the most important source of income. In general, such areas have fairly good cows and an abundant feed supply. The producers here are maintaining their rate of feeding at a higher relative level than in the New England States. The other type of middle-western dairying is found in those areas in which meat animals and cash grain are normally more important than milk. In these areas dairying is closely connected with beef-cattle production. The tendency has been to use cows of predominantly beef type and consequently of low milk production. With prices of other products extremely low there continues to be strong motive to increase the number of cows milked and to secure as large an income as possible from the dairy enterprise. There seems to be nothing in the immediate outlook to change this situation.

In practically all of the Cotton Belt States numbers of milk cows have been increasing steadily since 1929. In these States there has also been an increase in the acreage of feed crops, the shift being due largely to the low price of cotton and to farmers' need to obtain a larger share of their food from their farms. This need still continues. In most of the area commercial dairying is largely dependent on the local demand for milk and cream. This demand has been increasing rapidly, but is probably not expending at present. In the surplus-grain section of Texas and Oklahoma, and in the limited areas that have good pasture lands in the other States, there has been some expansion of dairying for manufacturing purposes. Further expansion is largely dependent upon relative returns from cotton and beef cattle.

The increased production of dairy products in the Western States in the post-war period has been consumed primarily in the local markets. With transportation charges high in relation to prices of dairy products, this situation will probably continue. In many western fluid-milk areas the decline in prices of milk has resulted in less concentrates being fed and in lower milk production per cow.

The total output of the American dairy industry remains approximately in balance with the domestic consumption. Expansion beyond this results in disastrously low prices because of the noneffectiveness of tariff protection when production outruns domestic demand. With the domestic demand curtailed by the lowered urban purchasing power, any material expansion will be checked by considerable reduction of prices, until unemployment is reduced and consumer purchasing power is improved. During the last five years there has been a substantial increase in the number of cows, induced partly by the attempt to supplement income from other sources, partly by the cheapness of grains, and partly by the slackening of sale of cows because of the extremely low prices paid for them. Total milk production in 1932 was no greater than in 1931, but the increase in numbers of cows still gives a potential productive capacity above that of recent years in spite of the fact that some of these cows would have been culled in a normal year. It is not probable, however, that such expansion will be realized to any alarming degree under present price conditions. On the other hand, there seems no reason to believe that the dairy industry has reached a turning point and is about to contract. Production is likely to be sustained or even slightly increased in 1933 over that of 1932. The culling out of low producers and the consequent raising of the quality of cows seems to await the stimulus of better prices. But a more liberal feeding of dairy cows is entirely possible in view of the supply and price of feeds. The trend of all cattle numbers is now upward and may be expected to continue so for several years. The number of milk cows is likely to move upward with the upward trend in the supply of all cattle.

## POULTRY AND EGGS

Chicken and egg production is expected to be somewhat larger in 1933 than in 1932. With poultry feeds much cheaper in the fall and early winter months of 1932 than in the previous year and with egg prices about as high, and even higher in December, the returns from egg production were encouraging to producers. The number of layers in farm flocks on January 1, 1933, was slightly larger than a year earlier and it is probable that the number of chickens hatched this year will be larger. More hens on farms and heavier spring hatchings may be expected to result in increased marketings of poultry this year.

Weather up to midwinter was less favorable for egg production than it was a year earlier, and the rate of production per hen was considerably lower than

the very heavy production of the fall and winter months of 1931–32, although not far below that of the 5-year average. It is unlikely that the eggs laid in February and March will exceed the large number laid in those months last year unless the unseasonably mild weather prevailing in January should continue. Storage stocks of eggs on January 1, 1933, were practically exhausted and will not be a factor in the egg market after January. Eggs stored in 1932 were sold at a profit and some increase in the stocks of eggs stored this year is expected. The relatively high prices received for eggs during the last half of 1932 are likely to encourage increased hatchings requiring larger quantities of eggs in 1933. It is doubtful, however, to what extent the probable increase in hatching and in the storing of eggs will offset the effect of the probable moderate increase in production. Fresh eggs marketed after the season of heavy laying, and particularly during the coming fall and winter, will face the competition of a larger stock of storage eggs than last year's, although these stocks will probably be much smaller than average.

### HENS IN FARM FLOCKS

The reported number of hens and pullets of laying age in farm flocks was between 2 and 3 per cent greater on January 1 this year than on January 1, 1932, but about 3 per cent smaller than the January number in 1931, or the 5-year average, 1927–1931.

The increase in layers in the North Central States, which produce about half the eggs, was small—between 1 and 2 per cent. The North Atlantic and the Southern States showed increases of between 4 and 5 per cent and the far Western States showed a decrease in farm flocks of about 4 per cent. Notwithstanding the extremely low price of eggs in the early part of 1932, the abundance and cheapness of feed coupled with the more-than-seasonal rise in prices for eggs apparently encouraged farmers to retain slightly larger numbers of layers. This tendency was furthered by the low prices paid for poultry. The heavy snows of December interfered somewhat with marketings of chickens and the reports of numbers on farms February 1 should furnish a more positive indication of the number of layers this year compared with last.

### COMMERCIAL HATCHINGS

Production of chicks by commercial hatcheries from January to July, 1932, inclusive, was slightly greater than for the same period in 1931. In general, the hatchings were somewhat later than in 1931, which, in turn, were slightly later than those of 1930.

Commercial hatchings during the 1932 season decreased sharply in the Mountain and Pacific Coast States, by about 25 per cent for the Mountain States and 15 per cent for the Pacific Coast States. Hatchings increased slightly in the Middle West and in the South, and to a somewhat greater extent in the Atlantic Coast States. The decrease in hatchings in the commercial egg-producing areas of the Far West, following a similar decrease in 1931, indicates a probable further decline in shipments of eggs to eastern markets from that area during the present laying season as compared with last year.

Reports received from commercial hatcheries in States east of the Mississippi River indicate that the late fall and early winter hatches of chicks for winter broiler production will not be so large this year as a year ago.

### CHICKEN PRODUCTION IN 1932

The number of young chickens of the 1932 hatch in farm flocks on October 1, 1932, was 5.5 per cent greater than on that date in 1931. April and May numbers were no greater than those of 1931. The increases over 1931 numbers, amounting to 4 per cent on June 1, 7.5 per cent on July 1, and 5.5 per cent on October 1, probably reflect larger late hatchings in 1932. In the North Central States, which ordinarily furnish from two-thirds to three-fourths of the poultry shipped to Boston, New York, Philadelphia, and Chicago, the number of young birds on farms on October 1, 1932, was 6 per cent greater than in 1931, and practically all of this increase occurred in the States of this group west of the Mississippi River. The North Atlantic States showed an increase of 20 per cent, the South Atlantic only 2 per cent, and the South Central 5 per cent. The far western States as a whole showed about the same number of young birds in farm flocks as in 1931. The number of young

chickens in commercial flocks in the far West is thought to be considerably smaller than in 1931, but returns from commercial flocks are too few for an accurate estimate. Although egg prices were at record low levels in the spring of 1932, the subsequent improvement in prices and their well-maintained levels during the fall and early winter in the face of generally unfavorable farm prices will tend to a further increase in the number of chickens hatched this year. The very sharp decline in prices of eggs in January was less encouraging, and low prices, if continued, may tend to limit the expected increase in numbers of chickens to be raised. However, the record low prices during the early months of 1932 failed to prevent a gain in numbers raised last year.

### EGG PRODUCTION

Because of the smaller number of hens in 1932, as well as the smaller number of eggs laid per hen, the production per farm flock (which reflects total farm production of eggs) was about 5 per cent less in 1932 than in 1931 and about 4 per cent less than the 5-year average for 1927–1931. The greatest decrease in production, 7 per cent, was reported for the North Central States. The South Central States reported about 3 per cent and the South Atlantic about 1 per cent decline. In the far Western States farm-flock production showed a decline of about 4 per cent, but the decrease in production by commercial flocks there was apparently much greater. In the North Atlantic States farm production was about the same as in 1931, with production by commercial flocks apparently greater. For the three months ended January 1, 1933, layings per hen were 20 per cent smaller than the very heavy layings of the same months a year earlier, although they were close to the 5-year average for these months. With the number of layers this year apparently somewhat greater, and with the abundance and very low prices of feeds, it is to be expected that production of eggs this year will exceed that of last year, at least for the period after March when the rate of laying per hen last year was about equal to the 5-year average prior to 1931. Total egg production in 1933 will be less, however, than the average production of the five years 1927–1931, unless the number of eggs laid per hen should approach the high number laid in 1931. It is impossible to say to what extent increases in the numbers of those persons keeping chickens on farms and elsewhere due to the economic distress of the last two or three years, will be offset by the increased consumption of poultry products by these producers. The movement will undoubtedly add to the supply of eggs for local consumption.

### PRICES OF POULTRY AND EGGS

Fall prices of poultry products in 1932, although the lowest in the 23-year record, were not so low as those of most other agricultural commodities when compared with prices before the World War. Likewise, when compared with the average fall prices in more recent years, poultry and egg prices showed relatively less decline. The average price of eggs for October, November, and December, was 39 per cent below the average for the same three months during the five years, 1925–1929. On the same basis the farm price of chickens was lower by 50 per cent, prices of dairy products by 52 per cent, prices of meat animals by 61 per cent, and grain prices by 72 per cent. The greater declines in prices of grains as poultry feeds were especially favorable to poultry and egg production.

Farm prices of eggs rose from 10.6 cents per dozen in June to 28.1 cents in December, an advance of 17.5 cents, or 165 per cent. The usual seasonal increase in egg prices from June to December, on the basis of prices during the last 23 years, has been about 95 per cent. The unusually low prices for eggs in the spring of 1932 and the greater-than-usual increase in egg prices during the rest of the year were due mainly to the exceptionally small supply of shell eggs placed in storage.

Farm prices of chickens declined from 11.4 cents per pound in June to 9.2 cents in December, a decline of 19 per cent. The usual seasonal decline in chicken prices from June to December, on the basis of prices during the last 23 years, was about 12 per cent. This unusual decline was influenced by the very heavy marketings of turkeys in the last three months in 1932.

The average monthly price at New York City of mid-western fresh eggs grading "rehandled receipts" (formerly "Fresh Firsts") for October, November, and December, was 28.7 cents per dozen as compared with an average of

44.2 cents for the five years 1925–1929, or a decline of 35 per cent. The average price of dressed fowl at New York City for the same three months was 16.6 cents per pound or a decline of 39 per cent. By the same comparison, the price of roasting chickens in the fall of 1932 averaged 17.2 cents, a decline of 46 per cent.

### POULTRY RECEIPTS

Receipts of dressed poultry of all kinds at the four markets were 355,454,000 pounds in 1932 as compared with the heavy receipts of 386,361,000 pounds during 1931 when there was some reduction in size of farm flocks. Since the average of annual receipts of dressed poultry at these four markets for the five years 1927–1931, was 364,141,000 pounds the 1932 arrivals do not appear significantly low. Receipts of dressed poultry in the fall of 1932 exceeded those of 1931, probably owing to the larger hatchings of 1932 and to the increase in the volume of the 1932 turkey marketings. The relatively favorable price for eggs and the low prices for chickens probably retarded the movement of dressed fowl (hens) during the last half of the year. Receipts of fowl between August and December at about 200 feeding and dressing plants in the Mississippi Valley were 9 per cent less in 1932 than in the same period in 1931, whereas receipts of young chickens showed an increase of 18 per cent.

Live-poultry receipts at New York and Chicago in 1932 as compared with live poultry receipts in 1931 were lower by about 6 per cent, while compared with 1930 the decrease was about 11 per cent.

### POULTRY IN STORAGE

The stock of poultry in cold storage on September 1, 1932, was 30,305,000 pounds, the smallest in any month since 1922. On January 1, 1933, the stock was 111,638,000 pounds, as compared with 116,700,000 pounds on the same date in 1932 and a 5-year average of 117,902,000 pounds. The increase in storage stocks from September 1, 1932, to the end of the year, was 81,333,000 pounds as compared with 73,644,000 pounds during the same period in 1931 and a 5-year average increase of 74,879,000 pounds. The increase in storage stocks of dressed poultry during the fall was larger, but because of the small stocks on hand on September 1, the holdings on January 1, 1933, were less than those on January 1, 1932, or the 5-year average. An important factor in the increase was the stock of turkeys which on January 1, 1933, was 14,566,000 pounds. Stocks of poultry other than turkeys amounted to only 97,072,000 pounds as compared with 106,380,000 pounds on January 1, 1932, and a 5-year average of 108,997,000 pounds.

The consumption of dressed poultry in the four markets during 1932 was not greatly different from consumption during 1931, the apparent trade output for these cities being about 3 per cent less in 1932. Prices were much lower than in 1931 or in any of the last several years; they were particularly low during the latter part of the year. The large turkey crop produced in 1932 and the very low prices that prevailed during November and December resulted in exceptionally heavy consumption of turkeys during these months, and tended to offset to a certain extent the smaller consumption of other classes of poultry.

### EGG RECEIPTS

Receipts of eggs at the four markets were 13,050,000 cases in 1932 as compared with 15,281,000 cases in 1931 and an average of 15,293,000 cases for the five years 1927–1931. Throughout the first nine months of the year receipts were consistently below those of the previous year but, with an improved market price situation, receipts in October and November exceeded those in the same months in 1931. The increase in receipts at the four markets in the fall of 1932 can not be explained by the movement of eggs to those markets from interior storages, which was smaller than usual, but was probably due to producers' curtailing farm consumption as a result of improved market prices. Total egg receipts for the year, as compared with those of the previous year, were smaller from all geographic divisions except the South Atlantic and the South Central States, from which marketings are relatively unimportant. The greatest decrease in receipts was from the Mountain States where the decline was over 30 per cent, while receipts from the Pacific States declined 19 per cent, and from the Middle Atlantic States 18 per cent.

The consumption of eggs in the four markets was about 11 per cent less in 1932 than in 1931, judged by the apparent trade output. Receipts of eggs at these points was about 15 per cent less, but owing to the large carry-over of storage stocks from the preceding year the total supply available for consumption during 1932 was slightly greater than the receipts for the calendar year. There was practically no carry-over of stocks into the 1933 season. On a monthly comparison basis, consumption during 1932 was consistently lower than in 1931, except in March and April, when prices were much lower than in the same months of the preceding year and trade output showed some expansion. Rising prices in October, November, and December, together with the lessened supply available for consumption, caused a marked decline in the trade output for those months.

### EGGS IN STORAGE

Stocks of shell eggs placed in cold storage during the spring and early summer of 1932 were unusually small. On August 1, they amouted to only 6,431,000 cases as compared with 9,504,000 cases for the same date in 1931, a reduction of about 32 per cent. They were 37 per cent below the August 1 cold-storage holdings of 10,181,000 cases for the years 1927–1931. From August 1, 1932, to January 1, 1933, the stocks of shell eggs in cold storage were reduced 6,272,000 cases as compared with 8,029,000 cases a year previous, but remaining stocks of 159,000 cases on January 1, 1933, were the smallest stock on record for that date since these reports were first gathered in 1915.

Frozen-egg stocks in storage on August 1, 1932, were equivalent to 2,832,000 cases of shell eggs, a reduction of about 13 per cent from the August 1 holdings of 1931 and an increase of 2 per cent above the average August 1 stock for the five years 1927–1931. The reduction in frozen-egg stocks between August 1, 1932, and January 1, 1933, was equivalent to 1,251,000 cases as compared with 1,014,000 cases in 1931 and a five-year average of 951,000 cases, indicating a heavier use of frozen eggs in 1932. January 1 stocks of combined shell and frozen eggs were equivalent to 1,740,000 cases of shell eggs, compared with 3,738,000 cases on January 1, 1932, and a five-year January 1 average of 3,098,000 cases.

## TURKEYS

The production of turkeys is likely to be somewhat less in 1933 than in 1932 because of the low prices received for the large 1932 crop. The decrease will probably be most pronounced in flocks of very large commercial growers, but inasmuch as these flocks include only a small proportion of the total production, some curtailment in their number and size would not cause a relatively large decrease in the total number of turkeys produced. Turkey prices have declined, but the production cost also has been less, because of more efficient methods of production and cheaper foods. The total production of turkeys will continue to be largely determined by growers with flocks of moderate size whose intentions in 1933 will depend on their experience and their ability to produce turkeys at a low cost.

The 1930 census showed that 16,794,000 turkeys were raised in 1929, a number estimated at about 9 per cent more than the 1928 crop. The 1930 crop was estimated as 3 per cent smaller than that of 1929, and the 1931 crop about 2 per cent greater than that of 1930. The 1931 price relationship between turkeys and most agricultural commodities was favorable to turkey producers. These favorable price relationships were mainly responsible for the fact that the 1932 crop was the largest on record and probably exceeded 19,000,000 birds. The increase in numbers of turkeys, together with reduced consumer purchasing power in 1932, forced turkey prices down to the lowest level in the last 20 years. The average farm price of turkeys declined throughout the fall from 13.2 cents per pound on October 15 to 10.9 cents in mid-December.

During the years 1925–1929 the December farm price of turkeys averaged 10.2 cents above the farm price of chickens, but this spread has gradually been reduced until in 1932 it was 1.7 cents. At New York city, prices quoted on comparable grades of chickens and turkeys for the last half of December were about the same. The average of farm prices of turkeys for October, November, and December in 1932 was 57 per cent below its average for the same three months during the five years 1925–1929. By the same comparisons, the farm price of chickens had declined 50 per cent and the farm price of eggs 39 per cent, while the farm price of grains for the same fall period declined 72 per cent. Turkey prices had declined more than chicken and egg prices but less than those

of feed grains. These price changes indicate that a shift from turkey production to that of chickens and eggs may be expected in those areas in which the two enterprises are competitive but such a shift is not likely to be pronounced in areas particularly favorable to turkey production.

Relatively high prices for turkeys in 1930 and 1931 as compared with prices for other agricultural commodities greatly stimulated the production of turkeys in flocks of several thousand birds but commercial production in large flocks in 1933 will probably be less as a result of the low prices of 1932. The size of farm flocks may be less responsive to the 1932 price declines than that of the large commercial flocks, because part of the feed and care of farm flocks represents no apparent expense. Available data indicate that at prices current during the fall of 1932, producers of the smaller farm flocks received sufficient cash income to more than cover visible outlay, and it is doubtful whether the efficient farm-flock producer will materially curtain his turkey production operations in 1933.

Imports of turkeys into the United States were drastically reduced in 1932 principally because of the low prices prevailing and the 10 cents per pound tariff on dressed turkeys. From January to November, 1932, inclusive, imports of dressed turkeys, mostly from Argentina, amounted to only 474,000 pounds as compared with 5,044,000 pounds in 1931.

The quantity of turkeys in cold storage on January 1, 1933 was 14,566,000 pounds compared with 10,320,000 pounds on the same date in 1932 and with the January, 1927–1931, average of 8,905,000 pounds. The large supply of cold-storage turkeys on January 1, this year, is less burdensome than might appear because of the tendency in recent years toward increased family consumption of turkeys beyond the holiday season and the probability of very slight competition from imports of turkeys. On November 1, 1932, the cold-storage stocks were at a very low level, amounting to but 1,033,000 pounds, but the heavy carry-over of turkeys from Thanksgiving resulted in a net into-storage movement during November of 10,964,000 pounds, the heaviest accumulation on record for any single month and about 309 per cent above the 5-year average. During December, turkey prices were lower than those of November and supplies received for the Christmas and New Years markets were cleaned up much better than at Thanksgiving. The net into-storage movement in December amounted to only 2,569,000 pounds as compared with a December 5-year average of 3,389,000 pounds. The low farm price of turkeys during December may have caused growers to hold back more turkeys than usual so that marketings during January and February may exceed those of previous years.

## HAY AND PASTURE

Farmers, particularly those in normally deficit feed-producing areas, are increasing the acreage of hay and pasture because of the unusually low price level of cultivated crops. The large reduction of hay acreage in the North Central States will probably be largely replaced in 1933 and 1934 from seedings in 1932 and 1933. Consequently, favorable weather for hay production in 1933 would result in a material increase in the total hay crop. The relatively high prices of hay to consumers (largely caused by transportation costs), compared with prices of other feeds, and the reduced purchasing power of farmers, have greatly restricted the market outlet for hay, and the prospective increase in tame-hay production will tend to restrict the outlet still further.

The 1932 hay crop was the third successive short crop for the country as a whole. The production, 69,609,000 tons of tame hay and 12,179,000 tons of wild hay, a total of 81,788,000 tons, was larger than in 1930 and 1931 by 10 per cent and 11 per cent, respectively, but was 4 per cent less than the average production for the 5-year period, 1925–1929. As the farm stocks of hay from the 1931 crop on May 1 were about 2,400,000 tons less than average, this was equivalent to an additional 3 per cent reduction in hay supplies.

The decreased production of hay in 1932 was largely in clover and timothy, the acreage of which, reduced by drought in 1930 and 1931, had not yet been replaced by productive acreage. Only 23,487,000 acres of clover and timothy were cut in 1932, about 24 per cent less than the acreage cut during the 5-year period, 1925–1929. Most of this reduction in acreage was in the North Central States. Alfalfa acreage, on the other hand, has continued its gradual upward trend, and the 12,507,000 acres cut in 1932 was 16 per cent more than the average

of 1925–1929. Sweetclover hay was cut from 701,000 acres or about the same acreage cut in each of the two preceding years. The 5,093,000 acres of annual legumes cut in 1932 was more than 50 per cent above average. A large acreage of grain was cut for hay in 1932. The production of Sudan grass, millet, and other miscellaneous hays was less than average. The 14,298,000 acres of wild hay cut in 1932 was the largest acreage since 1927, and was nearly 4 per cent above the 1925–1929 average.

The greatest decline in production of hay in 1932, compared with the 1925–1929 average, occurred in such important dairy sections as the North Atlantic States and Wisconsin and in the important livestock-feeding States of Ohio, Illinois, Missouri, South Dakota, Kansas, and Colorado. On the other hand, production was greater than average in many of the Southern States which normally ship in hay, and in the Intermountain and Pacific Coast States, except in certain relatively small localities. The larger production in the Western States, however, was offset to a considerable extent by the small carry over from the 1931 crop in these States.

Hay prices have declined much less than the prices of most other feeds during the last three years. This fact, together with the sharp drop in farmers' purchasing power, has resulted in the substitution of home-grown grains and other forage and, in some instances, of commercial feedstuffs, for market hay. The production of alfalfa meal has shown a marked decline and is not likely to increase so long as prices for alfalfa hay remain relatively higher than prices of bran and other commercial feedstuffs. Although the market movement of hay this season has been unusually light, high-grade hay has moved readily at normal premiums. The substitution of medium for high-grade hay has been greater than usual because of the difference in price. The market for low-grade hay has been extremely limited.

The cost of transportation has become such a large factor in the price of hay moved over long distances that new areas of market-hay production have developed nearer to the deficit hay-producing areas. During the last two years there has been a marked expansion of the alfalfa acreage in the Mississippi Delta and a large portion of the southern market for hay is now being supplied from that area. A larger proportion of the hay shipped into New England is coming from Ohio and Michigan and other near-by States. The sharp decline in the incomes of farmers in normally deficit hay-producing areas has caused those farmers to increase their production of hay and other home-grown feeds and has curtailed the movement of hay from surplus-producing areas. All of these changes are reducing the outlet for hay from the Western States which normally grow a surplus for market.

The total hay requirements of livestock have decreased since 1918 when the total number of hay and pasture-consuming animals (horses, cattle, and sheep, calculated on the basis of hay consumption) on farms in the United States reached its highest point. From 1918 to 1928 the number of such animals on farms declined approximately 20 per cent. The decline in the number of hay and pasture-consuming animals in towns and cities during this same period was even more marked. The hay requirements of all livestock in the United States in 1928 were smaller than at any other time in the twentieth century. The acreage of hay has shown a moderate decline since 1918, but the substitution of tame hay for wild hay, and the increased proportion of alfalfa and other higher-yielding kinds of hay have partly offset the decline in acreage.

Since 1928 there has been some increase in the number of hay-consuming animals on farms. Hay production in three of the last four years has been below average but with more nearly normal weather conditions hay production on the present acreage would result in average supplies of hay for the livestock now on farms. Although livestock numbers are expanding, the increase will depend largely upon the increase in cattle numbers, as sheep numbers are already at a high level and numbers of horses and mules will probably continue to decline for several years. However, a larger number of livestock on farms is not likely to offer much additional outlet for producers of market hay, as hay production is also expected to increase, especially in the principal feeding areas and in areas in which hay is usually purchased.

Under present conditions, farmers are coming to recognize the desirability of reducing their operating expenses by maintaining a larger proportion of their land in grass and legumes, especially for pasture. Experiments in several areas have shown that the net returns from lands in grass or legumes, are greater than those from lands devoted to harvested crops. This, together with the un-

usually low level of prices of farm products at present, is encouraging the seeding down of additional lands, especially in areas in which there is a shortage of hay or pasture.

## FEED CROPS AND LIVESTOCK

The feeding situation for the 1932–33 season is characterized by large supplies of home-grown feed grains, slightly below average supplies of hay, extremely low prices for feed crops, and no acute shortage of feed in any large area. The numbers of livestock on feed this winter are below average, and hogs and cattle now being marketed are being fed to heavier-than-average weights. Dairymen are depending largely upon home-grown grains and are buying less high-protein feeds to balance the rations. The acreage of feed crops has increased rapidly during the last three years and is expected to continue large in 1933, with perhaps some shifting of acreage from feed-grain production to hay and pasture.

With freight rates and handling charges high, feed costs in deficit feed-producing areas are disproportionately high compared with the cost of feed grains in surplus-grain areas. In some deficit-producing areas returns from feed crops are relatively more favorable than are returns from other crops. Consequently, farmers in these areas are increasing both feed and livestock production to more nearly meet their own needs, while farmers in the surplus areas are increasing livestock production in order to use the surplus feed available, and are seeding some crop land to hay and pasture. Although prices for practically all agricultural products at the end of 1932 were below those of a year earlier, prices of meat animals as a group and of livestock products were still relatively higher than the prices of both feed crops and cash crops. Feed-grain and livestock production will probably continue at a high level until the demand for cash crops shows some improvement or until prices of livestock and livestock products become low in relation to cash crops. The low level of farm incomes and the proportionately high transportation costs will also tend to maintain a high level of feed-grain production in deficit feed-producing areas.

Market prices of feed grains at the central markets are now so low that they do not equal transportation and handling charges from the more distant surplus-producing areas. The only alternatives for farmers in these areas are to feed the grain to livestock or to hold it until prices rise above marketing costs. Prices of breeding stock have also declined until there is no market for the lower grades in many areas. This has resulted in farmers' retaining on farms many cows and ewes that ordinarily would have gone to market and has tended to stimulate livestock production.

Since July the corn-hog ratio has been much above average. The fall pig crop of 1932 was 4 per cent larger than the large crop of 1931 and farmers indicated in the December pig survey that the number of sows to be bred for farrowing in the spring of 1933 was 2 per cent larger than the number farrowing in the spring of 1932. But in the West North Central States, where the corn-hog ratio was most favorable to hog production, farmers reported that the number of sows bred to farrow next spring was 1 per cent less than a year earlier, which may be in response to the unusually low level of hog prices in this area during the breeding season.

Although prospects for the sale of feed grains in the domestic markets are less favorable than they were a year ago, exports of corn during the 1932–33 season will probably be larger than during either 1930–31 or 1931–32. In addition to the limited demand for feed in deficit areas, the industrial consumption in the United States so far this season has been somewhat below that of last year and considerably below average. Exports of corn during the last four months of 1932 were larger than during any corresponding period since 1928. Unusually small quantities of corn are available for export from Argentina at present, because of the relatively small crop in 1932 and heavy exports to date. Furthermore, only limited quantities appear available for export from the Danube Basin, at least during the winter months. Consequently the prospects of exporting corn from the United States may continue fairly favorable at least until the new Argentine crop becomes available for export in April or May. No estimates on corn production in Argentina for 1932–33 are yet available. The acreage planted is believed to be large, but damage by locusts is expected to curtail yields.

