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THE AGRICULTURAL OUTLOOK FOR THE SOUTHERN STATES, 1930-31

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

CONTENTS

PURPOSE OF THIS REPORT

This report is designed to present, in readily available form, for the principal southern farm products, the significant facts relating to supply, demand, and prices that should be considered by southern farmers when planning their operations for the next crop season. These facts should be considered in the light of the State and local conditions as presented by the extension workers of each State. This report has been prepared in the fall so that the facts may be available to southern farmers before their planting season begins, for the National Outlook Report, issued in January of each year, can not appear early enough to be studied before the southern planting season.

This report was issued in mimeographed form at the Southern Agricultural Outlook Conference held at Atlanta, Ga., November 10–14, 1930, on the basis of material prepared by the Bureau of Agricultural Economics of the United States Department of Agriculture and committees representing the agricultural colleges, experiment stations, and extension services of the following Southern States: Virginia, North Carolina, South Carolina, Georgia, Alabama, Florida, Mississippi, Louisiana, Arkansas, Tennessee, and Oklahoma. The tentative report, prepared by the Bureau of Agricultural Economics on each topic with supplements prepared by the committees of State representatives, was discussed at the conference, which included representatives of the Southern States, of the Bureau of Agricultural Economics, the Federal Extension Service, and the Federal Farm Board. This report is the final result.

DEMAND PROSPECTS

Domestic demand for the 1931 agricultural production in the Southern States is likely to be an improving one, with a better demand situation at the end of 1931 than at the beginning. An improvement in foreign economic conditions and in the foreign demand for southern agricultural products also seems probable by the second half of 1931.

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DOMESTIC DEMAND

The decline in domestic business activity which began in the fall of 1929 has now developed into a major depression, with many features characteristic of such depressions. Industrial production has been reduced by the end of October to approximately 30 per cent below the peak of 1929; factory employment (as of September 15) has been cut by 18 per cent and factory pay rolls have been cut by 25 per cent below the comparable levels of 1929. In addition there has been a great reduction in building activity, particularly in residential construction. The decline in industrial activity has been fairly continuous to the low levels of September and October.

These great reductions in industrial demand and in the money incomes of consumers have affected the prices of farm products from the South as well as those from other regions. The domestic mill consumption of cotton has been reduced in greater proportion than has the general decline in business. The reduced income of consumers has been reflected in much lower prices received by producers from both crops and livestock than were justified by supply conditions.

Improvement in the demand for southern farm products in 1931 is suggested by the following considerations:

(1) Industrial activity has already fallen about as low as in former major depressions, and the period of decline (now about 16 months) has had approximately the same duration as in other major depressions.

(2) Financial policy this year has been directed toward checking the business depression and laying the groundwork for recovery. This policy has resulted in low interest rates, especially in the larger industrial sections, and has made possible expansion in public-utility construction and in public works. In fact, the prompt downward adjustment of interest rates and an increase in funds made available by the Federal reserve system through purchases of Government securities is one of the outstanding differences between the present depression and others of similar magnitude.

(3) The decline in commodity prices which has accompanied the decline in business has been of unusual proportions, and although producers of raw materials have been adversely affected, the low levels of raw-material prices may be expected to stimulate activity among consumers of those raw materials, as, for example, in the textile industry. Already there have been several advances in prices of nonagricultural products, although such advances are not yet general.

Although the comparison with previous major business depressions suggests strongly the probability that this one will also be followed by improvement in the near future, it is necessary to bear in mind several important features which might lead to the conclusion of further greater delay in the generally expected recovery.

The business situation abroad has not yet shown signs of recovery, and commodity prices abroad are still declining (judging from the fact that in September they averaged lower than in the preceding month). Prices of farm products in the United States showed some advance in August and September, 1930, and gave the appearance that the decline had ended, but in October they again fell. On October 15 prices received by farmers averaged 106 per cent of pre-war, compared with about 140 on October 15, 1929. Such a great reduction in farm income as is indicated by these price changes inevitably retard the improvement in many lines of business, but there have been instances in past depressions when business revival began at a time when prices were still declining and farm incomes were low.

A balancing of these considerations favors the conclusion that domestic business conditions may remain close to present low levels for the next few months, but that there may be some improvement by the end of 1931 or the first part of 1932.

FOREIGN DEMAND

The trend in industrial activity abroad in a general way has followed a downward course similar to that in the United States. The economic depression is world-wide, and definite signs of immediate recovery abroad are for the most part lacking. Unemployment continues to mount in most European countries, and practically all major industries, including cotton textiles, are operating much below capacity. Great Britain and central Europe, particularly Germany, Czechoslovakia, and Austria, appear to have received

the hardest blows. Even in France, where economic conditions have been relatively favorable, there has recently been some slowing down in industrial activity. It seems probable, however, that the declining money rates in European countries and the prevailing low prices of raw materials will make themselves felt before long in the European industrial situation. In the Orient, which is becoming an increasingly important outlet for two of the leading agricultural staples of the South—cotton and tobacco—signs of recovery have already appeared. In China the exchange rate has shown an upward tendency during recent months, and the more stable political situation is an additional favorable factor. The Chinese cotton textile industry is reported to be running close to capacity. Industrial conditions in Japan, as in Europe, are depressed, but a sustained improvement in the Chinese economic and political situation would undoubtedly react favorably upon Japan.

CREDIT

The credit outlook for farmers in the Southern States appears less favorable than a year ago. The reduction in the current flow of income into agricultural communities as a result of the low level of farm commodity prices and low crop yields in the drought area, has increased the demand of farmers for credit and, at the same time, reduced the supply of local funds that will be available for 1931 production requirements.

The serious curtailment in the 1930 income received by most southern farmers will prevent many from repaying the advances obtained during the 1930 crop season. It will also prevent the usual seasonal accumulation of cash reserves by those farmers who finance their requirements entirely or largely out of their own resources. Additional credit, therefore, will be needed to finance production during the next crop year. Additional effect of the drought will be evidenced in increased demand for loans, particularly for the purchase of feed. For those farmers whose assets show but a small margin of equity above their borrowings, the inability to liquidate the advances obtained during the past year will entail considerable difficulty in arranging for new loans. A larger percentage than usual of farm borrowers will be unable to obtain credit accommodation through the usual channels because of their inability to provide satisfactory security.

Notwithstanding these abnormal conditions it should not be inferred that all farmers in the South will need credit to the limit of the security they have to offer. According to the agricultural census of 1925, the percentages of owner-operated farms that were mortgaged were lower for Southern States than for the country as a whole. Thus, for the eight South Atlantic States this percentage was only 20.8 per cent. For the four East South Central States it was 24.1 per cent, and for the four West South Central States, 35.7 per cent. This means that for all Southern States substantially more than two-thirds of all owner-operated farms were free from mortgage. The mortgage status of tenant-operated farms is in general similar to that of owner-operated farms. Furthermore, special credit surveys in selected areas, considered typical of larger sections of North Carolina, South Carolina, Georgia, Arkansas, and Oklahoma, indicate that nearly 30 per cent of all owner-farmers in these States and about 12 per cent of the tenants normally finance their annual production programs without the use of short-term or production credit of any kind. Some of these normally self-sufficing farmers, from a financial standpoint, will probably need a limited amount of credit during 1931, but in most of these cases there will be no problem of security.

Most country banks in the cotton States will enter 1931 with a smaller volume of deposits as well as with less adequate secondary reserves consisting of commercial paper, bankers' balances, investments, etc., than was the case a year earlier. The carry-over of 1930 credit extensions into 1931 will be, on the average, materially larger than the volume of unpaid loans carried from 1929 into 1930, and similarly the indebtedness of southern country banks to correspondent and Federal reserve banks will be larger, on the average, at the beginning of 1931 than it was a year earlier. Consequently, the supply of funds that country banks will have available for advances in connection with the 1931 crop, will be substantially curtailed. The supply of production credit from country banks and merchants will show the greatest reduction in those States that were most seriously affected by the drought, principally Alabama, Arkansas, Louisiana, Mississippi, and Oklahoma. A relatively more

favorable situation is indicated for most parts of North Carolina, South Carolina, Tennessee, Virginia, and Texas.

With the local credit supply generally below normal, credit agencies capable of supplying credit to those areas in need of outside funds will be of more than usual importance. Among the most important of such agencies, in so far as production credit for agriculture is concerned, are the Federal reserve banks, the Federal intermediate credit banks, and city correspondents of country banks. Substantial assistance from correspondents and Federal reserve banks in meeting the seasonal strain of country banks in 1931 can be counted upon, although the volume of such new advances to many banks will be smaller because of the larger carry-over from last season.

It may be expected that the Federal intermediate credit banks will be relied upon more than in recent years. These banks can not extend credit directly to individual farmers even when the latter have ample security to offer, but their potential resources of loanable funds are available to country banks and credit corporations to the extent that these have eligible agricultural paper to present for rediscount and capital structures adequate to support such rediscounts. In some areas in which local banking resources are known to be inadequate for the 1931 demand, the organization of additional agricultural credit corporations is already under way. Information received from officials of existing agricultural credit corporations indicates that although there will be a larger carry-over of 1930 loans, some increase in the volume of new advances may be expected from such organizations. It is not likely that, in the aggregate, country banks will be in position to expand their borrowings from outside institutions to a larger volume than usual.

The present discount rates (November 10, 1930) of the Federal intermediate credit banks, seven of which serve Southern States largely or exclusively, are now uniformly 4 per cent. Allowing for a spread of 2 or 2½ per cent to the local bank or credit corporation, this should give a rate exclusive of fees to the farmer of 6 or 6½ per cent on credit from this source. The cost of credit from sources other than the Federal intermediate credit banks is likely to be determined primarily by local custom rather than by rates reflecting central money-market conditions.

Merchants who supply a considerable volume of credit to agricultural producers will, like the bankers, have a larger than normal carry-over of unpaid advances and for this reason will be unable to extend the usual volume of new credit. This decrease in merchant credit, together with the reduced advances to be expected from banks, will result in a reduction in the quantity of fertilizer that farmers will be able to purchase.

The supply of credit for the marketing of the 1931 crops may be expected to be ample. The interest rates on this type of credit, however, will probably be somewhat higher, although still at favorable levels compared with previous years. At present, interest rates on commercial paper are 3 per cent, compared with 6¼ per cent a year ago; acceptance rates are 2 per cent, compared with 5⅛ per cent in October, 1929; and the call rate is 2 per cent, contrasted with 6 per cent.

During this period there has been an increase of some $450,000,000 in purchase of securities by the Federal reserve system, the return to these banks of approximately $310,000,000 in currency from circulation, and the net import into the country of $140,000,000 in gold. The additions to the reserves of commercial banks through these three sources has enabled banks to repay $690,000,000 of borrowings at the Federal reserve banks, and increase their existing reserves. All of these factors have contributed toward the present ease in money rates.

Business activity at the marketing season in 1931 is likely to be higher than the present depressed level and therefore will require a greater volume of currency than at the present time. Some reduction in the security holdings of the Federal reserve system may take place, as they are now at about the highest level on record. It is probable that some reduction in our monetary gold stock will take place during the next year as a result of gold exports. These factors may be expected to exert an influence toward higher interest rates by the time of the 1931 marketing season.

A larger part of the farm-mortgage credit is usually derived from more or less distant investment and credit centers than is true of short-term production credit. More especially is this true for the three important sources of farm-mortgage credit represented by the Federal and joint-stock land banks, the life-insurance companies, and the farm-mortgage bankers. These agencies, and particularly the first two, draw their resources from the country as a whole rather

than from the State or the area in which a given loan is made. The supply of such mortgage credit is more abundant than it was a year ago, and a plentiful supply will be available during the coming year for conservative loans on first-class security. But the unfavorable agricultural situation will tend to make all loan agencies more conservative as to the amount of credit extended.

Practically no change has taken place in the rate of interest charged on farm-mortgage loans during the past year, and no appreciable reduction is to be anticipated during 1931. The present rates charged by the seven Federal land banks that serve Southern States exclusively or in part are at present (November 10, 1930) as follows: Baltimore, 6 per cent; Louisville, 5½ per cent; Columbia, 6 per cent; St. Louis, 5½ per cent; Wichita, 5½ per cent; Houston, 5½ per cent; New Orleans, 6 per cent. The rates charged by joint-stock land banks are generally 6 per cent.

As a result of limited local supplies of credit and the impaired security of many farmers, a larger-than-usual proportion of farm borrowers will be unable to get credit through customary channels. Some assistance may be expected from special employment provided by local road-building programs in drought areas.

Special credit agencies are being organized in several of the States to render assistance to those who are unable to obtain accommodation through the regular channels of credit. Although it may be anticipated that the 1931 crops will be produced with less cash outlay than last year, this economy will not be sufficient to offset the increased demand for credit resulting from the drought and unfavorable income.

The unfavorable credit situation, therefore, makes it essential that there should be the greatest economy possible in the use of such credit resources as are available. Such economy can be best achieved, perhaps, through a substantial reduction in the requests for credit to finance the purchase of such commodities as can be raised at home. An increased and early production of food for the household and feed for the livestock, in so far as this is possible, will serve to lessen the demand for credit and allow more of the available supply of loanable funds to be utilized directly for the production of marketable crops and livestock products.

Farmers can do much to improve the credit situation in the Southern States by filing credit statements with their banks. One of the functions of banks is to furnish credit, and because banks are in the business of handling credit they can usually furnish it at less cost than can time merchants and dealers. The banker is responsible to his depositors for the loans he makes and is entitled to the information that a farmer's credit statment shows. The farmer is entitled to the better credit standing that a credit statement usually gives him.

In supplying the financial statements required to accompany local loans for rediscount with correspondents and Federal reserve banks, the borrower will be increasing in effect the ability of country banks to meet the local credit demand for production credit. Because of the prospect of unusually heavy demands on credit agencies, it is of decided advantage to both the bank and the borrower that as many farmers as possible adopt the practice of filing annual credit statements with their banks.

COTTON

The following statement presents a brief review of certain phases of the cotton situation during recent years, up to the early part of November, 1930. In conformity with existing legislation that limits the scope of reports on cotton, no attempt has been made to make any forecast or prediction with respect to future prices of cotton or the trend of these prices.

Cotton prices trended gradually downward from 1923 to the beginning of the 1929–30 season, and declined severely throughout 1929–30. In September and October of 1930, prices seemed to have become somewhat more stable but were at the lowest level since 1915. The outstanding cause of the price decline during the last 18 months was the world-wide business depression, which reduced the demand for cotton. World consumption of American cotton was at high levels from 1926–27 to 1928–29, inclusive, but was 2,000,000 bales less in 1929–30 than in 1928–29. The rate of consumption continued to decline throughout 1929–30, and reached a low point in August, 1930. Since August, 1930, however, some increase in rate of consumption is in evidence. The decline in consumption was greater than the average decline in other business.

Cotton consumption usually declines more rapidly during depression and increases more rapidly during recovery than is true of the average rates of all industrial production. Business activity in the United States has continued downward about as far and as long as in previous major depressions, but it is uncertain just when recovery will start. Foreign countries are generally still depressed but some improvements have taken place in cotton textile industries abroad.

The small consumption of cotton in 1929–30 as compared with recent years left a world carry-over of American cotton on August 1, 1930, about 1,800,000 bales greater than on the same date of the previous year. This carry-over, added to the current crop, gives a world supply of American cotton for the 1930–31 season of about 20,700,000 bales, which is 1,400,000 bales greater than for 1930 and 300,000 bales greater than the annual average supply for the 5-year period 1925 to 1929. It should be recalled, however, that the relatively large supplies during this 5-year period occurred when consumption was at record levels. Cotton acreage in the United States increased rapidly following the World War, and in the last five years it has tended to remain at high levels. Farmers usually reduce the cotton acreage and spend less for ferti lizers following the years of low prices. The maximum reductions in acreage since 1900 has been 15 per cent, obtained in 1915, 1921, and 1927. Yields during the last two years have been held in check by drought, although serious weevil damage has not been widespread and weevil numbers at present are low in most of the belt.

Commodity prices in general have fallen materially during the last 18 months, both in this country and abroad. Cotton prices declined more than the average of all commodities. In the 1929–30 season the price of Middling ⅞-inch cotton averaged 15.79 cents per pound at the 10 spot markets, in comparison with 18.67 cents the previous season and 19.72 cents in 1927–28. For October, 1930, the price averaged 9.82 cents, compared with 11.81 and 10.77 cents in the lowest months of the 1926–27 and 1920–21 seasons respectively. Except for 1914–15 and 1908–9, prices in October, 1930, were below any seasonal average since the 1904–5 season.

World consumption of all cottons in 1929–30 fell 4 per cent below that of 1928–29, the reduction being equivalent to about 700,000 American bales as calculated from reports of the International Federation of Cotton Spinners. The consumption of Indian and sundries cottons, however, was higher than in 1928–29 by about 1,100,000 bales of equivalent weight. Consumption of Egyptian cotton fell slightly.

Reduction in the total world consumption came almost entirely in American cotton. World consumption of American cotton in 1929–30 amounted to 13,023,000 running bales, compared with 15,076,000 in 1928–29, 15,407,000 in 1927–28, and the record consumption of 15,780,000 in 1926–27, according to statistics of the International Federation Cotton Spinners. Of the 2,000,000 bales by which the world consumption of American cotton was lower in 1929–30, approximately one-half of the reduction occurred in the United States and the other half in Europe. Consumption of American cotton declined 436,000 bales in Great Britain; approximately 100,000 bales each in Germany, France, and Russia; 81,000 bales in Italy, and 56,000 bales in Czechoslovakia. On the whole, Europe used more Indian and sundries cottons, and less American and Egyptian cottons. Asiatic countries consumed as much American cotton as they did in the previous season, but their increase in consumption was of Indian and sundries cottons.

Domestic consumption of American cotton as reported to the Census Bureau for the two months ended September 30, 1930, was 719,000 bales, as compared with 1,050,000 for the corresponding period in 1929. World consumption of American cotton for the same two months, according to the New York Cotton Exchange Service, amounted to 1,713,000 bales, compared with 2,325,000 bales for the corresponding period last year, 2,367,000 for 1928–29 and 2,841,000 for 1927–28.