In spite of the larger exports of feed grains this year, however, the export market from the United States has been curtailed by tariff and other trade

restrictions in many countries. Since June, 1931, there has been a tariff of 25 cents per bushel on corn imported into Canada from outside the British Empire. This tariff has restricted the exports of United States corn to Canada, the largest importer of corn from this country. The Ottawa Agreements have placed a duty of 10 per cent on feed grains imported into the British Empire. This same tariff also applies to barley imports into the United Kingdom. The tariff on barley, together with the decreased consumption of beer in England, has restricted the importation of both malting and feed barley. Several European countries which are largely dependent upon foreign supplies of feed grains and which in some years have absorbed fairly large quantities of United States feed grain, also have imposed high tariff duties or have otherwise limited imports.

Livestock numbers on farms have been increasing since 1928 in spite of the smaller pig crop in the spring of 1932. The December pig survey for the entire United States indicated an increase of about 2 per cent in sows bred to farrow in the spring of 1933 compared with the number farrowed in 1932, with the increase in the East North Central and Southern States more than offsetting decreases elsewhere. Numbers of both beef and milk cows are increasing and the number of chickens on farms will probably be increased in 1933. Numbers of horses and mules are decreasing, and sheep numbers on January 1 were somewhat below those of a year earlier. These trends in livestock production indicate that the number of livestock to be fed from crops produced in 1933 will be larger than the number now being fed from the 1932 crop.

The quantity of feed available per animal in the 1932–33 feeding season is just slightly larger than the large supplies in 1928–29 and the largest for any year since 1925–26. This is partly offset, however, by less than average quantities of hay per animal. Although hay supplies, per hay-consuming animal, are larger than in the 1930–31 or 1931–32 feeding seasons, the quantity of hay available per hay-consuming animal is smaller than during the previous three years. Unusually large quantities of wheat were fed to livestock in 1930–31 and 1931–32 because of the short supplies of feed grain and hay. Wheat feeding apparently continued heavy, especially in the States west of the Mississippi, until the new 1932 corn crop became available. The relation of wheat prices to livestock prices in some areas is still favorable to feeding wheat to livestock but it is not probable that the quantity of wheat fed will be as large this season as in the 1931–32 season.

The acreage in feed crops in 1932 was the largest ever harvested in this country, and the 1932 production of feed crops was exceeded only in 1920. The combined production of corn, oats, barley, and grain sorghums in 1932 totaled 111,500,000 tons, compared with 97,500,000 in 1931, a 5-year average (1925–1929) of 102,800,000 tons, and the record production of 116,500,000 tons in 1920. The acreage devoted to feed grains has increased 14,400,000 acres or 9.3 per cent since 1929. The hay acreage of 1932, although larger than the acreages of either 1930 or 1931, owing to the 2,000,000-acre increase in wild hay cut, was still about 1,750,000 acres below the 1925–1929 average. The total production of hay of 81,788,000 tons in 1932 was larger than in 1930 and 1931 by 10 per cent and 11 per cent respectively, but was 4 per cent below the 5-year (1925–1929) average.

The carry-over of feed grains from the 1931 crop into the 1932–33 feeding season was above average, owing to the large supplies of corn, whereas the carry-over of hay was much below average. When the carry-over on farms and in elevators is added to the crop, the supply of corn available for the 1932–33 feeding season was 3,090,000,000 bushels, the largest since 1922. The total supplies of oats, 1,320,000,000 bushels, were slightly above average. Total supplies of barley, 308,000,000 bushels, were the largest ever held in the United States with the exception of the supplies of 1930 and 1928. The grain-sorghums crop of 106,000,000 bushels was about the same as in 1931, but was 9,000,000 bushels above the 1925–1929 average. Total hay supplies, including carry-over, were 90,000,000 tons, compared with 81,000,000 tons last year, and a 5-year average of nearly 96,000,000 tons. The total supply of feed grains, including carry-over, is the largest since 1921, but when the smaller supplies of hay are considered, total supplies of all home-grown feeds are only slightly above average.

The consumption of feed grains on farms during the first three months of the 1932–33 feeding season (October 1–January 1), was about 12 per cent greater than in the first three months of the 1931–32 feeding season, but the

proportion of the total supplies fed was only about average. Up to January 1, about 30 per cent of the total supplies for the year had been fed, compared with 33 per cent in the same months last year, 37 per cent in the 1930–31 feeding season, and a 4-year average (1926–27 to 1929–30) of 30 per cent. Farmers are apparently not feeding any more feed than usual in years of large supplies in spite of the unusually low prices of feed grains.

The aggregate production of by-product feeds during the 1932–33 season will probably be the smallest since 1923–24. Since 1930 a marked downward tendency in wheat-offal production at merchant mills has been in evidence, owing to the smaller millings of flour. No immediate change in this trend is anticipated until some enlargement of foreign markets for flour occurs. Production of wheat mill feeds at all merchant mills during the season ended June, 1932, totaled 4,400,000 tons compared with 4,750,000 tons in the previous season and 4,900,000 tons two years earlier. From July 1 (the beginning of the 1932–33 season) to the end of December, wheat-offal production was 2,250,000 tons, or about 7 per cent under that of a year ago.

Prospective domestic supplies of high-protein feeds for 1932–33 are also smaller than those for recent seasons. Despite a heavier production of cottonseed and soybean meal in 1931–32, a down trend in high-protein feed production persisted, owing to a considerable reduction in the output of linseed meal and some decrease in gluten feed and meal. Materially smaller supplies of cottonseed cake and meal are available for 1932–33, compared with last season. If a normal proportion of the smaller supply of new-crop cottonseed should be crushed, it would yield about 2,000,000 tons of cottonseed meal. This, together with the mill carry-over of meal, makes a total potential supply for the season of 2,115,000 tons. Out of a total supply of 2,548,000 tons last season, 2,216,000 tons were consumed in the United States, 217,000 tons were exported, and 115,000 tons of meal were carried over into the present season. The carry-over of cottonseed into the 1932–33 season of 300,000 tons was a record and may be compared with 25,000 tons last season.

Supplies of domestic linseed meal are restricted by another short crop of flaxseed, about equal to last year's short crop. Wet-process corn grindings, from which gluten feed and meal are by-products, totaled only 62,002,000 bushels in the season ended October 31, compared with 66,555,000 bushels in the previous year, and 77,493,000 bushels in 1929–30. The relatively high price of alfalfa meal in comparison with bran and other feedstuffs has restricted alfalfa-meal production which in 1931–32 (season ended with May) totaled only 187,000 tons against 302,000 tons in 1930–31. Grindings so far this season, June–December, aggregate 108,000 tons compared with 133,000 tons in the same period last year.

Prices of by-product feeds reached unusually low levels in 1932. Some feed stuffs reached record lows for the period in which they were important feeds. Low prices of feed grains and wheat and limited funds available for purchasing straight or commercially mixed feeds forced prices lower despite reduced production of by-product feeds. The wholesale price index of feed stuffs as a group averaged 38.2 per cent (1926=100) in December, 1932, compared with 52.4 per cent in December, 1931, and 78.6 per cent in December, 1930.

In the North Atlantic States, the production of feed grains in 1932, although somewhat below that of 1931, was higher than in any other year since 1927. Hay production in this area was both below that of 1931 and below average. The acreage devoted to feed crops in these States has increased in each of the last three years, a reversal of the downward trend which had prevailed for a number of years prior to 1930. The increase in feed-grain production has apparently been an attempt to reduce the cost of the dairy ration, and has about kept pace with the increase in the number of dairy cows. Feed-grain acreage in these States may be expected to remain at higher levels than in recent years as long as the present relationship between prices of dairy products and the local prices of feed and feed grains continues.

The sharp increase in feed-grain production in the East North Central States in 1931, following the 1930 drought, was followed by a further slight increase in 1932. Current supplies of feed grain in this area are considerably above average, but hay supplies are materially below average because of the marked reduction in timothy and clover acreage and below-average yield of hay in 1932. The number of animals on farms in these States has been increased rapidly since 1930, and is now the highest since 1923. According to the December pig survey, farmers in this area will increase the number of sows to farrow in the spring of 1933 about 7 per cent over the number farrowing in the spring

of 1932 and cattle numbers are also on the increase. The increase in the acreage of winter wheat sown in these States may cause a slight decrease in the acreage of feed crops planted in 1933 unless there is material abandonment of winter-wheat acreage. There may also be some shift of acreage into hay and pasture crops since the hay acreage is at a rather low level, and livestock numbers are increasing.

In the West North Central States the acreage of feed crops reached a record high point in 1932. There has been an almost steady increase in feed-grain acreage in this group of States for several years, owing partly to an expansion of total crop acreage in the western part of the area and partly to a decrease in wheat acreage in the eastern part. Production of feed crops also attained a record in 1932 and was about 40 per cent greater than the short crop of 1931. Hay supplies in 1932 were also large except in Missouri and Kansas where they were below average. In both 1930 and 1931 a combination of short feed supplies and low prices of wheat resulted in the feeding of unusually large quantities of wheat to livestock in these States. With present liberal supplies of feed grains feeding of wheat from the 1932 crop will probably be on a much smaller scale. A reduction in the acreage of winter wheat sown in the fall of 1932 as compared with the acreage sown in the fall of 1931 indicates that little, if any, reduction in feed-grain acreage may be expected in this area in 1933. Feeding of cattle and lambs for market this year is on a smaller scale than the average of recent years.

In the Southern States feed-grain acreage has increased in each of the last three years after a decline that had continued over a number of years. Short supplies of feed grain in the drought year of 1930 and a reduction of cotton acreage in 1931 caused a sharp increase in the acreage devoted to feed crops in the latter year. Continued low prices of cotton induced southern farmers to make still further shifts from cotton to feed-grain production in 1932. Below-average yields in 1932 resulted in about the average relationship between feed-crop production and animal numbers. So long as the present relationship between prices of cash crops produced in the South and prices of shipped-in feed exists, it is probable that southern farmers will continue to produce a larger proportion of their feed requirements than they have done during late years.

In the Western States there was a marked increase in the acreage of feed grains harvested in 1932 as compared with 1931. The 1931 acreage was low because of drought, but the 1932 acreage was the largest on record and represents a continuation of the upward trend which has been in evidence for several years. Yields per acre of feed grains were below average in this area in 1932 so that production was only about average. Total supplies of feed grain, because of small carry-over from the short 1931 crop, are considerably below average. The shortage is sufficient to reduce feeding operations in certain sections, notably eastern Colorado. The 1932 hay crop in the Western States was above average, but the carry-over of old hay was very small and total supplies available for the current season are only about average. In the 1931–32 season feed supplies were supplemented by feeding unusually large quantities of wheat.

## CLOVER AND ALFALFA SEED

Supplies of alfalfa, sweetclover, and alsike-clover seed are much lower than usual and may be nearly absorbed during the spring seeding season. Stocks of red-clover seed may not be cleaned up so fully as those of the other seeds because supplies are only slightly below the 5-year average. Prices of the various clovers declined about as much as prices of other farm products during last year, but alfalfa-seed prices have remained about the same as they were a year ago. Under present conditions growers are inclined to increase the production of alfalfa seed, particularly in the Northern States, and to maintain the acreage of the clovers for seed production.

Sales of red-clover seed to farmers in the spring of 1932 declined about 10 per cent from those of the year before, but carry-over was much smaller in 1932 than in 1931. Total production of red and alsike-clover seed for 1932 was estimated at 101,268,000 pounds, compared with 68,304,000 in 1931 and 89,442,000 pounds in 1930. Imports of red-clover seed were negligible in 1932. Exports have been light and amounted to 297,899 pounds for 1932, compared with 670,304 pounds in 1931 and 535,472 pounds in 1930. The acreage of red clover cut for hay in the North Central States in 1932 was small because of the drought in 1930 and 1931. Farmers in those States probably will sow

as much red clover for hay production as they can finance in order to restore much of the acreage that has been lost.

Although the crop of red-clover seed in Europe was larger in 1932 than in 1931, severe competition from Europe is not expected. Prices in Europe are 1 to 3 cents a pound lower than prices in the United States, but this difference is more than offset by the duty of 8 cents a pound. Wholesale prices at principal markets in January, 1933, were about 35 per cent lower than a year ago and about 65 per cent lower than for the five years 1927–1931.

Available supplies of alsike-clover seed are the smallest in several years. Although a slightly larger crop was harvested in 1932 than in 1931, the increase was more than offset by a sharp reduction in carry-over, a lack of imports, and an increase in exports. Little, if any, of this seed is expected to be imported because of the relatively small crops produced in Canada and in Europe. No seed was imported during the fiscal year ended June 30, 1932, but imports amounted to 93,800 pounds in 1930–31 and 7,220,300 pounds in 1929–30. Current wholesale prices are about 25 per cent lower than they were a year ago and about 60 per cent lower than the 5-year average price.

Following a slight reduction in spring retail sales, the carry-over of sweetclover seed in 1932 was slightly larger than in 1931, when it was at the lowest point in seven years or more. Production in 1932 amounted to about 34,400,000 pounds, compared with 50,300,000 pounds in 1931 and 50,900,000 in 1930. No seed was imported either in 1932 or in 1931. Shortage of legume hay and pasture in the North Central States may bring about some increased seedings of sweetclover because pasturage of this crop would be available more quickly than that of alfalfa or red clover. Furthermore the low price of this seed may encourage its greater use. Current wholesale prices are about 25 per cent lower than they were a year ago, and about 55 per cent lower than the 5-year average price.

Alfalfa seed supplies are the lowest in four years or more. The carry-over was reduced somewhat last spring and was followed by the smallest crop in 10 years. Production declined from that of 1931 in a majority of the principal producing sections, but showed small increases in Minnesota, North Dakota, Texas, and Wyoming. Total production in 1932 amounted to about 32,300,000 pounds, compared with 50,300,000 pounds in 1931 and 70,000,000 pounds in 1930. Supplies were reduced further because Europe drew heavily upon this country as well as Argentina, because of poor crops in France and Italy. Exports from the United States for 1932, amounting to 1,564,641 pounds, compared with the 5-year average of 810,445 pounds, were the largest on record. Imports for the fiscal year ended June 30, 1932, were 352,700 pounds, compared with 233,400 in 1931. Only light imports may be expected this season because of the small 1932 crop in Canada. In the East North Central States and in Minnesota, some expansion in alfalfa acreage for hay may replace the present shortage of legume hay acreage, but the reduced incomes of farmers in that area may tend to restrict this expansion. Wholesale prices of common alfalfa are about the same as a year ago, but are about 35 per cent lower than the 5-year average. Prices of Grimm alfalfa are about 40 per cent lower than the 5-year average price.

## POTATOES

Planting intentions of potato growers on January 1, as reported to the United States Department of Agriculture, indicate a reduction of 3 per cent in total potato acreage in 1933 as compared with the harvested acreage of 1932. With a possibility of better growing conditions, however, the decrease in acreage is likely to be offset by higher yields which would result in a supply equal to or greater than that produced in 1932. With no material improvement in consumer purchasing power, and a continuation of heavy home-grown supplies in consuming areas, returns for such a crop will probably be low, and may be profitable only to those growers having low production and marketing costs.

The acreage harvested in 1932 was approximately 3,368,000 acres, or 7,000 acres less than that harvested in 1931. The decrease of 53,000 acres in the 11 early States was more than offset by the increase of 72,000 acres in the five central surplus late States. In the rest of the country the 1932 acreage was a little smaller than the 1931 acreage. Yields per acre in 1932 averaged only 106 bushels per acre compared with 111 bushels in 1931 and compared with a record high yield of 123 bushels in 1928, and a 5-year average (1927–

1931) of 114 bushels. The production in 1932 amounted to 357,000,000 bushels, compared with 375,000,000 bushels produced in 1931, and about equal to the average for the 5-year period 1927–1931. An acreage for harvest in 1933 of about 3,270,000 acres (such as indicated by the January reports of growers' intentions to plant), with a yield near the 5-year average of 114 bushels per acre, would produce a total crop of approximately the same size as that of 1931. Yields may be somewhat curtailed in some sections because of decreased use of fertilizer, and the average for the entire country may be reduced because of larger proportionate acreage decreases in areas having relatively high yields, like Maine and Idaho. It is reasonable to expect, however, that the United States yield in 1933 will be above the low figure of 106 bushels per acre harvested in 1932.

The reduced production in 1932 was mostly in the 11 early States and in the northeast. The 11 early States produced a crop, commercial and noncommercial, of 30,000,000 bushels in 1932 compared with 40,300,000 bushels in 1931, a reduction of 25 per cent. For 1933, growers in these States have indicated an intention to decrease their total potato acreage between 2 and 3 per cent. This is expected to occur through an 11 per cent decrease in the commercial early acreage for shipping purposes, which acreage, however, represented only about one-third of their total potato acreage in 1932. The remaining two-thirds of the acreage, largely for home or local supplies in these early States, is expected to be increased about 2 per cent in 1933.

The seven intermediate States produced a total of 35,300,000 bushels in 1932, compared with 37,500,000 bushels produced in 1931, a reduction of 6 per cent. In these States a further decrease of about 4 per cent is indicated for the total acreage in 1933. A reduction of 13 per cent is planned in the commercial acreage (representing less than 40 per cent of the total in these States in 1932) but a 2 per cent increase is indicated in the remaining acreage for home and local supplies.

In 1932 producers of commercial potatoes in the early and intermediate States averaged only 121 bushels per acre, because yields were reduced by the severe freezes in the Gulf States and the drought following this freeze in these States and in Georgia, South Carolina, Virginia, and Maryland. If their 1933 yields approximate the 5-year (1927–1931) average of 133 bushels per acre, there may still be produced a crop comparable with the 33,500,000 bushels produced in 1932, even with the contemplated reduction in acreage. The 1933 carry-over of old potatoes is expected to be as large as that of 1932, and the continued low levels of consumer incomes are likely to cause new potatoes to sell at prices comparatively close to those of old potatoes, unless the new crop is very short.

Production in the 30 late States in 1932 was estimated at 291,000,000 bushels, a reduction of 2 per cent below the 1931 production. Of this group, the 18 surplus or major shipping States had a crop 12,400,000 bushels smaller than that of 1931. The crop in the 10 Western States was 3,400,000 bushels smaller, in the 5 Central States about 7,300,000 bushels larger, and in the 3 Northeastern States 16,300,000 bushels smaller than in 1931. On the other hand, the 12 late States other than the surplus States had a crop 6,300,000 bushels greater than that of 1931.

For 1933 the planting intentions of growers in the 30 late States indicate a 3 per cent decrease from the 1932 harvested acreage. The 18 surplus-producing States show a 4 per cent decrease, divided about proportionately among the eastern, central, and western groups. The 12 other late States (the 5 New England other than Maine, and West Virginia, Ohio, Indiana, Illinois, Iowa, New Mexico, and Arizona), which produce potatoes mainly for home or local consumption, show intentions to increase their acreage 3 per cent. This would make a net decrease in the 30 late States of about 3 per cent. In 1932 the yields per acre in the 30 late States averaged 111 bushels, compared with the 5-year (1927–1931) average of 118 bushels. If weather conditions are normal in 1933, yields are likely to be nearer the average and production about the same as that of 1932.

The commercial production of early and intermediate crop potatoes was 27 per cent smaller in 1932 than in 1931, and the price averaged 59 cents per bushel compared with 63 cents in 1931. In spite of the 48 per cent smaller crop in the eight early States, the prices received by the commercial growers in Florida and in the lower valley of Texas averaged only $1.28 per bushel as compared with $1.11 in 1931, and in the other States of this group only

70 cents per bushel in 1932 compared with 64 cents per bushel in 1931. In the second-early group of States, where commercial production was 25 per cent lower than in 1931, growers received 59 cents per bushel compared with 51 cents in 1931. In the intermediate group of States, commercial production was 13 per cent less than that of 1931, and the growers received about 48 cents per bushel in 1932 compared with 57 cents in 1931. Late-crop potatoes in the fall of 1932 brought record low prices owing to the further decline in consumer income and to the greatly increased supply of home-grown potatoes. In mid-December, the United States average price received by producers, including prices in deficit as well as surplus areas, was 37 cents per bushel, or 9 cents less than in December, 1931, and 53 cents less than in December, 1930. Before this season, the previous low price for any month since July, 1908, occurred in May, 1910, when the average was 38 cents per bushel.

Prices received by commercial growers in Maine and New York averaged higher in December, 1932, than in December, 1931. In Michigan and Wisconsin prices were lower and in Idaho they were less than half those of 1931. Prices to growers, cash per 100 pounds in bulk, for U. S. No. 1 potatoes during December, 1928–1932, averaged as follows: At Presque Isle, Me., $0.36, $2.04, $1.15, $0.30, and $0.46; at Rochester, N. Y., $0.75, $2.40, $1.40, $0.53, and $0.56; at Cadillac, Mich., $0.38, $1.74, $0.90, $0.30, and $0.24; at Waupaca, Wis., $0.46, $1.78, $0.92, $0.36, and $0.31; and at Idaho Falls, Idaho, $0.53, $1.67, $0.66, $0.48, and $0.23, respectively.

Car-lot shipments from the 18 late States through January 21, 1933, amounted to about 66,000 cars, compared with 89,000 and 108,000 cars, respectively, through the same month in 1932 and in 1931. There has been a great increase in the movement of potatoes by motor truck, but although little information on the total amount of such movement is available, it is not probable that the truck shipments account for all of the decrease in carlot shipments.

Of the 1931 crop produced in the 30 late States, 37 per cent, or 110,000,000 bushels, was available for marketing after January 1, 1932. The January 1, 1933, merchantable stocks from the 1932 crop can be expected to be at least as large as those of January 1, 1932. Such a large supply of old potatoes is an important factor in determining the trend of the late-crop potato price from January through June and will compete with the new-crop marketings throughout the spring and early summer of 1933.

In the intermediate and late-crop States producers face continued competition from potatoes produced in home and local gardens. There has been a great increase in such production in and around towns and cities and on farms in noncommercial potato areas. Through such means a considerable part of the population in these districts have produced their own supplies of potatoes, with a consequent decrease in the market outlet for commercial-producing areas. Such production can be expected to be fully as large in 1933 as in 1932. The producers in the late States are also increasing their production of earlier-maturing varieties, which will further compete with production in the intermediate States.

Reports from the certification agencies in 22 States indicate a total production of all varieties of certified seed amounting to 6,929,000 bushels in 1932, compared with 8,765,000 bushels in 1931 and 6,703,000 bushels in 1930. Prices paid to growers in the more important States ranged from 20 to 75 cents a bushel, averaging 47 cents, which compares with 58 cents in 1931 and $1.25 in 1930. The demand for seed has been dull.

Production of certified seed of seven important varieties in 1932, as compared with production in 1931, was as follows: Green Mountain, 40 per cent less; Irish Cobbler, 25 per cent less; Early Ohio, 23 per cent greater; Triumph, 8 per cent greater; Russet Rural, 24 per cent greater; Smooth Rural, 5 per cent less; and Russet Burbank (Netted Gem), 13 per cent less. Compared with production in 1930, production of these varieties in 1932 was as follows: Green Mountain, 2 per cent less; Irish Cobbler, 20 per cent greater; Early Ohio, 101 per cent greater; Triumph, 33 per cent less; Russet Rural, 43 per cent greater; Smooth Rural, 7 per cent less; and Russet Burbank, 21 per cent less.

## SWEETPOTATOES

As has been usual when the price of cotton is low, the acreage planted to sweetpotatoes was greatly increased in both 1931 and 1932, the estimated 926,000 acres grown in 1932 being nearly 43 per cent above the acreage harvested two years ago. Although the 1932 yield per acre was rather low,

averaging about 85 bushels, compared with the very low yield of 80 bushels last year and an average of 91 bushels during the previous 10 years, market supplies have been burdensome and the crop has been moving from the farms at prices about one-third lower than were received last year and only slightly more than one-half the average price at the same season during the 1910–1914 period.

The present low price will tend to discourage farmers from making any further increase in the acreage of sweetpotatoes grown for sale in 1933, and will further discourage use of commercial fertilizer on sweetpotatoes. However, should average weather conditions prevail during 1933, there may be some moderate increase in the yield per acre.

There may be some local areas in which the very low price received for the 1932 crop will cause a material reduction in the acreage planted to sweetpotatoes in 1933, with a corresponding improvement in the outlook for local producers who take advantage of the opportunity. In most parts of the South, however, little or no reduction in acreage is to be expected because only a small part of the total acreage is grown for sale and prices of alternative crops are also low. The majority of southern farmers are still faced with the need to produce on their own farms a large share of the food required by their families. In most cases this means planting an acreage of sweetpotatoes large enough to supply family requirements.

In the Eastern Shore area of Virginia, where sweetpotatoes of the dry-fleshed type are grown for northern shipment, the prospective reduction in the acreage of Irish potatoes may result in an increased acreage of sweetpotatoes which are commonly grown on the same farms in that area and which require less investment for seed and fertilizer.

## COMMERCIAL VEGETABLES

The market outlook for commercial vegetables during 1933 appears to be even less favorable for producers than the situation during the last two years. Under the conditions that have developed since 1929, marked by reduced consumer buying power and a declining price level, there has been a noticeable tendency in the direction of increased home and local gardening in and around towns, on farms, among the unemployed, and by part-time employees. Much of this increase in gardening primarily represents sustenance enterprises, but these operations have the effect of eventually expanding the proportion of foodstuffs produced locally, thus decreasing the outlet for supplies that would normally move in from distant producing areas. Although costs of production have been lowered in all vegetable-producing areas, transportation costs remain relatively unchanged, and as prices decline these costs take an increasingly larger share of the market price on commodities shipped long distances. This reacts to the benefit of growers nearest to market, and so long as prices and purchasing power continue at their present levels, the shift, toward increasing local production of food supplies, both for home use and for local sale, may be expected to continue.

Production of commercial truck crops grown for shipment (that is, not including the products of home and market gardens) continued to expand in 1932, with a 3 per cent increase over 1931 production. Prices declined 16 per cent below those of 1931 and caused growers in some areas to leave much salable produce in the field. The immediate prospect for the 1933 vegetable season is that supplies will probably be available in their usual plentiful quantity although weather conditions, as usual, will cause occasional scarcity in the supply of one vegetable or another. Already there are indications of expansion of acreage planted or to be planted to early vegetables in the Southern States where growing conditions are favorable for continuous cropping throughout the year. Stocks of late cabbage, onions, potatoes, and sweetpotatoes are still large and are likely to offer severe competition to early spring-grown vegetables. There are large supplies of home-grown storage vegetables still on hand and indications of further expansion to occur in home and local production of vegetable crops in and around many industrial centers in 1933. There is also considerable evidence that competition among the established commercial vegetable-producing areas will be as severe throughout the 1933 season as it was in 1932. Any improvement that may develop in the business situation, and eventually in buying power, is not expected to be very marked in 1933 and the effect of such improvement upon vegetable prices would probably be slow and not very pronounced.

## VEGETABLES FOR FRESH MARKET SHIPMENT

Prices of commercial vegetables grown in the United States for fresh market shipment declined further during 1932. Prices of these vegetables have followed a downward trend through the last 10 years, but the declines during the last three years have been accentuated by the marked shrinkage of consumer purchasing power and by the increased production of home and local vegetable supplies. During the last two years, prices have declined even for vegetable crops produced in smaller commercial quantity than previously. The index of prices of vegetables for fresh market shipments declined about 16 per cent during 1932, following declines of 11 and 15 per cent, respectively, during 1930 and 1931. This represents a total decline of approximately 37 per cent from the 1929 prices. In general, this decline has not been so sharp nor so great as those that have taken place in many field crops and in livestock. Owing to the sharp decline in prices and to lower yields per acre, the average per acre return from vegetables for fresh market shipment has declined 45 per cent since 1929. These commercial vegetables left the growers' hands at an average of $96 gross per harvested acre in 1932, compared with $118 per acre in 1931, $142 in 1930, and $175 in 1929. Reduction in the heavy cost of producing most of these truck crops has not been sufficient to make up for all of this decline in price.

There is evidence that, because of the relatively smaller price decline in vegetables crops than in other crops and because of the high gross return per acre from vegetables, growers have looked upon vegetable production as holding good prospects for expansion or as a relatively profitable alternative for other cash crops that have brought disappointingly low returns. But the increasing competition, and the higher costs and greater risks usually involved in the production and marketing of these perishable crops, merit, especially, careful thought before any further shifts from other crops to vegetables are made.

The steady upward trend in commercial production of vegetables for fresh market shipment has been a major factor responsible for the steady downward trend of vegetable prices during the last decade or more. Production in the United States has increased almost steadily during the last 15 years and reached a new peak in 1932 when the combined total of 15 important crops increased about 3 per cent over that of 1931, 1 per cent over the previous record total in 1930, and 20.5 per cent over the 1924–1929 average. Production has increased 60 per cent during the last 10 years.

This great expansion in production has been due largely to the steady increase in the acreage devoted to vegetables rather than to increased yields. The rate of expansion of acreage planted to vegetables for fresh market shipment average about 9 per cent per year from 1923 to 1930 and 2 per cent per year in 1931 and 1932. From a total of 1,271,000 acres in 1929, the acreage of 21 vegetable crops for fresh market shipment increased to 1,414,000 acres in 1930, to 1,451,000 acres in 1931, and to 1,473,000 acres in 1932. Among the more important crops, there were increases in 1932 in the acreages of asparagus, Lima beans, snap beans, cauliflower, celery, onions, green peas, and tomatoes; there were decreases in acreages of cabbage, cantaloupes, carrots, cucumbers, lettuce, peppers, spinach, and watermelons. For 1933 the reports furnished to the United States Department of Agriculture up to January 15 regarding intentions to plant and acreage already planted indicate that growers in the early Southern States are going ahead with further expansion in vegetable production. There are increases in the acreages intended or already planted in the case of nine crops reported to date, and a decrease is shown for only one early crop—onions.

## WINTER VEGETABLES FROM MEXICO AND CUBA

In the face of tariff barriers and weak demand conditions in the United States, shipments of winter vegetables from Cuba and the west coast of Mexico have declined during recent years from those of the peak year of 1929–30. Early estimates for the 1932–33 season indicated reduced acreages for nearly all the vegetables shipped from these countries to United States markets, and exports up to January have fallen below those reported for the same period last season.

In Cuba the 1932–33 season opened rather early. November shipments compared favorably with those of November, 1931, but the total for November–

December, 1932 was a little less than one-half the total for November–December, 1931. Cucumber shipments alone showed a substantial gain over last season. Indications point to increased shipments of all vegetables as the season advances, but estimates fall below the quantities exported last season.

Plantings of winter vegetables in Mexico for the 1932–33 season declined, but the favorable growing conditions indicate crops of excellent quality. It is reported, however, that the heavy frost in the latter part of December did irreparable injury, so that total shipments will be sharply curtailed. An outstanding feature of the 1932–33 season is the adoption by the growers of a new policy, under which a centralized agency has been placed in charge of the financing, distribution, and marketing of the winter vegetables produced on the west coast.

### CANNING-VEGETABLE CROPS

Prices paid to growers for vegetables for canning or manufacturing purposes declined further during 1932. The level of prices of 10 of the more important crops (tomatoes, green peas, sweet corn, snap beans, asparagus, cabbage for sauerkraut, pimientos, green Lima beans, spinach, and beets) is now about 37 per cent below that of 1929; prices of these vegetables declined only slightly during 1930 but dropped 17 per cent during 1931 and 23 per cent during 1932. Along with these declines in prices, production was curtailed by 29 per cent in 1931 and 14 per cent in 1932. Owing to the sharp price declines, the gross return per acre of vegetables for canning or manufacturing purposes has been decreased by 39 per cent during the last three years. The crops returned on the average about $34 per acre gross to the growers in 1932 compared with $37 per acre in 1931, $52 per acre in 1930, and $56 per acre in 1929.

The acreage planted to these vegetables usually expands and contracts in more or less regular cycles, expansion depending primarily on the demand for the manufactured product and the supplies accumulated. There were three successive years of increases in acreage from 1928 to 1930, inclusive, which carried the total up to a record peak in 1930. During 1931 and 1932, there were decreases of 18 per cent and 29 per cent, respectively, which brought the total acreage of vegetables for canning or manufacturing purposes down to approximately the 1919 total. From 1,104,000 acres in 1929 the acreage of these crops increased to 1,261,000 acres in 1930, and then decreased to 1,035,000 acres in 1931, and to 738,000 acres in 1932.

Annual enumerations of pack are made by the United States Department of Commerce in the case of tomatoes, green peas, sweet corn, and snap beans. The combined pack from these four crops, representing about 87 per cent of total production of the 10 crops listed above, reached a peak in 1925, amounting to the equivalent of more than 80,000,000 cases of 24 No. 2 cans. Following 1925, the pack declined to 57,267,000 cases in 1926, and to 50,818,000 cases in 1927. It increased to 53,513,000 cases in 1928, and to 69,158,000 cases in 1929, and again reached a high point of 75,555,000 cases in 1930. In 1931, it dropped to 55,425,000 cases. Complete statistics on the 1932 pack are not yet available, but estimates of production indicate a 22 per cent reduction as compared with the 1931 pack. In this event, the 1932 pack of these four vegetables was probably close to 43,200,000 cases, or the smallest since 1921. Should the 1933 packing operations follow the same cyclical movement exhibited since 1925, the combined pack of tomatoes, green peas, sweet corn, and snap beans will show an increase over the pack of 1932.

Complete data on present holdings of canned goods by canners and distributors are not available. The only indications on these stocks consist of quarterly reports by the United States Department of Commerce, giving comparative holdings of identical groups of representative canners and distributors from one period to another. The stocks report of January 1, 1933, showed the following trends on green peas, sweet corn, tomatoes, and snap beans:

Canners' stocks, with the exception of tomatoes, were substantially below those of January 1, 1932, a year ago. Green peas showed a decrease of 27 per cent, sweet corn 21 per cent, and snap beans 23 per cent. Tomato stocks were 3 per cent larger than a year ago. The combined stocks of the four vegetables in the hands of this group of canners on January 1, 1933, representing a total of 18,207,000 cases of all sizes, were 18 per cent smaller than the holdings of the same group of canners on January 1, 1932.

Stocks in distributors' hands on January 1, 1933, according to reports from 460 distributors holding a total of 4,022,000 cases of all sizes of green peas, sweet corn, snap beans, and tomatoes, differed only slightly from the stocks held by the same group on January 1, 1932. Stocks of peas held by these distributors were 10.8 per cent larger than on January 1, 1932; stocks of sweet corn, snap beans, and tomatoes were smaller by 3.7 per cent, 10.1 per cent, and 0.8 per cent, respectively.

Low level of consumer purchasing power continues to hold prices of canned vegetables low, in spite of reduced stocks. Prices of canned peas advanced slightly during the early fall months of 1932, but have recently lost about one-half of the advance. Other canned vegetables have held fairly steady near the low levels of last spring. Prices of canned vegetables declined more rapidly during 1930 and 1931 than did prices paid growers for canning crops, but in 1932 the low level of prices paid for canning crops was adjusted fairly well to prices of the canned product.

## CABBAGE

The United States cabbage acreage of 137,670 acres in 1932 was 8 per cent below that of 1931 and 9 per cent below that of 1930. As a consequence, the production of 964,400 tons was the smallest since 1928, but prices to growers averaged only slightly higher than in 1931, when they were the lowest for a number of years. The higher prices received during 1932 were for the early crops only and already growers in the early-producing States indicate that they are expanding acreage materially for 1933—the fall-crop acreage is nearly doubled, the winter-crop acreage increased by one-half, and the intended acreage in the second-early States is nearly one-fifth larger.

Production of domestic and Danish types of cabbage in the late States during 1932 amounted to 610,800 tons compared with 499,800 tons in 1931 and 614,700 tons in 1930. The acreage harvested in 1932 was practically unchanged from that in 1931, but yields averaged 1.7 tons per acre higher in 1932. The production of late domestic-type cabbage, which includes most of the cabbage used in commercial sauerkraut manufacture, amounted to 316,900 tons in 1932, compared with 238,100 tons in 1931 and 323,800 tons in 1930. Although a slightly larger quantity was taken by sauerkraut packers in 1932 than in 1931, their purchases represented only 38 per cent of the late domestic-type crop in 1932, compared with 49 per cent in 1931 and 55 per cent in 1930. Prices received by growers for their late domestic-type crop in 1932 averaged 48 per cent lower than in 1931 and 54 per cent lower than in 1930. The production of the late Danish or storage type of cabbage amounted to 293,900 tons in 1932 compared with 261,700 tons in 1931, and 290,900 tons in 1930. Prices received by growers up to December 1 declined 51 per cent from the average of the same period in 1931 and were 61 per cent below those in 1930. Storage stocks of Danish cabbage on January 1, 1933, amounted to 81,980 tons compared with 62,840 tons on January 1, 1932. For the remainder of their 1932 marketing season, growers in the late States do not have an encouraging prospect in view of present supplies of late cabbage and the expected increase in the early-cabbage supply.

The possibilities for the late-cabbage crop of 1933 will be largely dependent on weather factors. Probably only a substantial reduction in acreage in 1933 would improve the late-crop situation if, as in 1932, weather conditions again favor yields above the low averages of 1930 and 1931.

In the early States (California, Florida, Louisiana, and Texas) the planted acreage for the 1933 crop was increased 50 per cent over that of 1932 and production was forecast on January 11 at 248,000 tons compared with 173,500 tons in 1932 and 274,100 tons in 1931. The Texas crop accounts for most of the large 1933 increase. With this large production and with the large stocks of Danish-type cabbage remaining on hand for marketing this spring, it is probable that marketing conditions will be much less favorable than they were in the spring of 1932. Prices to growers for the 1932 crop in these States averaged $26 per ton, but in 1931 they averaged only $10 per ton.

In the second-early States (Mississippi, Alabama, Georgia, North Carolina, South Carolina, and eastern Virginia), acreage was reduced 18 per cent in 1932 to 10,880 acres. Yields were much below those in 1931 and also below the average of the preceding five years, so that production amounted to only 48,300 tons compared with 85,300 tons in 1931 and 79,600 tons in 1930. As a result of this small production, together with the small carry-over of late cabbage, prices

to growers averaged $42 per ton in 1932 compared with $15 per ton in 1931. The relatively favorable prices received in 1932 undoubtedly explain growers' present reports of intentions to increase the second-early acreage 19 per cent, but if more nearly usual yields are obtained in 1933, an acreage no larger than that planted in 1932 would produce a crop about one-third larger than the 1932 production.

In the intermediate shipping group—Arkansas, Illinois, Iowa, Kentucky, Maryland, Missouri, New Jersey, New Mexico, New York (Long Island), Ohio (southeastern), Tennessee, Virginia (southwestern), and Washington—there was very little change in the total acreage in 1932, but yields were smaller than average. Production in 1932 totaled 128,800 tons compared with 149,300 tons in 1931 and 152,000 tons in 1930. Nevertheless, prices to growers in these intermediate States averaged as low as in 1931. With normal weather conditions in 1933, the yield per acre may easily average 15 to 20 per cent higher than the low 1931 yield. Under such circumstances, the 1933 production would be larger than in any of the last three seasons unless the acreage is reduced 10 to 15 per cent. Some reduction seems likely to occur.

## TOMATOES

The commercial acreage of tomatoes grown for the fresh market continued to mount in 1932, attaining a total of 164,000 acres, or about 3 per cent more than the record total of the year before. The acreage increases occurred largely in the intermediate and the late States and, with yields in these States noticeably better than they were in 1931, production received a double impetus. The supply of market tomatoes was accordingly excessive during the latter half of the season, sending prices to the lowest level on record. As a result of the low prices a part of the production in the intermediate and late crop States was left unharvested.

Owing to a sharply reduced acreage of fall-crop tomatoes in Florida and Texas and a material setback to the spring crop (in loss of plantings and impairment of yields resulting from destructive mid-March freezes in these States), production in the fall and early States showed a further material decline in 1932, reaching the lowest total since early 1926. The 1932 prices averaged 50 per cent higher than those of 1931, and this is tending to encourage acreage increase in 1933 in areas benefited by the higher 1932 price. This effect is apparent in the 1932–33 fall and winter acreage in Florida and Texas which has been more than doubled, and exceeds the record acreage harvested in the fall and winter of 1930–31. The 1932 spring crops in south Florida and Imperial Valley, Calif., were the only exceptions to this general situation in the early States, yields being unusually good in both these areas, production larger than in 1931, and prices low. South Florida shows a slight increase in spring plantings for 1933, but yields are likely to average nearer the usual level and production may be lower than a year earlier.

Heavier imports of tomatoes contributed to the increased supply during the early 1932 season when the large south Florida crop was being marketed. In the year ended June 30, 1932, imports were 8 per cent larger than in the preceding year, and nearly as large as in the year ended June 30, 1930. Mexico, which supplied about three-fourths of these imports, was reported to have a 10 per cent smaller acreage on the west coast for the 1933 season, as a result of losses on the previous year's crop and difficulty in securing financing. Further loss of Mexican acreage was caused by December freezes. Cuba also reported a reduced tomato acreage because of the growers' financial condition and heavy storm damage to some of the early plantings. Exports to the middle of January, 1933, from both sources were below those of the previous season to the same date.

In the second early States (Georgia, Louisiana, Mississippi, South Carolina, and parts of Texas other than the lower valley), where tomato acreage has shown steady increase since 1929, the 1932 acreage was 4 per cent greater than in 1931. With an acre yield one-fifth smaller than in 1931, the production in 1932 fell below average and prices rose somewhat from the low level of the 1931 season. Had yields not been unusually low in 1932, the acreage then was large enough to produce a crop very much in excess of the 1931 crop, which brought extremely low returns. Consideration of the probability of higher yields in 1933 should temper any thought of maintaining or increasing the acreage in the second early States as a result of the higher price received by growers in 1932.

In the intermediate and the late States acreage increases and better yields than those of 1931 sent production to a new peak and prices to a new low. The intermediate crop was 22 per cent larger than in 1931 and the price was 26 per cent lower. In the late States production was increased 36 per cent over 1931 production and the price fell 40 per cent. The 1932 yields, as a rule, were not greatly above the average of usual expectations in any area except California. In both the intermediate and the late States the excessive production—some of which was left in the fields for lack of a profitable market—was the result chiefly of sharp acreage increases in 1932, amounting to 15 per cent over 1931 acreages in the intermediate States and 23 per cent in the late States. An adjustment of the acreage in both groups down closer to the average level of acreage from 1928 to 1931 would materially ease the tomato-marketing situation during the latter half of the season.

### TOMATOES FOR MANUFACTURE

The harvested acreage of tomatoes for manufacture in 1932 was 274,600 acres, which was 7 per cent below the 1931 acreage and 33 per cent below the record of 408,000 acres harvested in 1930. During the 5-year period 1926–1930 the acreage of tomatoes for manufacture ranged from 263,300 to 408,000 acres, with the 5-year average for the period amounting to 306,760 acres.

Production in 1932, however, was 1,141,000 tons, or 17 per cent larger than in 1931, the yield per acre averaging 4.16 tons compared with an unusually low yield of 3.30 tons in 1931. The range of production during the 5-year period 1926–1930 was 976,500 tons to 1,757,600 tons, the 5-year average amounting to 1,296,800 tons.

Although no accurate data are available on the relative percentages of production utilized for canned tomatoes and other tomato products (such as juice, paste, pulp, puree, catsup, soup, and sauce), reports from canners for the 1929, 1930, and 1931 seasons indicated that slightly more than one-half of the total production was used for canned whole tomatoes. For the 1932 season similar reports indicated that the proportion going into canned tomatoes was somewhat smaller, pointing to a probable increase in the canning of tomato juice, etc.

The pack of canned tomatoes reached a peak in 1925, when 19,770,000 cases of 24 No. 3 cans were packed. For the three years following 1925 the packs were of more moderate size, decreasing to 8,539,000 cases in 1928. In 1929 the pack increased to 14,145,000 cases; in 1930, to 16,998,000 cases, the second highest on record. In 1931, however, it dropped to 9,573,000 cases, the result of a 28 per cent decrease in acreage and the lowest recorded average yield per acre. No pack figures are yet available for the 1932 season, but judging from comparative production estimates for 1932 and 1931, the 1932 pack was probably about 11,000,000 cases. The average for the 5-year period 1926–1930 was 12,455,000 cases. Should no change be made in the 1933 acreage of tomatoes for manufacture and should an average yield per acre be obtained upon this acreage (about 4.2 tons per acre) the pack of canned tomatoes would probably be 1,000,000 cases under the 5-year average.

The apparent consumption of American canned tomatoes has averaged between 12,500,000 and 13,000,000 cases of No. 3's during the 10-year period ended 1929–30. During this period the apparent consumption of American canned tomatoes was fairly stable, although the consumption of all tomatoes and tomato products appears to have been increasing rapidly. Practically all of this increase in demand, however, appears to have been satisfied from increases in tomato products, from the supplies of fresh tomatoes, and from imported canned tomatoes. Imports of canned tomatoes reached a peak of 5,000,000 cases during the fiscal year 1929–30, and then, as a result of higher import duties which became effective in 1930, declined to 2,500,000 cases during 1930–31 and 3,000,000 cases during 1931–32.

In spite of low employment and decreased prices of farm products during the 1929–30 and 1930–31 seasons the consumption of canned tomatoes for these years appears to have been about equal to the average for the 10 years ended 1929–30. Relatively low prices of canned tomatoes have been an important factor in sustaining the consumption of canned tomatoes at a time when consumption of other canned vegetables has been decreasing.

Although no complete statistics are available on the present holdings of stocks of canned tomatoes by canners and distributors, the quarterly report of the United States Department of Commerce for January 1, 1933, gives com-

parative holdings of identical groups of representative canners and distributors which represent the approximate change in stocks from one period to another.

Reports from 248 representative canners whose total holdings on January 1, 1933, amounted to 4,352,300 cases of all sizes, indicated that stocks in canners' hands on that date were 3 per cent larger than stocks in canners' hands on January 1, 1932.

Holdings of 460 representative distributors on January 1, 1933, amounted to 1,310,131 cases of all sizes, or 0.8 per cent less than the holdings of the same firms on January 1, 1932.

## ONIONS

The 1932 late commercial onion crop was the largest ever grown. Production of this crop is placed at 20,463,000 bushels, which is slightly more than the previous record crop of 1930 and 60 per cent more than the short crop of 1931. As a result of this heavy production the supply of late onions in storage on January 1 was estimated to be 6,814,000 bushels, compared with the unusually small holding of 3,066,000 bushels on the same date in 1932 and 5,928,000 bushels in 1931. This storage supply, probably the largest on record, will compete with a new crop in the spring of 1933, that now seems likely to be 15 to 20 per cent smaller than the 1932 crop but close to the production of early 1930 and 1931.

In the spring of 1932 the storage stocks of onions from the light crop of the preceding season were almost entirely depleted by the time the early crop in Texas was ready for market. Prices on old stocks had risen to unusually high levels, and the first of the new crop brought good prices. But soon after the Texas crop began to move in volume prices began a decline, which continued almost without interruption until before the end of the early marketing season very low levels were reached.

Preliminary estimates of the 1933 early Bermuda and Creole onion acreage in Texas, Louisiana, and California are for 21,200 acres, compared with 24,850 acres in 1932 and 19,550 acres in 1931. Of this estimated acreage in this early group of States, 19,400 acres are in Texas, 900 in Louisiana, and 900 in California. Approximately three-fourths of the Texas acreage is on dry land, compared with less than one-fourth prior to the 1931 season. Yields in these nonirrigated onion districts are dependent upon rainfall, and if there is a dry season the average yields for the State may be curtailed. With the heavy storage stock of late onions from the 1932 crop, however, and about an average acreage of early onions in prospect for 1933, the marketing season for the early crop may be similar to that of 1931. In that season storage stocks of late onions were heavy, prices were at very low levels, and about one-fourth of the entire Texas crop was not harvested because of unfavorable marketing conditions.

The 1932 domestic onion crop in the intermediate States (California, Iowa, Kentucky, New Jersey, Texas, Virginia, and Washington) was increased nearly 30 per cent over that of 1931 and was 42 per cent larger than the average of the five years 1926–1930. With this heavy production following the large early crop, prices to growers were very low, averaging about one-third less than in 1931. The acreage in these intermediate areas was increased more than one-fourth in 1932. A partial reduction toward the level of acreage prior to 1932 seems probable and desirable, considering the prices received in 1932 and the potential difficulties of the early 1933 onion marketing season.

In the late-crop States, where production in 1932 exceeded all previous records, the average seasonal price paid to growers, as reported to December 1, was only 22 cents per bushel, compared with 80 cents in 1931 and 44 cents for the large crop of 1930. Yields per acre of late onions were unusually high in 1932, but even with usual yields an acreage such as was grown in 1932 would produce a crop in excess of market requirements. The volume of onions consumed is not so greatly influenced by price as is that of many other commodities, and production surpluses usually cause relatively heavy price declines. Low prices received for their 1932 crop will undoubtedly induce late-onion growers to reduce their acreage. Such action is necessary to prevent a recurrence of excessive supplies in 1933, unless yields are again unusually low, as they were in 1928 and 1931.

## FRUITS

For the country as a whole there are sufficient fruit trees to produce continued heavy commercial supplies in years of favorable weather conditions. The low prices during recent years are resulting in some neglect of trees and if they continue, may within a few years be reflected in curtailed production. Production costs have been reduced, but rail freight rates have not been lowered materially and for many growers, particularly those located at considerable distance from market, the transportation charges take a large part of the low current market price. Growers within a few hundred miles of their markets are making greater use of the motor truck in marketing. The export outlook for fruits is uncertain and is complicated by such factors as the prospective increases in foreign fruit production, increased tariffs, import restrictions, depreciated exchange, and general business conditions.

The combined production of the 10 more important fruits has been increasing at an average rate of about 1 per cent annually for the last 10 years. As the result of unfavorable weather conditions during 1932 and the tendency toward alternate bearing of some of the fruits, the combined production in 1932 of 10 of the more important fruit crops was about 10,245,000 tons, which is about 15 per cent less than the quantity produced in 1931 and 13 per cent less than that produced in 1930, but about 12 per cent more than the crop of 1929. Certain individual crops produced in 1932 were smaller than the 1931 crops by the following percentages: Apples, about 31 per cent; peaches, 40 per cent; pears, 6 per cent; dried prunes, 15 per cent; oranges, 2 per cent; grapefruit, 13 per cent; and lemons, 10 per cent. On the other hand, the following crops were larger by the following percentages: Grapes, 33 per cent; fresh prunes, 31 per cent; and cherries, 14 per cent.

Production of all citrus fruits for the five years 1919–1923 averaged 27 pounds per capita as compared with 42 pounds, the average for the period 1927–1931. Orange production increased from 19 pounds per capita in the former period to 29 pounds in the latter; grapefruit increased from 5 pounds to 9 pounds, and lemons from 3 pounds to 4 pounds. A similar comparison for other fruits shows that apples declined from an average of 77 pounds per capita in the period 1919–1923 to an average of 64 pounds in the five years 1927–1931, and grapes declined from 39 pounds to 36 pounds, largely as the result of the short 1931 crop. Peaches increased from 21 pounds to 23 pounds, and pears from 7 pounds to 10 pounds, thus making a net increase for these seven fruits from 195 pounds to 205 pounds. Imports of bananas averaged 24 pounds per capita in the period 1919–1923 as compared with an average of 30 pounds for the five years 1927–1931.

Farm prices of fruits have declined steadily since 1929 and in 1932 reached the lowest level in at least 10 years. These price declines were largely the result of reduced consumer purchasing power, some reduction in foreign demand, and the general decline in commodity prices. In the case of apples, on December 15, 1930, the farm price was $0.99 per bushel, on December 15, 1931, about $0.65 per bushel, and on December 15, 1932, about $0.62 per bushel.

The 1932 peach crop in the Southern States was reduced sharply to about one-fourth of that of 1928. Production amounted to 5,497,000 bushels, car-lot shipments totaled only 4,622 cars, and the farm price to growers averaged $0.94 a bushel. In 1928, the Southern States produced 21,353,000 bushels, shipped nearly 25,000 cars, and the average farm price was $1.06 per bushel.

The precipitous price decline that has occurred since 1929 has placed fruit producers in a decidedly difficult position. Costs, for the most part, remained high in relation to returns for the product. But in the 1932–33 season production costs, with the exception of rail freight rates, had been lowered considerably and many growers who were located relatively near the markets and had moderate transportation costs found even the low prices for fruit yielded some margin over cash expenses of production. For many producers far distant from market the situation during the 1932–33 season is proving even worse, or at least no better, than during the two years preceding. In these areas transportation costs are such a large proportion of the total production and marketing cost that savings in expense, such as for labor, spray material, and machinery, are of relatively minor importance.

In the better portions of those sections close to market centers there has been, as yet, little or no abandonment of orchards and neglect has not been serious. In sections more distant from the large markets there has been some abandonment and neglect of certain fruit crops. How long present conditions will

continue will depend on the future course of the depression and the adjustments necessitated in production, transportation, and marketing costs. If present conditions continue for some time, tree neglect, removal, and abandonment may become general, thereby reducing the potential producing capacity in the fruit industry and thus reducing supplies. Even though business conditions should improve materially in the near future, efforts of European countries to expand and modernize their fruit industries will mean that the expected increasing supplies of those fruits of which there is an export surplus in this country will meet with increasing competition from foreign sources. This suggests the continuation of difficulties in the marketing of large fruit crops in this country.

## CITRUS FRUITS

The outlook is that orange and grapefruit production will continue to increase and that there will be continued keen competition among the various producing areas, particularly among those areas that market during the winter. The combined production of oranges and grapefruit has increased tenfold during the last 40 years and has been increasing at an average rate of about 6 per cent per year during the last 10 years. In the continental United States about 759,000 acres are devoted to the production of oranges and grapefruit. About 25 per cent of the trees have been set 5 years or less and are normally not of bearing age. Of the remaining 75 per cent that are over 5 years old, many are yet too young to produce fruit in paying quantities. The bearing lemon acreage is expected to remain for a few years at about the same level as in the last 10 years. Thereafter a moderate increase is expected owing to plantings of the last few years.

Many of the recent citrus plantings have taken place in relatively new areas and there is little evidence upon which to base an estimate of the probable production from that part of the total plantings that will remain for production 15 or 20 years hence. Production from groves now in bearing has increased to nearly 65,000,000 boxes of oranges and grapefruit combined in 1931–32, a season of below-average conditions. Condition on January 1, 1933, was below the condition on January 1, 1932, and the 10-year average for January, yet the production in 1932–33 is expected to be about 62,000,000 boxes, 48,800,000 boxes of oranges and 13,200,000 boxes of grapefruit.

Citrus prices have held up relatively well during the last two years even though there has been a marked expansion in production and increased competition from other fruits and fruit juices. With supplies of domestic citrus fruits in the 1931–32 season almost as large as in the previous year, New York auction prices averaged only slightly lower. New York auction prices of Florida oranges averaged $3.43 per box during 1931–32 compared with $3.54 per box during 1930–31; California Washington Navels, $3.14 compared with $3.54; and California Valencias, $3.41 compared with $3.97. Florida grapefruit averaged $2.53 per box during the 1931–32 season compared with $2.69 per box in 1930–31, and California lemons, $5.09 per box compared with $5.30.

Production of citrus fruits averaged 27 pounds per capita for the five years 1919–1923, as compared with 42 pounds, the average for 1927–1931. Orange production increased from 19 pounds in the former period to 29 pounds in the latter; grapefruit increased from 5 pounds to 9 pounds, and lemons from 3 pounds to 4 pounds. A similar comparison for the other major fruits, plus the imports of bananas, shows a slight decline from an average of 168 pounds in the period 1919–1923 to 163 pounds per capita for the period 1927–1931.

The trend in world production of oranges and grapefruit is upward, but in some countries there has been a sharp decrease in plantings during the last two years. Lemon production is about stationary or is moving slightly upward. The immediate future export outlook for citrus fruits will depend, in a large measure, upon the effect of the increased supplies, tariffs, import restrictions, depreciated exchanges, and general business conditions. The tariff barriers and depreciated exchanges in the United Kingdom and Canada are the most serious obstacles to the citrus export trade at the present time.