Business activity in the United States has continued downward about as far and as long as in previous major depressions. The domestic situation in Great Britain has shown no material change, and exports of cotton piece goods were still declining in September. Although some moderate recessions have occurred in the countries of western continental Europe, they have avoided a large part of the depression which has affected other countries. Germany and the rest of central Europe is still depressed, but there may be some significance in the fact that the cotton textile industry of Poland has increased its activity mate-

rially during August and September. The depression continues in Japan. There has been some recovery in the value of the Chinese silver dollar recently, and if this recovery is maintained and trade conditions with the interior remain satisfactory, China will be able to buy more cotton goods. Such developments would tend to increase the demand for American cotton in Japan and Great Britain. The increase in the rate of cotton consumption when business recoveries begin is usually more rapid than the average increase in the rate of activity of all industries. General commodity price levels also tend to rise with business recoveries.

The American crop of 1929 amounted to 14,828,000 bales of 500 pounds gross weight and the world carry-over of American cotton at the beginning of the cotton year amounted to about 4,500,000 running bales, according to the Census Bureau, giving a total composite supply of 19,300,000 bales of American cotton. This was 1,500,000 bales smaller than the supply of 1927–28, when prices averaged 20 cents per pound at New Orleans, and 300,000 bales smaller than in 1928–29 when prices averaged 19 cents per pound. The lower prices in 1929–30, despite smaller supplies, were the result of depressed demand. As domestic consumption and exports fell, cotton failed to disappear at the rates of the last few years, and on August 1, 1930, the carry-over in this country was the largest since 1921. Stocks of American cotton in foreign countries had been reduced, but with the large increase in the United States the world carry-over of American cotton rose from 4,500,000 bales on August 1, 1929, to around 6,300,000 bales on August 1, 1930, according to the Census Bureau reports for the United States and commercial reports for foreign countries. The crop was forecast in November at 14,438,000 bales, giving a supply for the season of about 20,700,000 bales, or 1,400,000 bales more than for last season and nearly the same as for 1927–28.

World stocks of foreign-grown cottons, according to commercial reports so far available, did not show much change on August 1, 1930, as compared with a year earlier. Stocks of Egyptian cotton were 275,000 bales larger, and, probably because of the Egyptian Government's stabilization activities, this increase in stocks was mostly in Alexandria. Stocks of Indian and sundries cottons showed insignificant decreases. Cotton plantings in India up to October 1 this year are officially reported about equal to those last year, and the season so far has been favorable to the crop. The Egyptian acreage this year, according to official reports, was increased 13 per cent. Russian cotton acreage has been increasing rapidly during recent years, in accordance with a long-time developmental program, and production this year, according to information received by American Agricultural Commissioner Steere at Berlin, is estimated at about 1,950,000 bales, compared with 1,351,000 bales last year and a previous record production of 1,512,000 bales officially reported in 1915.

Marked expansion in cotton acreage has taken place in the United States since the World War. For the five years 1925–1929 the average number of acres of cotton harvested annually in the United States was 44,882,000 acres, compared with 34,022,000 for the five years immediately following the World War. In 1926 the acreage harvested was 47,087,000, the largest in history. Low prices that year were followed by an acreage reduction of 15 per cent in 1927. By 1929, however, acreage had again increased and amounted to 45,793,000 acres, but the price averaged only 15.79 cents for the season, and in 1930 acreage fell slightly. The area for harvest on November 1, 1930, was 44,791,000 acres.

Yields for the country as a whole have been held in check during the last two years by droughts, but these droughts have reduced weevil damage. The number of weevils entering hibernation in the fall of 1929 was small because of the drought in that year. A small number of weevils entered hibernation in the fall of 1929, and low winter temperatures destroyed many weevils in hibernation. These conditions and the drought of 1930 prevented widespread weevil damage this year. There are comparatively small numbers of weevils in the central and western part of the belt, despite some increase in the number following the late rains. In the Atlantic States the weevil population is about the same as last year. Yields in the Eastern States are influenced by the quantities of fertilizers applied, and following years of reduced income, expenditures for fertilizers are lowered. For the last four years yields for the belt as a whole have been close to the 10-year average of 155 pounds per acre. This average is influenced slightly more by the very low yields of 124 pounds in

1921, 141 pounds in 1922, and 131 pounds in 1923, than by the high yields of 183 pounds in 1926 and 178 pounds in 1920, so that yields during recent years have been only moderate.

The domestic supply of cotton with a staple length of thirteen-sixteenths of an inch and shorter was 917,000 bales, or 42.5 per cent greater in 1929 than in 1928, and the supply of cottons having a staple length of seven-eighths of an inch and longer was 564,000 bales, or 3.9 per cent less in 1929 than in 1928. This increase in the supply of the shorter-staple cotton in 1929 was apparently due, in part, to the 1929 drought, which resulted in a larger proportion of the shorter staples in the 1929 crop. Cotton, with a staple length of thirteen-sixteenths of an inch, sold at discounts of $2.50 to $4 a bale in 1928–29, as compared with $7.50 to $10 a bale in 1929–30 and about $5 in early November, 1930, at the central markets. Premiums for each staple length from fifteen-sixteenths of an inch to 1¼ inches gradually increased during 1928–29 and reached a high point toward the end of 1928–29 and the beginning of 1929–30. During the early part of 1929–30 there were some declines, but the average of the season for each staple was above that for 1928–29.

From August, 1930, to date premiums have declined somewhat, but, relative to the level of cotton prices, premiums are still above what they were during the corresponding period in 1928. For example, the average staple premium on inch cotton amounted to about $5 per bale in 1928–29, compared with about $6 per bale in 1929–30 and to about $4.50 per bale in early November, 1930. These changes in staple premiums and discounts indicated that, compared with the demand, the supply of cotton with a staple length of thirteen-sixteenths of an inch and shorter in 1929–30 was relatively greater than that for cotton of any other staple length. The disappearance of cotton with a staple length of thirteen-sixteenths of an inch and shorter was 626,000 bales, or 31 per cent larger in 1929–30 than in 1928–29, while the combined disappearance of cottons having a staple length longer than thirteen-sixteenths of an inch fell off 2,861,000 bales, or 23 per cent. In other words, although proportionately more of the shorter than of the longer lengths were consumed in domestic mills or exported, this was accomplished only at a distinctly greater price reduction.

The general outlook for agricultural-production credit in the cotton-growing States during the 1931 crop year appears less favorable than for any recent year. As a result of the low level of prices received for cotton marketed during the current season, the flow of income into agricultural communities of the South has been materially reduced. Country banks have been unable to secure the normal liquidation of loans representing advances utilized in producing the 1930 crop, and this carry-over of loans will curtail their ability to meet the normal credit requirements in producing next year's crop. As a result of low cotton prices in 1926, it may be recalled that the volume of funds available for loans in connection with the 1927 crop was greatly reduced. A similar or even greater curtailment may be anticipated for the year 1931. As indicated in the section dealing with agricultural credit, there is a large percentage of farmers who do not carry a mortgage indebtedness upon their farms; this gives the general credit situation a more favorable outlook than would be implied by the curtailment in the potential supply of production credit. It is also probable that the 1931 crop will be produced with a relatively smaller cash outlay than that of the past season.

The cotton crop of 1930 probably was produced at a lower cost per acre than either of the two preceding crops. The dry growing season which made weed control relatively easy probably resulted in lower labor expenses to farmers who depended on hired labor. Because of the drought expenditures for weevil control were also below normal. Labor during the present harvest season has been plentiful, and prevailing picking rates have been lower than in any season during the last 15 years. Unless industrial activity increases markedly, labor will probably be plentiful next season and wage rates, at least through the growing season, are likely to be lower than in 1930. Retail prices of fertilizers are now lower than they were last spring, and with prospects for reduced sales, further reductions in fertilizer prices seem probable. On the other hand, supplies of home-grown food and feed crops in the drought areas are the smallest in years, and the quantity that farmers in these areas will need to buy will probably entail relatively heavy expenses during the coming year.

TOBACCO

From present indications the prices paid to growers of flue-cured tobacco in 1931 are likely to be lower on the average than those being paid for this year's crop, if the present acreage is maintained. The basis for this conclusion lies in the prospect that stocks on July 1, 1931, will be materially larger than those of July 1, 1930, and to the added fact that the trade and industrial depression of the past months has definitely slowed up the consumption of cigarettes. Uncertainties in the demand for flue-cured tobacco pertain both to the domestic and foreign markets and their relation to the total disappearance.

Annual disappearance of flue-cured tobacco rose from 410,798,000 pounds during the year ended July 1, 1923, to 741,448,000 pounds during the year ended July 1, 1930. This represents an increase of 80 per cent in seven years, with decreases shown in only two of those years. A similar period of increasing consumption took place prior to July 1, 1920. The disappearance in the year ended on that date was 510,557,000 pounds, compared with 452,140,000 pounds the next preceding year and 319,829,000 pounds the second preceding year. It is a significant fact that the break in business and industrial conditions which took place in the summer of 1920 initiated a period of three years, during which the disappearance of flue-cured tobacco reached successively lower levels, and it is important to consider whether there is substantial basis for assuming that the present depression will result differently.

Domestic consumption of flue-cured tobacco tends to become more and more closely associated with cigarette consumption and less with tobacco chewing. Small cigarette manufactures in the United States increased from 47,430,105,055 in the calendar year 1920 to 108,705,505,650 in 1928, an average annual increase of nearly 11 per cent. An increase of approximately 12 per cent in 1929 is indicated by the sale of stamps. A definite check was given to cigarette consumption in the United States by the depression of 1920–21. Manufactures of small cigarettes in 1919 amounted to 53,119,784,232, the highest total up to that time. In 1920 the total was approximately 11 per cent less, and it was not until 1922 that the production of 1919 was exceeded.

This year, for the first time since 1920, there are again definite signs of slowing up in cigarette consumption. For the nine months January to September the sales of cigarette stamps exceeded those for the corresponding period in 1929 by less than 2 per cent. In four of those months the sales were lower than for the same months last year. Judging by experience in 1920–21, it would be hazardous to assume that domestic consumption of cigarettes, and therefore of flue-cured tobacco, will resume an upward trend in the near future, and this consideration lends significance to the strong prospect that leaf stocks on hand July 1, 1931, will be materially larger than those of July 1, 1930.

The foreign market for flue-cured tobacco contains some uncertainties, together with some hopeful signs. The least encouraging phase at this time is the failure of Chinese takings to register their customary seasonal increase in August and September. Exports to China reached a total of 131,516,000 pounds during the marketing year from August, 1928, to July, 1929, and during the succeeding 12 months were only slightly less. This year exports to that country during August and September were disappointingly low, amounting to only 12,170,000 pounds, compared with 24,051,000 pounds a year ago, and 24,771,000 pounds two years ago. Recent improvement in the rate of silver exchange and the greater degree of stability in political conditions now apparent may lead to increasing exports to China later in the season.

At one time the foreign-owned cigarette factories by their more efficient methods practically eliminated the competition of Chinese factories. Now the latter are again becoming important, partly, it would seem, because they appear to have become more efficient, and partly because the low silver exchange has operated in favor of factories that use larger proportions of Chinese tobacco. From scattering indications there appear to be ample stocks of high-grade American leaf in China but a deficiency of low-grade tobacco. The view has been entertained that the takings of the British-American Tobacco Co. will be less this year than last, but that this might be more than offset by takings of independent dealers if nothing occurs to injure cigarette sales.

The outlook in the United Kingdom is reported to be good, both from the long-time and short-time viewpoints. Disappearance of American flue-cured

tobacco is increasing, which factor tends to offset the effect of the larger English stocks on hand on July 1, 1930, compared with previous years.

Exports of flue-cured tobacco to the United Kingdom during the marketing year (August to July) 1929–30 amounted to 184,420,000 pounds, compared with 173,340,000 pounds in 1923–29 and 155,568,000 pounds in 1927–28. During the months of August and September, exports to the United Kingdom were 35,822,000 pounds in 1930, compared with 34,009,000 pounds in 1929 and 21,752,000 pounds in 1928.

The increasing exports of flue-cured tobacco to countries other than China and the United Kingdom constitute a hopeful sign. This increase is being well maintained, but its importance should not be overestimated.

Total exports of flue-cured tobacco during the marketing year amounted to 433,794,000 pounds in 1929–30, 416,883,000 pounds in 1928–29, and 327,342,000 pounds in 1927–28. Because of weakness in the Chinese market they have been considerably less since the new crop began moving to market.

With signs of weakness in domestic and some foreign outlets for flue-cured tobacco, it is important to consider prospective supplies. Stocks of old tobacco of this type on hand July 1, 1930, amounted to 599,259,000 pounds. Production this year, according to the latest available estimates, will be 800,309,000 pounds, making the record total supply of 1,399,568,000 pounds. If the consumption of the last fiscal year is duplicated, there will still remain on hand next July 1 about 658,000,000 pounds, an increase of about 10 per cent in stocks. Unless consumption during the present fiscal year increases at least 8 per cent over the high record of the last fiscal year, stocks next July will be larger than those of last July. But from present indications, consumption will increase little, if any, and it seems assured that stocks will be larger. Therefore, if an increase in the total supply of flue-cured tobacco on hand or in prospect next July is to be avoided, there must necessarily be a reduction in acreage. So far as can be determined from present indications, an increased total supply next July would probably depress prices below this year's level.

Market conditions pertaining to tobacco and other cash crops in the Southeastern States lead to the conclusion that there will be an increase in the acreage of flue-cured tobacco in North Carolina, and not much change, although possibly a slight increase, in South Carolina. These increases may be sufficient to more than offset any probable decrease in acreage in Virginia, Georgia, and Florida, where returns to growers have been least satisfactory this year.

TRUCK CROPS

Southern farmers who are looking to the commercial production of one or more truck crops as a promising alternative for other disappointing cash-crop enterprises should not act without first giving careful thought to the supply already established for the markets they seek to enter. The grower must also be prepared to accept the attendant risks and the necessity of cutting unit production costs to a minimum. The latter requires wise selection of the crops to be grown and the most adaptable land upon which to produce them, use of the most efficient methods and practices in production and marketing, and concentration of effort to obtain the largest yields per acre of high-quality produce. Diversification is to be especially commended to present and prospective growers of commercial truck crops.

Although in recent years the market for vegetables and miscellaneous perishables has been expanded to the full 12 months, thereby encouraging increased per capita consumption of the fresh products, the supply of these commodities appears to have kept steadily ahead of the consumer demand, as the sharp advance of acreage has been accompanied by a declining value per acre. For the country as a whole, the commercial acreage of vegetable and truck crops other than potatoes and sweetpotatoes has increased at an average rate of nearly 9 per cent each year since 1918, or a total increase of about 165 per cent in 12 years. The rate of growth has been slightly larger than this in the South Central States and slightly less in the South Atlantic. The annual rate of growth would average even higher had not the strawberry acreage been so sharply curtailed in the last few years. During the period of this steadily mounting acreage, growers have gradually been faced with a decline in average returns per acre necessitating close watch over production costs, particularly during the last five or six years.

The grower of commercial truck crops in 1931 must expect to find a continuance of this upward trend in acreage, with its attendant lowering of returns per acre. It becomes increasingly necessary to stress every means of reducing unit costs of production and marketing in order to preserve a profit.

CABBAGE

For the third year in succession, there is prospect of a comparatively small carry-over of Danish cabbage in the northern late States. Acreage has been more than ample the past two years to assure large crops of late cabbage; but yields have been exceptionally low, especially this year as a result of drought. Storage stocks are expected to be somewhat greater than last year, however, owing to the increased Danish acreage this year.

A substantial increase has been made in the fall-crop acreage in South Carolina, influenced primarily by the experience of satisfactory prices last fall and spring and to some extent by the prospect of comparatively light storage holdings of old cabbage. The fall cabbage crops of South Carolina and the Virginia-Norfolk section, however, represent only a small part of the total quantity of cabbage available during the fall and winter months.

In the early States the intended acreage reported by growers for 1931 is within 5 per cent of the acreage of 1929, when the record crop brought an average price hardly two-fifths as high as that received last season. The 1930 prices were well above average, with production greatly curtailed through a 21 per cent cut in acreage and a heavy reduction in the acre yield. The result was very encouraging to growers, particularly in Florida and Texas. Because of these favorable returns and the prospective light stocks of old cabbage all the early States except Louisiana are planning to increase acreage, Texas by 33 per cent, Florida by 20 per cent, and California by 6 per cent. Louisiana reports an intended decrease of 6 per cent.

If these prospective acreage increases are made and usual yields are realized, the crop promises to at least equal the record production of 1929. Therefore, unless weather conditions further reduce the old crop carry-over or unless the new-crop yields are lower than usual, prices at the beginning of the new-crop season are sure to open at a lower figure than last year.

As in the early States, a reduced acreage and low yields in 1930 resulted in rather encouraging prices for growers in the second early States extending north of Florida along the Atlantic coast through Virginia and west along the Gulf coast through Louisiana. Exclusive of decreases in 1928 and 1930, the acreage in these States has been climbing steadily since 1924. Except for 1929, the average yields per acre have been on a fairly low level, tending to counteract part of the effect of acreage increases. Considering the possibility of an overlapping with a large crop in the early States, any increase in acreage in 1931, unless accompanied by yields lighter than usual, seems almost certain to result in a lower scale of prices.

Cabbage marketing is usually most difficult when the intermediate States are active during the summer months. This group includes most of the other Southern States, but takes in also Washington, New Mexico, Missouri, Iowa, Illinois, New Jersey, Long Island, N. Y., and areas in Ohio and Virginia. Cabbage acreage in these intermediate States has continued to rise gradually but steadily ever since 1924, while yields during the past three years have dropped lower and lower. Drought was particularly severe on the summer cabbage crop in the eastern and central areas in 1930; and in general the outcome was discouraging in both production and price. With better yields than those obtained the last two seasons, an acreage as large as that of 1930 would result in a greater supply of summer cabbage than growers can market at satisfactory prices. Because of relatively low returns in 1930, a reduction in acreage appears probable next season.

ONIONS

Production of onions in the late States in 1930 was the heaviest on record. The crop of over 20,000,000 bushels is 10 per cent larger than last year's big crop and 33 per cent larger than the average crop of the previous five years. Prices have dropped to extremely low levels, and onions have been crowded into storage, overflowing the regular storage facilities at many points.

Regardless of these heavy storage supplies, the early-onion growers in Texas have reported an intention to plant a larger acreage than ever before.