### ORANGES

In the country as a whole there are about 547,000 acres of orange groves. Of this area, 98,000 acres are estimated to be of less than five years' standing, and 449,000 acres, or slightly more than four-fifths, five years old or older and of bearing age. Barring severe loss of acreage from freezing, the upward trend

in production which has been apparent during recent years may be expected to continue. In California about 12 per cent of the 234,000 acres in oranges is estimated to be below bearing age. There are about 99,000 acres of Washington Navel, the variety that competes with southeastern oranges; of these about 95 per cent are estimated to be of bearing age and probably nearing their peak of production. The California acreage of Valencias, most of which are marketed from May to October, is 131,000, of which about 82 per cent are of bearing age. The present acreage of orange trees in Florida, including tangerines and Satsumas, is around 268,000 acres, about 15 per cent of which are not of bearing age, while about 65 per cent are 5 to 15 years of age, and about 20 per cent are 15 years old or older and approaching full production. The Texas acreage increased nearly 9 per cent during the last year to about 25,000 acres, 65 per cent of which are not yet in bearing. Of the 9,000 acres in bearing, only a small proportion are in full bearing.

About 7.7 per cent of the 1931–32 orange crop was exported. A normal movement for a crop of this size is about 10 per cent. Exports of oranges from the United States during 1931–32 have totaled about 3,200,000 boxes against 4,900,000 in 1930–31. Canada took 75 per cent of the exports and the United Kingdom 13 per cent.

The important British outlet for oranges was restricted somewhat during the year by the adoption by the United Kingdom of a tariff on oranges. Oranges from Empire sources, notably South Africa, are permitted free entry. The duty at the present rate of exchange is about 35 cents per box from April 1 to November 30, and 10 per cent ad valorem during the balance of the year. It will discourage somewhat the importation of oranges into the United Kingdom. This will affect the United States exports during the summer orange season which runs from May through October, or when the California Valencia crop and crops of Southern Hemisphere countries, particularly Brazil and South Africa, are marketed. During the winter orange season, November through April, United States orange exports to Europe are small. In these months the only important foreign outlet for oranges is Canada. Since Canada, in June, 1931, levied a duty of approximately 70 cents (Canadian money) a box on oranges from other than Empire sources, there has been some increase in the imports by that country of oranges from untaxed Empire sources, particularly Jamaica, Australia, and South Africa. Canadian imports from the United States appear to have declined somewhat. A comparison of the prices paid for California oranges at Montreal with those at New York indicates that the tariff was mostly borne by the Canadian consumer.

The 1932–33 winter orange crop appears to be larger than last year's in most countries. The 1933 summer crop in Brazil is good and a large increase in the quantity available for export is expected. Reports from South Africa indicate considerable drought injury to the 1933 crop.

### GRAPEFRUIT

Grapefruit acreage in the United States was expanded approximately 9 per cent during 1932 and about 212,000 acres are now devoted to grapefruit culture. Approximately 90,000 acres, or nearly 42 per cent, are less than five years old. Owing primarily to the rapid increase in plantings in Texas during recent years, the proportion of young trees in the United States is even larger than it was 10 years ago.

In Florida there are about 95,000 acres of grapefruit, about 90 per cent of which have been planted 5 years or longer, but less than two-fifths, 15 years or longer. The California acreage is reported at 17,000, of which about 5,000 acres are not yet in bearing. Texas, with an increase of nearly 12 per cent during last year, is now estimated to have approximately 86,000 acres in grapefruit, more than three-fourths of which are not yet of bearing age and practically none approaching full production. Plantings of grapefruit in the lower Rio Grande Valley of Texas have mounted rapidly during recent years. From 1924, when around 275,000 trees were set, plantings increased steadily up to a peak in 1929 when 1,319,000 new trees were set. Some curtailment was made in expansion during the next two years with 716,000 and 763,000 trees set in 1930 and 1931 respectively. In 1932 new plantings again exceeded the million mark with 1,093,000 trees. Arizona, with an estimated acreage of 14,000, has only about 29 per cent in bearing.

The canning of grapefruit apparently increased nearly sevenfold during the period 1925–26 to 1930–31, but dropped off sharply in 1931–32. From the

1925–26 crop the equivalent of about 400,000 cases of 24 No. 2 cans of grapefruit hearts were packed. During the 1930–31 season the pack amounted to about 2,712,000 cases and from the 1931–32 crop slightly more than 907,000 cases were packed. Comparative figures on the pack of juice are available only for the last two years. In 1930–31 there were 412,000 cases of grapefruit juice packed and in 1931–32 the pack was nearly 248,000 cases.

About 7.4 per cent of the 1931–32 grapefruit crop was exported, as compared with about 7.5 per cent, the average for the preceding five seasons. In the 1931–32 season the United Kingdom took about 57 per cent, and Canada about 40 per cent of the exports, as compared with an average of 58 per cent for the United Kingdom and 36 per cent for Canada during the preceding five seasons. During last year the United Kingdom adopted a tariff on grapefruit even higher than that on oranges. At the rate of exchange in January, 1933, the tax amounts to 50 cents a box from April through November. During the remainder of the year the rate is 10 per cent ad valorem. Empire grapefruit is admitted free. At prices that have prevailed during recent years the rate is higher from April through November than during the remainder of the season and is effective when the United States shipments to the United Kindom are the heaviest. It will affect the late and early Florida shipments and the summer Puerto Rican and southern California shipments. Empire grapefruit offers year-round competition to the American product. South Africa markets grapefruit in the United Kingdom from spring to fall, and Jamaica and other British Caribbean countries during the winter. Canada also admits Empire grapefruit free, whereas the United States product must pay a duty of 1 cent (Canadian currency) a pound, net weight. This tariff preference in these two major grapefruit markets has stimulated grapefruit plantings in British countries, particularly in the British West Indies. In one respect the export outlook for grapefruit appears to be more encouraging than that for oranges since per capita consumption of this fruit is very small in Europe, and there appears to be a possibility for a large increase in consumption. Shipments to the United Kingdom during the last half of the 1931–32 season were much below those for the corresponding part of the preceding season. This decline may be attributed in part to the British duty. Although Canada imported more grapefruit from the United States in the 1931–32 season than in the preceding season more fruit was also received in Canada from untaxed Empire sources, particularly Jamaica.

The world crop of grapefruit for 1932–33 is small. However, the weak world demand conditions appear to be preventing the rise in prices which would normally result.

### LEMONS

Lemon production in the United States is confined almost entirely to California. The acreage devoted to lemon culture in that State has changed little since 1921. In 1932 there were nearly 47,000 acres of lemon groves in California, about 11 per cent of which were not of bearing age. No material change in the trend of production is indicated for the next few years but some increase is probable thereafter, owing to plantings of the last few years. The indicated 1932–33 California lemon crop is 7,000,000 boxes, or about 10 per cent less than the crop of 1931–32.

The large Italian lemon crop forecast for the 1932–33 season indicates that world supplies during the season will be somewhat above average or around 24,000,000 boxes. Since the United States market is protected by a tariff of 2½ cents a pound, this should have little effect on the marketing of the California lemon crop.

Exports of United States lemons during the 5-year period 1926–27 to 1930–31 (November to October), averaged about 5 per cent of the commercial crop. During this period exports to Canada amounted to about 75 per cent of the total average exports of 262,000 boxes. In 1931–32 exports to Canada were 189,000 boxes, or 81 per cent of the exports.

## APPLES

The apple outlook requires long-time consideration. For 20 years economic factors have been forcing an adjustment of the industry until at the beginning of the present business depression (1929) the industry was generally better equipped for the efficient production of apples than at any time in recent years. On the whole it was composed of a relatively large proportion of the

better varieties, production was almost as heavy as 20 years earlier when tree numbers were twice as great, and there was every indication that with reasonable care and tree replacements, the orchards would continue to produce for many years an abundance of apples for domestic consumption and a surplus for export.

The business depression, now three years old, is beginning to have its effect on the physical condition of the orchards. Accumulated financial burdens incident to low returns and to depletion of cash reserves for production purposes are perhaps more generally felt at this time than at any time for many years. Already there are indications that if the depression continues for several years, neglect of orchards will become rather general and eventually may result in considerable abandonment.

How far this neglect and abandonment of orchards will go will depend upon the future course of the depression. If hard times prevail for some time, and if tree neglect, removal, and abandonment should become general, the potential producing capacity of the apple industry will decline, thereby tending to reduce apple supplies. Even should business conditions improve in the near future, efforts of European countries to expand and to modernize their fruit industries, and the expected continuation of large supplies of fruits that compete with apples, suggest the continuation of difficulties in marketing large apple crops.

From 1910 to 1925 there was a net decrease of 79,000,000 apple trees in the United States. From 1925 to 1930 there was another decrease of 21,000,000 trees, making a total decrease of 100,000,000 trees, or 46 per cent in the last 20 years. But in spite of these removals, production during the last five years (1928–1932) has averaged only 7 per cent less than the average for the period, 1909–1913, and only about 20 per cent less than for the period of high production, 1914–1918. These smaller declines in production as compared with decreases in tree numbers are due to the shift from farm to commercial orchards with better locations, to better care of these commercial orchards, and to the increasing bearing capacity of many trees as they have approached or reached full-bearing age. This trend is manifest in the average yield per tree of bearing age, which increased from 1.2 bushels in the period 1908–1912, to 1.9 bushels during the period 1928–1931.

A noticeable shift to the more popular and better-paying varieties has occurred during and since the World War, resulting in the existence of many relatively young orchards that have not yet reached full bearing capacity. An apple-tree survey for 41 States indicates that in 1928, 25 to 30 per cent of the trees in commercial orchards were under 9 years of age and 65 to 70 per cent were less than 19 years old. Also, according to the census of 1930, about 24 per cent of all apple trees in the United States were not of bearing age at that time. As yet there has been no shortage of apples in years of favorable growing conditions; nor is there any immediate prospect of a shortage. In fact, commercial production, which may be more significant than total production, increased for several years to a peak of 39,000,000 barrels in the very favorable growing season of 1926. Since then it has averaged somewhat higher than for the five years previous to 1926, and the 1931 commercial crop was the fourth largest on record. It is believed that the number of young trees now in commercial orchards would maintain commercial production at a high level for several years, under conditions of average care. The extent of future neglect and abandonment of orchards, therefore, is likely to be the major factor influencing the size of the commercial crop.

A relatively large proportion of the past increase in commercial production has been of the more popular varieties. The apple-tree survey of 1928 indicated that the 10 most important apple varieties, in terms of number of trees, in order of importance were: Delicious, Winesap, Jonathan, Baldwin, Stayman Winesap, Ben Davis, Rome Beauty, York Imperial, McIntosh, and Grimes Golden. These varieties constituted about 60 per cent of the total trees in commercial orchards. Plantings of Delicious trees, 73 per cent of which were under 14 years of age in 1928, point to increasing supplies of this variety for several years. Production of the McIntosh and the Stayman Winesap varieties is expected to increase, since 60 per cent of the trees of these two varieties were under 14 years old in 1928. Another group of varieties in which there are prospects for increased production includes Winesap, Jonathan, and Grimes Golden. In 1928, 43 per cent of the trees of these three varieties were under 14 years of age. Only moderate plantings of Baldwin, Rome Beauty, and York Imperial have been made. Plantings of Ben Davis and many of the less popular varieties have declined for several years.

The following statement briefly presents the apple situation in the western, central, and eastern apple States. Further details are contained in the 1932 outlook report.

About 20 years ago, the 11 Pacific Coast and Mountain States produced 19,000,000 bushels of apples per year, whereas they now produce an average of about 56,000,000 bushels annually, an increase of about 195 per cent. At the same time the number of bearing trees increased 10 per cent, and average yield per bearing tree increased from 1.5 bushels to about 4.3 bushels. In these Western States production is now apparently close to its peak for the present cycle. In the Pacific Coast States as a group, a very small percentage of the trees are yet to come into bearing, and production is being fairly well maintained by tree resets and by an increase in producing capacity of trees due to an increase in their age. In the Mountain States as a whole production is declining.

Plantings in all of the western apple States have been very light during late years. In the better commercial areas, orchards are generally well cared for, but considerable neglect, and at least temporary abandonment, are expected if present economic conditions continue long. In other areas of this region, some of the old orchards are dead and others are far from thrifty. Low prices for apples are increasing the difficulty of western growers in marketing. Transportation charges for apples from the Northwest to distant domestic markets are now consuming a large part of apple values, making it very difficult for western growers to compete successfully with producers near the large consuming centers.

The Central States as a whole now contain about 43 per cent of all the apple trees in the United States and produce about 24 per cent of the apples. From 1910 to 1930 the number of trees decreased about 60 per cent and production decreased 42 per cent. A large part of the decrease in tree numbers came in the first half of the period, and many of the orchards now remaining are well supplied with young trees, many of which have been planted during the last 15 years. According to census figures nearly one-third of the trees in these States had not reached bearing age in 1930 and according to the survey in 1928 about 40 per cent of the trees in commercial orchards of the region were under 9 years of age.

Many of the trees removed in the Central States between 1910 and 1930 were of odd and unpopular varieties. The more recent plantings have been of the more popular varieties such as the Delicious, Winesap, Jonathan, Stayman Winesap, and Yellow Transparent. It is believed that the newer orchards of the region are more favorably located than many of the early plantings, and that the past rate of tree mortality may be reduced unless the present depression continues long enough to cause considerable neglect and abandonment. In the region as a whole the removal of old trees continues. Recent plantings have been light, and on the whole, there is no evidence at this time of material contraction or expansion of commercial orchards.

In the Eastern States, which include the New England, the Middle Atlantic and the South Atlantic States, the number of apple trees declined about 24 per cent from 1910 to 1930, and those of bearing age decreased about 17 per cent. Much of this decrease occurred in farm orchards and in poorly located commercial orchards. At the same time, production fell off about 17 per cent.

In 1930 these Eastern States had about 44 per cent of all apple trees in the United States and produced about 42 per cent of all the apples. The survey of 1928 showed that approximately 64 per cent of the apples trees in commercial orchards in the Eastern States were under 19 years of age, and the census figures of 1930 indicated that 20 per cent were yet to come into bearing. Shortly after the World War there was considerable planting of some of the more popular varieties. A decided effort to improve orchard practices and management was made in some sections. The result is that the commercial orchards in the region to-day, on the whole, are perhaps better suited to the economical production of fruit than they were 10 or 20 years ago. In the region as a whole recent plantings have been light and removals have continued at a normal rate, but there are indications that many of the orchards that have not been generally profitable are receiving less-than-average care. The nearness of many apple districts of the Eastern States to large consuming centers is encouraging to eastern producers, especially under present economic conditions.

Another factor in the apple outlook is the general fruit situation. According to available data the production of oranges, grapefruit, peaches, pears, and

grapes, together with the imports of bananas, increased 52 per cent from 1919 to 1932 and amounted to 7,488,000 tons in 1932. The Hawaiian pineapple pack nearly doubled from 1924 to 1931, and for the latter year amounted to 12,726,291 cases. These tremendous increases in competing fruits have undoubtedly added to the difficulty of disposing of large apple crops.

During the last three years there has been a steady decline in apple prices to growers, owing largely to the rapid shrinkage of consumer purchasing power, some reduction in foreign demand, and the decline in commodity prices. The average farm price per bushel of apples on December 15, 1930, was $0.99; on December 15, 1931 about $0.65; and on December 15, 1932, $0.62.

Since 1929 the cost of some factors of production has declined, as roughly indicated by the following: In the fall of 1932 farm wages in the United States were 52 per cent less than in the fall of 1929; fertilizer prices to farmers were 25 per cent less; prices of barrels 25 to 40 per cent less; of boxes about 20 per cent less; and the general index of machinery prices to farmers was 9 per cent lower than in 1929. The average wholesale price at New York of powdered lead arsenate decreased 14 per cent during the three years 1929–1932. On the other hand, the wholesale price of lime-sulphur solution at New York increased 7 per cent during the same period, and prices of powdered and paste Bordeaux mixture increased 13 and 20 per cent, respectively. In general, transportation charges for rail shipments of apples have remained about stationary during the last three years.

In the five seasons 1926–27 to 1930–31, apple exports from the United States have averaged 16,480,000 bushels, or one-sixth of the total commercial crop. About one-seventh of the commercial barreled apple crop (including apples in baskets) and one-fifth of the commercial boxed crop were exported during this period.

As far as quantity is concerned, exports during the first six months of the 1932–33 season have been about normal, or a little below normal, for the size of the crop. These exports have amounted to the equivalent of 8,800,000 bushels, or 10.4 per cent of the commercial apple crop. This compares with 9.6 per cent of the 1931–32 crop and 12.4 per cent of the 1930–31 commercial crop exported in the corresponding months of those seasons. Prospects for the second half of the 1932–33 season appear more encouraging from the supply side than they were during the first six months, as European home-grown supplies are practically exhausted. Demand, however, is still low, so that prices anything like those which, in the past, resulted from such very short apple supplies as this year's, seem very unlikely.

In the long-time export situation, world apple production outside of the United States appears to be on a slightly upward trend. This has resulted in a slight increase in the quantity of apples entering into world trade. Fortunately, there has been an increase in the demand for apples, which has tended to offset the increased world supplies. On the other hand, the policy of protecting home industries has made rapid strides in recent years in many of the chief importing countries. This policy has led to trade-restrictive measures designed to protect home industries. The future of the United States apple-export trade will depend to a large extent on the success achieved in stimulating production in foreign countries. Any large diminution in apple exports will adversely affect the future of the American apple industry.

The restrictions of foreign outlets for American apples by embargo, quota, and sanitary regulations, make it absolutely necessary for apple growers and American exporters to see that only sound fruit of the better grades is exported.

## PEACHES

A declining trend in the number of bearing peach trees in the Southern States and in California is indicated. For most other sections no pronounced changes in the number of bearing trees are anticipated. However, the upward trend in production in Colorado is expected to continue for several years. In the country as a whole very few trees have been planted in the last few years.

The number of bearing trees in southern orchards at present does not seem excessive, if material improvement in market conditions occurs during the next five years. Downward adjustments in acreage may be advisable in some other sections, particularly in the Mountain and Pacific States. The rapid development of motor-truck marketing may influence some shifts in producing areas.

The planting of commercial peach trees in the South has been generally at a relatively low rate during the last five years and has apparently averaged

less than 4 per cent of the present number of trees annually. It is estimated that with good care the average life of a peach tree in the South is about 14 years. If orchards are well cared for it would therefore require plantings of 7 per cent of the present number each year to have this number of trees at the end of a 14-year period. In many important southern peach districts the number of trees removed or abandoned has exceeded the number planted in recent years. Moreover, the period of heavy planting of trees now in southern orchards was from 1921 to 1924, and these trees will be from 9 to 12 years old in the spring of 1933. Many of them will decline in productivity or go out of bearing in the next few years. Low returns in recent years have resulted in neglect of many orchards, and have tended to discourage replacement plantings, which under better marketing conditions would be taking place at a higher rate than at present. In the past serious losses to growers have resulted from planting orchards on unfavorable sites and from selecting varieties that were unsatisfactory because of competition from higher-quality varieties on the markets.

Notwithstanding the extreme smallness of the southern crop in 1932, largely caused by adverse weather conditions, there are still sufficient bearing trees in the Southern States to produce large crops under average weather conditions. Census figures show that the total number of peach trees in 11 Southern States (North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi, Arkansas, Louisiana, Texas, and Oklahoma), including both commercial and farm orchards, was slightly less than 32,000,000 in 1930. This was a decline of 17 per cent from the number reported in the 1925 census.

In Georgia peach production averaged 35 per cent of the crop in 11 Southern States in the 4-year period ended in 1932. Approximately 18 per cent of the trees in commercial orchards in Georgia were less than 5 years old in the fall of 1931; 49 per cent were 5 to 9 years old; 29 per cent were 10 to 14 years old, and 4 per cent were more than 14 years old. From the fall of 1930 to the fall of 1931 there was a decrease of 566,000, or 6 per cent, in the number of trees in active commercial orchards in that State, and nearly 600,000 additional trees were in orchards which were abandoned during the year ended in the fall of 1931. The number of trees planted in Georgia in 1932 has been much smaller than the number removed and abandoned. The percentage of young trees is greater in the southern district of Georgia than in the central or northern district. Twenty-eight per cent of the 4,000,000 commercial trees in the southern district of Georgia were under 5 years old in the fall of 1931, compared with 12 per cent of the 4,000,000 trees in the central district and 2 per cent of the 700,000 trees in the northern district of that State. There are more trees over 10 years of age in southern Georgia than in the other parts of the State. Plantings in the southern district of the State in the last few years have been largely Hiley and earlier-maturing varieties, such as Uneeda and Early Rose. There have been some experimental plantings in Georgia and other States of yellow-fleshed varieties that mature earlier than the Elberta.

In both Tennessee and North Carolina only about 10 per cent of the commercial trees were under 5 years old in 1930. Commercial plantings in these States have been light since 1930, and because of abandonment and neglect there has been some decrease in the number of trees. Considerable plantings have been made in South Carolina in recent years. In Arkansas the number of bearing trees is expected to decrease, but it is possible for the production trend to increase in the next few years.

In the region comprising Virginia, West Virginia, Maryland, Delaware, and the North Atlantic States no great change in the number of bearing trees is expected, but a downward trend in production is indicated for the Eastern Shore of Maryland, and in New Jersey the trend has been downward for several years. In Pennsylvania a slight increase is indicated, and there is a tendency to shift to the J. H. Hale variety.

In the North Central States, as a whole, the trend in production will probably not change much in the next few years. The census figures show practically the same number of trees in this region in 1930 as in 1925. A decreasing tendency is indicated for Illinois, whereas in Michigan there may be some increase owing to the considerable plantings made from 1927 to 1930.

In the Rocky Mountain region the Colorado production has increased rapidly, and the heavy crops of 1931 and 1932 averaged about one-third larger than the crops produced during the previous five years. The peak in Colorado

production is not expected for several years. The census figures show that the number of trees in three Northwestern States (Washington, Oregon, and Idaho) increased 7 per cent from 1925 to 1930. Plantings since 1930 have been very light. Trees planted in Washington since 1925 have been mostly of the J. H. Hale variety.

The California production of clingstone varieties, which are largely used for canning, is likely to decline considerably during the next few years. Large acreages have been removed in the last four years and practically no new plantings have been made since 1930. The acreage of clingstone varieties decreased 30 per cent from 1928 to 1932 but is still excessive for the needs of the canning industry under present demand conditions. The bearing acreage of California freestone varieties, which are used mostly for drying, has not changed much in the last few years. Only limited plantings were made in 1932.

## CHERRIES

The number of cherry trees now in orchards in the 12 more important commercial cherry-producing States (New York, Pennsylvania, Ohio, Michigan, Wisconsin, Montana, Idaho, Colorado, Utah, Washington, Oregon, and California) is sufficient to maintain the upward trend in production, evident since 1924, for at least another five years, provided losses and abandonment of trees are no greater than would normally take place. From 1920 to 1930 the total number of cherry trees increased about 17 per cent, from 8,076,000 to 9,402,000 trees. During the same period the number of farms reporting cherry trees declined approximately one-third, indicating a concentration of trees into larger units, presumably on better locations and to which better management practices could be more economically applied. More than one-third of the total trees in orchards in 1930 were then under bearing age. Plantings since 1930 have been comparatively light. Owing to heavy plantings just prior to 1930, however, orchards were well stocked with young trees that will increase in bearing capacity for several years to come.

These facts and the lack of any indication of excessive abandonment or neglect during the exceptionally low-price years 1931 and 1932, average production of cherries during the next five years may be expected to exceed the average for the last 5-year period. Over a period of years, better returns than those of 1931 and 1932 depend primarily on periodic short crops and improvement in the general economic condition, which may result in a better demand situation than has prevailed during the last two years.

No separation of sweet and sour varieties is made in the census enumeration of trees nor in the estimates of production; however, surveys show that the majority of the cherry trees in the States east of the Rocky Mountains are of sour varieties, which constitute about 95 per cent of the trees in Michigan and fully 87 per cent in New York. The majority of the trees in Wisconsin, Pennsylvania, Ohio, Montana, and Colorado are of sour varieties.

In these seven States combined the total tree numbers have varied but little for the last 20 years, but there has been considerable shift in the producing area within the States. This shift is manifest in the tendency toward concentration of trees in certain counties and the increase in the average size of orchards. In 1910 the average orchard contained, roughly, 14 trees; in 1920 about 16 trees. In 1930 the number of trees rose to 26.

Plantings since 1930 have been light, in most instances probably but little more than sufficient for replacement purposes. At the same time there is little evidence of extensive neglect or abandonment of orchards in commercial areas as a result of the low prices received during 1931 and 1932. The long-time outlook, therefore, is for an increasing total production for several years, even though no additions are made to the present stand of trees.

Sour cherries are utilized, for the most part, for canning and cold pack. At the beginning of the 1932 packing season operators were still carrying heavy stocks, particularly of cold-pack cherries, from the large pack of 1930 and owing to the depressed business conditions, there was very little opportunity to dispose of these old stocks and the 1931 pack at profitable prices. As a result, some canners were reluctant to finance another large pack in 1932 despite the very low prices at which the large crop was moving. So the 1932 season for red sour cherries slipped by with apparently the smallest pack in recent years. If the remaining old stocks and the light 1932 pack are cleaned up before the 1933 season, it is possible that the demand for red sour cherries for canning

and cold pack during the 1933 season will be somewhat improved over that of the 1932 season.

In the States producing the bulk of the sweet cherries the long-time production outlook is much the same as that for sour cherries. In 1930, California, Oregon, Washington, Utah, and Idaho had about 3,368,000 cherry trees, which represented an increase of about 56 per cent over the number in 1920. Only about 62 per cent of the trees in orchards in 1930 were then of bearing age, compared with 75 per cent of the 2,156,000 trees reported in the census of 1920. Plantings since 1930 have been light in the Western States, but there is some indication that plantings of sweet cherries are being made in some Eastern States within trucking distance of large cities and where retail sales can be made through roadside stands. With about 38 per cent of the trees in orchards in 1930 not of bearing age, and with but little abandonment or neglect during the last two years, it would appear that, barring abandonment or unusual loss from weather and diseases, the trend of production during the next few years will continue upward.

Although production in the principal sweet-cheery States was 53,752 tons in 1932, car-lot shipments amounted to but 2,067 cars which, even allowing for increased truck movement, was the smallest shipment for a similar-sized crop since 1921, and the farm price in 1932 reached the lowest point since the beginning of the Bureau of Agricultural Economics price record in 1924. Under better business conditions in the consuming markets than prevailed in 1931 and 1932 it has been possible in most years to market larger quantities of cherries at higher prices.

Although in the three Pacific Coast States the 1932 pack of sweet cherries, about 423,000 cases of all sizes, was nearly one-third larger than the 1931 pack of 321,000 cases, it amounted to only about 45 per cent of the large pack of 928,000 cases put up in 1930. Stocks of canned Royal Ann and black cherries in Washington and Oregon on December 27, 1932, were 22,141 cases of all sizes. This is about 7 per cent less than the stocks in December, 1931, and about 62 per cent less than the holdings in December, 1930.

## STRAWBERRIES

Preliminary estimates indicate that the 1933 commercial strawberry acreage for picking will be comparatively large for the United States as a whole. It will be 5 per cent greater than the 1932 acreage and only 1 per cent less than the record acreage of 1928. Plantings have been increased to some extent over those of 1932 in the second-early and intermediate States; no appreciable changes in acreage have been made in the early and late groups of States; a slight reduction of acreage has been made in the Pacific Coast and Mountain States.

For the country as a whole, the 1932 commercial strawberry acreage was above average and the yield per acre exceeded that of any other year since 1926, with one exception, 1931. With both yield and acreage above average, the 1932 crop was the largest on record. With production high, with the quality of southern berries generally poor, and with the buying power of consumers low, average prices for the country as a whole were much lower in 1932 than in any of the previous 15 years and 44 per cent below the average price for the 5-year period 1927–1931.