Even with a sharp decrease in the California acreage and practically no change in Louisiana, the intended early-onion acreage, if it materializes, will be 13 per cent greater than in 1930 and only about 12 per cent below the record acreage of 1929. The heaviest increases in Texas are planned in the dry-land areas where yields, being entirely dependent upon rainfall, may be low enough to offset much of the acreage increase. Even with this prospect, an excessive supply of early Bermuda and Creole onions seem sure to result.

The mid-season or intermediate shipping States (California, Iowa, Kentucky, New Jersey, North Texas, Virginia, and Washington) seem likely to hold down their acreage next season, as they are subject to competition from both the early and late onion crops. Although the 1930 production of intermediate onions was about equal to that of 1929, prices were lower, partly by reason of the heavier crop of late onions. The 1931 intermediate season is almost certain to open at a lower price level than in 1930, because of the previous effect of the heavy supplies of storage onions and the prospective large crop of early onions.

TOMATOES

The fall-crop acreage in Florida and Texas this year is expected to be 71 per cent greater than last season and 26 per cent greater than the sharply increased acreage in these two areas in the fall of 1928. Last season, heavy plantings in Florida, almost the equal of those the previous fall, were seriously reduced by heavy rains and other weather damage, and favorable prices were received on the short crop. The fall crop has apparently not yet reached the point of furnishing an excessive supply for the market, the prices showing little change even considering the rapid increase in planting beginning with 1928.

Early reports from the important south-Florida counties furnishing the late winter crop, point to an intended acreage 26 per cent larger than that harvested in 1930 and slightly larger than the record acreage of early 1929. But the intended acreage for 1931 is only slightly greater than the acreage actually planted last season, much of which was lost. In other early sections, or those supplying the early-spring market, 1930 prices were in general favorable enough to encourage acreage increases in the spring of 1931. Production in the lower valley of Texas last year was 37 per cent larger than in 1929, while the crop of Florida other than the lower east-coast sections was about the same as the year before. Acreage and production in the Imperial Valley of California was reduced.

An increase of nearly one-third in the second-early acreage in 1930 resulted in a corresponding increase in production, bringing the lowest average price in recent years. The acreage in these States (South Carolina, Georgia, Mississippi, and parts of Texas other than lower valley) has had a marked upward trend. It appears that the supply available from these States in a normal year on the present acreage basis is more than can be marketed at prices satisfactory to the grower.

In the intermediate States—comprising Arkansas, Tennessee, Missouri, Virginia, Maryland, New Jersey, and one county each in Ohio and Illinois—the 1930 crop proved disappointing. A record acreage was planted which would have resulted in an excessive supply had not yields been greatly reduced by the prolonged drought of 1930. In spite of the smaller crop, prices fell below the 1929 level, partly because of quality differences between the two crops.

WATERMELONS

Unless the 1931 watermelon acreage is less than that of 1930, returns may be as unsatisfactory as in 1930. The 1930 plantings were generally heavy, the total for the country showing an increase of about 9 per cent over the high 1929 acreage. Marked increases were reported in Georgia, South Carolina, North Carolina, Missouri, and Arkansas. Returns to growers in 1930 declined materially from the 1929 level and were especially discouraging in the important States of Georgia and South Carolina. The low price in 1930 can be largely ascribed to the heavy production and the generally congested marketing situation which developed.

Car-lot shipments of watermelons in 1930 amounted to about 59,000 cars, which is an increase of about 6,500 cars over 1929 shipments. The previous peak of shipments was about 55,000 cars in 1926. With production heavy, further difficulties resulted in 1930 because of the unfavorable marketing situ-

ation that developed. The large Georgia crop was marketed at an unusually rapid pace. Car-lot shipments from this State for the week ended June 21 were reported to be 133 cars and for the following week from this State increased to more than 4,500 cars. During the same week Florida shipped more than 3,500 cars, and the total figure for the country was reported to be more than 10,000 cars, which is believed to be the highest weekly movement on record.

Early acreage of watermelons in Florida in 1930 was about 16 per cent below the 1929 plantings. With the lower acreage and production, prices in 1930 averaged only slightly higher than in 1929.

In the second-early States, of which Georgia contributed more than 50 per cent of the acreage and production in both 1929 and 1930, prices to growers in 1930 were apparently lower than for any other year in the last decade. Especially low prices were reported in Georgia and South Carolina, in which increases in production were largest. A heavy increase also occurred in North Carolina production in 1930. In the remaining second-early States of Alabama, Arizona, Mississippi, and Texas, the 1930 acreage shows little change from the 1929 plantings. Prices in these latter States averaged about the same as in 1929.

The tendency to increase acreage carried over into the late watermelon States, and in this group the possibility of a greatly increased crop was removed only by reason of the sharp reduction in yields caused by drought. Production was 8 per cent lower than in 1929, but the unusually favorable market conditions of 1929 were lacking and prices dropped about 20 per cent.

COMMERCIAL EARLY POTATOES

Growers of potatoes in the early States, extending along the coast from southern Texas to and including North Carolina, reported in October that they intended to plant for harvest next spring a combined acreage about 10 per cent larger than that harvested in 1930, which was the second highest on record, and only about 6 per cent less than the excessive acreage of 1928. Reports from growers in Arkansas, Oklahoma, and Tennessee indicate that these States are planting an acreage 15 per cent larger than that of 1930, but still 26 per cent below the record acreage of 1928. Although holdings of late potatoes next spring are likely to be nearly as low as they were in the spring of 1930, the buying power of consumers has been considerably reduced, food prices are low, and, with the normal weather conditions, the planting of the intended acreage would result in substantially increased production and in potato prices below those of last spring.

In view of the moderate potato crop in the 35 late States, the carry-over of old potatoes into 1931, which will compete with the early crop from the Southern States, is likely to be below normal. Based on November 1 conditions, the late crop of 1930 is 332,000,000 bushels, which may be compared with the small crop in 1929, of 325,000,000 bushels. On January 1, 1930, merchantable stocks on farms amounted to 84,000,000 bushels. Next January, stocks are likely to be about 87,000,000 bushels, which would be below average.

This prospect of reduced competition does not justify the present intentions to expand acreage in the South.

Potatoes are now as cheap as at this time in 1927, when a crop of 400,000,000 bushels was being harvested, and a large expansion in early potato production next spring would be as disastrous as it was in 1928, when hundreds of thousands of bushels were dumped because they would not sell for enough to pay the freight.

Following the 1928 record acreage and production, which was marketed at distressingly low prices, growers in the eight early producing States of the South reduced their combined acreage from 168,800 to 107,400, a reduction of about 61,000 acres or 36 per cent. The more satisfactory prices of 1929 resulted in a general expansion of about 36,000 acres, making a total of 143,700. This is only 25,000 acres less than the record of 1928, and already somewhat above a normal acreage for the eight States combined.

Considering the foregoing States individually, the 1930 acreage in Texas was 16 per cent above that of 1928 and in Florida 3 per cent above. In Georgia the 1930 acreage was practically equal to that of 1928, and the acreages of Louisiana and Mississippi were within 8 per cent of the 1928 record. In Alabama, North Carolina, and South Carolina the 1930 increases were not so great, and their acreages were approximately 30 per cent below their 1928 records.

In Virginia the 1930 acreage was within 1 per cent of the record 1928 acreage. Although no report of the 1931 intentions of the Virginia growers will be obtained until a later date, it does not now seem likely that they plan so large an increase as is reported from the States farther south.

If the reported acreage intensions are carried out in Texas, Florida, Alabama, Louisiana, Mississippi, Georgia, North Carolina, and South Carolina, their combined commercial early-potato acreage will be 157,700 acres, or 14,000 more than in 1930, when the total acreage for these States was already above normal. The lower valley of Texas is again planning a considerable expansion, this time above 25 per cent. Other sections of Texas intend to increase acreage 5 per cent, making an intended increase of 16 per cent for the State. In the other States acreage changes are intended. Florida intends to decrease acreage by 10 per cent but increases are planned elsewhere as follows: In Alabama, 31 per cent; Mississippi, 15 per cent; Louisiana, 16 per cent; North Carolina, 16 per cent; and South Carolina, 2 per cent. Growers' reports from Georgia indicate no change in acreage.

Although 1931 yields per acre can not now be foretold, it is necessary to appraise the probabilities of their being greater or less than in 1930. Average yields for the eight States and Virginia, combined, were relatively high in 1927, 1928, and 1929 and somewhat below normal in 1930. They were particularly low in Florida and Virginia in comparison with the recent high yields of 1928. In North Carolina and South Carolina, however, yields have been relatively high during the last three years. It is therefore probable that lower yields in some States might be more than offset by the higher yields in Florida and Virginia, where more than 50 per cent of the 1930 crop (in the nine States) was produced.

The 1930 production in these nine States, including Virginia, totaled 27,000,000 bushels, compared with the reduced production in 1929 of 24,000,000 bushels and the record in 1928 of 34,000,000 bushels. An increase in southern early-potato production is not improbable, even if acreage were maintained at the 1930 level, and an increase in production seems practically certain if present planting intentions are carried out.

For the nine States as a whole, the following price influences may be expected to operate in 1931: Consumers may have somewhat more money to spend on potatoes than at present (November, 1930) but probably not so much as during the movement of the 1930 early-potato crop; the competing supply of late-crop potatoes will be light but probably not much lighter than in the spring of 1930; on the other hand, the tendency to take advantage of the fairly favorable late-crop situation, as indicated by intentions to expand early acreage by 10 per cent, together with probable higher average yields, will result in a larger early crop; larger crops in the past have brought smaller total returns than small crops, and a larger crop in 1931 may be expected to result in a smaller total money income than that from a smaller crop; furthermore the lower level of business and commodity prices in general do not warrant the expectations of prices in 1931 as high as those of 1930. The best indication is the fact that this year the price in October was $1.02, whereas last year, with a crop of approximately the same size, the price was $1.38.

SWEETPOTATOES

In those portions of the Cotton Belt in which sweetpotatoes are grown primarily for local consumption the acreage varies from year to year according to the price of cotton, a low price for cotton resulting in an increased acreage of sweetpotatoes the following season. The low price now being received for cotton and the widespread effort to encourage the substitution of an increased acreage of food and feed crops will tend to cause a sharp increase in the acreage planted to the moist-fleshed type of sweetpotatoes grown in the Cotton Belt. The yield is also likely to be much above the abnormally low yield secured this season. The outlook is, therefore, for a large crop of sweetpotatoes in 1931, with probably some surplus over food requirements which can be advantageously utilized as feed for livestock. Although this situation should not prevent southern growers from providing an ample supply to meet their own needs, those planning to raise sweetpotatoes for market on an extensive scale will do well to recall the low prices received for sweetpotatoes in such seasons as 1915, 1921, 1922, and 1927, when the price of cotton was unusually low at planting time.

In eastern Virginia and other sections where the dry-fleshed type of sweetpotato is grown for northern shipment, prospects are somewhat better than they are farther south, for there seems to be no reason to expect any unusual expansion of the sweetpotato acreage next season in States that produce the dry-fleshed type. Producers in this area, however, will probably have to sell their sweetpotatoes in competition with a substantially larger United States crop of potatoes than has been harvested this season.

PEANUTS

An acreage of peanuts harvested for nuts in 1931 equal to that of 1930 should, with average yields, give a total supply of peanuts about equal to the average annual supply during the last five years. Although prices for the 1930 peanut crop may show but little improvement over the low prices for last year's crop, returns for competing crops now promise to be greatly reduced as compared with last year, and this may result in an undesirable increase in the acreage of peanuts to be harvested for nuts. In sections where it is a common practice to use the peanut crop as feed for livestock some increase in acreage for this purpose in 1931 may be desirable.

On the basis of November 1 forecasts, the 1930 crop of peanuts harvested for nuts will be the smallest since 1926. The forecast production of 759,000,000 pounds in 1930 equals the 5-year average production, 1924–1928, inclusive, and is 18 per cent less than the large 1929 crop. The 1930 estimate of 1,116,000 acres is only about 12 per cent below the 1929 harvested acreage, and the small production is largely due to the drought, which resulted in unusually low yields in Texas, Oklahoma, Arkansas and Virginia. Picking had not been completed in all districts by November 1, but present indications are that prices this season may show some improvement over the discouragingly low prices for the 1929 crop. In the Southeastern States movements from the farm of this season's crop have been unusually rapid, and prices have been only slightly improved as compared with last year. In the Virginia and North Carolina section new-crop peanuts at the beginning of the present season were bringing prices equal to or slightly above prices at the beginning of the preceding season.

The large crop of 929,000,000 pounds in 1929 brought the lowest price per pound reported since 1922. Largely because of the low prices and decreased imports, consumption of domestic peanuts for the 1929–30 season shows a further increase as compared with recent years and is the largest on record. Owing to the relatively poor quality and low prices of the 1929 crop, takings by oil mills, were in larger volume than in any year since the 1921–22 season. The high disappearance level during the 1929–30 season greatly improved the marketing situation for the 1930 crop. Looking ahead, it appears that if normal demand conditions prevail during the present 1930–31 marketing season supplies of peanuts will be at relatively low levels at the beginning of the 1931 harvest season.

Virginia and North Carolina grow chiefly the Virginia-type nuts, and preliminary estimates indicate that these States will probably harvest about 360,000 acres of peanuts in 1930. This is a reduction in acreage of about 5 per cent as compared with the high acreages for last year. Because of unfavorable weather, the forecast production of about 259,000,000 pounds for these States is 101,000,000 pounds less than the large production of 1929. Owing to tariff restrictions and low prices of domestic peanuts, Chinese imports for the 1929–30 season, which are of the Virginia type, have been the smallest in more than 20 years. Imports for the season ended November 1, 1930, are expected to be the equivalent of about 10,000,000 pounds of unshelled peanuts and are less than 22 per cent of the relatively small imports for the preceding season. Carry-over of domestic Virginias in farmers' hands at the beginning of the present season has been estimated at about 300,000 bags, which is only 40 per cent of the estimated carry-over of the preceding season. Present indications are that the 1930 crop of Virginia-type peanuts will run heavily to the larger sizes. Imports are principally of the large-size peanuts, and unless there is a further advance in prices for the larger sizes imports during the coming season may tend to continue at low levels.

The 1930 acreage of peanuts harvested for nuts in Georgia, Alabama, Florida, and South Carolina, where both Spanish and Runner types are grown, has been estimated at 585,000 acres. This figure is 74,000 acres below the 1929 acreages for these States. Production in the Southeastern States in

1930 was forecast on November 1 at about 385,000,000 pounds, which is 4 per cent less than the 1929 production, although the acreage this year was but 11 per cent less than the 1929 acreage. Because of extensive taking by oil mills of the 1929 crop, especially the Runner type of peanuts, the large supply of low-grade peanuts from the 1929 crop in these States had disappeared and the carry-over of the better grades at the beginning of the present marketing season was reported to be relatively light. Prices for new-crop peanuts in these Southeastern States are somewhat improved over the low prices received for the 1929 crop. Cotton prices are materially lower than last year, however, and this situation may result in an excessive increase in the acreage of peanuts harvested for nuts during the coming year. It should be remembered that peanut prices, even with the greatly reduced production in 1930, so far show little improvement as compared with the low 1929 prices.

The acreage of peanuts, chiefly of the Spanish type, harvested for nuts in Texas, Oklahoma, and Arkansas, has been estimated on November 1 at 171,000 acres, which is a decrease of about 30 per cent from the 1929 acreages for these States. Because of the drought, the yield per acre in these States is the lowest in years, and the production has been forecast at 82,000,000 pounds, a decrease of about 35 per cent as compared with the 1929 production. The yield per acre in these States was much below average in both 1929 and 1930. For the 1930 crop, reports indicate that further damage resulted from heavy rains during the harvest season. Thus, it appears likely that the 1930 crop in the Southwestern States may be of low quality, as was the case in 1929. Present indications are that the carry-over of good-quality Spanish stock from these States at the beginning of the 1931 harvest season will be negligible, as was the case for the current season. The situation in these States for the coming season appears to be sufficiently favorable to justify a continuation of the 1930 acreage.

FEEDS

Feed supplies in the Southern States for the 1930–31 season are the smallest in recent years. Grain and hay crops in the adjoining States from which the South usually obtains supplies to supplement local production are also much below average, and smaller quantities of feed grains and hay will be available for shipment to deficit areas. The total tonnage of feed grains in the South Atlantic and South Central States is only about 70 per cent of the 5-year average, and hay supplies are only 71 per cent of average. Compared with livestock numbers the total supply of feed grains and hay is barely three-fourths of the usual supply. About the same quantity of commercial feedstuffs, including wheat feeds and cottonseed meal, will be available as have been consumed during recent years. Although feed supplies are much below average, the short hay crop will be supplemented by heavier feeding of straw, fodder, and other roughages and the pasturage of fall-sown grains. In the case of feed grains some adjustment will be made in feeding practices, and larger quantities of wheat will be used for feed.

The supply of feed grains, corn, oats, barley, and grain sorghums, for the 1930–31 season will total about 96,000,000 tons, or about 11 per cent below that for the 1929–30 season and about 15 per cent below the average for the past five years. The shortage of feed grains is principally in corn and grain sorghums. The November 1 estimate placed the 1930 corn crop at 2,094,000,000 bushels, which would give a total supply about 500,000,000 bushels less than last season and about 700,000,000 bushels less than the 5-year average 1924–1928. The supply of oats for the current season totals nearly 1,500,000,000 bushels and is well above last season and slightly above the 5-year average. About 350,000,000 bushels of barley are available this season which is nearly the largest supply on record and is about one-third more than the 5-year average. The crop of grain sorghums totals about 85,000,000 bushels, compared with 101,000,000 bushels last year and a 5-year average of 128,000,000 bushels. In addition to these feed grains, however, there is a large surplus of wheat much of which may be used to supplement the short feed supplies.

Reducing feed grains to a corn equivalent, the supply in the South Atlantic and South Central States is only 69 per cent of the 5-year average. Supplies of these grains in the East North Central States and in the West North Central States, the areas from which the Southern and Southeastern States must draw whatever additional supplies are needed, are only about 82½ per cent of the 5-year average. Feed grain supplies in the South Atlantic and South

Central States, in relation to animal units, are only about 71 per cent of the 5-year average. During the 5-year period 1924–1928, 1,675 pounds of feed grains were available for each animal unit based upon livestock numbers August 1. This season, however, only 1,192 pounds of feed grains are available for each animal unit in these States. A similar situation prevails to a lesser degree in the relation of grain supplies to livestock numbers in the East North Central and West North Central States, which usually produce the surplus feed grains for the southern areas. Although 3,330 pounds of feed grains were available per each animal unit on an average during the 5-year period 1924–1928, only 2,880 pounds of feed grains are available per animal unit this season, or 86.7 per cent of the 5-year average. These figures do not necessarily mean a deficiency in the surplus-producing areas of the North Central States, but they indicate a much smaller quantity available for shipment to other areas.