Based on average yield per acre of the last five seasons, 1928–1932, the indicated acreage for 1933 would produce a crop almost as large as that of 1932. If weather and growing conditions are more nearly normal, however, an improvement in quality of the crop may be expected, resulting in a more favorable marketing situation. The generally poor quality and condition of the berries in the spring of 1932, after the mild winter and severe March freezes, were an important factor in the low prices received.

In the early-shipping States (Florida, Louisiana, Alabama, Mississippi, and Texas), preliminary reports indicate 46,400 acres for picking in 1933. This is about the same as the peak acreage of 1932. In these early States acreage expansion has been especially marked since 1919, having increased from 7,090 acres in 1919 to 46,560 acres in 1932. Much of this increase occurred before 1923, but from 1923 to 1932 the acreage of the early States nearly doubled. The largest acreage increase from 1923 to 1932 occurred in Louisiana and amounted to more than 15,000 acres. In this State, the 1933 acreage for picking is 3,500 acres less than the acreage of 1932, a reduction of about 12 per

cent. The Florida acreage reached a peak of 9,100 acres in 1931, then declined to 8,100 acres in 1932, but has increased to 11,200 acres for 1933.

Strawberry prices in these early-shipping States were fairly well maintained at relatively high levels until 1932 when, partly because of poor quality, they were the lowest on record, being about 33 per cent lower than the prices of the previous year (1931). The low price, and a low yield per acre which was 28 per cent less than the exceptionally good yield of 1931, resulted in a farm value for the 1932 crop little more than one-half of the value of the 1931 crop. The 1933 strawberry-shipping season has opened in Florida with prices slightly lower than in 1932, although shipments are lighter.

In the second-early States (Arkansas, Georgia, North Carolina, South Carolina, Tennessee, and Virginia) largely because of increased plantings in Tennessee and Arkansas, the 1933 acreage for harvest is expected to be about 15 per cent larger than the 1932 harvested acreage, but substantially below the large acreage in 1924, 1928, and 1929. The indicated acreage for harvest shows an increase in Arkansas of 4,100 acres: in Tennessee of 3,000 acres: and in Virginia of 650 acres. A decrease of 1,000 acres is indicated for North Carolina.

Although the 1932 harvested acreage in these second-early States was almost 50 per cent greater than the small 1931 acreage, yields were lower in 1932, and production was only about 22 per cent greater than the 1931 production. Partly because of poor quality of berries, prices to growers in 1932 were the lowest in years and about 35 per cent lower than the 1931 prices.

In the intermediate States (Missouri, Kansas, Illinois, Oklahoma, Kentucky, Delaware, Maryland, and New Jersey) preliminary estimates for 1933 show an increase of about 10 per cent in the strawberry acreage above that of 1932. Acreage for picking in these States reached a peak of 64,040 acres in 1927 and then declined to 33,690 acres in 1931. Since then it has been increasing and the 1933 acreage for harvest is estimated at 50,800 acres. Increases in acreages over those of 1932 are most pronounced in Maryland, Kentucky, and Illinois. The Missouri acreage is slightly below that of 1932.

The 1932 acreage for harvest in the intermediate States as a whole was about 37 per cent larger than that of 1931. With the largest average yield per acre since 1926, production in 1932 was about 85 per cent larger than the small crop of 1931. Prices to growers were the lowest in years. For the intermediate group of States as a whole, the 1932 price averaged 44 per cent less than the price of 1931.

Indications on the prospective 1934 acreage are available for only four States. In Arkansas, Missouri, Tennessee, and Kentucky, which grew 56 per cent of the combined acreage in the second-early and intermediate States in 1932, tentative indications on the acreage that growers in these States now expect to have for picking in 1934 point to a total planting substantially larger than the 1932 harvested acreage and only slightly larger than the acreage estimated for picking in 1933. Growers in Arkansas and Missouri are apparently planning for larger plantings for the 1934 season than were made for either 1932 or 1933. In Tennessee and Kentucky, however, the present evidence points to an acreage for 1934 somewhat smaller than the 1933 acreage but materially above the 1932 acreage.

In the late States (Indiana, Iowa, Michigan, New York, Ohio, Pennsylvania, and Wisconsin) the 1933 commercial acreage for picking is slightly in excess of the high acreage of 1932. Although strawberry acreages for harvest in these late States have changed but little during the last decade, yield per acre and production were relatively high in 1931 and 1932. With the low purchasing power of consumers, the average price to growers in 1932 was 32 per cent below that of 1931 and was only 45 per cent of the average price for the previous five years, 1926–1930.

In the Pacific Coast and Mountain States about 24,500 acres are indicated for picking in 1933. This acreage has been exceeded in only one year (1932), but is only about 7 per cent larger than the average acreage harvested from 1927 to 1931, inclusive. Most of the production from these Western States is sold to local processing plants and for consumption as fresh fruit in western markets. Yield per acre in these States was unusually high in 1932 and production was the largest on record. Prices to growers were exceptionally low, being less than 50 per cent of the average price for the previous five years, 1927–1931.

The quantity of strawberries used in the cold-process pack in the Pacific Northwest increased from 5,000 tons in 1926 to 14,600 tons in 1928; declined

to 7,600 tons in 1930; and was 12,000 tons in 1931. Although no statistics are yet available for the 1932 pack, the indications are that the quantity used for cold packing was 10 to 15 per cent less than in 1931.

The commercial canned pack of the Pacific Northwest reached its peak in 1927, when 4,400 tons of strawberries were canned. In 1928 the pack was 1,650 tons; in 1929, 2,500 tons; in 1930, 1,330 tons; in 1931, 1,530 tons. Estimates of the quantity canned in 1932 indicate a decrease of 20 per cent below that canned in 1931, or the smallest quantity since 1921.

Similar data regarding quantities of strawberries used in canning and cold packing are not available for other sections of the country.

## CANTALOUPES

The total acreage of cantaloupes in 1932 was 134,970 acres, which was 2 per cent below the 1931 acreage but 23 per cent above the average acreage of the previous five years. Most of the decrease in 1932 occurred in Imperial Valley, Calif., where acreage dropped nearly 6,000 acres below that of 1931. An increase of over 2,000 acres occurred in the intermediate plantings, chiefly in New Mexico and Maryland, and an increase of nearly 1,000 acres in the late States, largely in Michigan and New Jersey. The second-early areas made little change in acreage.

In 1932 the average yield per acre for the entire country was slightly below the low yield of 1931 and 12 per cent below the average of the previous five years. Prices to producers in 1932 averaged 17 per cent below those of 1931 and 30 per cent below the average 1930 prices. In the decline from 1929 prices, however, cantaloupes have fared slightly better than has the average of all fruit and vegetable prices.

Imperial Valley, which produces nearly all of the early cantaloupes, reduced its acreage to 45,750 in 1932; this was 11 per cent below the acreage of 1931, although still about 17 per cent above the average of the preceding five years. Yields were about 10 per cent below the average of recent years, but the price per crate was about the same as in 1931. Compared with prices of other farm products, Imperial Valley cantaloupe prices were fairly high and, in the past, the acreage has responded quickly to such prices.

The second-early areas had 47,700 acres of cantaloupes in 1932, located mainly in sections of California other than Imperial Valley, and in Arizona and Texas. The total acreage was about equal to the large 1931 acreage but there was considerable shifting among areas. Arizona decreased by 1,300 acres and Texas by 4,230 acres, whereas California increased 2,500 acres. Yields were nearly equal to those of 1931 but were about 21 per cent below the 1926–1930 average. Prices to growers averaged nearly 40 per cent below the 1931 price.

The intermediate States produce less than one-half as many cantaloupes as does either of the two earlier areas. During the last three years the intermediate acreage has been increased from 1,000 to 2,000 acres each year; it reached a total of 21,770 acres in 1932. Maryland, Indiana, New Mexico, and Delaware have the largest acreages. The recent increases have taken place mainly in Maryland and New Mexico. Yields per acre in the intermediate group were about 10 per cent higher than in 1931 but about equal to the average yield of the five years preceding. Prices to producers averaged 12 per cent below the low 1931 prices.

The late States had 19,420 acres of cantaloupes in 1932, or about 4 per cent more than the 1931 acreage, which was about equal to the average of the preceding five years. Of this acreage, about 86 per cent was in Colorado, New Jersey, and Michigan. Yields per acre were 5 per cent above those of 1931 but 10 per cent below the average of the previous five years. The growers' price per crate averaged 22 per cent below the 1931 price.

## WATERMELONS

The commercial acreage in 1932 was only 2 per cent below the 1931 record acreage of 238,820 acres, but the yield per acre in the early and second early States was the lowest in years and production was about 20 per cent less than in 1931. Total car-lot shipments were about 40 per cent less than in 1931 and lower than during any recent year. Prices to growers were about 20 per cent below the low 1931 price and, with production reduced, total returns to growers were about 43 per cent less than the low returns of 1931.

The early acreage in Florida and California in 1932 was about 6 per cent smaller than in 1931, but the yield per acre was below average and production in 1932 was 31 per cent less than in 1931. Prices to growers in 1932 were especially low, and in California it was estimated that about one-fourth of the crop remained unharvested because of low returns. The 1932 watermelon crop in the early States brought growers less than 50 per cent as much as did the 1931 crop.

Acreage in the second early States (Georgia, Texas, North Carolina, South Carolina, Alabama, Mississippi, and Arizona) was only 2 per cent smaller in 1932 than in 1931, and only about 4 per cent below the 1930 record acreage. The yield per acre was the lowest in years and the 1932 production was about 27 per cent less than in 1931. Prices were extremely low, and about one-fifth of the marketable production was not harvested because returns were not even sufficient to pay transportation costs. As both yields and prices were low, returns to growers in these second early States were very low.

Late watermelon acreage in Arkansas, California, Colorado, Delaware, Illinois, Indiana, Iowa, Maryland, Missouri, Nevada, New Jersey, Oklahoma, Oregon, Virginia, and Washington was about the same as in 1931. The yield per acre was slightly better than the rather favorable 1931 yield and production was the highest on record. Returns to growers in these late States were 22 per cent less than in 1931, but were relatively better than returns to growers in the early and second early States.

Watermelons are a bulky product and transportation costs comprise a high proportion of the delivered cost of the melons in consuming markets. In 1932, with unemployment large and with purchasing power of urban buyers at the lowest level in years, watermelon prices fell sharply from the level of recent years. As compared with gross returns to growers for the 1929 crop, returns in the early States fell nearly 70 per cent, in the second early States 73 per cent, and in the late States 41 per cent. The relatively favorable returns in the late States can be largely ascribed to the fact that many of the late-producing districts are close to consuming markets and thus have a smaller outlay in transportation expense.

## DRY BEANS

The 1932 bean production of 10,095,000 bags of 100 pounds each was 22 per cent less than the average for 1929–1931. With the heavy carry-over in producing States, the total supply was about 12,000,000 bags, about 1,000,000 bags less than the average annual disappearance during the last three years. Supplies were unusually heavy during this period and prices declined steadily. Notwithstanding the smaller supply at the beginning of the 1932 crop-marketing season, prices for many classes of beans have continued to decline. The December, 1932, average farm price was 76 per cent lower than the average for 1925–1929, which shows about the same rate of decline as that for grain but much greater than for most farm commodities. The carry-over at the close of the present marketing season probably will be small unless domestic stocks are supplemented by imports. Imports will not be an important factor until domestic prices exceed the tariff of 3 cents per pound. The acreage of beans harvested in 1932 was 28 per cent smaller than that of 1931 with about the usual proportion among classes. With no unusual abandonment and with average yields, such an acreage in 1933 would produce only about 9,000,000 bags, 4,000,000 bags less than the apparent average annual disappearance of 13,000,000 bags during the last three years. However, this heavy disappearance was associated with very low prices and in considering any increase in acreage in 1933 growers will doubtless bear this fact in mind.

The smaller production in 1932 was due to a marked reduction in acreage in practically all important bean-producing States. Higher average yields per acre, particularly in Michigan, offset to some extent the reduced acreage and resulted in an abnormally heavy production of Pea beans. On the other hand, low yields combined with reduced acreage in the Rocky Mountain States resulted in the lowest production of Pintos since 1922, and the lowest production of Great Northerns since 1926. The new-crop supply of beans was not apportioned among the different commercial classes in accordance with the usual requirements, but the relatively heavy carry-over of some of the classes, particularly Great Northern, Pinto, Blackeye, and Baby Lima, tends to bring the supply of each class more nearly in line with the usual annual disappearance.

Primary railroad-car loadings during the first four months of the crop-marketing season beginning September 1, 1932, indicate that the rate of movement from producers' hands has been somewhat below the average. However, the quantity consumed this year should be considerably larger than the 10,095,000-bag crop of 1932, so the carry-over of nearly 2,000,000 bags in producing States on September 1, 1932, will be greatly reduced by the end of the present marketing season.

Imports and exports of beans during the first three months of the crop-marketing season beginning September 1, 1932, were the lowest for that period during any of the last 10 years. There were net exports of 10,000 bags during this 3-month period, compared with net exports of 32,000 bags during the same months in 1931 and net imports of 98,000 bags during the same months of 1930. During the crop-marketing season September 1, 1931, to August, 1932, there were net exports of 72,000 bags, compared with net imports of 508,000 bags in 1930–31. The chief sources of imports so far this season have been Italy, Chile, Japan, and Hong Kong.

### PEA BEANS

A 22 per cent reduction in the 1932 acreage harvested in Michigan, mostly Pea beans, was more than offset by greatly increased yields per acre. As a result, the total production of Pea beans in all States was estimated at 4,631,000 bags compared with 3,738,000 in 1931 and 2,838,000 in 1930. An average yield on an acreage equal to that of 1932 would produce about 3,500,000 bags, or about 200,000 bags more than the average for 1929–1931. The car-lot price, f. o. b. shipping point in Michigan, declined from $2.05 per 100 pounds on September 1, 1932, to $1.30 per 100 pounds on January 11, 1933, compared with a decline during the same period of the preceding year from $3.70 per 100 pounds to $2.05. With greatly increased supplies and lower prices, Pea beans have regained their former lead in consuming markets of the eastern half of the United States.

### GREAT NORTHERN

The 1932 crop of Great Northern beans was greatly reduced from that of the preceding year as a result of about a 40 per cent reduction in acreage harvested. The total production of 1,126,000 bags was slightly more than one-half that of each of the years 1930 and 1931. The carry-over on Septemberber 1, 1932, was estimated at 488,000 bags, which made the total supply still 18 per cent less than the average annual production for the three years 1929–1931, but 66 per cent greater than the average production during 1924–1928. The trend of prices for Great Northern beans, f. o. b. shipping points, followed closely that for Pea beans until November 1, 1932. During that month prices for Great Northerns showed an upward trend and since that time Great Northerns have been quoted 5 to 20 cents per 100 pounds higher than Pea beans f. o. b. shipping points in producing States.

### PINTO

The relatively small production of 753,000 bags of Pinto beans in 1932 is enabling growers and shippers to clean up the carry-over which has been an oppressive factor in the Pinto bean market for three years. This unusually low production is due to a 48 per cent decrease in the bean acreage in Colorado, largely because of drought, together with abnormally low yields in both Colorado and New Mexico. The new-crop supply of Pinto beans was supplemented by a carry-over of 267,000 bags on September 1, 1932. An average yield on the 1932 acreage would produce about 1,400,000 bags, the same total as that of 1931 and somewhat greater than the average for 1924–1928. Following the continued decline in prices during the movement of the 1931 crop, prices for Pinto beans advanced in August, 1932, with the first indication of a short crop. Prices f. o. b. shipping points September 1, 1932, were $2.35 per 100 pounds, and on January 11, 1933, were $2.25, compared with $2.15 September 1, 1931, and $1.95 January 11, 1932.

### RED KIDNEY AND DARK RED KIDNEY

The 1932 crop of 356,000 bags of Red Kidney and Dark Red Kidney beans was 42 per cent smaller than that of 1931 but slightly greater than that of 1930 and about one-half as large as the average for 1924–1928. The produc-

tion of Dark Red Kidneys in Michigan was about 12 per cent larger than in 1931 and 23 per cent larger than in 1930. Although the carry-over in September 1, 1932, was relatively heavy, a slight advance in prices of both Red Kidney and Dark Red Kidney beans during the late summer of 1932 has been maintained. Prices for Red Kidneys f. o. b. shipping points January 18, 1933, were $2.40 per 100 pounds in New York and $2.05 in Michigan.

### LIMA AND BABY LIMA

There was a reduction of about 20 per cent in the 1932 crop of Limas and about 50 per cent in that of Baby Limas, from crops in 1930 and 1931. The production of 872,000 bags of Limas and 322,000 bags of Baby Limas was slightly less than the average for 1924–1928. Prices for Limas f. o. b. San Francisco were $4.80 per 100 pounds September 1, 1932, and $4 on January 11, 1933. There was also a net decline in prices of Baby Limas during the same period, from $3.80 to $3.30 per 100 pounds.

### BLACKEYE

The 1932 crop of Blackeye beans was only 275,000 bags, compared with 459,000 bags in 1931; 852,000 bags in 1930; and an annual average of 381,000 bags for 1924–1928. Supplemented by the carry-over, the total supply in 1932 was 477,000 bags, compared with 655,000 in 1931, and 876,000 in 1930. Prices f. o. b. San Francisco advanced from $2.85 on September 1, 1932, to $3.15 on January 11, 1933.

## PEANUTS

Returns to growers from the 1932 crop of peanuts harvested for nuts were even lower than returns from competing cash crops. However, smaller cash outlays are required for peanuts than for other cash crops and this may result in a 1933 acreage about as large as that of 1932. Prospective increases in the Southeast and Southwest seem likely to be about equal to decreases in Virginia and North Carolina. The 1932 yield per acre was low and the production of 1,002,080,000 pounds was about 7 per cent less than the large crop of 1931. But the 1932 crop is the second largest, excluding the World War period, and exceeds the average annual production for the five years ended with 1930 by about 190,000,000 pounds, or about 24 per cent. Although prices to growers during the 1931–32 season were the lowest in years, the acreage of peanuts harvested for nuts in 1932 was about 13 per cent above the acreage of 1931, the largest since the World War.

Acreage in 1932 was increased over that of 1931 in each of the important producing States, except in Virginia where a decrease of 8 per cent was reported. Yields in 1932 were low in most States and unfavorable weather adversely affected the quality of the crop. Prices for the 1932–33 season, up to January 15, 1933, for new-crop peanuts, averaged more than 20 per cent lower than during the corresponding months of the preceding season and with reduced production, returns to growers have been still less than the low returns of the 1931 crop.

The 1931 crop was the largest since the World War and the carry-over of old-crop peanuts in the producing areas at the beginning of the current marketing season was considerably larger than the relatively small carry-over at the beginning of the 1931–32 season. Storage holdings in Chicago, the principal receiving market, at the beginning of the 1932–33 season, were slightly smaller than at the beginning of the 1931–32 season and amounted to less than 30 per cent of the large holdings of the 1930–31 season. Consumption of peanuts and peanut products during last season increased over the level of recent years.

In Virginia, North Carolina, and Tennessee, which produce principally Virginia-type nuts, the 1932 acreage was less than 1 per cent below the 1931 acreage, but yields in Virginia and North Carolina were much below the favorable yields of 1931, so the crop is about 15 per cent smaller than that of last year. Importations of oriental peanuts, which are of the Virginia type, during the 1931–32 season were the smallest in 30 years, amounting to less than 1,000,000 pounds in terms of peanuts in the shell, compared with the previous low figure of about 10,000,000 pounds for this 30-year period. The carry-over of farmers' stock peanuts into the 1932–33 season was substantially larger than the small carry-over of the 1931–32 season but was smaller than the large carry-over of the 1928–29 season. The 1932 crop of farmers' stock Virginia-type nuts is

relatively low in quality, and prices to growers are only slightly above average prices received for farmers' stock Spanish-type nuts in the Southeast and Southwest. Owing to weather damage there is a shortage of peanuts suitable for roasting in the shell and the largest size of cleaned peanuts in the shell are, for the first time on record, bringing substantial premiums over the largest size of Virginia shelled peanuts. Prices of Virginia-type farmers' stock peanuts to January 15 are 30 per cent lower than prices to the same date last season, and about 67 per cent lower than the average prices for the corresponding period of the five seasons ended January 15, 1932.

In the southeastern group of States (Georgia, Alabama, Florida, South Carolina, and Mississippi), where both Spanish and runner types are grown, the 1932 acreage was the largest but one on record, being about 19 per cent greater than the 1931 acreage, but the yield per acre was low and notwithstanding the large acreage the 1932 crop is about 7 per cent under the 1931 crop. The carry-over of old-crop peanuts in these States was reported to be about the same as the small carry-over of the 1931–32 season. Prices of southeastern farmers' stock peanuts up to January 15 were 15 per cent lower than prices up to the same date last season and about 65 per cent lower than the average prices for the corresponding period of the five seasons ended January 15, 1932.

In the southwestern States (Texas, Oklahoma, Arkansas, and Louisiana), where the Spanish type is grown, acreage was increased in 1932 and with yields above average the crop is about 19 per cent above the 1931 crop. Unfavorable weather conditions during harvest adversely affected the quality of the crop in some sections. The carry-over of old-crop peanuts into the present season was negligible. Prices of farmers' stock peanuts up to January 15 were 35 per cent lower than prices to the same date last season, and about 63 per cent lower than the average prices for the corresponding period of the five seasons ended January 15, 1932.

In addition to the peanuts gathered for the nuts about 730,000 acres of peanuts were grazed or hogged-off by livestock in 1930 and in 1931, and about 820,000 acres were so utilized in 1932. In view of the increase of about 10 per cent in the number of pigs saved in the southern States from the fall farrowings of 1932, and the probable further increase of about 6 per cent in farrowings this spring, some additional enlargement of the acreage of peanuts intended for grazing and hogging seems probable.

## COTTON

The world supply of American cotton for 1932–33 is now estimated to be only slightly less than the record supply of 1931–32 and is more than twice the world consumption of American cotton during 1931–32. Reports on foreign-production prospects received up to mid January indicate that 1932–33 production outside the United States will be about 900,000 bales larger than in 1931–32, but will be the smallest, with the exception of last season, since 1927–28. The total supply of foreign cotton in 1932–33 will apparently be about the same as in the preceding year, because of the decrease in the carry-over of these cottons.

Domestic mill consumption from September to December, 1932, was materially above that in the like periods of 1931 and of 1930, and averaged about 75 per cent above the low point of July, 1932. Despite the high rate of production, textile stocks at the end of 1932 were much lower than at the end of any of the previous five years. The textile situation in Europe also improved during the fall and early winter, and in Japan activity continued at high levels with record quantities of American cotton being used. The estimated world consumption of American cotton during the first four months of the season was 11 per cent above that in the corresponding period of 1931–32, and was 26 per cent above that of the period August to December 1930–31.

Prices of American cotton during 1932–33 remained fairly stable from mid October to late January, and although substantially below the level reached in late August, they were, at the end of January, about 1¼ cents above the low point of June, 1932, and about the same as a year earlier. Prices of Indian cotton compared with those of American cotton were still very favorable to the use of American cotton. The small supply of Indian and the almost record supply of American cotton indicate that this situation is likely to continue during the remainder of 1932–33. During the first five months of the season exports of American cotton were higher than in either of the two previous years, and exports of Indian cotton were very small.

Supplies of American upland cotton in the United States having a staple length of $\frac{15}{16}$ inch and longer have become relatively more burdensome than has the total supply of American cotton, and as a result the decline in prices during 1931–32 was greater for the longer than for the shorter staple cotton. Judging from the quality of the cotton ginned up to December 1, 1932, the 1932–33 supply of American upland cotton of 1⅛ inches and longer will be considerably larger than in 1931–32 and fully three times as large as disappearance last season. The supply of $\frac{15}{16}$ inch and longer will be twice the 1931–32 disappearance. The 1932–33 domestic supply of cotton shorter than $\frac{15}{16}$ inch in staple on the other hand will be somewhat less than last season but somewhat above disappearance in 1931–32. Domestic growing conditions in 1931 and 1932 resulted in crops of unusually long staple. Demand for the longer staples was particularly depressed, whereas the small Indian and Chinese crops and the emphasis upon low-priced goods generally resulted in a relatively strong demand for short staples.

## SUPPLY

The world supply of American cotton for 1932–33 is now estimated to be 25,700,000 bales. This is only 300,000 bales less than the record supply of 1931–32 and is 2,200,000 bales greater than the large supply of 1926–27. The supply for 1932–33 is considerably larger than total world consumption in 1930–31 and 1931–32 combined, and equal to twice last season's increased consumption. The apparent supply of American cotton in the United States on January 1, 1933, was 15,800,000 bales, compared with 17,000,000 bales a year earlier. The carry-over constitutes the largest part of the total supply. At 13,000,000 bales it is 4,100,000 bales larger than the carry-over at the beginning of last season, and is larger than world consumption in 1931–32.

The 1932–33 production, estimated in December at 12,700,000 bales, is 4,400,000 bales less than the large crop of last season, and the smallest for nine years. This reduction came as a result of the smallest acreage since 1923–24 and a decrease in yield per acre to 162.1 pounds, or 20 per cent below the 1931–32 yield. Yields in 1932, however, were above the 10-year average for 1921–1930. The area harvested in 1932–33 was 37,589,000 acres, according to the December estimate, or 7.6 per cent less than that harvested in 1931–32 and 17.9 per cent below that of 1929–30. Much of this land has been planted in food and feed crops and in products for local markets. The increased acreage in food and feed crops reflects the farmers' realization that incomes from cotton could not be depended upon to purchase these supplies. Prices of alternative cash crops have given little inducement to substitute these crops for cotton.

The acreage planted to cotton in 1933 will depend in considerable part on farmers' decisions on the quantity of food and feed crops they can use or dispose of advantageously in 1933–34. In most sections farmers have large supplies of home-grown food and feed, but the increase in the number of cattle and hogs in the South during last year has increased feed requirements. Labor, fertilizer, and some other production costs are lower than in the spring of 1932. Prices of most alternative crops are much lower than they were a year ago.

Boll weevils entered hibernation in large numbers and were more generally distributed over the Cotton Belt in the fall of 1932 than for several years. Weevil damage, therefore, could easily be unusually heavy in 1933 should weather conditions be favorable to the weevils' development. In view of low incomes, farmers are not likely to spend much money in combating them.

The application of commercial fertilizer on cotton dropped 39 per cent in 1932, and has dropped 63 per cent since 1929, although the use of cottonseed for fertilizer increased somewhat. It appears evident that the use of fertilizer will again be small in 1933. From October to mid January rainfall in western Texas was lower than in any of the previous three years.

Cotton production outside the United States in 1932–33 is now estimated at 11,300,000 bales of 478 pounds, or about 900,000 bales more than last season, 600,000 bales below 1930–31, and 1,100,000 bales less than in 1928–29. The Chinese crop of 1932–33 is 600,000 bales larger than that of 1931–32; this largely explains why United States exports to China during the first five months of 1932–33 were 500,000 bales less than during the same period last season. The Indian crop for 1932–33 is also probably 600,000 bales larger, although some reports indicate a smaller increase. The total supply, however,

even with a 600,000-bale increase in production, will be no larger than the 1931–32 supply because the carry-over was much smaller. The Russian crop is estimated by the Bureau of Agricultural Economics to be about 100,000 bales larger than in 1931–32. The Egyptian crop is estimated to be 400,000 bales less than in 1931–32 and reductions are expected in Mexico and Brazil. Practically all of the increase in total foreign production this year is offset by a decrease of about 800,000 bales in the carry-over of foreign cottons.

### DEMAND

World consumption of American cotton in 1931–32 was 12,300,000 bales, an increase of 1,400,000 bales from 1930–31 which occurred largely through replacement of foreign cotton by American. Consumption in 1931–32, however, was the lowest since 1923–24 except in 1930–31. With continued small supplies of foreign cotton, world consumption of American in 1932–33 may again increase but probably by a smaller quantity than last season. The estimated world consumption of American during the first four months of this season was a little over 450,000 bales or 11 per cent more than during the like period of 1931–32, according to reports of the New York Cotton Exchange. The consumption of all cotton has apparently shown little change.