Taking the corn crop alone, there is a marked shortage in the States included in the southern group. The greatest shortage is in Arkansas, where the crop is less than one-fourth of average, and in Virginia, Tennessee, and Mississippi where supplies are only about 50 per cent of average. From North Carolina to Florida supplies are about equal to the average of the last five years. The Oklahoma crop is about 60 per cent of average and the Texas crop slightly above average.

Hay supplies are materially under those of a year ago. The 1930 crop, based on conditions October 1, is 96,100,000 tons—the smallest hay crop since 1918. It is about 17 per cent below the 1929 outturn and 12 per cent under the average of the previous five years. Tame hay was reduced relatively more than wild hay. The production of tame hay was estimated at 84,071,000 tons compared with 101,800,000 tons in 1929 and a 5-year average of 93,600,000 tons. The alfalfa crop was 28,500,000 tons, against 29,800,000 tons harvested in 1929 and 28,700,000 tons, the 5-year average. The outturn of wild hay was forecast at 12,042,000 tons, compared with 12,900,000 tons produced in 1929 and 13,500,000 tons, the 5-year average.

Hay supplies in the Southern and Southeastern States are relatively shorter than for the country as a whole. Based upon the October estimates, the production of tame hay in Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas totalled about 7,321,000 tons, or about 78½ per cent of the 5-year average, 1924–1928, and about 72 per cent of the 1929 production. Yields were particularly short in Virginia, Kentucky, Tennessee and Arkansas. The harvests in the other States were about as large as last season.

Supplies of hay in the States from which this Southern group usually obtains supplies to supplement local production are smaller. In the principal timothy and clover producing States, including Ohio, New York, Missouri, Illinois, Pennsylvania, Michigan, Iowa, and Wisconsin, there is a deficiency of about 5,500,000 tons, compared with the 5-year average, with the 1930 crop only 85½ per cent of the average. Alfalfa production in Kansas, Nebraska, Arizona, Oklahoma, and Texas, the area which principally supplies this class of hay to the Southern and Southeastern States, is about 10 per cent, or 650,000 tons, below the 5-year average 1924–1928. Supplies of prairie hay in Nebraska, Kansas, Oklahoma, and Texas are not much below the 5-year average production in these States, but the quality of this hay is reported to be rather poor this season.

Present supplies of hay are even smaller than indicated by production figures, since marketings of hay for the season to date have been considerably larger than during the corresponding period for any of the last five years. Increases in the marketings were reported in practically all of the surplus-producing areas. The movement of timothy and clover has been unusually heavy, and as a result the surplus of these classes of hay remaining for market is the smallest in recent years.

Although the 1930 hay crop was materially reduced by the drought, more serious damage has been suffered by the 1930 seedings for harvest in 1931. In the area along the Ohio River a large percentage of the 1930 seeded meadows has been killed.

The condition of the 1930 seedings of alfalfa, clover, and grasses around the middle of August, in percentages of a full crop were reported as follows in the principal States from which the South draws supplies: New York, 62; Pennsylvania, 38; Ohio, 29; Indiana, 35; Illinois, 31; Michigan, 36; Wisconsin, 58;

Minnesota, 61; Iowa, 55; Missouri, 25; Nebraska, 65; and Kansas, 53. In the Southern States the percentages are as follows: Virginia, 22; West Virginia, 19; Tennessee, 29; Alabama, 36; Mississippi, 26; Arkansas, 10; Louisiana, 27; Oklahoma, 30; and Texas, 39.

This is the first time that reports on conditions of new seedings have been made, and no comparable figures are available. In some States, however, the low conditions indicate beyond question a serious probable shortage of new meadows in 1931. In many States where the condition is shown to be very low, many of the reports indicate an absolute failure of the seedings. Generally speaking, the lower the reported condition in the foregoing list, the larger the number of absolute failures reported. In these States it is therefore almost certain that the new seedings, even under favorable conditions during the coming winter, can not be revived sufficiently to provide large acreages of new meadows in 1931.

From present indications, supplies of commercial feedstuffs may not differ much from those of a year ago. The wheat crop is well above the usual flour requirements, thus assuring a supply of bran and shorts at least equal to last year, when 4,900,000 tons were produced at merchant mills. In view of the unusually low prevailing wheat prices, and the larger outturn of offal per barrel of flour, the 1930–31 production may aggregate about 5,000,000 tons. Canadian supplies will probably be larger than last year.

The November 1 estimate of the flaxseed crop was 24,200,000 bushels, compared with 16,800,000 bushels last year. Considering seed requirements, the supply of linseed meal for this season will probably be about 50 per cent greater than the small domestic supply of a year ago. The outturn of cottonseed and cottonseed meal will depend largely upon the quantity of cotton ginned. The November 1 estimate suggested a slightly smaller production of cotton and consequently less cottonseed than last season. However, the production of cake and meal will probably not differ much from the 2,232,000 tons produced in 1929–30. Stocks of old-crop cottonseed meal August 1, of 54,000 tons, were about two-thirds as large as a year before.

Corn by-products feed production will probably be smaller than a year ago because of the scarcity and the relatively high price of corn and the prospective reduction in the demand for the main products. Wet-process corn grindings, from which gluten feed and meal are by-products, will be affected by the low price of other sugars and competition from imported tapioca starch. Some decrease in hominy feed production is probable with a prospective reduction in domestic and foreign demand for corn meal. The unusual price spread between corn and wheat, if continued, will tend to decrease further the use of corn meal. The firm hay situation may reduce grindings of alfalfa meal, but fairly large stocks of the old alfalfa meal are reported on hand in the Western States.

Notwithstanding the shorter supplies, feedstuffs are costing consumers less per unit than last year. Corn prices during the last week in October averaged about 84 per cent of a year ago and 94 per cent of the 5-year average for that period. Oats prices were about 80 per cent of what they were a year ago and about 83 per cent of average. Barley was also lower, and wheat was selling at about 60 per cent of last year's prices and of the 5-year average. Prevailing prices of bran at representative markets were about 70 per cent of a year ago and around 75 per cent of the 5-year average. Cottonseed and linseed meals were selling at about 70 per cent of prices prevailing at this time last year and about 80 per cent of the average.

Hay prices, on the other hand, are well above those of the corresponding date last year and reflect the shorter supply and active market demand. The farm price of all hay at the middle of October was $12.17 per ton, or $1.10 above the price at the corresponding date a year ago. No. 1 alfalfa hay averaged about 85 cents per ton below prices a year ago at the principal markets but was selling slightly above the 5-year average 1924–1928. Timothy is relatively higher than other classes of hay, and at the close of October prices at the leading markets averaged about $3.50 per ton, or 15 per cent, higher than a year ago and about 85 cents per ton above the 5-year average. Prairie prices have advanced steadily since the first of August, and at the close of October were about $1.50 per ton, or approximately 8 per cent, above last year and slightly above the 5-year average.

The supply of credit for financing feed purchases will be smaller for the present season as compared with previous years. The lower level of farm commodity prices has resulted in a smaller farm income and a reduced purchasing power. The luck of adequate financing in the drought-stricken areas,

however, may be offset to some extent by the emergency credit organizations being established in these particular sections. The organizations of state-wide agricultural corporations is contemplated for many of these States, and it should be possible to secure loans from these corporations for the financing of a portion of the necessary feed purchases.

Feed-grain prices are not likely to fall much below present levels in view of the prevailing low prices, the general shortage of feed supplies, especially of corn, grain sorghums, and hay, and the increasing stability of the price level. The present low level of wheat prices is partly responsible for lower feed prices and is resulting in much more than the usual farm feeding of wheat. Competing feedstuffs and feed grains are lower than usual when compared with present corn prices. This is resulting in considerable substitution of other feeds for corn whenever possible. This should add strength to feedstuff and other feed-grain prices and tend to bring them in line with corn prices.

With the 1930 hay crop much below the normal domestic consumption, prices of most classes of hay are likely to continue at present or slightly higher levels during the winter and early spring. Timothy and clover supplies are relatively smaller than those of alfalfa and prairie, and more than the usual seasonal price advance may occur toward the end of the season. Because of the higher hay prices and low purchasing power of farmers, however, there will probably be heavy substitution of straw, fodder, and roughage, which will tend to reduce purchases of hay.

In the Southern States, increased seedings of annual grasses and small grains will provide more than the usual quantity of winter and early spring pasturage. This and the low grain prices may tend to offset the influence of the reduced market surplus.

Although alfalfa production in 1930 was not much below average, marketings this fall have been materially larger than usual, and supplies of good quality hay are now relatively small. Prices are therefore likely to hold steady during the heavy winter-feeding period, and the usual spring decline may occur later than in other recent years. The earliness of pastures and the amount of winter and spring forage will be important influences in the alfalfa market and, as in grass hays, will tend to offset the influence of the smaller supplies. Prairie-hay prices are likely to be maintained at present or slightly higher levels until spring pasturage and early hay crops become available, since prairie-hay prices tend to fluctuate with those of timothy hay.

Seasonal advances in prices of commercial feedstuffs this fall and early winter will not be so marked as during the later winter months, because of the widespread tendency to depend upon home-grown feeds and the resulting smaller supply later in the winter. The severity of the winter and the earliness of spring pasturage may alter somewhat this outlook. Feedstuff prices will probably not follow corn-price fluctuations so closely as usual because of the moderately large supplies of oats, barley, and rye, and the large supplies of wheat, which are relatively cheaper than corn. Mixers probably will reduce the percentage of corn in their formulas and increase their utilization of the cheaper feed grains. Many feeders probably will adopt a hand-to-mouth buying policy during the coming winter, which suggests relatively steadier demand than during recent seasons.

The short supplies of feed grains and hay available for the remainder of the current season emphasize the need for an increased acreage of early forage crops in the Southern and Southereastern States this coming spring. Oats is the only small grain adapted for spring seeding to provide both pasture and hay. Red Rustproof and Fulghum oats are recommended for such use. Rye may be used if sown in the extreme South during December or January. If rye is used, special care is advised in obtaining seed. Abruzzi and locally adapted varieties should be sown in this area.

For later spring pasturage, Sudan grass may be sown in the Gulf States by April 1 and in the northern part of the region from May 1 to 15. This will provide pasture within four to six weeks after seeding and will be ready to cut for hay within 60 days from seeding date. Soybeans may be used both as a forage and grain crop. For a hay crop soybeans may be seeded with Sudan grass, since the seeding date is about the same for both. Care should be taken to obtain seed of the varieties suitable for the sections to be seeded. Cowpeas, although less useful than soybeans, can be used effectively in the production of hay during the late summer. They are particularly valuable on lighter soils. The sorgos or sweet sorghums can be used to supplement hay

supplies. Sorghums should not be sown until the soil is warm, ranging from about the first of April to the middle of May in the various sections. It should not be sown after the first or middle of July. For permanent meadows, red clover, timothy and clover, and alfalfa should be seeded where these grasses and legumes are adapted to climatic and soil conditions.

Corn acreage in the South Atlantic States has declined from 13,400,000 acres in 1921 to 10,600,000 acres in 1929. During this time corn acreage in the South Central States declined from 27,700,000 acres to 20,900,000 acres. In 1930 acreage in both of these areas showed a slight increase, but lower yields resulted in a smaller crop in 1930 than in 1929. The decrease in corn production has been accompanied by a decrease in livestock numbers, but most of the States still produce smaller quantities of corn than is consumed, which results in higher prices for corn than in the surplus areas and a marked advance in corn prices late in the season as supplies begin to give out.

The low yields of corn obtained in the South make it unprofitable to raise corn as a cash crop in many sections. In many areas the corn weevil damages corn that is stored and kept until late in the season. In localities in which there are adequate marketing facilities, and weevil difficulties do not exist, farmers with good land (where better-than-average yields can be obtained) can raise corn to advantage in most years, especially if the crop can be held until toward the end of the season.

Corn production in the United States in 1931 will probably be much greater than in 1930, and if the anticipated smaller numbers of hogs are raised in 1931, will probably sell for lower prices than did the 1930 crop. Farmers in the Southern States should allow for these factors in planning their corn acreage for 1931. The growing of corn should be worked in the rotation to provide home-grown feeds wherever possible.

SEEDS

Little or no apprehension need be felt about a shortage of seeds for planting in the South next year. Prices of some of these seeds are expected to be a little higher, while others will be somewhat lower than those of a year ago. Local shortages of some kinds or varieties will occur, as has been found to be the case even in a normal year, and it will be necessary, in some instances, to substitute other varieties than those commonly grown in certain sections. A brief statement regarding each of the seeds for the South follows:

COWPEAS

Commercial production of cowpeas for planting is expected to be about the same as last year, if not slightly larger. Acreage for seed was indicated to be larger in important producing districts in Alabama, Georgia, South Carolina, and Mississippi, but smaller in Virginia, North Carolina, and other States where drought made it necessary to harvest more of the crop for hay to compensate in part for the shortage of feed. Labor for gathering the peas is plentiful. Although drought cut down yields in a number of States, the average yield per acre is not expected to be materially different from that of last year.

Prices to growers were not well established up to the middle of October. They averaged about $1.80 a bushel for thresher-run cowpeas, compared with opening prices of $2 last year and $1.65 two years ago.

SOYBEANS

The commercial production of soybeans for planting is expected to be about the same as a year ago, or only slightly smaller. Acreage expanded in a majority of the important districts but yield per acre fell below that of a year ago in all the principal producing districts except in Georgia and western South Carolina. Of the principal producing States in the South and Southwest, Mississippi, Georgia, and South Carolina are expected to harvest a larger quantity of soybeans than last year, but North Carolina, Alabama, and Tennessee a somewhat smaller, and Virginia a much smaller quantity. The production in the Central States probably will be fully equal to that of last year because expansion in acreage offset decreases in yields.

Prices to growers were not well established in many sections about October 15. For the cheaper varieties, prices averaged about $1.35 a bushel, thresher-run, which is about 15 cents lower than a year ago but about the same as two years ago.

VELVETBEANS

The production of velvetbeans may exceed slightly that of last year unless a much larger proportion of the crop than usual is fed to stock. Acreage for seed in Georgia and South Carolina was indicated to be larger than last year, whereas that in Alabama, Mississippi, and Florida was indicated to be smaller, according to the scattered reports received.

Although drought reduced yields in some sections, the average yield per acre in other sections, notably in Georgia and South Carolina, was expected to exceed that of last year.

Prices to growers on October 21 were more or less nominal because of the small percentage of the crop that had been harvested. Opening prices, ranging $10 to $18 a ton for beans in the pod, averaged about $13.75 compared with $15.50 last year, $17.50 in 1928, and $17 in 1927.

LESPEDEZA

The commerical production of Lespedeza seed is expected to be somewhat smaller than last year. Acreage, especially of the Korean and Kobe varieties, was larger in a few districts, but yield per acre declined in nearly all the principal producing districts. Growing conditions generally were less favorable because of the drought, and a greater proportion of the crop was used for hay.

Prices to growers were not well established up to the end of October. Those being offered were about the same as last year, ranging $12 to $16 per 100 pounds, basis clean seed, for common and mostly $28 to $30 for Korean and Kobe.

ALFALFA

The alfalfa seed crop in the central and southwestern producing districts, as well as in the northern, was a little larger than that of last year. Drought in a number of the States reduced hay yields but not seed yields except in a few States. Frost did less damage to the crop than usual.

Harvesting began earlier than last year and proceeded under generally favorable conditions. Movement of the crop from growers' hands has been rapid.

Prices to growers for common alfalfa on October 15 averaged $16.25 per 100 pounds, basis clean seed, or about 50 cents lower than a year ago. In Kansas, Oklahoma, and New Mexico growers were receiving on an average $14.25, while in Texas, $15 to $16.

BUR CLOVER

Production of bur clover seed was smaller than last year, the increase in Georgia and Alabama being more than offset by the decreases in South Carolina and other States. The crop moved from growers' hands at higher prices than last year but at lower prices than two years ago. Growers received on an average about $10 per 100 pounds for screened seed in the bur.

RED CLOVER

Red-clover seed production is estimated to be at least 35 per cent smaller than last year, when one of the largest crops on record was harvested. Acreage was reduced by drought in several of the Central States and many growers were forced to cut their fields for hay or to pasture them because of the shortage of hay and pasture. This loss was offset in part by a fairly well maintained yield per acre, with slight expansion of acreage in districts at the edge and outside the area where the drought was most severe.

Quality of the crop was expected to be fair to good.

The carry-over is believed to be much larger than the year before. Although spring retail sales increased and imports fell off to about one-third those of the year before, the supply from the 1929 crop and carry-over from 1928 was much larger than in other recent years.

MILLET

Production of millet seed is expected to be about 25 per cent larger than last year mainly because of the increases in Colorado, North Dakota, and Nebraska. The Southern States, however, usually do not draw heavily for their supplies of millet seed from these States, but commonly obtain them from Tennessee, Kansas, Oklahoma, and Texas.

Production of German millet in Tennessee and northeastern Kansas is estimated to be larger than last year. On the other hand, production of this and other kinds of millet in Oklahoma and Texas is smaller than last year.

Opening prices to growers the second week of October were higher in some districts and lower in others, depending largely upon local supplies. In the principal producing districts they ranged mostly $1 to $2.50 per 100 pounds, basis clean seed, for German, 75 cents to $1.50 for Siberian, $1.50 to $2.35 for Hungarian, $1.75 to $2 for Japanese, 65 cents to $1.15 for Yellow Hog, and 90 cents to $1.50 for Early Fortune.

SORGO

Sorgo (cane) seed production is expected to be a little smaller than that of last year because of a decrease in yields in a number of the most important producing districts, particularly in Texas and Oklahoma. Higher prices and expected good demand for this seed may result in a saving of more of the crop for seed than is indicated at this time, and thus the decreased production in Texas, Oklahoma, and New Mexico may be offset by the increases in Kansas and Colorado. Supplies of amber and orange will be relatively greater than those of sumac sorgo because the principal producing sections of the latter were hard hit by the drought.

In general, weather conditions for harvest, which began a few days earlier than last year, were not so favorable as last year.

Prices offered to growers about October 20 ranged mostly from $2 to $2.50 per 100 pounds, basis clean seed, for amber and orange, and $2.50 to $3 for sumac. These prices averaged about 50 cents higher than last year.

SUDAN GRASS

The Sudan-grass seed crop is estimated to be 25 per cent smaller than last year, chiefly because of a decrease in yields, for acreage was fairly well maintained. The decrease in production in Texas, Oklahoma, and Kansas more than offsets increases in Nebraska, California, and Colorado.

Prices to growers about October 1 were about $2 per 100 pounds higher than last year, being mostly $5 to $6 in Texas and Oklahoma.

Carry-over of Sudan-grass seed was smaller than that of a year ago largely because of good demand last spring.

SEED CORN

Supplies of seed corn are short mainly in Virginia, West Virginia, Kentucky, Arkansas, and the southern portions of Indiana and Illinois. In these States farmers have been and will continue to be urged to save for seed any sound corn even though it is small. It is thought by doing this that probably 75 per cent of the seed needed in Virginia and 40 to 50 per cent of that needed in Kentucky and Arkansas will be made available. The rest of the requirements in Kentucky and Arkansas can be met largely by obtaining seed for the northern part of these States (where dent corn is used) from Indiana, Illinois, Missouri, and Kansas, and by obtaining seed for the southern part, especially in Arkansas (where prolific varieties are planted), chiefly from North Carolina, Georgia, and Mississippi. In the other States, where the shortage is not so marked, local supplies may be augmented by shipping in seed from near-by sections or States.

PEACHES

In the South the outlook for the peach industry during the next five years is generally favorable. Although production greater than the light crops of 1929 and 1930 may be expected under favorable seasonal conditions, the potential bearing capacity in the South as a whole is below that of 1928, when the peak of production was reached from the heavy plantings during the period 1920 to 1924. Judging from the survey of commercial peach orchards in 1929 in the five leading southern peach States, almost two-thirds of the trees are now near the age of maximum yield and will soon decline in potential productivity. Plantings in the South during recent years have been small and tree mortality and abandonment have been rather heavy. Considerable plantings seem justified in those sections where production and marketing conditions are advantageous, but should be made with due regard to proper varieties

and only on favorable sites and only by those who are prepared to give them proper care.

The peach crop in Georgia and the Carolinas in 1930 was larger than the very small crop of 1929 but was much below the peak crop of 1928. In Tennessee, Arkansas, and Texas the 1930 crop was smaller than that of 1929, being practically a failure in Arkansas. Prices in the South during the last two years have been somewhat above those of recent heavy crop years and in general growers are inclined to give their orchards better care.

The 1929 tree survey in five leading southern peach States—Georgia, North Carolina, South Carolina, Tennessee, and Arkansas, which in the last two seasons originated 96 per cent of the southern car-lot movement—indicated that 18 per cent of the trees in commercial orchards were under 5 years old and that 65 per cent were from 5 to 9 years old. In 1931, this latter group of trees will be from 7 to 11 years old, and although many of them will then be at their age of maximum bearing, others will be declining in productivity. Reports from the various Southern States indicate that plantings in 1930 were relatively light and winter damage to trees was rather extensive. For the South as a whole the number of young trees planted in commercial orchards annually since 1925 has probably averaged under 4 per cent of the present number of commercial trees. Assuming the average life of southern peach trees to be 13 to 15 years, the average rate of planting in the last six years would not be sufficient to maintain a constant tree population. The low rate of planting during recent years was brought about by low prices due chiefly to heavy crops. Although the present potential bearing capacity of southern peach orchards is sufficiently great to make possible large crops during the next few years, a moderate increase in the rate of planting of the last few years would probably not result in excessive production five to eight years hence.

It would appear to be a sound policy for the southern peach industry to plant moderately and at a uniform rate during the next few years, and to avoid periods of extremely heavy planting which may later result in oversupply and orchard neglect similar to conditions during recent years.

The 1929 survey showed that in Georgia, where nearly 40 per cent of the crop in 11 Southern States was produced during the last four seasons, 17 per cent of the commercial peach trees were under 5 years old and 63 per cent were from 5 to 9 years old. For the three districts in Georgia these percentages were, respectively: Northern, 15 and 55; central, 15 and 72; southern, 19 and 56. In central Georgia the proportion of trees which are now in their prime is larger than in other parts of the State. In the southern part of the State where tree mortality has been higher during recent years and plantings have been relatively greater, the percentage of young trees is higher than in the other districts. This southern district has but little competition in the markets until the latter part of its shipping season.

Trees standing in Georgia orchards on May 1, 1930, were estimated in round numbers at 9,800,000, of which about 700,000 trees were in the northern district, 4,400,000 in the central district, and 4,700,000 in the southern district. Georgia trees pulled out during 1929–30 were reported as 950,000 and those standing abandoned in 1930 were reported as 823,000 trees. Trees pulled out during the last year or standing abandoned, therefore, totaled 1,773,000 trees, of which about 12 per cent were in the northern district, 30 per cent in the central district, and 58 per cent in the southern district. The condition of Georgia orchards this fall is probably better than at any time during the last five years.

Plantings in the southern and central districts from 1925 to 1929 included considerable numbers of early varieties. The Early Rose, Uneeda, Early Wheeler, and Mayflower varieties represented 8 per cent of the total number of trees reported in the 1925 survey in Georgia, whereas the 1929 survey indicates that they represented almost 14 per cent of the Georgia trees. Although these early varieties have usually brought good prices at the beginning of the season, experience has demonstrated that there is a generally limited demand for them. These early varieties when planted in districts where they must compete on the markets with later maturing varieties produced farther south are likely to prove unprofitable.

In North Carolina, which produced 12 per cent of the southern crop during the last four seasons, only 11 per cent of the trees were under 5 years old in 1929 and 79 per cent were from 5 to 9 years old. Because of the increasing age of this latter group a considerable decrease in potential production is expected within a few years. In South Carolina, where the production has

been about half that of North Carolina during the last four seasons, there are relatively more young trees than in North Carolina, since 25 per cent were under 5 years old in 1929. In both the Carolinas a moderate increase in the rate of planting would probably not result in an increase in the potential bearing capacity five to eight years from this time. In this area the great increase in the use of the motor truck has furnished new market outlets.

In Tennessee, with an average production during the last four seasons of 8 per cent of the crop in 11 Southern States, 14 per cent of the trees were under 5 years old in 1929, compared with 75 per cent which were 5 to 9 years of age. Even with some increase in the average rate of planting of the last five or six years, a decrease in the number of bearing trees five to eight years hence may result. In Arkansas, a larger proportion of the trees are young than in the other States in the survey, 36 per cent being under 5 years of age in 1929. If the average rate of planting from 1925 to 1929 in Arkansas is continued, the present population of bearing trees might be approximately maintained. Both Arkansas and Tennessee shipments usually encounter competition from Illinois peaches in mid-western markets after August 1, which is a factor to be considered by growers in these States.

In some districts in the South many growers are confronted with serious problems of production due to difficulties in financing, disease of trees, and insect damage. The oriental peach moth is a menace in some southern peach sections.

In most of the important southern peach States seasonal conditions in 1929 and 1930 were below the average of the last 10 years. In Georgia, for example, the condition of the peach crop expressed in percentage of a full crop was 32 per cent in 1929, and 58 per cent in 1930 compared with a 10-year average of 76 per cent. In Georgia the set of buds for the 1931 crop is reported to be good. The potential production in the South as a whole during the next few years, assuming average weather conditions, is likely to be considerably above the 1930 production, but below the extremely heavy crop of 1928. Weather conditions were favorable in 1928 and tree mortality since then has been heavy. At this time when the trend in production in the South during the next five or six years is likely to be downward because of the large percentage of trees that will soon be past the age of maximum yield, growers should be encouraged to give proper care to their orchards.

CITRUS FRUITS

The bearing acreages of oranges and grapefruit are being steadily increased. Many trees now in bearing have not reached the age of maximum yield and a large increase in production may be expected in years when favorable growing weather prevails. Adequate returns to the growers are dependent upon a continuation of the upward trend in per capita demand.

Of the total shipments of oranges in the United States about 66 per cent move from November to April, inclusive. Practically all of the crop, except the California Valencias, move during this period. Assuming an average of 70 trees per acre and including satsumas and tangerines, the total acreage in orange groves in Florida is close to 230,000. Most of this acreage is now in bearing but many of the trees are still small and the production is still increasing about 4 per cent a year. Texas, with an acreage of 20,500, has only about 24 per cent in bearing. As contrasted with the situation in Florida and Texas, California Washington Navel production has probably reached its peak. Only 3 per cent of the 100,500 acres of Washington Navels were classified as nonbearing in 1929. A further increase in bearing acreage and production of California Valencias is expected, as in 1929, 19 per cent of the total acreage of 112,200 acres were classified as nonbearing. During recent years there has been a marked upward trend in both production and prices of California Valencias which indicates a substantial increase in the demand for them. This upward trend in demand is expected to continue but at a slower rate.

The trend of grapefruit production is sharply upward in all producing sections. In Florida about 80,000 acres have been set to grapefruit. Most of the acreage is now in bearing but many of the trees are not yet full size. Production is increasing about 5 per cent a year, and will continue to increase for several years more. The California bearing acreage is reported as 10,000 with a forecast of 11,800 bearing acres in 1932. Texas with an acreage of 60,000 has only 17 per cent of this acreage of bearing age. The April survey

of plantings in the lower Rio Grande Valley of Texas, made by the Federal Plant Quarantine and Control Administration, indicated some 713,000 grapefruit trees 5 years old or older as compared with 300,000 trees 4 years old, 445,000 trees 3 years old, 814,000 trees 2 years old, 1,214,000 trees 1 year old, and 716,000 trees under 1 year of age. The acreage in the valley comprises 40 per cent of the total acreage planted to grapefruit in the continental United States. Although the freeze that occurred in 1930 nipped back many of the younger orchards and has reduced the size of the crop for harvest during the 1930–31 season, the setback to the industry appears to be temporary. Production is also increasing rapidly in Arizona. Porto Rico, with an acreage estimated at 3,800, is reported as rapidly recovering from the damage resulting from the hurricane of 1928.

Canning of grapefruit has been increasing rapidly during the last five years. Last season 1,316 000 cases were packed, as against 400,000 in 1925–26. Reports from Florida point to a marked increase in the pack for the coming season.

Increasing consumption of grapefruit in foreign countries may be expected to continue, but foreign grapefruit production is also increasing. In other parts of the world, as in Palestine, West Indies, Brazil, and South Africa, production is increasing to meet this growth in foreign demand. Florida and Porto Rico have previously supplied the bulk of the grapefruit shipped to European markets, but United States growers must expect more competition in these markets in the future than has been felt in the past. Growers of winter oranges can expect an outlet in Europe for only a relatively small quantity of the higher grade fruit in view of the keen competition from Spain and Palestine.

The Federal quarantine on Florida products on account of the Mediterranean fruit fly was lifted November 15 by order of the Secretary of Agriculture.

In view of the prospective large increase in production, especially of grapefruit, during the next few years, brought about by increase in number of bearing trees and continued heavy plantings, and in view of the resulting probable depressing effect on prices, new plantings, except for grove replacements, appear to be justified only where unusually favorable conditions exist for the economical production of good quality fruit.

STRAWBERRIES

Preliminary estimates indicate that the commercial strawberry acreage for harvest in 1931 will be materially lower than the acreage harvested in 1930 in the second-early and intermediate groups of States. In the early shipping States only a small reduction is indicated and in the late marketing States, including the Pacific Coast and Intermountain States, a very slight increase is expected. Reports from the strawberry sections in the drought areas of the Mid-Western, Southern, and Eastern States point to extensive damage to fields, to heavy mortality of plants, and to generally poor condition of the fields, which interpreted at this time clearly indicate the probability of low yields and low production in 1931 in many important sections. In the early and late harvesting groups of States acreages for picking in 1931 appear to be in line with the needs of the country, but in the second-early and intermediate groups of States moderate increases of acreage may be justified for harvest in 1932 and 1933.

The estimated total of 162.000 acres for harvest in 1931 is about 16,000 acres, or 9 per cent, less than the acreage harvested in 1930, and the smallest acreage in any year since 1926. It is approximately 80 per cent of each of the very large acreages of 1928 and 1929. About 15,000 of the 16,000 acre reduction is reported for the second-early and intermediate States. In the three States—Arkansas, Tennessee and Alabama—a total reduction of 12,000 acres is reported for 1931. This decrease amounts to 75 per cent of the indicated net reduction for the entire country.

In the early shipping States (Alabama, Florida, Louisiana, Mississippi, and Texas) the commercial strawberry acreage increased nearly 300 per cent during the last 10 years, and reached the peak of 42,900 acres in 1930. In 1920 these five States had only about 11 per cent of the total commercial strawberry acreage but in 1930 the percentage had increased to 24. It is estimated that the 1931 acreage for picking in these States will be about 4 per cent below that of 1930. Indicated reductions of 3.800 acres in Alabama and Louisiana together will be partly offset by an increase of 2,000 acres in Florida.

During the last nine years, average strawberry prices to growers in the early shipping States have varied from about 18½ cents per quart in 1929 to 28½ cents in 1926. The low price of 18½ cents in 1929 was received for the largest crop on record, a total of 67,000,000 quarts. The 1930 crop of 55,000,000 quarts sold for an average of 23 cents per quart. With average yields of the last five seasons the indicated 1931 acreage would produce 57,000,000 quarts of berries.

Although production and marketing costs in the two important States, Florida and Louisiana (which produced more than 80 per cent of the 1930 crop in the early States), are considerably higher than they are in the important second-early and intermediate States, prices have been sufficiently satisfactory to bring about a gradual expansion in acreage in these two States, from 13,700 acres in 1922 to 32,700 acres in 1930, an increase of almost 140 per cent. In 1926 and again in 1928, Florida growers received an average of 35 cents a quart for strawberries. In only one of the last five seasons has the price averaged less than 29 cents per quart. Beginning with 1926 the Florida acreage for harvest increased from about 3,000 acres to an indicated peak of 10,000 acres in 1931, an increase of 233 per cent. On October 24, the crop was reported at 85 per cent of normal condition. The Louisiana 1926 crop brought the growers 29 cents per quart. In but one year since 1926 has the price averaged less than 23 cents. In 1926 Louisiana had 18,500 acres as compared with an indicated 23,500 acres for 1931, an increase of 27 per cent.

Alabama's strawberry acreage about doubled from 1926 to 1930, and in 1930 the State produced about 13 per cent of the early crop. The 1931 acreage for picking is expected to be 2,700 acres less than the 1930 acreage, a reduction of about 39 per cent. It is reported that drought killed a large percentage of plants and that much old acreage was abandoned. The two generally unprofitable seasons of 1929 and 1930 have discouraged growers and much of the acreage lost will not be replaced this year. During the last five years Alabama prices of strawberries have averaged about one-half as much as Florida prices. In 1929 and 1930 Alabama growers received only 10 and 13 cents per quart, respectively.

During much of the recent period of expansion of strawberry acreage in the early States, favorable business conditions prevailed and there was generally sufficient urban buying capacity to absorb the early supply of berries at relatively good prices. With relatively low yields indicated for 1931, the estimated acreage for picking in 1931 does not appear to be excessive unless the demand for the early berries is considerably lower than it was during last season. A factor in favor of the early shipping States is that the 1931 acreage for picking in the second-early States is estimated at about 75 per cent of the acreage harvested in 1930 and, with a normal yield and ripening season, production from the early States probably will meet with less competition than in recent years. It seems probable, however, that planting will be resumed in the drought areas of the second-early States in due time and it is doubtful whether an increase in the present acreage of the early group of States as a whole would be justified.

In the second-early States of Arkansas, Tennessee, North Carolina, South Carolina, Virginia, and Georgia the 1930 production was about 46 per cent below that of 1929, although the acreage was reduced but 22 per cent. In 1930 the average yield per acre was only about 70 per cent of the yield in 1929, and only 67 per cent of the average yield for the five years previous to 1929. In most of these States returns to strawberry growers have been discouraging during the last three years. Thus, the acreage reduction of 1930 was largely the result of the low prices of 11.2 cents per quart in 1928 and 10.3 cents in 1929, as compared with an annual average price of 14.5 cents for the three years previous to 1928. The unusually small production in 1930 was to a large extent caused by drought conditions before and during the harvest season. In these second-early States the strawberry acreage increased from 24,120 acres in 1920 to 65,090 acres in 1924. In the years following 1924 the acreage decreased considerably but went up again in 1928 to 57,255 acres and then decreased to 41,500 acres in 1930. The lower acreage of 1930 was in line with past recommendations for the second-early States as a whole. About 75 per cent of the acreage reduction from 1928 to 1930 occurred in the two important States of Arkansas and Tennessee where prices were relatively low compared with prices in the other two important second-early States, Virginia and North Carolina.

In the group of second-early States a further reduction to 30,960 acres for picking is indicated for 1931, which is the lowest acreage reported since 1920.

The 1930 farm price of 13.3 cents per quart was somewhat low for the exceptionally small crop as compared with production and price relationships in former years and may be owing in part to depressed business conditions. The 1930 crop amounted to 45,000,000 quarts and was only two-thirds as large as the smallest crop in any of the previous eight years. During the same period annual production in the second-early group averaged 86,000,000 quarts and yearly prices averaged about 13 cents per quart. The indicated acreage reduction for 1931 probably is due largely to involuntary reductions because of the extreme drought. Indicated acreage reductions are especially heavy in Arkansas, Tennessee, and Virginia, where a total of about 25,400 acres is estimated for 1931, compared with 35,800 acres in 1930. A reduction of 6,300 acres in 1931 is indicated for Arkansas alone.

Loss of plants and injury to established fields during last season have been so great that it is believed that average yields can not possibly be obtained in many sections during the coming season. For these second-early States as a whole, the 1931 acreage appears to have been reduced to a lower level than is desirable. Because of the damaged condition of plants and fields in many areas of the second-early States, some time will be required to bring the industry back to normal conditions and it seems advisable to look toward increasing the acreage to at least around the 1930 level of 41,500 acres which, with average yields of the five years, 1924–1928, would produce about 68,000,000 quarts.