Consumption of all cotton in the United States was only 4,900,000 bales in 1931–32 as compared with 5,300,000 bales in 1930–31 and 7,100,000 bales in 1928–29. This was the lowest total mill consumption recorded since 1910–11 and on a per capita basis the lowest since 1895–96. The decline from consumption in 1928–29 amounting to 31 per cent resulted from a drastic reduction in the industrial uses and exports of cotton fabrics, a marked reduction in stocks of goods in the hands of manufacturers and distributors, and a moderate decline in the consumption of fabrics in clothing and household uses.

Domestic consumption fell 43 per cent from March to July, 1932; then it rose sharply. During the first five months of the 1932–33 season, consumption in the United States totaled 2,340,000 bales as compared with 2,191,000 bales in the corresponding period of 1931–32, an increase of about 7 per cent. The increase over 1931–32 can be expected to become greater as the season advances, barring a recurrence of such an acute financial and business situation as that which depressed cotton consumption in the spring and summer of 1932. Manufacturers' stocks of goods on December 31, 1932, were the lowest for that date since data first became available in 1927, and were low in relation to unfilled orders and production.

Despite steadily declining industrial activity and consumer incomes, during most of 1931–32 the demand for cotton for clothing appears to have remained rather stable and was a major factor in maintaining cotton-mill consumption on a level somewhat above the general level of business activity. The use of cotton for clothing will probably continue to show strength and with improvement in business conditions would doubtless bring about further increases in domestic consumption. The industrial use of cotton, which declined throughout 1931–32, depends largely on the trend in production of tires and other rubber products, automobiles, bags, artificial leather, and belting.

Cotton textile mill activity outside the United States was on the whole only slightly higher in 1931–32 than in the previous season. The consumption of American cotton, however, increased by 1,800,000 bales, or 30 per cent, to 7,600,000 bales—the largest since 1928–29. A large part of this increase took place in the Orient. Consumption of American cotton in Japan alone increased more than 600,000 bales, to almost 1,600,000 bales. This made Japan the largest foreign consumer of American cotton last season. China likewise consumed record quantities of our cotton, the total for the season being almost 900,000 bales, an increase of more than 500,000 bales. The large increases in the Orient, as well as the increases in Europe, were largely the combined effects of unprecedented supplies of American and very short supplies of Indian and Chinese cottons. However, the fact that the cotton-textile industry in the Orient maintained a high rate of activity despite the world depression was also an important factor.

Cotton-mill activity in Europe was at a much lower level than in the Orient throughout the whole of 1931–32, but more particularly toward the end of the season. Textile sales in most European countries increased materially with the sharp advance in cotton prices last summer, and mill activity soon began increasing. Despite the decline in cotton prices which followed, mill activity has apparently been maintained at the higher levels. The textile situation

in Europe as a whole seems to be much better than it was in the early summer or even a year ago, although in some countries the volume of unfilled orders has decreased somewhat since late summer. Japan continues to consume great quantities of American cotton and China has been consuming large quantities of American so far this season, largely from stocks. Foreign consumption of American cotton during the first four months of 1932–33 increased 14 per cent as compared with that in the same period last season, and about 30 per cent over the like period of 1930–31, according to reports of the New York Cotton Exchange. Consumption in Europe has been only slightly higher than it was a year ago but considerably above the low levels of last summer. The Orient consumed 35 per cent more American cotton this season up to the end of November than it consumed from August to November last season, but owing to decreases of consumption in China the monthly rate has been declining since last summer.

The fact that prices of American cotton in European markets have continued low as compared to Indian prices has been an important factor influencing both foreign consumption and domestic exports. Exports of American cotton to Europe increased 816,000 bales, or 37 per cent, from August 1 to December 31, 1932, as compared with exports in the corresponding period last season. Exports of Indian cotton to Europe, on the other hand, although about 50,000 bales larger than from August to December, 1931, were 200,000 bales, or 49 per cent, less than in the like period of 1930. Total exports of Indian cotton up to the end of December were about 500,000 running bales, compared with 670,000 bales in the first five months of last season and 1,240,000 bales from August to December, 1930—decreases of 25 and 60 per cent, respectively.

## PRICES

After reaching a low point in June, 1932, prices of American cotton began to rise on the strength of improvement in the general financial situation, indications that the crop would be small, and increased purchases of cotton goods both in the United States and abroad. The rise was also associated with advancing prices of industrial stocks. On August 27 prices averaged 8.84 cents per pound in the 10 spot markets, as compared with only 4.76 cents at the low point on June 9. From late August to early December, however, the trend of prices was downward, reaching 5.45 cents on December 5. Since then the trend has been slightly upward and at mid-January prices in these markets were a little above 6 cents, which was close to the levels that obtained a year earlier.

The price of Indian cotton at Liverpool has averaged about 90 per cent of the price of American so far this season (1932–33) which is about the same as the average for last season, but 12 per cent higher than the average for the last 10 years. With the total supply of Indian cotton as small this season as last, and the supply of American still almost at record levels, the situation points to a continued relationship favorable to the use of American for several months to come.

## STAPLE PREMIUMS AND DISCOUNTS

The decline in prices from 1930–31 to 1932–33 was greater for the longer than for the shorter staple cotton. Staple premiums and discounts continued to narrow throughout 1931–32. In August, 1932, when expressed in points they were smaller than for any yearly average for which records are available, and when expressed as percentages of the price of Middling ⅞-inch cotton they were narrower than at any time since the summer of 1928. During August and September, 1932, some increases in staple premiums occurred, along with improved business sentiment, but for staple lengths 1⅛ inches and shorter these increases were lost by the middle of January, 1933. The increases in premiums for the higher grades of 1 3/16-inch and 1¼-inch cotton were well maintained through December, 1932, but during the first part of January, 1933, showed some evidence of weakness. These developments reflect the accumulation of relatively larger supplies of the longer staples than of the short staples, owing to the unusually good quality of the 1931 and 1932 domestic crops; to reduced demand for the better-quality, higher-priced textile products; and to the foreign demand for the shorter staples to substitute for Indian and Chinese cotton, supplies of which have been small.

The demand for long-staple cotton will probably continue low until the demand for fine goods and specialized industrial fabrics improves. But the

very low premiums on these cottons should encourage their use. In the domestic market, prices of Egyptian uppers and similar foreign cottons having staple lengths of 1⅛ inches and longer are much higher than prices of 1⅛-inch American upland cotton. Since December, 1931, the price of Egyptian uppers at Liverpool has increased in comparison with prices of 1⅛-inch American upland cotton in the United States. In view of the short Egyptian crop it seems likely that the price of Egyptian uppers in foreign countries may continue relatively high in comparison with prices of 1⅛-inch cotton in the United States, and this would facilitate exports of American long-staple cotton.

The domestic supply of American upland cotton shorter than seven-eighths inch in staple was 798,000 bales smaller in 1931–32 than in 1930–31, despite the fact that the supply of all lengths combined increased 4,782,000 bales. The disappearance of this short cotton in 1931–32 was greater than its production in either 1931 or 1932. The disappearance of each staple length seven-eighths inch and longer in 1931–32 was less than the production of those lengths in 1931, with the result that the carry-over of each of these lengths on August 1, 1932, was larger than a year earlier. The indicated supply (arrived at by applying to the December estimate of production the percentage distribution by staple lengths of cotton ginned before December 1) of each of these longer staple lengths for 1932–33 exceeds the disappearance in 1931–32. The excess of supply in 1932–33 over the disappearance of 1931–32 is relatively greatest for lengths $1\frac{1}{16}$ to $1\frac{5}{32}$ inches, inclusive.

Cotton carried over, in the United States, on August 1, 1932, was of approximately the same high grade as the 1931 crop. The average staple of the carry-over was even longer than that of the 1931 crop. The proportion of the carry-over untenderable on futures contracts was considerably smaller than that of the 1931 crop. Reports indicate that the proportion of the 1932 crop that is shorter than seven-eighth inch is about the same as in the crop of 1931, but considerably smaller than in the three previous crops. The 1932 crop, as compared with the 1931 crop, shows some increase in production of cotton with a staple 1⅛ inches, but shows considerable decreases in production of cotton with staples $1\frac{3}{16}$ inches and longer. The staple length of the crop depends to some extent upon weather, and conditions less favorable to the development of staple length might result in larger supplies of short-staple cotton, and smaller supplies of the long staples in the next year or two.

### AMERICAN-EGYPTIAN COTTON

Production of American-Egyptian (Pima) cotton declined from an average of about 25,000 bales annually during the 5-year period 1926–27 to 1930–31, to an estimated production of 12,000 bales in 1932–33. Disappearance into consumption and export channels was in the neighborhood of 25,000 bales annually during the three years 1927–28 to 1929–30. Consumption and exports declined, however, to only about 16,500 bales in 1930–31 and about 12,800 in 1931–32. Exports declined from 5,100 bales in 1929–30 to only 375 bales in 1931–32. Consumption in the United States declined from 15,400 bales in 1930–31 to 12,400 bales in 1931–32 but increased 32 per cent during the first five months of 1932–33 when 8,800 bales were consumed, as compared with 6,600 bales during the first five months of 1931–32. Stocks of American-Egyptian cotton in public storage and consuming establishments on December 31 declined from 21,400 bales in 1931 to 15,400 bales in 1932.

The price of American-Egyptian cotton (grade No. 2) at New England mill points was 18.5 cents a pound on January 13, 1933, as compared with 20 cents on January 15, 1932, and 44 cents on January 11, 1929.

The demand for American-Egyptian cotton has been rather low as a result of the reduced consumption of fine cotton clothing fabrics. This reduced consumption was brought about chiefly by the depression and the competition from silk and rayon, the prices of which have been at record low levels. Egyptian Sakellardis cotton is perhaps the most direct competitor of American-Egyptian in the United States. Competition, even between those two growths, however, seems to be somewhat limited and involves other factors as well as price. Since the tariff on long-staple cotton became effective on June 18, 1930, the price of American-Egyptian cotton in the United States has been relatively high, as compared with the price of Egyptian Sakellaridis in Liverpool, but relatively low as compared with the price of that cotton in the United States. Although the substitution of Pima for the Sakellaridis apparently has not been extensive, very abnormal conditions have existed during the last two years so

that the changes thus far evident may not truly represent the extent to which substitution might take place under more normal business conditions or over a longer period of relatively low prices of American-Egyptian.

## TOBACCO

Most of the factors affecting the outlook for tobacco in 1933 are adverse. Consumption of tobacco products continues to decline, both at home and abroad, and increasing numbers of consumers have been turning to cheaper modes of consumption. In several foreign countries there have been further substitutions of domestic and colonial-grown tobacco for American leaf. Production in 1932 was reduced greatly from the level of 1931, but stocks of old tobacco increased so that total supplies at the beginning of the 1932–33 season showed only moderate declines from those of a year earlier. Some reductions in stocks may be anticipated for the 1933–34 season, particularly in the case of flue-cured and Virginia fire-cured, but it is not expected that the stocks of Burley or of the important cigar types will be reduced much if any below those of 1932–33.

Production of all types of tobacco in 1932 was 1,033,300,000 pounds, compared with 1,604,200,000 pounds in 1931, a decline of 36 per cent. The cigarette types declined 37 per cent. from 1,148,700,000 to 729,000,000 pounds, the decline in flue-cured production alone accounting for about three-fourths of this decline. The dark fire-cured types declined 33 per cent, from 190,800,000 to 127,700,000 pounds; the dark air-cured types declined 45 per cent, from 75,900,000 to 42,800,000 pounds; and all cigar types declined 28 per cent, from 187,200,000 to 134.000,000 pounds.

Auction-floor prices for the 1932 crop have differed widely for the different types. Flue-cured and Burley prices have been materially above the low prices for the 1931 crop, partly as a result of the reduced supplies of flue-cured. the smaller size and more desirable smoking properties of the 1932 crop of Burley, and increased competition among buyers for the lower grades of tobacco. Prices for Virginia fire-cured have shown considerable improvement over those of a year earlier, while prices for the Kentucky-Tennessee fire-cured types appear to have advanced slightly over the low levels of 1931–32. Prices for One Sucker have been higher than in 1931–32. For most remaining types prices appear to be as low as those a year earlier, or lower, notwithstanding the reduced production. Returns for the 1932 crop as a whole promise to be somewhat less than the low returns of the 1931 crop.

The consumption of manufactured tobacco products in the United States showed a greater decline in 1932 than in 1931, with all classes of products sharing in the decline. According to reports of the Commissioner of Internal Revenue, the rates of decline in 1932 from the levels of 1931 were about 5 per cent for manufactured tobacco (smoking and chewing combined), 8 per cent for snuff, 9 per cent for cigarettes, and 17 per cent for cigars. For all products combined the average decline was about 8.5 per cent. In the important tobacco-consuming countries of Europe the consumption in 1932 appears to have averaged from 3 to 5 per cent below that of 1931.

Any analysis of the long-time outlook for the different types of tobacco should take into account the probability that several years may elapse before total per capita consumption is materially increased, and that some of the recent shifts in consuming habits may persist even when buying power improves. The trend of tobacco consumption has been upward for many years. On a per capita basis, consumption in the United States rose from about 4.5 pounds in 1880 to about 6.6 pounds in 1929. As a rule, however, periods of depression have witnessed declines in consumption. Thus, in 1893 per capita consumption dropped to 4.9 pounds from 5.4 pounds in 1892. In 1915, when economic conditions were disturbed by the World War, consumption dropped to 5.7 pounds from 6 pounds in 1914. In 1921 consumption dropped to 5.7 pounds, although in 1918 it had reached 6.7 pounds. Present information indicates that in 1932 per capita consumption dropped to about 5.5 pounds, the lowest since 1902, which contrasts with 6.6 pounds in 1929. When depressions have been unusually severe, a relatively long time has been required for consumption to regain the lost ground. Thus, for nine years after the panic of 1893 per capita consumption was lower than in 1892. This indicates that several years may elapse before the rate of consumption again approaches the levels attained before the depression.

Some of the recent shifts in consuming habits may have important long-time effects. From 1929 to 1932 cigar consumption decreased about 30 per cent;

cigarette consumption, 13 per cent; snuff, 9 per cent; and smoking and chewing combined, about 7 per cent. Consumption of manufactured chewing tobacco has been declining for many years, and in recent years the decline has been rapid. Present indications are that the consumption of smoking tobacco in 1932 was about equal to that of 1929 and greater than in 1930. A part of this increased consumption of smoking tobacco was due to increased use of hand-rolled cigarettes, and part was probably due to an increase in pipe smoking instead of cigars and cigarettes. If individuals have switched to pipes for economy, and the necessity for such economy is of short duration, then a return to the former mode of using tobacco may be expected. But if the pipe habit is long continued, it may permanently replace a part of the more expensive forms of consumption. The depression appears to have caused some increase in the use of manufactured leaf for chewing and smoking in rural sections.

These trends in domestic consumption have their counterparts in foreign countries. Economic conditions abroad appear to have had similar effects on consumption, and a demand for cheaper leaf tobacco has arisen. This has led to increasing substitution of domestic or colonial-grown tobacco and tobacco from other countries which could be obtained at lower cost than the American types. Part of this substitution may be looked upon as a temporary expedient adopted under the stress of economic difficulties, but a part has resulted from trade restrictions, such as monopoly-control measures and protective tariffs, designed to develop a greater self-sufficiency in tobacco production. Most of the foreign countries in which tobacco acreage has been expanded in recent years have been improving the quality of production, and consumers have been turning to the new blends in increasing numbers. Should tastes for these blends become fixed, they will continue to impair the foreign demand for American tobacco.

### CIGARETTE TYPES

Flue-cured Burley, and Maryland tobaccos are used mainly for the manufacture of cigarettes, smoking mixtures, and chewing tobacco. In the United States a little more than one-half the total quantity of leaf used for these products in recent years has been made into cigarettes, around one-third has been used for smoking mixtures, and about 10 to 15 per cent for chewing tobacco. A large proportion of flue-cured and Maryland tobacco is exported but most of the Burley is used in the United States. Domestic cigarette consumption in 1932 declined about 9 per cent from that of 1931, in spite of a substantial increase in sales of 10-cent brands of cigarettes. With the reduction of prices for all leading brands of cigarettes, effective in January, 1933, it has been supposed that the rate of decline in consumption may be lessened, but no marked increase can be expected until business conditions improve. The consumption of smoking tobacco in 1932 apparently showed little change from that of 1931, but consumption of manufactured chewing tobacco apparently continued to decline.

#### FLUE-CURED, TYPES 11, 12, 13, AND 14

Owing to the greatly reduced crop of 1932, the total supply of flue-cured tobacco at the beginning of the 1932–33 marketing season was about 18 per cent below that of the 1931–32 season, and about 25 per cent less than the record supply of 1930–31. Exports for the year ended July 1, 1932, were 34 per cent less than in 1930–31, and domestic consumption showed a small decline. With production greatly reduced, however, prices on auction markets to December 31, 1932, were somewhat above the especially low prices of a year earlier, but total returns for the 1932 crop will be substantially less than the low returns for the 1931 crop.

The 1932 crop of 362,000,000 pounds is the second smallest since 1917, and about 45 per cent below the 1931 crop. Acreage in 1932 was about 36 per cent below the 1931 acreage, and the yield per acre was much below average. A plant shortage caused by disease infestations, spring freezes, and insect damage, together with the low returns from the 1931 crop, was responsible for the reduced acreage of 1932. Much of the acreage was planted later than usual, and the crop as a whole was below average in quality.

Over a period of years, exports of flue-cured tobacco have approximated two-thirds of the total production. For the six months ended December 31, 1932, exports of flue-cured were 15 per cent below those for the same months

of 1931, and 26 per cent below the 5-year average for these months. From July to October, 1932, the volume of exports compared favorably with that of other recent years, partly because of larger takings of low-grade leaf by China, but in November and December the volume was reduced. Reports from several countries indicate that recent imports have not been equal to the current consumption of this tobacco, with the result that stocks in foreign countries are estimated to be at the lowest level since 1929. The reduced consumption of the last two years apparently has made it unnecessary for dealers and manufacturers to carry such large stocks as formerly. However, as conditions eventually improve, and consumption begins to increase, it may be anticipated that imports will be increased to replenish stocks.

Meanwhile increased competition is being offered by the flue-cured tobacco produced in other countries. The British preferential tariff on tobacco grown in the British empire has become more effective during the depression, and larger quantities of flue-cured tobacco from Canada and Southern Rhodesia are being imported into the United Kingdom. Exports to China continue to be influenced by the low purchasing power of Chinese consumers, and by the competition of flue-cured leaf grown in China. Present stocks in China are reported to be materially below the large stocks of a year ago. Australia, Japan, and Canada have all reduced imports from the United States, partly because of increased substitution of home-grown tobacco.

In the 1933 crop in the United States, some increase in acreage over that of 1932 seems probable. Many growers planted less than the intended acreage in 1932 because of shortage of plants. Moreover, in States where marketings of flue-cured have been completed, returns to growers have apparently been more favorable than returns from other competing crops and this might stimulate the planting of tobacco. From present indications, it appears probable that flue-cured stocks on July 1, 1933, may be reduced from 150,000,000 to 175,000,000 pounds below the high level of July 1, 1932.

### BURLEY, TYPE 31

Burley acreage of 432,000 acres in 1932 was about 17 per cent below the record acreage of 1931. The yield per acre in 1932 was lower than in 1931 and the December 1 estimated production of 344,197,000 pounds was 24 per cent less than the production of 1931. Stocks of old tobacco continued to accumulate, however, and on October 1, 1932, they were 585,902,000 pounds, the largest on record. Total supply for the 1932–33 season is 4 per cent greater than the previous record supply of the 1931–32 season. Notwithstanding the large supply, prices for the 1932 crop advanced materially over 1931, prices at auction-floor markets in Kentucky averaging about 13.6 cents per pound up to December 31, 1932, compared with 9.8 cents for the same period of 1931. The advance in price may be attributed to the smaller size and better quality of the 1932 crop, and the fact that it yields a higher proportion of the cigarette and smoking grades than usual, to the reduced supply and poor quality of the flue-cured crop, and to increased competition among buyers, particularly for certain grades.

Disappearance of burley for the year ended October 1, 1932, was 305,100,000 pounds. This represents an increase of about 4 per cent over a year earlier and is slightly larger than the previous record disappearance of the 1926–27 season. Exports showed only a small increase, with the total amounting to only 11,000,000 pounds.

With the level of prices that has been maintained so far for the 1932 crop it seems likely that some increase of burley acreage may be expected in 1933. It should be borne in mind, however, that the present total supply is equivalent to about three years' disappearance, whereas the usual relationship is for supply to be only about twice as large as disappearance. Production in 1932 was estimated to be considerably in excess of the 1931–32 disappearance, so that stocks by next October may be further increased. An increase of acreage for flue-cured tobacco together with more normal yields and quality for that crop in 1933 would result in increased competition for burley.

### MARYLAND, TYPE 32

Acreage of Maryland tobacco in 1932 was about 15 per cent less than in 1931. With yields per acre below average, the 1932 production of 22,800,000 pounds was 23 per cent below the large 1931 crop. However, stocks on October

1, 1932, were more than 8,000,000 pounds higher than a year earlier and the highest thus far reported. The increase in stocks more than offset the decrease in production and the total supply of 53,400,000 pounds for the 1932–33 season is the largest in years.

Exports for the year ended December 31, 1932, increased about 35 per cent over the small exports of 1931 but were below the average of other recent years. The reduced crop of other cigarette tobaccos, especially flue-cured, and the present low prices for Maryland, furnish a basis for anticipating some increase in disappearance over the 21,000,000 pounds of the 1931–32 season. One of the factors responsible for the smaller exports of Maryland in recent years has been the high prevailing prices for this tobacco in comparison with competing types.

### FIRE-CURED TYPES

The acreage of all fire-cured tobacco was reduced 32 per cent from 237,000 acres in 1931 to 162,300 in 1932. Except in 1927, when plantings amounted to only 150,200 acres, this was the smallest acreage of fire-cured since 1909 when records by type were first compiled. The reduced acreage in 1932 was in part a continuation of the downward trend of fire-cured production which has been under way since about 1923, but most of it was due to the unusually low prices received for the 1931 crop.

From two-thirds to four-fifths of the production of fire-cured tobacco has been exported in recent years, principally to Europe. The European consumption of these types has been declining since about 1920, with the greatest decline occurring between 1920 and 1925. Since 1925 the decline has averaged about 8 per cent a year. Consumption of the products in which these types are used in Europe was at about the same level in 1930 as in 1920 so that the decline in their consumption has been due largely to substitutions of dark air-cured tobacco produced in foreign countries. Since 1930 the production in these countries has been maintained near the high level reached in 1930, and it is probable that some further substitutions may be made.

The principal domestic use of fire-cured tobacco is in the manufacture of snuff. The consumption of snuff has increased only slowly in recent years, and in 1932 it showed a decline.

#### VIRGINIA FIRE-CURED, TYPE 21

The 1932 production of Virginia fire-cured tobacco, 14,600,000 pounds, is the smallest on record and is more than 50 per cent less than the 1931 crop. Owing to an increase of carry-over, however, the total supply of 46,800,000 pounds on October 1, 1932, was only 18 per cent less than that of a year earlier. Prices to December 31, 1932, averaged somewhat above the low prices of 1931–32, according to State reports.

For the season ended October 1, 1932, disappearance increased about 2,000,000 pounds over the record low level of the preceding season, owing to an increase of about this amount in foreign takings. The 1932 crop was only a little larger than normal domestic uses so that stocks on October 1, 1933, are likely to be appreciably reduced from those of the present season.

#### KENTUCKY-TENNESSEE FIRE-CURED TYPES 22 AND 23

Production of Kentucky-Tennessee fire-cured tobacco in 1932 totaled 108,400,000 pounds, compared with 152,200,000 pounds in 1931 and a 5-year average, 1926–1930, of 123,100,000 pounds. The greatest decline occurred in the Paducah district, where the reduction from 1931 production amounted to 45 per cent. Stocks of old tobacco increased during the year so that the total supply of 266,900,000 pounds on October 1, 1932, was only 5 per cent less than the large supply of 1931–32. Prices on Kentucky markets up to December 31, 1932, averaged about the same as for the corresponding period of the 1931-32 season, but appeared to strengthen to some extent during January, 1933.

Disappearance for the year ended October 1, 1932, was 123,000,000 pounds, an increase of about 10 per cent over the unusually small disappearance of the previous year. Exports increased from 74,100,000 pounds for the crop year 1930–31 to 82,400,000 pounds for 1931–32, with larger takings of the Paducah type being responsible for most of the increase. A part of this increase of

exports apparently went to increase stocks in foreign countries. Exports are not expected to be larger and may not be as large in 1932–33 as in 1931–32, and stocks on October 1, 1933, are not likely to show much reduction below those of October 1, 1932.

### HENDERSON FIRE-CURED, TYPE 24

The estimated plantings of 5,500 acres of Henderson stemming tobacco in 1932 were the smallest on record and 37 per cent less than the relatively small acreage of 1931. An increase of carry-over partially offset the decrease of production, and the total supply on October 1, 1932, was 8,700,000 pounds, compared with 10,400,000 pounds a year earlier. Disappearance for the season ended October 1, 1932, was 6,300,000 pounds, compared with the small disappearance of 6,500,000 pounds for 1930–31.

## DARK AIR-CURED TYPES

The market outlet for the dark air-cured tobacco produced in the United States has been constantly narrowing, both at home and abroad. The domestic uses of these types are confined to the manufacture of chewing and smoking tobacco, especially the former.

### ONE SUCKER, TYPE 35

One Sucker acreage was reduced from 35,200 acres in 1931 to 22,600 acres in 1932. With yields per acre also lower, production for 1932 amounted to 18,100,000 pounds. Except for the 1927 crop, this was the smallest total production since 1912. Quality of the 1932 crop is reported to be good, and prices on Kentucky auction markets up to December 31, 1932, averaged somewhat higher than the record low prices for the 1931 crop. Disappearance of 28,400,000 pounds for the season ended October 1, 1932, was 28 per cent above that of the previous year and larger than the disappearance in either of the three preceding seasons.

### GREEN RIVER, TYPE 36

Production of Green River tobacco was reduced from the high level of 42,900,000 pounds in 1931 to 21,900,000 pounds in 1932. A large part of this reduction was offset by an increase of stocks, and the total supply of 58,200,000 pounds on October 1, 1932, was only 13 per cent below the large supply of a year earlier. Prices paid to growers up to December 31, 1932, were little different from those of 1931–32, when a record low average of 3.3 cents per pound was reported for the season. The disappearance of 30,800,000 pounds for the crop year 1931–32 represented only a slight increase over 1930–31, in spite of the low prices of the tobacco.

### VIRGINIA SUN-CURED, TYPE 37

Production of Virginia sun-cured has been steadily declining during the last decade, and the 1932 acreage of 3,500 acres is less than one-third as large as the 1920 acreage. Acreage in 1932 was about 30 per cent below the small 1931 acreage, and yields per acre were the lowest since 1919. The total supply on October 1, 1932, was the lowest in years and stocks on October 1, 1933, will probably be substantially reduced. Auction-floor prices up to December 31, 1932, showed some improvement over those of a year earlier.

## CIGAR TYPES

The outlook for cigar tobacco continues unfavorable. The acreage of all cigar types in 1932 was reduced about 18 per cent from the 1931 acreage and with lower yields per acre the total production of cigar tobacco in 1932 was 28 per cent less than in 1931. Reductions in production were fairly uniform for the filler, the binder, and the wrapper types. For most cigar types, stocks on October 1, 1932, showed an increase over those of a year earlier, and for some types the total supply of leaf for the 1932–33 season is greater than for the 1931–32 season, notwithstanding the reduced 1932 crop. Total leaf used in the manufacture of cigars in 1932 was about 30 per cent less than was used in 1929. The reduction was particularly severe in the cases of cigars retailing

at more than 5 cents each, resulting in a material cheapening of the outlet for cigar tobacco. Even the production of cigars retailing at not more than 5 cents each (class A) which had been increasing each year since 1919, showed a decline of about 5 per cent in 1932.