In the intermediate strawberry States of Missouri, Kansas, Illinois, Oklahoma, Kentucky, Delaware, Maryland, and New Jersey, the 1929 harvested acreage of 58,760 acres was reduced to 45,080 acres in 1930, a reduction of 23 per cent. Preliminary estimates point to a further reduction of about 10 per cent in 1931. The 1931 indicated total of 40,580 acres is about 27,600 acres, or 40 per cent, less than the high figure of 1928.

The large acreage of 1928 produced a huge crop of almost 99,000,000 quarts, which brought the growers the low price of 9.5 cents a quart, as compared with a yearly average price of 14.2 cents for the six years previous to 1928 when production averaged 77,000,000 quarts. As in the second-early States, the 1930 price (14.6 cents) was rather low for the small production of 54,000,000 quarts, as compared with the relationship between production and prices for this group of States during the previous six years.

Considerable production from these intermediate States is usually marketed during a part of the shipping season of the second-early States, and production in the intermediate States affects returns to growers in most of the Southern States. During the coming season this competition probably will be less than usual because of the effects of the drought. Reports from most of the important intermediate States indicate that fields are in poor condition, stands are reduced, and conditions in general suggest low yields for the coming season. This, together with an indicated net reduction of 4,500 acres from the 1930 low acreage, 3,300 acres of which are reported from Missouri and Maryland, points to exceptionally low production in this group of States in 1931. The coming season appears to be a good time for a moderate increase over normal plantings and for putting the old fields in good condition, looking toward the 1932 crop.

Strawberry production in the Northern and Western States has little bearing on the situation in the Southern States but it may be of interest to southern growers to review briefly the situation in these States.

In the late-producing States of Pennsylvania, New York, Ohio, Michigan, Indiana, Iowa, and Wisconsin, the 1931 acreage apparently will be maintained at about the same level as in 1930. The 1930 harvested acreage in these States was about 26,000 acres and production slightly exceeded 35,000,000 quarts. This acreage was the highest reported since 1924 although in no year between 1924 and 1930 did it fall below 23,800 acres. The production of 35,000,000 quarts was the second lowest since 1921. The average 1930 price was 18.6 cents per quart, compared with a usual price in recent years of 15.3 to 16.6 cents.

In the Pacific Coast and Intermountain States the commercial strawberry acreage increased from 9,700 acres in 1922 to a peak of 24,300 acres in 1929. The acreage for 1931 is estimated at 23,700 acres. Production increased from 21,200,000 quarts in 1922 to 53,900,000 quarts in 1928 and then declined to 40,800,000 quarts in 1930. Prices in 1930 averaged 14.8 cents per quart, as compared with a usual seasonable price of 14 to 16.5 cents. Berries in these States are sold locally as fresh fruit and for preserving. The frozen-pack

method of preserving berries, which was first put in operation about 20 years ago in Oregon, consists of placing the berries in barrels or other containers, with or without sugar, and freezing and storing the pack at relatively low temperatures. In the Pacific Northwest the quantity of strawberry pack so handled has increased from a few hundred barrels at the beginning to 70,000 barrels of 50-gallon capacity (estimated) in 1928. The main part of this frozen fruit is handled in large containers, such as the 50-gallon barrel, although shipments of smaller packages are increasing. Up to this time it is doubtful whether the frozen-pack of the Northwest has appreciably affected prices of southern strawberries.

RICE

Rice acreage in the Southern States for 1931 can probably be maintained at 873,000 acres, the acreage grown in 1930, without depressing prices below the 1930–31 level. If average yields are obtained on this acreage, production would be sufficient for domestic needs and leave about 150,000,000 pounds for export. During the last five years domestic requirements have averaged about 950,000,000 pounds and exports around 210,000,000 pounds. Prices of milled rice at the principal markets at the 1st of November were averaging lower than a year ago. Prices of fancy Blue Rose at New Orleans averaged $3.75 per hundred pounds during October, 1930, as compared with $3.88 during that month last year. Fancy California-Japan at San Francisco averaged $3.64 per hundred pounds during October, 1930, as compared with $4.37 for October, 1929.

Production in the southern belt is estimated to be 34,000,000 bushels for 1930 as compared with 34,000,000 bushels harvested in 1929 and 35,000,000 bushels harvested in 1928. The carry-over of southern rice August 1, 1930, was about the same as that of the previous year. The 1930–31 season's supply of rough rice for milling purposes, therefore, will probably be about the same as that of last season. The poor quality of this year's crop has materially reduced the mill turnout, thus making the year's supply of milled rice proportionately less than the estimate of rough rice. Exports of southern rice during August, September, and October, 1930, were less than for the corresponding period of 1929. It seems probable that exports will continue to run behind last year's in view of large crops in Spain and in the Japanese Empire and because of low prices of other grains. This reduction in exports may result in a somewhat larger carry-over of southern rice at the beginning of the 1931–32 season.

The total United States supply of milled rice for the 1930–31 season will probably be about the same as that of the 1929–30 season. After taking into account the probable decrease in exports, there will be a slightly larger supply for domestic consumption than was available last year. Owing to the lack of stability in prices of other commodities, domestic buying thus far this season has been strictly of a hand-to-mouth character. Marketings of rough rice for August, September, and October this year have been less than for the corresponding period last year, leaving more rice to be marketed than last year for the remainder of the season. In spite of relatively low prices there has not been the usual season's buying for future needs. The relatively weak position of California prices will tend to depress southern rice prices for at least the first half of the crop year. For the crop year as a whole, however, it is anticipated that domestic consumption will be about as large as it was in 1929–30, and that prices after January, 1931, may improve.

If California rice acreage in 1931 is reduced to 100,000 acres or under and an average yield is obtained, the production will be about equal to requirements of the domestic market. Production in excess of this quantity must be sold in foreign markets, and chiefly in Japan. The opportunities for selling significant quantities of California rice in Japan have been few during the last 10 years.

The 1930 estimate for California was 7,000,000 bushels—about 700,000 bushels more than was harvested in 1929. The 1928 crop was 8,000,000 bushels. The 1930 production of 7,000,000 bushels is sufficient to keep California on an export basis. The record crop in the Japanese Empire this year, together with large crops in Spain and Italy, reduces materially the opportunities for export of California rice during 1930–31.

SUGAR

World sugar production continues large and prices continue low. The 1930–31 beet-sugar production is likely to be larger than the production last season. The world's cane crop seems likely to be as large as or larger than that of

last season, and stocks of sugar are now larger than a year ago. Present low prices should have a tendency to check the expansion of world sugar production but the continuation of large production for the last two years in the face of low prices indicates that some time may be required for making any material readjustments that will result in lower production. Possibly recovery in business conditions, together with the higher tariff duties now in effect, may result in some improvement in prices to producers in the United States, but no substantial improvement can be expected until world demand increases in relation to production.

The above conclusions are based on the following facts. Beet-sugar production in Europe continues to increase. Excluding Soviet Russia, European production in the 1930–31 season is expected to be 5 per cent above that of the previous season. Russia reports a large increase in production, preliminary estimates indicating a crop of 1,940,000 short tons, compared with 907,000 in 1929 and 1,413,000 in 1928. The effect of this increase upon the supply or prices outside of Russia is problematical. The net exports from Russia in the 1928–29 season amounted to about 97,000 short tons. The cane-sugar crop also seems likely to be larger than in the past season. Weather conditions have been favorable for a large crop in Cuba. In view of the discussion of Cuban relief measures, it is impossible to indicate how much sugar Cuba is likely to offer for market in the United States or elsewhere during the 1930–31 season. Porto Rico and Hawaii also have prospects for good crops. The Java Sugar Association reports a slight increase in plantings for the next crop in Java. Acreage has been increased in India. Notwithstanding the fact that the world production of sugar during the 1929–30 season, just completed, was 2.2 per cent below that of the previous season, stocks increased. The visible supply of sugar on September 1 in 13 important sugar-producing countries was 1,200,000 short tons above that of the same date of 1929.

The world-wide depression probably has had a tendency to reduce consumption and prices below what they otherwise would have been during the last season. Prices in the United States did not improve immediately following the increase in the tariff, at least partly because of the importation of large quantities before the date on which the increase came into effect. Some increase in prices is therefore to be expected when these accumulated stocks are reduced and when the purchasing power of consumers improves.

POULTRY AND EGGS

Heavy supplies of both shell and frozen eggs in storage with current receipts of shell eggs at the principal markets running only slightly less than at this time last year, together with a somewhat unsatisfactory movement into consumption, do not offer much encouragement in the egg market until present storage stocks are very materially reduced. Neither is it expected that the poultry market will show much improvement for the remainder of 1930. Consumption of poultry in cities is estimated to be larger now than a year ago, but there is a marked diminution in the demand for storing purposes this fall as compared with a year ago. Prices of both poultry and eggs, like prices of most commodities, have reached lower levels during 1930 than for many years. It is unlikely that any material rise in the level of the prices for poultry products, other than seasonal changes, will occur until the general level of commodity prices rises, unless there should be a definite decrease in total numbers of poultry on farms. Poultry prices have declined somewhat less and egg prices considerably more than feed prices when compared with their average relations during the five years, 1923–1927.

Reports received by the United States Department of Agriculture indicate that the marked decline in egg prices last spring and the low prices that have prevailed since then caused farmers definitely to change their plans for an expansion of their 1930–31 laying flocks. According to such reports, the number of layers in farm flocks showed some evidence of an increase on October 1 over the same date in 1929, but it is thought that this was due to the presence of more than the usual proportion of early-hatched pullets in the laying flocks. This assumption is further supported by the fact that the number of young stock on farms on October 1 appeared to be less than on October 1 last year, whereas on July 1 young stock on farms was just about the same as it was in 1929 on that date.

POULTRY

The number of chickens on farms on January 1, 1930, was about 6 per cent greater than on January 1, 1929, according to returns covering about 20,000 farm flocks. No adequate data are available to show changes in commercial flocks but such reports for them as have reached the Department of Agriculture indicate that numbers in commercial flocks have increased in greater proportion.

Returns from farm-flock reporters on the first of each month indicate that the number of layers in farm flocks during the first half of 1930 averaged from 3 to 5 per cent larger than during 1929. On June 1, however, it was but 2 per cent more, on July 1, about 1 per cent more, and on August 1 about the same or slightly less than in 1929. On September 1, numbers gained slightly over 1929 and on October 1, 1930, the number was about 6 per cent greater than on that date in 1929. This sudden increase is thought to be due to inclusion of an unusual proportion of young pullets in laying flocks during September as a result of the exceptionally early hatchings in 1930, but it does not seem probable that this gain over 1929 in numbers of layers will be permanent. The real significance of the October increase can not be known with certainty until the full size of the laying flock is shown by the returns for January 1.

On July 1, 1930, chicks and young chickens of the current year's hatch in ordinary farm flocks numbered a fraction of 1 per cent less than on July 1, 1929, but 8 per cent more than in 1928 on that date. In 1929 hatchings were rather late and continued in considerable volume into June, net increases of young birds being 6 per cent in that month. In 1930, on the contrary, hatchings were early, and in June the additions of chicks were only sufficient to balance sales, farm consumption, and loss of young birds. In 1930 reports showed 50 per cent more young birds than in 1929 on April 1, and 21 per cent more on May 1, but only 6 per cent more on June 1, and on July 1 practically the same number as in 1929. Reports on October 1 indicate fewer young birds, not yet laying, on farms than on that date in 1929.

As the number of young chickens on hand July 1 was apparently about the same as last year at that date and as the price situation for eggs and poultry was less satisfactory than in 1929, the fall marketing of young birds was expected at that time to be fully as great as or greater than last year. As a matter of fact the receipts at four principal cities during the summer and fall have been less. As the number of young chickens on farms on October 1 seems to be less than at that date in 1929, it appears that consumption on farms and sale for local consumption must have been unusually heavy. This is in accord with the common impression, and with the existing conditions of low prices for poultry and reduced purchasing power of farmers which make the farmers more dependent on home-grown products.

Receipts of dressed poultry at the four markets, New York, Boston, Philadelphia, and Chicago, for the first 10 months of 1930 were about 2 per cent less than for the same months of 1929. But receipts from January to June, inclusive, were unusually heavy, being about 12 per cent larger than for the corresponding period of the preceding year. This large increase was due in part to the heavy early hatchings this year and the consequent free market movement of large quantities of young stock in early summer, and it was also a reflection of the low prices received for eggs on farms last spring and summer. Since July 1, however, receipts have been less than for comparable months in 1929. This does not necessarily imply any particular shortage of current arrivals, for although less than they were a year ago, they are similar to the receipts of 1928 and 1927, which were unusually heavy. This year, with low prices and the absence of a strong speculative demand, the marketing of poultry from farms has so far been lighter than last year.

The cold storage year of 1920-30 was a rather disastrous one for those who stored poultry. Poultry taken from storage during 1930 as a rule sold several cents per pound lower than it cost when put into storage. With heavy losses behind them and with uncertain economic conditions before them, many operators who ordinarily store large quantities of poultry each year have been very conservative in their purchases during the fall of 1930. Usually, active into-storage movement of poultry starts around August 1. This year it did not begin until after September 1. During September cold-storage stocks increased only 4,323,000 pounds as compared with an increase of 13,000,000 pounds last year. Since October 1, buying for speculative storage has been slightly more pro-

nounced, but there is little likelihood that the market for poultry meat next year will be depressed by unusually heavy storage stocks as it was this year.

Although all classes of poultry in storage at this time are considerably lighter than a year ago, the immediate situation is more encouraging with respect to broilers than for any other class. On October 1, this year, a total of 11,984,000 pounds of broilers was reported in storage, whereas a year ago on the same date the stocks were 18,234,000 pounds.

The heavy consumption of poultry during 1930 has constituted the bright spot of an otherwise dark situation. From January 1 to November 1, it is estimated that approximately 13 per cent more poultry was consumed in the principal markets than during the same months of 1929. This substantial increase in consumption was obtained through a radical reduction in prices, both wholesale and retail. The adjustment in prices enabled dealers to handle a heavy increase in current market arrivals during the first six months of the year and to dispose of approximately 62,000,000 pounds of frozen poultry during the out-of-storage season this year as compared with only 41,000,000 pounds during the out-of-storage season of 1929.

No general improvement in poultry prices is anticipated during the remainder of the year, because of fairly ample supplies yet on farms and generally reduced buying power of the consuming public, and the fact that the unprofitable experience of the storage operators with the 1929–30 crop has made them very conservative in storing poultry this fall. But conditions in 1931 should show some improvement. The present rate of net into-storage movement is considerably less than a year ago, which would indicate that the carry-over of the 1930 crop will be materially lighter than the carry-over of the 1929 crop. Any marked improvement will be dependent upon improvement in general business condition.

EGGS

Egg production per hen in farm flocks this year has been for every month except March slightly lower than in 1929, and about equal to the 5-year average. Owing to the small increase in number of layers, total farm production, as indicated by the reported aggregate layings per farm flock on the first day of each month from January to October, has been about 1 per cent greater than for the same months in 1929, and about 2 per cent greater than the 5-year average. Lower layings per hen together with the apparent tendency to reduce the number of laying hens in flocks should result in lower egg production. These tendencies to decreased numbers of layers and lighter layings may be partly offset during the fall and early winter through earlier layings by the unusual proportion of early-hatched pullets in the laying flocks this year, and layings may be increased by a more liberal use of wheat in the ration.

Receipts of eggs at the four principal terminal markets from January 1 to November 1, 1930, were 14,143,000 cases compared with 13,882,000 cases for the same period a year ago, an increase of nearly 2 per cent. The larger portion of this increase occurred during the spring and early summer when production was unusually heavy. Since July, receipts have been running slightly less than last year, primarily because of the effects of the drought and accompanying high temperatures upon egg production during July and August, and to a certain extent because of the low prices that are now being paid for eggs at country points. Arrivals of the highest quality fresh eggs at the principal markets at this time (November 1) are relatively light, and barely sufficient to meet consumers' requirements for that quality.

The consumption of eggs during 1930 has been unsatisfactory from the standpoint of producers and holders of storage eggs. From January 1 to November 1, it is estimated that approximately 3.4 per cent fewer eggs were consumed in the four principal cities than during the same months of 1929. This low consumption was partially responsible for the heavy movement of eggs into storage last spring and the comparatively light movement out of storage since that time. There is some indication that consumption is increasing, but it has not as yet reached the proportion to justify much hope of a material improvement in the statistical position of the market before the end of the winter of 1930–31.

Heavy production during the late winter and early spring, low current consumption, and a price level that was believed sufficiently low to assure a profit later in the year, caused a rapid accumulation of eggs in storage

during the first half of 1930. On July 1, a total of 11,729,000 cases of shell eggs was reported in storage, the largest ever recorded. The effects of the drought upon egg production during July and August caused the out-of-storage movement of eggs this year to begin a little earlier than usual, but with the improvement in production conditions in September, the rate of outflow slowed down considerably. Special efforts have been made by the egg trade radically to reduce the large quantities of eggs now in storage, but although such efforts have been conducive to certain beneficial results, the reduction has not been sufficient to improve materially the current situation or the prospects immediately ahead.

Storage holdings of shell eggs on October 1, 1930, were 9,169,000 cases, an increase of 1,974,000 cases above the holdings of October 1, 1929, and 1,098,000 cases above the 5-year average for that date. Storage holdings of frozen eggs on October 1, were 106,447,000 pounds, or the equivalent of 3,041,000 cases of shell eggs. This is an increase of about 25,000,000 pounds, or 30 per cent, above the October 1 holdings of frozen eggs in 1929, and a still larger increase above the 5-year average for that date.

On October 15 farm prices of corn and other items taken in the proportions ordinarily used in making up a poultry ration, were 82 per cent of the October 15 average for the years 1923–1927, while the farm price for chickens was 88 per cent and of eggs 72 per cent of the October 15 average of the same five years. On October 15, therefore, farm prices for chickens had fallen less than feed prices, while egg prices had fallen more than feed prices, compared with the average relation for the years 1923–1927. This lower relation in the price of eggs to the price of feed, is dependent on the assumption that the usual proportion of corn is being fed. October 15 prices of corn were 93 per cent of the 1923–1927 average, and the price of wheat, bran, and other small grains, combined in the usual proportions were about 69 per cent of the 5-year average price, compared with the 72 per cent shown for eggs. To the extent, therefore, that those feeds that are now selling at relatively lower prices are being substituted for higher-priced corn, the price of eggs and of chickens would compare more favorably with that of feed than is shown by the price relation given above.

The exceptionally heavy stocks of both shell and frozen eggs in storage at this time will undoubtedly be instrumental in maintaining low egg prices between now and the end of the storage season (February, 1931) unless consumption increases more than now seems probable, or unless adverse weather conditions during January and February bring about a sharp curtailment in production.

Neither do present indications presage a very strong egg market for the early part of 1931. Dealers who stored eggs last spring have lost considerable money. Demand for eggs for storage in the spring of 1931 is therefore likely to be conservative. Furthermore, commercial-hatchery operators experienced an unprofitable season. There is a possibility that hatchings in the spring of 1931 may be considerably lighter than in the spring of 1930, in which case more eggs will be available for consumption. On the other hand, continued low egg prices may stimulate severe culling of flocks and a consequent reduction in production of eggs during the spring laying season.

POULTRY PRODUCTION IN THE SOUTH

The South is a region of deficient egg production; the total egg production is less than consumption and many hundreds of carloads, therefore, are shipped in to supply the demand especially during the season of short production in fall and winter.

Shipments of eggs from the South to the larger northern concuming markets comprise only a very small percentage of the total receipts of eggs at those markets. Most of the small contribution from these States comes from Virginia, Kentucky, Tennessee, Oklahoma, and Texas, in which States grain is produced in substantial quantities. Most of the shipments to the northern markets occur during the months of March, April, and May, which is the period when eggs are produced in largest volume in the South. The heavier movement occurs in March and April before the heavy egg-laying season in the Northern States has begun.

The South offers to local poultrymen the benefit of a good home market for practically all of the eggs that can be produced of such a quality and at such a price that they can compete with the imported eggs. Farm prices of eggs

in the Southeast are relatively high, being equal to those paid in the highly industrial East North Central States but lower than those paid in the Atlantic States. Farm prices in the Southeastern States for 1929 were 21 per cent higher and in the Southwestern States about 2 per cent higher than were farm prices in the western Corn Belt. However, farm prices of corn and wheat are also relatively about as high in the South compared with egg prices for the region as corn and wheat prices are to egg prices in the Corn Belt States.

The production of eggs in the South evidently is largely a matter of producing an adequate supply of good quality for the local market. The general conditions would appear to offer peculiar advantages to properly equipped commercial producers who can supply a considerable volume of high-quality eggs to southern markets during the period when laying by southern farm flocks are normally at a low point. Such producers would do well to develop outlets for the marketing of the eggs either through local distributors or direct to consuming agencies, such as hotels and other institutions that require considerable quantities of a high-class product.

The Southern States, particularly those east of the Mississippi River (except Kentucky, Tennessee, and Virginia) do not have local marketing agencies that are prepared to handle a surplus production of poultry and eggs such as exists in the Corn Belt. A local surplus in the absence of such agencies of distribution often results in depressed local prices and a demoralized market condition locally. In some sections of the South marketing organizations have been established and shipments of live poultry, especially to the Philadelphia and New York markets, have been made to good advantage. About 30 per cent of the total receipts of live poultry at New York comes from the Southern States, of which about 9 per cent is from Tennessee, 8 per cent from Oklahoma, and 4 per cent each from Texas and Arkansas. Several express shipments are made from Virginia and the live car movement from North Carolina is increasing.

Shipments of dressed poultry from the Southern States to the four important northern markets (Chicago, New York, Boston, and Philadelphia) comprise about 16 per cent of the total receipts; of this percentage 13 per cent comes from the two States of Texas and Oklahoma and most of the remaining 3 per cent comes from Tennessee and Virginia.

The South in general is perhaps better able to produce poultry than eggs, especially from the standpoint of supplying northern markets. The general quality of eggs from the Southern States is looked upon as rather inferior during the hot days of summer and the price that such eggs command in northern markets is extremely low. Records show that the production of chickens for meat is relatively more important than the production of eggs in the Southern States whereas in Northern States the reverse is true. The feeding of grain or grain products is essential for the heavy production of eggs whereas in the production of chickens much of the growth of the bird can be obtained through dependence upon natural food collected by the birds during the growing season. The expense of production of poultry meat is, therefore, relatively less than the production of eggs in the Southern States.

Although many of the Southern States, because of these conditions, are better suited for poultry production, there are many sections near cities in which commercial egg production with purchased feeds is developing rapidly. There will probably be further development. Most consumers are willing to pay a higher price for fresh gathered near-by eggs than for cold storage or farm flock eggs. Better grading and marketing methods would improve the demand and make more profitable the production of eggs as well as poultry for southern farm flocks.

As hatchings are earlier in the South, broilers are available for marketing in the late winter and early spring when local supplies of grain begin to decrease. There is a good local market for special classes of chickens, especially fryers, which can be grown under intensive feeding practices by commercial poultrymen who are located convenient to large markets that demand this class of poultry.

DAIRY PRODUCTS

A marked reduction in production of dairy products during the summer caused a pronounced upturn in prices, particularly for butter, beginning in July. This upturn had come to an end by September 1 and since then the price has remained practically stationary, failing to realize the normal seasonal advance. Only a moderate further rise can be expected before the usual

seasonal decline in midwinter. Conditions in the dairy industry, such as increasing numbers of cows, reflecting the tendency for farmers to increase dairying because of low prices of many other farm products, may be expected to prevent any substantial strengthening of dairy prices during the next few years.

Drought caused heavy reduction in production during the pasture season, but supplies of roughage and hay are fairly ample in the more important dairy sections, and although fall production is not expected to reach that of last year, the decrease will probably not be nearly so heavy as occurred during the summer months.

Prices of feedstuffs in general are expected to follow changes in corn prices, but not so much so as in other years. More than the usual seasonal advance in corn prices is expected, although the ample supplies of oats, barley, and wheat will tend to prevent any extreme advances.

Feed supplies are not seriously depleted in the specialized dairy territory where approximately 85 per cent of the total butter is produced. Even if production in sections outside of this territory is reduced by as much as a third as a result of the feed shortage, total production would be only about 5 per cent under what might usually be expected. Substantial increases in numbers of milk cows and heifers have taken place. This indicates that when the disturbed conditions due to the drought and business depression shall have passed, the dairy industry is likely to find itself overexpanded, necessitating further readjustment to consumer demand for its products.

Significant increases in the commercial output of dairy products in the South have been realized during the last 10 years. With other farm commodities low in price, this increase may be expected to continue. To the extent that it is kept in line with the slowly expanding domestic demand for dairy products, and particularly to the extent that it means a rising per capita consumption in the South, such a development is rational. As a supplement to other lines of farm production dairying will find a larger place in many sections. Individual farmers should give full consideration to adequate pastures, and to their opportunity to produce home-grown feed and otherwise realize low costs. The unnecessary duplication of existing manufacturing and marketing facilities should be avoided.

All dairy sections feel the effects of the decreased demand for dairy products that has resulted directly from the depression in business. The outlook, however, varies sharply between localities, depending on the severity of the drought. The sections most severely affected include the Ohio and Potomac valleys, and the northern and western portions of the lower Mississippi Valley. In this territory, where about 10 per cent of the total butterfat supply of the country is normally produced, some distress selling of milk cows has taken place. Apparently much of this distress selling represents transfers of dairy stock from one locality to another, rather than an appreciable net reduction in numbers. The loss of selling productive cows at their beef value is so great that the large majority of farmers, rather than accept such prices as can now be obtained, appear to be planning to rough their cows through the winter on straw or on corn fodder. This will tend to reduce local milk production until well into the next pasture season. Many farmers in the drought area, however, may find it more profitable to market their older and poorer cows than to buy shipped-in hay and grain to carry them over to another season. The margin between the cost of feed and the price of butter has steadily become more favorable since June.

The low level of production during the late summer, and corresponding increases in the price of butter and other dairy products, were due primarily to the very short pastures, which on August 1 were poorer than at any time within 50 years or more, and which have since been poorer than in any of the 15 years for which comparable records are available. On October 1, pastures in dairy States were reported by crop correspondents as 52.8 per cent of normal, compared with an October 1 average of 77 during the previous five years, the average being low in all sections of the country except northern New England, Nebraska, and most of the Western States.

In the worst drought area production per cow fell off rapidly during July. In the northern dairy States the decline was serious chiefly during August and in the Northeast production per cow recovered during September. As a result the October 1 production per cow in the herds of crop correspondents of the United States as a whole averaged only 2.7 per cent less than on that date last year as compared with 6.7 per cent lower on September 1, 8.4 per

cent lower on August 1, 4 per cent lower on July 1, and 2 per cent higher on June 1. During the winter months, production per cow in the drought area and in a considerable part of the centralizer butter territory is likely to continue rather low, because of the local scarcity of feed, but in the principal dairy States producers appear to be feeding fairly heavily, and as the number of milk cows is probably increasing in most parts of the country outside of the drought areas, the total production of milk during the winter months will probably not differ greatly from production last winter.

The total number of grain-consuming animals in the country is now relatively low. Meat prices are also low. In areas where grain and hay supplies are ample for present numbers of livestock, milk production may be as profitable as other livestock enterprises until there is a decrease in livestock marketing or an increased demand for meat. This may also be true in the areas hardest hit by the drought where all livestock numbers will have to be reduced. There are, however, no indications of more than local scarcity of milk supplies and no evidence of any scarcity of milk cows for replacement purposes for several years.

The 1930–31 supplies of feed grains and hay for the country as a whole are the smallest in years. The corn crop is the smallest since 1901 and the grain sorghum outturn is the lowest in the 11 years for which estimates are available. This deficiency is partly offset by better-than-average supplies of oats and barley. The quality of the oats crop is exceptionally good and barley is better than usual in the Dakotas, Texas, and most of the Western States. Large quantities of wheat are also available. The wheat crop is slightly larger than average and the carry-over of old-crop grain July 1 was record.

Hay supplies are short, although the late hay crops, particularly alfalfa and the annual legumes were helped by fall rains. The tame hay crop is 84,100,000 tons and the wild (prairie) hay, 12,000,000 tons. The shortage of hay is most pronounced where the drought was severe early in the season. The quality of the crop is below average, especially in the South. Marketings from the new crop have been unusually heavy and remaining supplies of timothy and clover are relatively smaller than other classes of hay.

Supplies of by-product feeds are about as large as last year, but somewhat larger than average. Wheat mill-feed production is not very different from a year ago. The prospective outturn of cottonseed cake and meal will be about equal to that for each of the last two seasons. There may be a slight increase in the consumption of cottonseed as feed but cottonseed meal is worth about one-half to three-quarters more as feed than cottonseed. Larger supplies of domestic linseed meal will be available which may about offset the prospective smaller outturn of corn by-product feeds.

The total tonnage of feed grains (excluding wheat), commercial feedstuffs and hay for the 1930–31 season in the United States will be about 12 per cent below the usual average and about 10 per cent less than usual in proportion to numbers of livestock on hand.

Drought seriously reduced feed supplies in the Southern States. In the South Central and South Atlantic areas, supplies of corn, oats, barley, and grain sorghums in terms of corn are about 69 per cent of average, and in terms of reduced numbers of livestock, 71 per cent of average. Supplies in areas from which the Southern States usually draw grain are small, 82 per cent of average. The low yields of corn and the shortage and high price of hay have tended to increase the corn acreage harvested as forage and silage this fall. This will tend to decrease the proportion of corn available as grain in surplus areas for shipment to the Southern States. However, trade reports suggest good marketings of corn, with farmers holding wheat back for feed. Little wheat is available in the Southeastern States for feed.

Heavier feeding of straw and closer feeding of fodder and roughage will tend to supplement the shortage of hay and pastures. Fewer cattle are likely to be fed for market and hogs will be marketed at lighter weights. Grain rations for stock animals of all kinds will probably be reduced. But the quantity of grain fed to milk cows will probably not be materially reduced except in the drought section where about 10 per cent of the milk cows are located.

Production of creamery butter the first nine months of 1930 was estimated to have been 1,216,000,000 pounds, a decrease of approximately 64,000,000 pounds, or 5 per cent under the corresponding period of 1929. With the exception of the month of May, production was less in other months than during the same months of last year. In May, however, conditions were unusually favorable, resulting in a 2 per cent increase, and establishing a new high record for

that month. In June, July, August, and September there were marked reductions under 1929. Although there are large numbers of cows on farms, and dairying is at present relatively more profitable than most other farm enterprises, the make of creamery butter this fall is not expected to equal that of the corresponding months of 1929.

Greatest declines in butter production this season occurred in such States as Missouri, Kansas, Nebraska, and the Dakotas, where creameries draw their raw material from wide areas. These decreases may be accounted for in part by the unusually low levels to which butterfat prices in those States dropped last winter, making heavy feeding for butterfat production unprofitable, and in part to the unfavorable pasture and weather conditions during the late spring and summer months when prices were higher. In the area comprising Minnesota, Iowa, Wisconsin, and Michigan, production during the first seven months of the year was considerably greater than for the same months last year, and this may be attributed to relatively favorable production conditions, to a reduction in the numbers of cows shipped out of these States, and to lessened quantities of cream shipped to eastern markets. In these States, however, as elsewhere, production per cow since June has been less in 1930 than in 1929. Cheese production was heavier during the first half of 1930 than in 1929, but since early in July it has been falling off more sharply than usual, and at present is well under last year. Condensed and evaporated milk production averaged 6 per cent less during the period January to September, inclusive, than during the same months in 1929.

The carry-over of butter in cold-storage warehouses at the beginning of the new 1930 storing season on May 1, 1930 was 23,000,000 pounds compared with an average carry-over of approximately 5,000,000 pounds, but the marked decline in production during midsummer, and a somewhat reduced trade output caused the new season's into-storage movement to slow up sharply, and on August 1, approximately 6,000,000 pounds less butter was in storage than on August 1, 1929. The shortage under last year was 26,000,000 pounds on September 1, and 28,000,000 pounds on October 1. Holdings on October 1 amounted to 130,753,000 pounds, compared with 158,451,000 pounds last year, and an October 1, 5-year average of 134,704,000 pounds.

Cheese stocks on October 1 were reported as 85,108,000 pounds, which is about the same quantity as a year ago, but about 7,400,000 pounds above the 5-year average.

The consumption of creamery butter so far this year has not been maintained at the level that was generally anticipated earlier in the year. Some increase was noted during the first few months following the drastic decline in prices last year, but since then the rate of consumption has been under last year in response to the restricted purchasing power. From January to September, inclusive, the apparent consumption of butter is estimated to have been 5,500,000 pounds less than for the same months in 1929. Cheese consumption is estimated to have been about the same, but condensed and evaporated milk consumption 6 per cent less during this period.

Butter prices began to depart from the usual seasonal tendency in October, 1929, and each month since then they have been lower than in corresponding months of the previous year, as well as below the 5-year average. The July and August, 1930, averages, however, showed unusual swings upward, partly because of the very unfavorable weather conditions which affected production in practically all of the principal producing areas, and the removal of the depressing influence exerted earlier in the year by excessive storage stocks. Since the first of September, prices have failed to register the usual seasonal advances, and October closed with an average barely above that of September. Present butter prices are still below those of a year ago, but the difference in October was only about 5½ cents, compared with a 10½ cent difference in June. Cheese prices have been low throughout all of 1930. Marked advances occurred during July and August, but part of this gain was later lost. Producers who supply fluid milk for city trade have received lower prices in 1930 than in 1929, the differences averaging from 25 to 40 cents per hundredweight in different months. Until recent adjustments of retail prices, these were lower in part of 1930 than in 1929 in such important cities of New York, Boston, Pittsburgh, Milwaukee, Minneapolis, Detroit, Louisville, and Denver. Many of the principal milk sheds report unusually heavy surpluses at present.

Weakening of demand in the principal European deficit areas, which was noted in the February outlook report as the most unfavorable aspect of the foreign situation has continued to parallel and even during recent months to

exceed the weakening of demand in the domestic market. Supplies of butter reaching the European markets have continued stable as during other recent years, but with supplies throughout the nine months, January to September, practically the same as throughout the corresponding period of the previous year, butter prices in European markets have been as much as 25 per cent lower.

The lower wholesale prices of butter in Europe, as in the United States, have not been far out of adjustment with the declining level of wholesale prices of all commodities, but retail prices of butter have tended to lag in their downward movement. In Europe this lag in the adjustment of retail price levels, together with unemployment, has been largely responsible for accumulation of butter and for depression in European markets. The depressing influence of conditions generally affecting foreign demand continues. The margin between domestic and foreign butter prices has not been sufficiently wide, in relation to the higher tariff effective June 18 of this year, to give rise to any increased importation as yet. The net importation of all dairy products during the nine months, January to September, 1930, was equivalent to approximately 416,000,000 pounds of milk against 452,000,000 pounds during January to September, 1929. The total importation would have been still lighter this year than last, but for the comparatively stable importation of cheese. The market for foreign cheese is relatively well established in this country and the volume of imports was increased during the early months partly in anticipation of increased rates under the new tariff law effective June 18. With a considerable surplus of butter from the Southern Hemisphere still depressing the British markets, together with favorable conditions prevailing in New Zealand and Australia as the new season opens, it is not improbable that importation of butter from New Zealand may again be a factor during the coming winter and spring. There are indications that foreign competition is becoming a more important factor than it was a year ago.

LONG-TIME DAIRY OUTLOOK

The effects of the business depression and the drought tend to obscure the underlying condition of the dairy industry. There is a widespread tendency to make substantial further increases in the number of milk cows kept on farms. Even if allowance is made for some forced local liquidation, the present trend of numbers of milk cows in the country as a whole seems to be distinctly upward. The dairy farmers have been and apparently still are saving more than the customary number of heifer calves, and reports from stockyards would seem to indicate that the number of aged milk cows being disposed of is still somewhat below normal. As long as this tendency continues, together with lower price levels for important farm commodities such as cotton and wheat, the long-time outlook for dairying points to lower price levels than have characterized the industry during the last 10 years.