#### PENNSYLVANIA, TYPE 41

Stocks of Pennsylvania filler on October 1, 1932, 107,600,000 pounds, were the highest since 1925, and 33,400,000 pounds greater than on October 1, 1931. Production in 1932 was about 25 per cent less than in 1931, but in view of the reduced rate of disappearance stocks on October 1, 1933, are expected to be fully as large as a year earlier.

#### MIAMI VALLEY, TYPES 42, 43, AND 44

Stocks of Miami Valley types, on October 1, 1932, were the largest since 1927, but the increase in stocks from 1931 to 1932 was not large. Owing to smaller production in 1932, the total supply of 79,500,000 pounds on October 1, 1932, was about 8,000,000 pounds less than the supply on this date in 1931. The supply for the 1932–33 season is, however, larger than that on October 1 in 1928, 1929, or 1930. The future outlook for these types depends to a material extent upon the degree to which growers return to the varieties and strains most acceptable to cigar manufacturers. Over a considerable period of years there has been a tendency to emphasize yields at the expense of quality.

#### NEW ENGLAND BROADLEAF, TYPE 51

The decrease in production of New England of broadleaf in 1932 was more than sufficient to offset the increase in stocks which occurred during the year, and the total supply of 46,600,000 pounds for the 1932–33 season is about 4 per cent smaller than the supply for the 1931–32 season. In view of the reduced rate of consumption, however, stocks are expected to continue large for at least another year.

#### NEW ENGLAND HAVANA SEED, TYPE 52

The decrease in production of New England Havana seed in 1932 was not sufficient to offset the increase in stocks, and the total supply on October 1, 1932, 50,800,000 pounds, was 2,000,000 pounds greater than a year previously. No substantial decrease in stocks is anticipated in the near future.

#### WISCONSIN, TYPES 54 AND 55

Production of Wisconsin-type tobaccos has exceeded disappearance during several recent years, and stocks on October 1, 1932, were the largest on record. Notwithstanding a smaller crop in 1932, no immediate decrease in stocks is anticipated. The 1933 outlook appears particularly unfavorable for type 54, where the present ratio of supply to disappearance is much higher than for type 55.

## BROOMCORN

For a number of years the quantity of broomcorn used has been decreasing. The present annual disappearance seems to be about 10 per cent below that of five years ago. A total broomcorn acreage in 1933 equal to that of 1932 ,with the 1927–1931 average yield of 313 pounds per acre, would produce a crop of nearly 45,000 tons, which is slightly less than the average annual disappearance for the last two years.

The planted acreage in 1932 was about equal to the harvested acreage in 1931, but, owing to abandonment, the harvested acreage was about 3 per cent less in 1932 than in 1931 and was the smallest since 1927. Because of an unfavorable season the yield per acre was the lowest in more than a decade, and the 1932 crop of 33,500 tons exceeded the very small 1925 crop by only 2,300 tons. It was equal to about 70 per cent of the average production for the 5-year period ended with the 1931 crop.

Broomcorn disappearance (including domestic consumption, exports, waste, and loss) which was 62,600 tons in the 1924–25 season, has been less each succeeding year than during the previous year (except in 1928 and 1929, when in-

creases were reported) and amounted to only 43,000 tons in the 1931–32 season. Over a period of years this decrease is largely due to the increasing competition of cleaners not made from broomcorn, and there is now no indication that the average annual disappearance is likely to exceed 45,000 tons during the next few years.

The total supply of broomcorn for the 1932–33 season, approximately 59,000 tons, was the smallest in years. Should the disappearance this season amount to 40,000 tons, stocks on hand at the close of the season (May 31, 1933) would approximate 19,000 tons, the smallest carry-over in the nine years for which data are available.

Owing to weather damage the 1932 crop of broomcorn contained a large proportion of low-quality brush, and prices to growers differed widely for brush of different qualities. Prices to growers around December 1, 1932, averaged about $43 per ton or about 46 per cent of the average December 1 farm price for the five years ended in 1931. Broomcorn prices, however, were relatively higher in December, 1932, than were those of most other farm products grown in the same areas.

The present relatively high prices of broomcorn compared with other farm products, the firm market situation resulting from the unusually small stocks, together with the prospective heavy abandonment of winter wheat in the Southwest, may result in increased broomcorn plantings in 1933.

## RICE

Demand for United States rice during the 1933–34 season, according to present indications, will be little if any greater than in 1932–33. Domestic consumption will probably continue at present low levels unless there is some improvement in business. The foreign market for American rice has narrowed because of competition from low-priced oriental rices, depreciated currencies, and import duties and other restrictions. A large carry-over of old domestic rice into the 1933–34 season is in prospect.

### SOUTHERN BELT

The 1932–33 southern rice crop and the record carry-over of rough and milled rice August 1 are equivalent to about 10,611,000 barrels, or 6 per cent less than the supply for the 1931–32 season and 3 per cent below that of 1930–31. The supply averaged 10,769,000 barrels for the five seasons 1927–28 to 1931–32, with the range from 10,039,000 barrels (1929–30) to 11,337,000 barrels (1931–32).

The reduced supplies of southern rice for the 1932–33 season resulted principally from a smaller acreage. The rice acreage in the Southern States was 759,000 acres, compared with 853,000 acres harvested in 1931 and 851,000 acres in 1930. The acreage for the five years 1927–1931 averaged 829,000 acres.

Allowing for average farm use, about 8,760,000 barrels of rough rice are available for market in the Southern States during 1932–33 or for carry-over at the close of the season, compared with about 9,900,000 barrels in 1931–32, 9,925,000 barrels in 1930–31, and 9,000,000 barrels in 1929–30. Receipts of rough rice by southern mills from August through December, 1932, were 16 per cent smaller than during the same period the year before; they were restricted by low prices and reduced demand for milled rice. Shipments of milled rice into consuming channels from August through December were also reduced, being 12 per cent smaller than those in this period the season before.

Shipments to Puerto Rico, which usually takes from 20 to 25 per cent of the southern rice crop, were larger in the period from August through December this season than in the corresponding period last year, reflecting an unusual demand that resulted from damage to local food crops by hurricane. In 1928–29 and 1930–31, when hurricanes also occurred, annual shipments to Puerto Rico totaled nearly 210,000,000 pounds.

The 1932–33 world supplies, outside of the United States, apparently are about as large as the world supplies in 1931–32. Production in countries reporting up to the close of December, which account for, roughly, one-fourth of the world production, was slightly larger than a year previous. The 1932 crop in Japan is estimated at 18,972,000,000 pounds, an increase of about 9 per cent over the 1931 crop. No production estimate is available for India, but the 1932 acreage was placed at 78,791,000 acres, compared with 81,367,000, the comparable estimate in 1931. Reports suggest a good-sized crop in Siam on

an increased acreage and a French Indo-China harvest about as large as that of a year ago. Efforts on the part of foreign countries to be self-sustaining have been an important factor in maintaining acreage.

Foreign outlet for United States rice during 1932–33 has been narrowed by reduced purchasing power and restrictions of imports in some of those countries that usually buy a large percentage of the United States rice. Exports of rice from the Southern States from August through December, 1932, totaled only about 48,000,000 pounds compared with 75,000,000 pounds in the same months of 1931; they were the smallest for that period since 1925. The foreign countries that buy from 60 to 75 per cent of the American rice exports have been increasing their apparent consumption of rice during the last three years. Imports of United States rice into the principal importing countries of Europe have increased during the same period but not to the same extent that total imports increased. United States exports to South American countries have decreased during the last three years, largely because of reduced purchasing power in those countries and increased competition from Brazilian exports.

The United Kingdom imposed an import duty of 1½ cents per pound (cleaned basis) on non-Empire rice, effective January 1, 1933. Some of the South American countries also imposed import duties on rice to stimulate domestic production. The very low prices of oriental rice have practically excluded American rice from the Cuban market this year. United States exports to Cuba from August through December, 1932, were about 6,000,000 pounds less than those of the corresponding period in 1931. In fact, to only a few foreign countries were shipments of American rice during the first five months of the current season as large as those for the corresponding period in 1931. Because of competition from low-priced oriental rices and of restrictions on imports, the export outlet for American rice during the current season is narrowed. It is probable that this export outlet may continue to be smaller during the next few years unless there is considerable improvement in buying power in the principal rice-importing countries.

### CALIFORNIA

The 1932 California rice crop was 1,955,556 barrels, equal to 3,168,000 bags of 100 pounds each. This harvest was 17 per cent smaller than the 1931 crop and 10 per cent under the 5-year (1927–1931) average. The reduction resulted from a smaller acreage and lower yields. Only 110,000 acres were harvested, compared with 125,000 acres in 1931, and the yield was 6 per cent below that of 1931. Demand for California rice through December of the 1932–33 season was confined mostly to domestic, Hawaiian, and Puerto Rican outlets since exports were small. Shipments to Puerto Rico from the beginning of the California crop year (October 1) through December were about twice as large as those during the same period of either 1930 or 1931. Hawaiian takings exceeded those of a year ago. Interest in California-Japan rice by foreign countries is restricted by fair-sized crops in Spain, Italy, and Japan.

Reports from Japan indicate that domestic supplies in the Japanese Empire will be almost adequate for domestic needs. The limiting factor in Japanese takings of California rice is the San Francisco and Tokyo price relationship. The Tokyo price of brown rice is usually from 80 cents to $1 per 100 pounds above the San Francisco price of brown rice when Japan is buying California rice. Middle quality brown at Tokyo on January 23 was quoted at $1.55 and No. 1 brown at San Francisco at $2 per 100 pounds.

## THE LONG-TIME AGRICULTURAL OUTLOOK

Many considerations affecting the agricultural industry as a whole are not adequately treated, particularly in their long-time aspects, in the foregoing discussions. In order to consider these more general forces and conditions and to appraise their influence in shaping the course of agricultural development, the following topics are presented as a long-time outlook.

### GENERAL PRICE LEVEL

The decline in the general price level has been the important factor in the agricultural depression, which has existed in varying degrees since 1920. The present acute situation, with its disparity between prices of farm products and industrial goods and services, its breakdown in the exchanges between farmers and their accustomed markets, and its burden of debts contracted on the higher

price levels, is the direct outgrowth of the fall in general commodity prices, combined with drastic declines in general business activity. Irrespective of whatever causes may have brought about this price catastrophe, the important consideration is that the present agricultural situation is largely the result of it, and the agricultural outlook for several years ahead is dependent largely upon what happens to the general price level.

Reviewing the course of the general price level over many years, it will be observed that following great war periods, in which prices were raised to very high levels, the decline has continued through many years. In relation to these war periods the present depression corresponds approximately to that of the thirties and seventies of the nineteenth century. Prices rose after those depressions, but later sank to still lower levels. In the earlier depression, however, prices of agricultural products reached their lowest level before non-agricultural prices and the general price level touched the bottom of the long swing between the two war periods. Reviewing the present situation in the light of this past experience, it may be observed that many further adjustments must be made before a high degree of stability is attained.

In attempting to arrive at conclusions by analyzing present conditions and their causes in the light of past experience, different analysts give greater emphasis to some conditions and causal relationships than others, and yet their conclusions are similar.

Some students of prices take the view that the causes of major changes in all-commodity prices are largely monetary. The physical volume of production of commodities in the world tends to increase at a fairly uniform rate, about 3 per cent per year. Variations in gold production and in the demand for gold in relation to this rate of increase in production are the dominating factor in determining changes in the general price level. In the World War period many countries abandoned the gold standard and inflated their currency and credit, thus greatly reducing the demand for gold. The output of gold fell to a low point in 1920. As countries returned to the gold standard, the demand for gold increased. Prices began to be more definitely related to monetary gold stocks. Naturally prices had to fall from their inflated high levels. During the present depression with its derangements in credit the demand for gold has greatly increased. Production of gold has greatly increased during the last few years, making a new record in 1932, and large quantities of gold have been withdrawn from India, as well as from use in the arts. These developments tend to raise the general price level. The abandonment of the gold standard by many countries also prepares the way for an increase in the general price level. A general return to the gold standard would have a tendency to reduce the level of prices. Those who hold to the gold theory of prices believe that the present supply of gold is sufficient to support commodity prices at about the pre-war level with all the world back on a gold basis, provided gold is used in the monetary structure as efficiently as before the World War.

Other analysts believe that changes in the price level are effected more by the very wide variations in the volume of bank credit and in national monetary policies than by the world supply of monetary gold. The future of the general price level, in their view, depends primarily upon central banking policy as reflected in the operations of commercial banks. A maldistribution of gold among central banks and the strain imposed upon banks by international debt obligations were important factors in bringing about credit restriction and the present depression. During the last few years important readjustments have been under way which may result in material improvement. If it were possible for central banks to agree upon and act coordinately upon certain policies, it probably would be possible to raise the general price level and hold it at a higher level. They do not anticipate, however, that the credit structure of the world can again be built up and maintained so as to restore and stabilize prices at the 1927–1929 level.

Another group of analysts consider productive activity in this country and abroad and international trade relations to be the primary factors in the general price level. In their view the present depression in prices is due in large measure to a world-wide depression in business activity, which is in part only temporary; attempts at national protection and the development of national independence from international trade and exchange are also important factors which are in part temporary; when readjustments in price and credit relations have gone far enough to provide a basis for a revival of confidence in the future, business activity will be resumed, trade barriers will be relaxed to some extent at least, and prices will rise. In their view, as production is reorganized on the

basis of the many readjustments that are being made in the costs of the factors entering into production and in the handling of commodities between producer and consumer, the rate of production may be maintained on a price level considerably lower than the 1927–1929 level. The world is now prepared, they believe, to maintain a rate of production sufficient to meet current requirements on a price level which may not be far from that of the present.

If the general price level rises, agriculture will be one of the first industries to benefit. Any marked rise in wholesale prices would be accompanied by a business revival and a greater advance in prices at the farm. Even a small general rise would help to reestablish market confidence. A substantial rise in the all-commodity price level is the one thing that would change the whole outlook for agriculture promptly and favorably.

If all-commodity prices tend to stabilize at somewhere near the present level, the next few years will unquestionably see a continuation of the liquidation and readjustments that are now in progress. The farm business can not go ahead in a normal way until further readjustments are effected outside of agriculture. If the general price level remains near the present low level, the farmer's burden of debt will have to be made tolerable by easier terms, reductions in principal or other means; taxes will have to be brought within the capacity of farm property to pay or will have to be partially shifted to other sources; and industrial wage rates, salaries, and capitalizations will have to come down to a point at which they do not hold necessary goods and services out of the farmer's reach. In particular, readjustments must be made in transportation charges and other distribution costs, in the prices of farm machinery, and in other charges or costs of factors in production, as well as taxes and debt burdens. All of these readjustments are now in progress, but they are moving slowly and in the face of great resistance. Agricultural conditions during the next several years will improve if the general price level rises; or they will improve as the readjustments are hastened that will bring wages, charges, taxes, and costs of all kinds into line with the lower price level that prevails.

## DOMESTIC DEMAND

The contraction in the industrial activity of the Nation since 1929 has been so great, the disorganization of consumer purchasing power and living standards so widespread, and the spirit of speculative enterprise so crippled that a speedy return to the former high rate of industrial production and urban employment is not generally anticipated. By the end of 1932 the volume of industrial production had been cut to half of that of 1929, about a third of the persons formerly gainfully occupied in industries other than agriculture were then completely unemployed in industry and millions were working part time. In the 30 years between 1899 and 1929 the industrial production had far outstripped population growth; whereas the latter had increased about 60 per cent, industrial output had increased about 200 per cent or more than three times the rate of population growth. That industrial expansion of 30 years has been wiped out during the course of the current depression, in progress since 1929, for the ratio of output to population in 1932 was back to that of 1900.

A much higher volume of industrial output than the present abnormally low level will probably be reached within this decade. It must now be recognized that the industrial growth of the country was given an abnormal spurt by the war conditions of 1916-1918 and that certain influences growing out of the World War on both domestic and foreign industrial trends helped sustain the level of our industrial output and the domestic demand for farm products during the decade of the 1920's. Those factors, particularly the foreign demand for our industrial and farm products, are not likely to be as favorable in the next few years as they were between 1920 and 1929.

Another factor which is likely to hold the volume of industrial production of the next few years below that of the 1925–1929 level and which will influence agricultural developments is the slower rate of population increase and a shift of industrial population to farms. During a substantial part of the decades 1910–1920 and 1920–1930 most of the increase of population was in the cities (nearly 15,000,000 out of the 17,000,000 national increase in 1920–1930). The immigrants settled largely in the cities and there was a net migration from farms to cities of 5,000,000 to 6,000,000 each decade. From 1920 to 1930 the urban population increased 27 per cent, the rural, nonfarm 18 per cent, while the farm population decreased 4 per cent. Immigration as well as farm-to-

city migration has now ceased, while the number of children born in the Nation is decreasing between 50,000 and 125,000 each year, the greater decrease developing during the recent years of economic depression. The decrease has been greater in cities than on farms. Ten years ago the population of the Nation was increasing nearly 2,000,000 a year; now the increase is only about 800,000. These tendencies, so contrary to those upon which much of industrial expansion has been predicated, suggest a slower rate of our industrial expansion for the next few years at least. Possibility of the development of new industries or of the substantial expansion of old ones in new directions is to be kept in mind as a potential accelerating force.

While these are basic long-term tendencies that will affect agriculture during the remainder of this decade, the course of domestic demand during that period will continue to be an irregular one subject to fluctuating financial and industrial conditions here and abroad. The depletion in stocks of manufactured products of various kinds and the cumulative effect of consumers' needs have made themselves felt in every previous depression. Because of these influences, coupled with the efforts that have recently been made and those that are likely to be made to revive industrial production, to redistribute the national income, to relieve the burdensomeness of indebtedness and open up foreign trade channels, some improvement in domestic demand conditions is quite likely during the next few years. A continuation of such improvement to the end of this decade will of course depend on the ability of industries and financial institutions to make lasting adjustments in response to current efforts toward revival. The course of industrial history suggests that the process of emerging from a depression of such magnitude as the present one is likely to be irregular.

Furthermore, a higher level of industrial output would not necessarily mean a proportionate reduction in the number of unemployed and a proportionate increase in the money incomes of consumers of farm products. In the decade between 1919 and 1929 when factory production expanded about 45 per cent, the number of factory workers actually declined at least 5 per cent. In the shorter interval between 1923 and 1929, with the same number of factory workers, factory production expanded nearly 20 per cent. It is thus not unlikely that during a recovery in industrial activity farmers might still be confronted by the retarding influence of unemployment.

Prospective changes in domestic demand should eventually be reflected in restoration of prices of farm products in general more nearly in line with the level of nonagricultural prices. An improvement in that relationship may be expected as industrial production relative to agricultural production expands and as consumer incomes are increased through a reduction in unemployment. But certain factors are operating to maintain for some time the disparity between agricultural and nonagricultural prices, that is now greater than at any time in the past 60 years. Among these factors are the usual response of agricultural prices to general deflation, as costs of transportation remain relatively high and inflexible, the sharp curtailment in industrial production, which so far has tended to sustain certain industrial prices and to reduce the buying power of consumers; the inability of farming to make such drastic adjustments in output, which creates a condition of relative abundance of farm products; the shift in population from cities to farms, which reduces consumer demand for farm products and adds to the total supply of such products; the increased agricultural production abroad, which tends to maintain an abundance of agricultural products throughout the world relative to the supply of other goods; and the slowing down in the rate of population growth.

### FOREIGN COMPETITION AND DEMAND

The passing of the world-wide depression will probably bring an increase of import demand for farm products both in western Europe and in the Orient. The extent of this increase, however, and the share of it which will be supplied by the United States will depend largely on international financial conditions and policies regarding foreign trade.

Before the war the trend of our agricultural exports was in general downward. This trend was reversed as a result of the heavy demand on the part of Europe growing out of war conditions; our exports during the war period and the years immediately thereafter reached the highest level on record. A large part of our exports during and since the war, however, has been paid for with money borrowed in the United States. Foreign countries have since the war been able to buy considerably more from us than they sold to us in

goods and services, because American investors have loaned them the funds to pay for the excess. Thus the large surplus of our exports over our imports has been made possible by our heavy loans to Europe as well as our loans to South American and other countries. This lending has now largely ceased, and our export surplus has already been substantially reduced. It does not now seem likely that when the recovery from the depression takes place foreign lending will be resumed on so large a scale as previously. On the other hand, under existing arrangements foreign countries will have to use a considerable part of the proceeds of their sales of goods and services to the United States for the payment of their obligations to American creditors.

It follows from the foregoing analysis of the situation that when prosperity returns, either the volume of our exports will be much smaller than before the depression or the volume of our imports (including the sale of services to Americans by the inhabitants of foreign countries) will be much greater. The volume of our imports, however, is limited by our tariff. We will, of course, continue in any event to import such commodities as coffee, rubber, tin, and others which are not affected by our tariff. The sale of services and goods to Americans traveling abroad is another important item not directly affected by our tariff. These items, however, have not been sufficient in value to provide the means of payment for more than a part of our exports. Consequently the total volume of United States exports in the future will be profoundly influenced by our own tariff policy, even apart from any possibility of reducing foreign trade barriers by tariff bargaining.

The demand for imported farm products in the agricultural deficit countries will depend largely also on financial conditions, on the trade restrictions of these countries, and on their domestic agricultural production. Since the war agricultural production in Europe has steadily increased, and has somewhat more than regained its pre-war volume. The increase has been materially aided by import restrictions, which have become particularly severe during the depression. This factor has been responsible for a considerable decrease in our exports of animal products and of grains. If and when economic and financial conditions improve, not only will there be an increase of purchasing power, but there will, in all probability, also be abandonment or relaxation of the more extreme forms of trade barriers which have developed since the financial crisis of the summer of 1931. This, in itself, would be a great gain; but it would probably still leave barriers well above those prevailing in 1929. With respect to further reduction, much will depend upon the progress of the present move for a general scaling down of barriers by resort to international tariff bargaining. Possibly this may result in a substantial reduction of barriers, but as to the extent, forecast is impossible. Unless marked progress is made in this direction, however, the substantial gains in agricultural production made in Europe since the war are likely to be at least maintained. The continued existence of trade barriers will also tend to retard increased consumption. Imports of wheat by the deficit countries may not be greatly increased above their present level. European imports of pork products will probably diminish as a result of increased production in the principal countries, Germany and the United Kingdom; the latter country has recently embarked on a policy of restricting imports of pork products by means of a quota system through which it is hoped to increase production very materially. Imports of lard will probably be limited by the increased production of edible fats, particularly in Germany, and the increased competition of vegetable oils.

The prospects appear to be more favorable with regard to fruits, cotton, and tobacco. Our exports of fruit, now one of the leading items in our export trade, have steadily increased in recent years and have been well maintained even during the depression. The recent imposition, however, of fairly heavy import duties in the United Kingdom, the leading market, may somewhat retard the increase of consumption. Europe and the Orient will need to continue to import large quantities of cotton, and unless smoking habits are drastically changed, of the types of tobacco principally exported from the United States.

The competition of other countries exporting agricultural products will probably continue to grow. In some commodities, such as cotton, tobacco, and fruit, the United States appears to possess outstanding advantages of climate and soil which will permit continued heavy exports in the face of this competition, but for other products, such as pork and wheat, the prospects of meeting this increasing competition are not as good. The rapid development of the world's vegetable-oil production seems likely to affect the export out-

let of American lard. The increasing production of vegetable oils is likely also to be an outstanding feature of foreign competition in the American market. Moreover, in regard to fruit, the new duties which have recently been imposed by the United Kingdom on fruit from countries outside of the British Empire are likely to accelerate the increase of production in the British dominions and colonies.

## FARM REAL ESTATE VALUES

The drastic decreases in farm income after 1929 brought the sharpest declines in farm real estate values since those which in 1921 and 1922 followed the break of the postwar boom. During the 12-month period ended in March, 1932, the latest period for which data are available, the average acre-value for the country as a whole decreased from a point 6 per cent above 1912–1914 taken as a pre-war average to a point 11 per cent below. The declines were not uniform in all parts of the country, but all States were affected, and on March 1, 1932, average values in two-thirds of the States were below their pre-war levels.

Associated with this adverse development was a decline in the rate of voluntary sales of farms to the lowest in the available record, which began in 1925–26. There was also a sharp rise in the rate of farms sold on account of delinquent taxes to the highest figure in the available record; and a marked increase also to the highest figure in the available record, in the rate of farms sold on account of mortgage foreclosure, bankruptcy, or default of contract, or "deeded back" or otherwise transferred to avoid foreclosure.

The conditions that led to these adverse developments have in general continued. Further declines in prices of farm products during 1932 reduced gross farm income to the lowest figure in over a score of years. Rigid economy and moderate decreases in the prices of commodities farmers buy resulted in some reduction in operating expenses, but the exchange ratio of products sold to commodities bought still remained at the low figure of around 50 per cent of pre-war. Taxes on the whole have declined somewhat but the claims of debt service have continued at high levels. Hence, the proportion of the available gross income required to meet fixed charges increased further. Under such conditions the foreclosure and tax delinquency problem grows still more acute, and an enlarged burden of distressed real estate thrown on an already overburdened market still further depresses values.

On the other hand, it is true, the existing situation has created opportunities for acquiring farms at lower prices than for many years, provided the financing can be arranged, and some increase in sales has been reported from a few areas. Farmers themselves, however, are normally the largest class of buyers of farms, and in recent years their reduced income, together with further restriction in the availability of mortgage credit, has seriously contracted their purchases. The "back-to-the-land" movement on the part of the urban unemployed does not yet appear to have been a significant factor on the sustaining side of farm realty values, except possibly in some areas of comparatively low-priced land or in the vicinity of the larger cities.

The course of farm realty values in the next few years will depend mainly upon the trend in prices of farm products and of commodities bought by farmers; upon the trend of farm real estate taxes; upon developments in farm-mortgage credit; and upon the opportunities for alternative uses of labor and capital in industrial and commercial activity. Most of these factors are discussed in more detail elsewhere in this report. Even if prices of farm products improve, however, farm realty values, if past experience can be taken as a guide, probably will not rise in proportion, for they tend to lag behind commodity prices; and the accumulating burden of distressed land that remains to be absorbed may be expected to accentuate the lag.

## FARM CREDIT

The present farm-mortgage situation is dominated by the acute distress of large numbers of farmers who because of inability to meet payments due on their loans are losing their farms by foreclosure or by voluntary relinquishment of their titles. The extremely low farm incomes as contrasted with high fixed charges have made the question of indebtedness a crucial problem in important farming areas. Foreclosures on farms for debt during the year ended March, 1932, reached higher levels than in any other year since 1920, and indications are that they have continued at high levels since.

Recent losses of farms have occurred to an increasing extent on account of first mortgages which could no longer be sustained by the depressed prices of farm products and of farm land. Average prices of farm products for 1932 were 57 per cent of pre-war levels, whereas land values in March were 89. In view of this wide disparity between prices and values, it can not be predicted how soon the present severe liquidation will cease. The pronounced downward adjustment in farm taxes that now appears to be under way, and possible further reduction of prices of commodities that farmers buy, are factors which may aid in increasing the available net farm income and in relieving debt distress. Efforts to improve the debt situation by extension of terms or by other equitable adjustment are urgently needed.

The more distant future of farm-mortgage credit depends in part upon developments growing out of the present situation with regard to outstanding loans now in distress. During the period from 1895 to 1920 the reliability of the farm mortgage became traditional, but the present severe depression of farm income and farm values is subjecting the farm-loan structure to great strain. If in the adjustment of distressed credit conditions full consideration is given to the rights and equities of both lenders and borrowers, the confidence of investors generally will be retained in the farm-mortgage field as a means of investment in future years. If, in addition, more flexible payment plans which accord with the current prices and yields of farm products should be generally adopted as acceptable means of keeping loans in good standing during the present emergency, losses to investors and losses of farms will be held to a minimum, the mortgage operations of loan and collection will be kept nearer to normal, and future borrowers on farm-mortgage security will not be unduly penalized through loan terms because of previous mistakes connected with this type of credit. The continuous turnover in farm lands and the substantial amount of capital represented by the average farm make it highly desirable to maintain favorable facilities for long-term financing of farm real estate.

Beyond the present depressing circumstances certain more hopeful aspects are discernible if a long-term view is taken. During the last 13 years a great amount of liquidation in agriculture has taken place. A recent bulletin of the Iowa State College indicates that the average mortgage debt per acre of mortgaged farms in that State has declined 29 per cent from 1921 to 1932, and that in October, 1932, this average was within 17 per cent of the level of 1915. The fact that delinquency on farm mortgages did not reach large proportions until the acute stage of this depression is evidence of the continued stability of this form of investment It may be expected that with the subsidence of the present wave of foreclosures and the acceptance of losses in extreme cases new loans made on the more stable basis of lower values should again become available and should be offered at rates lower than have prevailed for several years past.

The adequacy of future farm-mortgage financing will depend in part upon what improvements. if any, are made in the institutions making loans on farm land. The current depression has been deepened for agriculture because during most of the period no major class of institutions has been able to provide normal credit accommodations on first-mortgage loans. Lack of strong facilities, having broad powers, and capable of providing a more constant flow of credit on approved farm loans, accounts for part of the uncertainty regarding future capacity to avoid a repetition of current difficulties and regarding other aspects of the long-term outlook for farm-mortgage financing.

The long-time outlook for farm-production credit will depend largely upon the future course of the farm-income situation and upon the measures taken to improve existing disorganized facilities for short-term credit. The present extremely low income of farms and the wide disparity between farm and other prices has drastically curtailed the ability of existing institutions to grant and the ability of farmers to repay credit. Whereas the greater part of long-term farm credit has for a number of years been drawn through central sources, farmers' accommodation for production loans is still mainly dependent upon local sources the lending capacity of which tends to vary from year to year with local conditions. Since agricultural returns vary more widely than do those for other industries, the cumulative result has been that as the agricultural depression has continued an increasing number of institutions have become inactive or have entered receivership.

At the beginning of 1933 production credit for agriculture is in the most demoralized condition of any time for several decades. Since 1920 the facilities for providing the farmer with advances for his current production operations

have been growing less satisfactory. During this time more than 10,000 banks have closed, mostly banks in the rural districts in which farmers had their deposits and on which they relied for needed credit. In 1931 more than 2,200 banks failed and, despite emergency loans of the Reconstruction Finance Corporation to more than 5,000 banks, failures in 1932 numbered nearly 1,500. Farmers in many entire counties for several years past have been without facilities either for the safekeeping of savings or for the obtaining of small loans essential to the season's production of crops and livestock.

For a long time the difficulties of the country banks were viewed as temporary in character, and as such that they would pass with the emergency of 1921 and the years immediately following. But with the short-term credit situation becoming steadily worse into the second decade, it has become apparent that the difficulty is due to weaknesses inherent in the existing system and intensified by long years of practice.

During the last 10 years emergency-credit provision has grown in variety, lending power, and permanence of character so that the immediate prospect is for a larger proportion of financing by these agencies in so far as the regular financing facilities continue inactive. The aggregate amount of credit extended, however, constitutes only a comparatively small part of the total amount of agriculture's credit, though of recognized importance in the livestock regions. All of the emergency agencies have confined their activity to lending. Experience indicates that farmers prefer to make their credit arrangements with institutions that can accept deposits and offer other banking facilities rather than with agencies that can extend credit only. Certain other limiting factors constitute basic handicaps in the use of emergency measures. It seems probable, therefore, that emergency measures must continue to be of subordinate importance and that eventually the demand for more permanent credit facilities will renew attention to the need of fundamental change in production-credit arrangements.

From the long-time standpoint, the needs of farmers for production credit are not properly provided for or adequately safeguarded against the recurrence of such demoralized conditions as now exist. The prospect will become more favorable, if in determining the character of the institutions advancing such credit the characteristics of agriculture and the conditions under which they must operate are given more consideration. Agricultural prices fluctuate more widely than do other prices; farm production and returns are subject to occasional violent interruption; and the farmers' demand for production credit consists of a large number of small loans scattered over a wide area. It is essential to the season's work that the farmers' credit institutions should function every year and under all conditions of price level; that facilities provide warranted credit for the farmer even though the previous year's crop of the community may have failed; that institutions should not be subject to closing by withdrawal of deposits through fright of local depositors; that the strength and capacity of the bank should not be governed mainly by the distress or prosperity of agriculture, but should be sustained by financial resources of a broader nature; that profits and reserves made in times of prosperity should provide the means for absorbing unpreventable losses from depression without discontinuance of financial accommodations in periods of emergency; that the resources of the institution should be so used that a decline in capital values would not endanger the safety of depositor's funds, threaten its solvency, or deprive the community of facilities for production credit; and that the most effective available supervision should be employed to assure the best banking practice. Subject to the limitations imposed by farm-price conditions and relationships, the long-term outlook for improvement in production credit will depend upon sound developments in rural-credit facilities and practices.

### FARM TAXES

Farm real estate taxes per acre for the United States as a whole increased almost 150 per cent between 1913 and 1929, or from 27 cents in 1913 to 67 cents in 1929. This increase, more than two-thirds of which occurred between 1916 and 1920, was caused partly by the public demand for more and better public improvements and governmental services, and partly by the rise in wages, salaries, and prices.

School and road construction particularly was greatly expanded and improved. Many other services were developed, such as mothers' pensions, hospitals, and welfare work. It was inevitable that the cost of such expansion and development should be defrayed by increased taxes. Through borrowing, ex-

penditures generally increased more than taxes, and a part of the increase in taxes was for interest and principal charges on the enlarged debt.

Farm real estate taxes were reduced about 20 per cent between 1929 and 1932, but are still approximately double the 1913 level. It seems reasonable to expect some further reduction, mainly because of the usual lag in prices of governmental services behind general prices. Since 1929 both wholesale prices and farm prices have declined much more than farm taxes, the decline in wholesale prices being almost one-third and that of farm prices 58 per cent. Though much of the farm tax reduction of the last three years is explained by the decline in the prices paid for governmental services and materials, there are good grounds for believing that further reduction in public expenditures will occur if general prices do not rise.

There are reasons to believe, however, that the decline in levies on farm property will not bring farm taxes down to their pre-war relation to farm prices. Among these reasons are the universal tendency for public expenditures to increase; the necessity of paying, for some years ahead, interest and principal charges on debts already contracted on account of past expenditures; the fact that farm taxes are mainly local taxes, and alternative tax sources now apparent are sorely needed by State and Federal Government for present and prospective services.

Although some services have been curtailed in many places, new services, such as employment relief, have been added. More services will probably be curtailed under continued pressure of low prices. There will probably be sharp curtailment of borrowing and of services financed with borrowed money. But this will not reduce current taxes except as present debt is reduced.

Further farm-tax reduction will probably seek mainly to shift a part of the present tax to other groups, to reduce further many public services, and as the situation improves, to reduce expenses for welfare activities. However, if there should be any significant rise in farm prices, the downward trend of farm taxes would probably be arrested.

## FARM LABOR AND WAGES

At present farm wages are the lowest in many years. Nevertheless, average farm wages in relation to prices received by farmers for their products are still much higher than before the World War.

During the last three years the trends have been toward increasing farm-labor supply, diminishing demand for it, and lower wages. Important factors bringing about these trends have been the declining prices and employment both in and out of agriculture, as well as the reversal of the former movement of people from the farms to the cities. If the price level of farm products continues below that of farm wages, farmers' inability to hire labor even at present low rates will hold hiring to a minimum; and if demand for non-agricultural labor continues low, it will hold in check the movement of rural people to the cities, and force some people from the cities to the country in search of opportunities for self-support.

A factor that in recent years has tended to diminish the demand for farm labor is the increasing efficiency of production resulting from mechanization and from improvements in crop production and animal husbandry. Large labor supply and low wages may temporarily retard the trend toward increased use of labor-saving methods and mechanization of many agricultural operations.

The long-time tendency has been for general wages to rise gradually relative to commodity prices. If history should repeat itself, it may be expected that general wage rates in the next several years will remain at a higher level relative to commodity prices than existed before the World War. If this proves to be the case, it may be expected that farm-wage rates, which are affected by the urban-wage scale, will continue to be held relatively higher than farm prices.

## FARM MACHINERY

The depression has halted, temporarily at least, the tendency toward a rapid mechanization of agriculture. Continued low prices for wheat and for other crops have checked expansion of cultivation upon the Great Plains and in the far Northwest where machinery was being extensively used. The increasing use of motor-power machinery in crop production elsewhere was also checked by the low prices for products and the maintenance of relatively high prices for machinery. In fact, the low prices for products and the consequent scarcity of cash have resulted in farmers curtailing the use of the tractors

and other power machinery that they have on hand, on account of the difficulty of purchasing fuel and repairs for them.

The great reduction in the purchase of new machinery and the use of motor-power machinery is in part temporary. Since the horse power on the farm is being reduced at a fairly rapid rate and can not be rapidly replaced, some of the power machinery now in use must be replaced. A return of horses to the extent of displacing all of the motor-power machinery on farms is not to be anticipated. Material reductions in prices of farm machinery would facilitate or increase the rate of the replacements of machinery wearing out and tend to check the return to use of horses in many areas, but a full resumption of the use of mechanical power to the extent developed in the period 1927–1929 is not likely in the near future. If prices of agricultural products are not materially improved in relation to the prices of machinery and other expenses of production, the tendency to the mechanization of agriculture will be slowed up for many years.

## TRENDS IN AGRICULTURAL PRODUCTION

Until about 1905 the increase in production had been similar for cash crops and feed crops. Livestock had also followed the same general trend. During the next 10 years (1905–1914) production remained relatively stable, with the decline in crop production in the Eastern States being about offset by production on new lands opened up in the West.

Under the stimulus of advancing prices and an increased demand for all agricultural products during the years 1915–1920, the upward trend in production was renewed, the increase being confined largely to cash crops and to livestock. The acreage of the principal crops increased 15 per cent from 1909 to 1919. In this shift, however, the acreage of feed crops increased less than 4 per cent whereas the acreage of cash crops increased 43 per cent. Livestock increased about 23 per cent during the same period. The increase in crop production occurred largely in the Great Plains area and went on during a period when there was a scarcity of farm labor. These factors were encouraging to the development of large-scale farming and the increased use of mechanical power.

The expansion in acreage devoted to crops was halted by the sharp decline in prices in 1920 and 1921. Since 1919 the area in crops has remained fairly constant at about 355,000,000 acres. In contrast to the relatively stable acreage, net agricultural production (that is, production for market or for home use) has increased about 20 per cent from 1919 to 1929. The increase in net crop production was 12 per cent, while the production of livestock and livestock products increased 24 per cent.

The prices of cash crops such as wheat, cotton, flax, tobacco, and vegetables were relatively high in comparison with the prices of feed grains, resulting in a progressively larger proportion of the cultivated acreage being planted to cash crops. Prices of livestock and livestock products also were relatively high in comparison with feed grains. The shift from horse to mechanical power resulted in a marked decline in the number of horses and mules on farms and in cities, thus releasing large quantities of feed for other livestock so that this marked increase in livestock production for market and home use was accompanied by less than a 1 per cent increase in crop acreage.

The sharp decline in prices of all agricultural products since 1929 has resulted in marked shifts in crop acreage during the last three years. The area planted to feed crops increased about 14,000,000 acres, or 6.3 per cent from 1929 to 1932, while the area of cash crops declined about 17,000,000 acres, or 13.6 per cent. Feed grain acreage in 1932 was the largest on record and the increase in acreage has been accompanied by an increase in livestock numbers. During the first two years of declining prices the decline in the prices of cash crops was much greater than the decline in the prices of livestock and livestock products, but in 1932 the greatest price declines occurred in the latter group, thus decreasing the advantage to be obtained from shifting from the production of cash crops to livestock.

There are several conditions prevailing, however, which are likely to keep feed-crop and livestock production at a high level. The sharp decline in farmers' incomes has caused farmers to raise a larger part of their food and feed crops, thus increasing the production of both livestock and feed crops in normally deficit-producing areas. On the other hand, farmers in surplus producing States, who usually market a large part of the surplus grain, have had their market restricted both by decreased industrial utilization and by

smaller feed purchases in deficit-producing areas, and have had to increase livestock production to use up the available surplus feed.

At a time like this it is hazardous to judge as to future developments by the projection of present trends. Conditions are too much affected by the disturbing forces of the present economic depression to afford an adequate basis for forecasting. Nevertheless, judgment as to the future course of our agricultural production must be based upon the full consideration of these conditions.. It is necessary to weigh the probable effect of all of the elements in the situation, the more important of which have already been discussed in this report.

The questions of greatest importance concerned in a long-time view of agricultural production are: (1) What are the prospects for a continuing outlet for such staple export products as wheat, cotton, and tobacco, as compared with those that now find their entire market outlet at home, such as dairy products, vegetables, and, with minor exceptions, our meat products? (2) What are to be the changes in the volume of our total agricultural output? (3) What changes are ahead in the proportion of our total agricultural output produced for the market and the part produced for use in farm homes? (4) What changes are to be looked for in the organization and operation of farms in terms of size, tenure, farm practice, and the economic status of the operator and his family.

Considering these questions in their turn, the one which probably affects agriculture most vitally just now is that with reference to the future importance of the world market. It is not at all conclusive that the downward trend of the last three years in our export trade will characterize that trade for the immediate years ahead. There is at least some hope for relaxation of the restrictions upon international trade, to the extent of making a somewhat freer market for American staple products. But with whatever help may come to our farmers from this source, we can not expect the stimulating run of demand from abroad which helped so much in the recovery of American agriculture from the depression of the nineties. It is doubtful even whether we can expect as much of a stimulus from this direction as there was in the two or three years immediately following the crisis of 1920–21. All experience tends to show that trade barriers, once established, are slow to break down. Moreover, there is nothing in the world situation that would lead us to expect anything similar to the rapid industrial development of western Europe or any similar portion of the world such as took place in Germany, England, and other nations during the last quarter of the nineteenth and the first quarter of the twentieth centuries and which so greatly stimulated the development of American agriculture. Further, there is potentially much stronger competition than formerly in the supplying of food for whatever expanded industrial markets may be developed. This competition is to be found not only in the agriculture of the industrial countries which are seeking to make themselves nationally self-sufficing in food but from the great surplus agricultural countries.

On the other hand, it seems obvious that we shall continue for an indefinite period to export a surplus of our staple commodities such as wheat, cotton, tobacco, and lard. It is unlikely and undesirable that American producers shall withdraw from these markets. The situation does appear to mean, however, that there will be a growing preponderance of the domestic market as the basis for agricultural production. This means that there will be a progressively larger proportion of our land and labor devoted to dairy, fruit, vegetable, and meat production as the growth of our population increases the need for these commodities.

The answer to the question as to whether or not our total agricultural output will increase or diminish depends very largely upon the continuation or abatement of the economic depression. Depressions almost invariably reduce the volume of commercial agricultural output. This has been most noticeable, of course, in our cash crops. The shift from commercial production toward self-sufficiency tends to reduce volume by reducing the efficiency with which farmers produce. The recovery of American industry to something like its recent volume and a progressive development from that point would be the greatest stimulus to sustained and increased agricultural production. The present tendency for farm population to increase by additions from the ranks of the unemployed will probably have but little effect in increasing the total commercial output.

There is an important question as to whether the present depression will permanently impair the productive capacity of American farms. The necessity to reduce costs by delaying repairs and replacements of machinery and im-

provements and to neglect the maintenance of fertility has frequently been pointed out. On the other hand, the depression is leading farmers to consider noncommercial means of maintaining and improving the fertility of their lands. The use of leguminous crops and of various means of preventing erosion are being practiced and undoubtedly can be developed to a greater extent. It is probable that the extreme need to obtain a living from the land will have some effect in staying the process of deterioration that has been going on in some areas. On the whole it does not seem probable that our agricultural resources will be so seriously injured as a result of the conditions we are now passing through as to prevent an increase in the rate of production if the added output is needed.

The present drift toward a larger degree of self-sufficiency, not only on so-called marginal lands but throughout our best agricultural areas, raises the question as to whether this change will be permanent. It seems evident that the extreme adjustment in the direction of self-sufficiency which now is prevalent is temporary and that there will be a shift in the other direction as soon as agricultural prices improve. The extent to which this readjustment will go will probably depend greatly upon the degree to which the market recovers to give stimulus again to specialization and commercial production. It will certainly not be a uniform adjustment in all areas.

This raises the question as to the regional and local adaptability of our farm land for self-sufficing farming. It is obvious that the new areas taken into cultivation for the growing of staple crops as a result of the latest wave of mechanization are but poorly adapted to self-sufficing agriculture. The scanty rainfall and short growing season characterizing much of this area do not support the range of production necessary for anything like a satisfactory live-at-home program. The disparity between prices of products and transportation costs is a factor in encouraging an increase in local self-sufficiency.

In the future organization of the farm itself one of the first considerations is that of tenure. History shows that every major depression has been accompanied by a considerable decrease in owner operation and a corresponding increase in tenant operation. The rising rate of mortgage foreclosures indicates that the same results are following in the present emergency. It is to be hoped that adjustments can be made that will keep this shift in the ownership of farms to a minimum. Undoubtedly there will be a considerable amount of change of ownership through the purchase of farms by farmers. Public measures to make this development as easy and as safe as possible are needed.

To the extent that self-sufficiency in our farm-production program gains a progressively larger place, we may expect a moderate diminution in the average size of farms. The extent to which this goes forward will depend primarily upon the recovery of employment in industry and the easing of the pressure of urban population upon agriculture.

One of the most important ways in which the present depression is influencing agriculture is in the method of production that farmers find it feasible to follow. Efficiency in production, to the extent that it comes through the use of labor-saving machines and the methods which go with such machines, tends to follow a high degree of specialization, and specialization itself thrives on an adequate market outlet. Although it is true that within certain limits costs are lowered by such methods, it is equally true that the cash expenses that these methods make necessary can not be carried successfully on an extremely low price level.

## LEGISLATION

The probability that the course of agriculture may be more influenced by legislation in the future than in the past must be kept in mind when considering the long-time outlook. State, Federal, and international action is being taken to an unprecedented degree.

A survey of the world shows an amazing number and variety of governmental acts designed to change the trend of agricultural production and marketing. Many bear very directly upon foreign competition and demand for American farm products. Many of these governmental efforts to change the economic and social trend are not the product of radical governments, but rather the deliberate action of old and so-called conservative countries.

The agitation for more control of agriculture has been under way in the United States for more than a decade. The present acuteness of the depression has again stimulated the demand for action.

Many fundamental questions of national policy are now receiving special attention. These policies include basic matters of production control, market-

ing, foreign trade, credit, and other finance. The legislative proposals are of two general groups: (1) Emergency relief, and (2) general policies that bear upon the problem of the disparity between prices of farm products and costs of farm operation and maintenance.

National policies are not usually changed quickly. Policies regarding transportation and foreign trade ordinarily can not be expected to be reformulated in a short time. The fact that the depression is not confined to agriculture leads to legislative action affecting other industries that may also definitely affect agriculture.

In properly appraising the outlook it is important to keep legislative changes in mind.

## THE FARM FAMILY LIVING

(A report of a joint committee representing the Bureau of Home Economics, the Bureau of Agricultural Economics, and the Extension Service)

The balance of farm income left as a return for the operator's capital, labor, and management averaged $847 in 1929, $566 in 1930, $342 in 1931, and undoubtedly declined to a still lower level in 1932. There has been considerable variation in the changes in net farm income in different parts of the United States. Gross income from agriculture declined from $11,950,000,000 in 1929, to $6,955,000,000 in 1931, and to about $5,240,000,000 in 1932. The decrease from 1931 to 1932 amounted to 25 per cent. These figures relate to income from farm production each year, including the value of products sold plus the value of products retained for use in the farm home. Reductions in expenditure for the farm business in 1932 were not as great as reductions in gross income, and hence net income from farming was more than 25 per cent lower in 1932 than in 1931.

Income from farm production for 1933, assuming approximately normal crop conditions and some improvement in business, is not likely to be materially different from what it was in 1932. This estimate does not of course take into account any change which might be brought about by legislation.

Incomes received by farm families from industries other than agriculture have likewise been greatly reduced. Eleven per cent of the men and boys and 37 per cent of the women and girls living on farms and reporting gainful occupations were engaged in industries other than agriculture in April, 1930. (Homemaking is not included among the gainful occupations by the Bureau of the Census, but is treated separately in Census reports.) The earnings of the large number of persons living on farms and receiving incomes from other industries at that time were large enough in certain regions, especially in New England and the Middle Atlantic States, to provide an important supplement to family income when pooled with money income available from the farm.

Opportunities for such earnings have greatly decreased since the early months of 1930 in view of the general reduction in industrial employment and wages. It would appear that in most sections of the United States persons living on farms will probably not earn enough in industries other than agriculture in 1933, to change materially the economic status of their families, unless there is a marked revival in business activity in the near future.

The effort of farm families to increase their cash incomes through increasing production of food and textile products in forms immediately available for consumer use to be sold at roadside stands and through farm women's marketing organizations and other agencies will undoubtedly continue throughout the coming year. The use of different forms of barter to increase real income is reported from many sections of the country, and is likely to continue.

Retail prices paid by farmers for commodities bought for family maintenance continued to decline in 1932. The index dropped from 121 per cent of the 1910–1914 average in December, 1931, to approximately 107 per cent in December, 1932. All groups of commodities declined, the greatest decreases occurring in prices for furniture and clothing and the least in prices for fuel for the house and for the automobile. The decline during the latter half of 1932, however, was much less than during similar periods of the last two years. Trends in retail country prices during the coming year will depend upon the magnitude and direction of changes in wholesale prices. Wholesale prices showed greater stability in the summer of 1932 than in the summer of the preceding two years. During the last three months, however, the decline in average wholesale prices has been as great as in the last three months of 1931, and prices have now reached a level below the low point of June, 1932.

The course of the agricultural depression has brought about a decrease in the proportion of the family food supply purchased, as well as pronounced

decreases in expenditures for house furnishings and equipment, for clothing, for operation of the automobile, and for recreation. The small expenditures of many families for medical care probably mean inadequate protection from disease except in sections of the country where community medical facilities are available.

Recent studies of farm family living among groups with low money incomes show that from 26 to 41 per cent of total expenditures were devoted to food in different communities, from 14 to 36 per cent to clothing, depending upon the prevailing size of family in the group, (larger families allotting a much greater proportion of the total to clothing than smaller ones) from 6 to 19 per cent to house operation, from 2 to 9 per cent to furnishings and equipment, from 2 to 10 per cent to medical care, from 3 to 16 per cent to education, recreation, and community welfare, and from 6 to 19 per cent to miscellaneous items.

Farm families accustomed to a level of living which they can not now procure, even at current retail prices, without spending much more money than their present incomes warrant, will probably not make, however, the same distribution of expenditures that would be made by families accustomed to very low cash incomes. Some of them will utilize barter in so far as it is practical to increase real incomes. Others will increase the purchasing power of their dollars by buying through cooperative purchasing associations. Reports to the Federal Farm Board indicate that the most pronounced increase in cooperative purchasing for the use of farm families has taken place in purchases of gasoline, lubricating oil, and grease. In the last year there has been a decided increase in the number of cooperative marketing associations purchasing gasoline and lubricating oil for their members, as well as in the number of consumer cooperatives handling these items. Three cooperative purchasing organizations dealing in nothing but gasoline, oil, and grease reported business for 1930–31 ranging from $600,000 to $1,600,000.

The growing disparity between prices received by farmers for foodstuffs produced and prices paid for articles of food purchased at retail has led farm families to increase their production of food for home use. Since 1929 prices of food materials purchased by farmers have declined 38 per cent, while prices received at the farm from the sale of grains have declined 62 per cent, meat animals 58 per cent, fruits and vegetables 46 per cent, dairy products 49 per cent, and poultry products 55 per cent. The specific adjustments in the proportion of the various types of food purchased and home produced, which may well be made by any individual family, depend upon the type of farming, upon the relative cost of food when home produced and when purchased, and upon the possibility of the farm family assuming the task of preparing the raw materials for home consumption. For example, many farmers who raise wheat and are near a small mill can have their own wheat ground or can exchange it for flour to advantage. If the toll for grinding is as low as one-eighth (the legal toll in Virginia, and the usual toll some years ago when custom milling was more prevalent) a farmer can obtain 1 barrel of flour (196 pounds) for about 5 bushels of wheat if he takes no bran or shorts. At the United States average farm price in December, 5 bushels of wheat would be worth only $1.58. This compares with the United States average retail price of 3 cents per pound ($5.88 per barrel) for flour in November, and with a wholesale price of around $3 per barrel for straight flour at principal milling centers during the same month. Although perhaps most farmers can not have their wheat ground for a toll as low as one-eighth, a large enough number are finding it worth while to have custom grinding done that the business of the small mills has increased greatly during the last two years. One barrel of flour, together with the other necessary ingredients, is sufficient to make between 260 and 300 1-pound loaves of bread, which, at the average of retail prices prevailing in the United States, would cost in the vicinity of $18. These comparisons are indicative of the type of savings which many farmers are forced to make because of the very low returns they can obtain for their labor in producing farm products, and the relatively high costs of goods and services in retail markets.

Prior to 1929, prosperous farm families were purchasing from one-fourth to more than one-half of their food supply. About 30 per cent of their expenditures for food went for bread, flour, and cereals; about 18 per cent for vegetables and fruits; about 18 per cent for sugars and molasses; about 14 per cent for lean meat and fish; about 10 per cent for fats; and about 10 per cent for miscellaneous articles. Preliminary figures from the Division of Crop and

Livestock Estimates indicate that in 1931 about 30 per cent more wheat was ground at home or exchanged at mills for flour than in 1929; over 45 per cent more apples were kept for home consumption; about 14 per cent more eggs; and about 5 per cent more milk. Farm gardens were larger and more productive. Farm slaughter of meat animals, especially of hogs, was greatly increased. Reports indicate that in 1932 production of these items for home use was even greater. For instance, larger gardens and increased home slaughter of cattle and hogs have been particularly marked. Meat clubs have been growing in number, a heavier canning and preserving program has been carried out, and bread baking, churning, cheese making, and other home production activities have been revived. In some areas a live-at-home program is being followed in so far as is feasible; in others the trend toward self-sufficiency for the individual farm family will undoubtedly continue during the coming year.

Farm families are taking more interest than ever before in planning for the efficient production and conservation of an adequate yearly food supply. Plans published in various States for guiding home food production have been made on the basis of very liberal adequate diets, as many farm families have the resources for providing themselves with a generous varied food supply. It is, however, important to recognize that during the coming year many farm families will not have such resources. If a farm has specialized in nonfood crops or in a single commodity to the exclusion of garden, poultry, dairying, or livestock enterprises, the home production of an adequate diet is impossible, until certain changes are made in the farm-production program. Until such adjustments can be made and where much of the food must be purchased, the economical but adequate dietaries recommended by the Bureau of Home Economics for use in urban relief work may well be made the basis for planning the farm family's food supply. It is also important to recognize that long-standing food-consumption habits are not quickly changed. There is much less difference between the per capita expenditures of low-income and high-income farm families for food, than for the other major items in the family budget.

Long-time planning is necessary to make appreciable changes in food-production practices. Aside from quick-growing vegetables, the production of the items which enter into a well-planned diet require considerable capital investment and often several months must elapse before the food products are available for consumption. The year 1933 will undoubtedly see still more farm families mobilizing their resources according to a plan suited to their individual needs, to increase the home production of their food supply for the whole year. In many sections of the country this will entail greater emphasis on garden, orchard, dairy, poultry, and livestock enterprises than heretofore. It will also require a well-planned program to can, dry, store, or otherwise preserve products for out-of-season periods.

Opportunties for increasing the home production of other consumption goods are more limited than those for increasing the home-grown food supply. Home sewing has increased during the last year, and, on some farms where sheep are raised, skills and equipment little used for many years are being called upon to convert home-grown wool into clothing and bed coverings. Soap making for family use has been increasing and will probably continue to do so. Farm-produced fuel is being used to an increasing extent; lumber produced on the farm wood lot is being used for repairs to the house and for furniture making.

All the evidence points to a continuance of and, in many instances, an extension of the live-at-home program in 1933. In as far as possible, until their incomes increase, farm families will have to depend upon the development of their own resources for their family living.



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