On two former occasions since the World War, 1921–22 and 1924–25, when the situation with respect to price of dairy products was similar to the present situation, there was rather prompt reduction in production and in from 9 to 13 months after the drop began, prices returned to normal. On those occasions the reduction in production came about from three causes: (1) There was a decrease in the use of concentrated feeds largely because of its relatively high cost and the low price of the product; (2) there was increased culling of herds; (3) in the Corn Belt, where many beef cows are milked, many farmers let the calves do the milking. Following the severe decline of butter prices last fall and winter, there was considerable reduction in the use of concentrated feeds, but there does not appear to have been the close culling of herds nor the change from dairying in the Corn Belt. For farmers now in dairy production, to continue dairying seems to promise as well as to try any of the alternatives.

The dairy industry is characterized by relatively slow changes in the volume of basic stock, and rather quick changes within certain limits, as to the volume of output of milk and its products. That farmers have been increasing the number of their cows through the saving of a larger number of heifers for dairy purposes seems to be due to the fact that dairy production has during late years been more stable, and, on the whole, probably more profitable than most other lines of animal industry. This fact, together with the high prices of beef cattle, has resulted in rather high prices for good dairy cows

during the last few years, and these prices have had their part in stimulating the raising of cows.

The stable condition characterizing the dairy industry has been due in large measure to the ready adjustment in output made possible by the larger or smaller volume of milk and milk products forthcoming from the beef and dual-purpose cattle areas of the country, particularly the western Corn Belt. The business depression which began 12 months ago served to disturb this stability by an unusual curtailment of demand and to reveal the underlying tendency to expansion. It seems altogether likely that with the passing of the effects of the drought and with the resumption of normal business conditions, the dairy industry will still find itself somewhat overexpanded, particularly if the low prices characterizing other important lines of farm production persist. The total output, in terms of fluid milk, canned milk, and butter, is so nearly balanced with the total domestic demands, and the foreign market is so unprofitable as a means of disposal of any surplus that the overexpanded condition of the industry is likely to continue to hold the price of dairy products at a lower relative level than has obtained during the last few years.

This means that from the long-time point of view dairymen will find it more and more necessary to dispose of low-grade and inefficient cows and in other ways to reduce production costs. Rigorous culling of low-producing cows should be practiced.

There are certain developments in American agriculture which tend toward an expansion in the dairy industry at a somewhat greater rate than during the recent past. Diminution in the number of draft animals has resulted in more feed being available for milk cows. The expansion in the use of sweetclover and alfalfa in the Corn Belt and parts of the Wheat Belt tend also to stimulate dairying. On the whole, it seems likely that the pressure toward expanding the dairy industry will be greater during the next 10 years than it has been normally in the past 10 years.

DAIRY OUTLOOK FOR SOUTHERN STATES

The outlook for dairying in the South is for temporarily reduced returns due to the poor pastures, the unusually small production of hay and grain in the South in 1930, and the reduced purchasing ability of local consumers. Looking farther ahead, the prospect is that the marked improvement in southern dairying conditions which has taken place during the last few years will continue, and that the South will produce an increasing volume of the creamery butter, cheese, and condensed milk.

With the gradual elimination of the cattle tick and the development of excellent herds of purebred dairy cattle in various parts of the South, the proportion of the milk cows that are of good dairy breeding is being steadily increased. Improved pastures are being developed to supplement native pastures. Methods of feeding are being improved. Production of milk per cow has been increasing. The rapid extension of the mileage of improved roads and the general use of motor trucks have made it possible to overcome the handicap of no natural ice supply by frequent collection and prompt delivery of milk supplies, with a corresponding improvement in quality and an increase in the quantities that can be assembled at individual manufacturing plants. There has been a steady increase in the quantity of good quality milk available for fluid consumption in the cities and towns. Standards of quality have been raised in most of the larger cities and higher standards are gradually being enforced in the smaller communities. With good-quality milk available at a reasonable price and with the standard of living rising in the South, as elsewhere in the country, the per capita consumption of milk in urban areas has been increasing. Many sections of the South which formerly had no market for dairy products except for farm-made butter have been helped by the establishment of local creameries, cheese factories, and condenseries. As climatic conditions and the small quantities of butterfat available on most farms have not favored the production of high-quality farm butter, the development of other market outlets has resulted in an increase in the average price secured and has resulted in a shift in the utilization of the milk from farm butter to sale of milk and cream. There has been a corresponding increase in the commercial manufacture of dairy products and there are prospects for considerable further expansion.

The total of southern production is as yet only a relatively small proportion of the total United States production, but it is nevertheless significant in

indicating the possibility for a still further expansion if southern farmers decide to take advantage of the opportunities that dairying undoubtedly offers them.

The most noteworthy examples of Southern States in which dairy manufacturing has made considerable progress during the last few years are Mississippi, Kentucky, Tennessee, and Texas. These four States are the largest producers of creamery butter, ice cream, condensed and evaporated milk, and cheese in the South. In 1920 Kentucky produced 7,800,000 pounds of creamery butter, Mississippi 3,161,000 pounds, Tennessee 5,900,000 pounds, and Texas 9,125,000 pounds. In 1929 these States produced 20,000,000 pounds, 7,400,000 pounds, 17,900,000 pounds, and 26,511,000 pounds, respectively—a substantial growth. No condensed or evaporated milk was produced in 1920, but in 1929 the combined production was around 105,000,000 pounds, approximately 6 per cent of the total United States production, and this development has taken place entirely within the last three years.

The most spectacular phase of the development of manufactured dairy products in Southern States has been the growth of the cheese industry. In 1920 all Southern States reported a combined production of but 170,000 pounds of cheese. In 1927 this had increased only to 332,000 pounds, but in 1928 total production was 6,441,000 pounds, and in 1929 production increased to 13,897,000 pounds. South Carolina was the only Southern State not producing cheese in 1929, but since then a cheese factory has been constructed there and is now in operation.

An additional measurement of the growth of the cheese industry is a comparison of the number of factories producing cheese during the last three years. In 1926 only 10 plants were so engaged, whereas in 1929 the number had increased to 54. The leading States were Mississippi with 12 plants, Tennessee with 11, Texas with 9, and Virginia with 7 plants. Some of these factories are small and have been erected through unwise promotional zeal of local leaders or outside interests who were able to induce local capital to supply all the physical equipment and take a chance on the successful outcome of the proposition. Some such plants have already failed, and there is the possibility that others may not be able to continue in operation. But such results should not discourage southern producers who have a sufficient volume of milk to justify the erection of a plant of economical size that would be capable of turning out a quality product that can compare favorably with the production of other States.

Southern States offer certain advantages to dairying. Among these are the long pasturage season, the lower costs of buildings required than in the colder sections in Northern States, and the relative cheapness of certain feeds, particularly cottonseed meal. The cattle tick, an important factor in the past in reducing production per cow and in retarding the introduction of well-bred stock, is now being gradually eliminated. East of the surplus-grain areas of Texas and Oklahoma, grain costs average higher than in the western Corn Belt, that no higher than in the Northeastern States. Hay usually averages rather high in price because of difficulty in curing and the small area of natural grassland. This, together with the present lack of fencing and the fact that native pastures are on the average less nutritious than the bluegrass and white-clover pastures of the Northeast, or the alfalfa pastures of the west, is one of the handicaps yet to be overcome, which can be met successfully by the development of improved pastures.

Remarkable progress has been made in commercial dairying in various parts of the South during the last 20 years. Production per cow and per herd on many southern farms has shown that climatic conditions are not against high and profitable production, and the development of pastures and various feed crops adaptable to various soil types of the South has shown that economic production can be secured. Furthermore, success with both large and small herds has shown that southern labor can be developed to manage dairy enterprises efficiently.

The large percentage of tenancy in the South, and the large numbers of farmers with little or no working capital, account for the situation whereby landlords, merchants, and bankers have been forced to supply credit upon which to make crops. The 1-crop system has aggravated this situation through supplying cash at only one season of the year. There is need for working into the established farming system, wherever possible, some enterprise which brings in cash at regular intervals to finance the making of the main crop, and thus relieve landlords and bankers of the risk and burden of financing

farmers who have little or no capital. Through the keeping of cows that can be fed on pasture grasses, legumes, and other crops that can be grown on some of the land now in cash crops that fit into a rotation with cotton, thus utilizing farm labor in a way not detrimental to cotton raising, dairying becomes a valuable adjunct to the profitable production of staple crops.

The place of dairying in the South seems best as a supplement to, rather than a substitute for, the main money crops of the South. On this basis dairying is not to be regarded as a competitive industry, and may never become a leading agricultural industry of the South. Its principal merit is the furnishing of a dependable cash income at regular intervals, which make it possible to finance the production and, when desirable, the holding of crops.

HOGS

Number of hogs for slaughter during the current marketing year which began October 1 is expected to be somewhat smaller than during the preceding marketing year that ended on September 30, and average weights will be lighter than they have been for many years. The short corn crop of 1930 is expected to reduce both the fall pig crop of 1930 and the spring crop of 1931. This probably will postpone for at least a year the increase in hog production that would have started this fall had corn production been average or better. Current storage holdings of pork and lard are considerably smaller than those of last year. Larger numbers of hogs in Europe indicate a continuation of the present unfavorable foreign outlet for American hog products during the next 12 months. Domestic demand for pork is expected to strengthen somewhat during the course of the crop year. The proportion of the 1930 spring pig crop that will be marketed in early winter is expected to be larger than usual. Supplies in the late winter, however, are expected to be relatively small, and during the remainder of 1931 are expected to be smaller than during the corresponding period of a year earlier.

The average of hog prices in the 1930–31 marketing year is expected to be higher than that of the year ended September 30, 1930. Conditions point to unusually small slaughter supplies in the year ending September 30, 1932, at which time consumer demand probably will have improved materially.

SUPPLIES TO APRIL 30, 1931

Slaughter of hogs through September and October was considerably smaller than the relatively large slaughter during this period of 1929. Scarcity of corn may result in the marketing of a larger-than-usual proportion of lightweight and underfinished hogs during the next several months, and the relatively wide price differentials in favor of heavy hogs may be expected to continue during the winter months in spite of a probable continued weak demand for lard.

The June pig survey indicated that market supplies from this year's spring crop in the Corn Belt will be but little different from the supply from the 1929 spring crop, but that a material reduction may be expected from States outside of the Corn Belt. A reduction in marketings during the period October to April, from those of the corresponding period a year earlier, also is indicated by the relation of the corn-hog ratio to subsequent hog marketings. The short supplies of corn due to the drought may result in the marketing of a relatively large number of brood sows this winter, but the increase probably will be more than offset by the smaller supply of hogs from the 1930 spring pig crop. In view of these indications, and the lighter weights at which hogs will be marketed, the total live weight of hogs marketed from October to April probably will be somewhat less than that of the same period in 1929–30. In other years of greatly reduced corn crops, marketings in the early fall were relatively light, and were followed by heavy receipts in the late fall and early winter and a sharp falling off in supplies during the late winter and early spring. The unfavorable hog market during the early fall of last year is expected to be a contributing influence toward such a distribution during the next six months. The large supplies of barley and wheat available for feed may work toward a more normal distribution of the marketing of the spring pig crop than occurred in other years of low corn production, but present indications point to relatively heavy market receipts during the three months, November to January.

The June pig survey indicated that the number of sows bred, or to be bred, for farrowing in the fall of 1930 would not be greatly different from the number that farrowed in the fall of 1929. The drought and the resultant feed situation probably reduced the number of sows kept for farrowing this fall from that indicated by the June survey. Scarcity of feed probably will result in the marketing of lighter hogs next spring and summer and the total live weight of hog slaughter probably will be smaller from May 1 to September 30, 1931, than during the corresponding period this year. Present evidence indicates that because of smaller numbers and lighter weights the pork and lard production from the inspected slaughter in the 1930–31 marketing year is likely to be around 8 to 10 per cent smaller than that obtained from the 45,542,000 hogs slaughtered during the year ended September 30, 1930.

Storage supplies of pork and lard were unusually large on October 1, 1929, the beginning of the 1929–30 hog marketing year. But by January 1, 1930, these stocks had been reduced below those of a year earlier. Since Jnauary 1, storage stocks at the beginning of each month have been considerably smaller than those of the corresponding dates a year earlier. From the standpoint of storage supplies the 1930–31 hog crop marketing year began under much more favorable conditions than prevailed on October 1, 1929, the decrease in storage holdings of pork and lard being equivalent to about 1,544,000 hogs.

Although the consumer demand for pork products during the marketing year 1929–30 averaged somewhat below the unusually strong demand that characterized the year 1928–29, it was not very different from the average of the five years preceding 1928–29. The total live weight of hogs slaughtered during the crop year 1929–30 brought an average price that was but little below the price indicated by the relationship of price to total weight of slaughter over the six years 1922–23 to 1927–28.

The relatively high average price for the 1929–30 year was due to the high level of demand prevailing during the first five months of the year, which offset the rather weak demand that prevailed from May through August. But even during this period of weak demand hog prices were relatively higher than those of most other agricultural products.

Although per capita consumption of pork and lard from federally inspected slaughter during the first nine months of 1930 decreased about 5 per cent from that of the same period in 1929, retail prices declined only 3 per cent, and hog prices 7 per cent. But prices of hog products, as well as of live hogs, were unusually high in relation to supplies in 1929. Hog prices in September, 1930, averaged almost the same as in September, 1929, but hog supplies in that month this year were 14.5 per cent smaller and per capita consumption of hog products was 11 per cent smaller. Between September, 1929, and September, 1930, however, the all commodity price level declined from 97.5 to 84.2 and the prices of practically all agricultural products except hogs, regardless of whether the price-determining supply was larger or smaller in September, 1930, than in September, 1929, were much lower this year than last.

Early in November, 1930, prices of live hogs and retail prices of hog products were the highest of any important agricultural commodity when compared with prices as of November 1, 1929, and the index of hog prices on either a pre-war or post-war base is near the top of all farm products. Although this relatively high level of live-hog prices is due to the demand for hogs for slaughter, this demand is based ultimately upon the consumer demand for hog products.

Purchasing power of domestic consumers during the winter of 1930–31 will be below that of the winter of 1929–30. Total wages and salary payments will be less this winter than last, the savings of a considerable proportion of the population have been exhausted, and purchasing power of the agricultural population in the Cotton Belt, which is an important consumer of certain commercial hog products, will be much reduced. Even though purchasing power of urban consumers is reduced they may continue to favor hog products at the expense of other competing foods.

The relatively unfavorable foreign market now prevailing for American pork products may be expected to continue for at least a year, and probably longer. Since April, 1930, reduced bacon exports have resulted in a somewhat smaller total export of cured pork from the United States for the year ended September 30, 1930, as compared with that in the 1928–29 year. Prices in foreign markets this year have been materially lower than those of a year earlier. Lard exports have been reduced and the prices paid were relatively lower than those of last year during most of the season just ended.

HOG PRODUCTION IN THE SOUTH

The South, although producing a considerable number of hogs for local use, has never been an important contributor to the commercial supply, and developments during recent years indicate that its importance in this respect is decreasing. The general trend in hog numbers in the South has been downward for many years, and numbers on January 1, 1930, were about 48 per cent smaller than on January 1, 1920. These reductions are common to all Southern States, although most marked in Tennessee, Texas, Mississippi, and Louisiana, where they exceed 50 per cent. In 1920, the South had about 31 per cent of the swine of this country, whereas this year it has only 18 per cent.

Although the general quality of the hogs is considerably lower than that of hogs in the Corn Belt there are some individual herds in the South that rank with the best in the country. The greatest obstacle for southern hog producers who wish to compete commercially with producers in the Corn Belt is the lack of ample supplies of corn. There are sections in the South, however, which are well adapted to the raising of peanuts, soybeans, and similar crops, and many producers on these sections are raising and finishing hogs fairly economically on these crops, even though it is necessary to sell the hogs at a discount under those finished on corn.

Lack of proper fences for keeping hogs from running at large, and scarcity of long-term and intermediate credit which would enable farmers to purchase such fencing and other equipment together with the breeding stock needed, are additional factors that have hindered the expansion of hog production in the South. If production is to be increased materially over the present scale, more ample supplies of long-term and intermediate credit must be provided.

In making plans for this winter hog producers should bear in mind that total slaughter from late November to early January may be relatively large, and will be below average in both weight and finish. The lighter average weights of hogs slaughtered may result in a smaller quantity of pork being produced during this period than in the corresponding period of last winter, but both domestic and foreign demand will be less favorable than last winter. Bunching of marketings in the early winter is expected to result in materially reduced market supplies in the late winter and spring, at which time domestic demand may be improved somewhat. Hence, producers who have sufficient feed probably will find it advantageous to hold their hogs for the late winter market and feed at least to average weights rather than to sell them early in an unfinished condition.

Many hog producers in the South will have inadequate feed supplies for the proper finishing of both the spring and fall crops of pigs within the usual finishing period. To utilize the available feed supplies to the best advantage it may be advisable for such producers to market their spring pigs at lighter-than-usual weights and carry their fall pigs through the winter on a minimum maintenance ration and finish them on crop produced in 1931.

The effect of the short feed-crop production this year upon total production next year can not as yet be determined accurately. There is little doubt but that it will cause a rather sharp reduction in both the spring and fall pig crops of 1931. Slaughter from next year's pig crops, which will come to market in 1931–32, may possibly be considerably smaller than that from the 1925 pig crops, which followed the short crop of corn in 1924, and thus be the smallest in 10 years. This reduction in slaughter would come at a time when a general upward trend in business conditions is expected and might result in a very high level of hog prices.

In view of these prospective conditions it would seem that hog producers in sections that have fairly abundant supplies of feed might well increase the number of sows to be bred to farrow next spring, even though feed prices in relation to hog prices during the next year are relatively unfavorable. In sections in which feed supplies are scarce and prices high, hog producers, before sacrificing their breeding herds, should consider that hog prices a year from this winter may be high enough to recompense even high cost production next year and that prices of breeding stock at that time may be high.

Hog producers in the Southern States apparently have an opportunity to increase their income from hog production if proper plans are made for the production and efficient utilization of feed crops. Increased breeding for the next year will probably be profitable for those producers who are so situated that pasture and grazing crops may be grown so as to reduce the cost of grain feeding next summer. Provision should be made so far as possible

for providing adequate supplies of feed for fattening spring pigs by planting acreages to feed crops that are proportioned to the hog enterprise and making use of fertilizer and those tillage practices which tend to increase yields.

SHEEP AND WOOL

Sheep production in the United States has expanded markedly since 1922 and the industry is now faced with the situation of reducing production or adjusting production costs in line with the returns obtainable from a market supply of lambs much in excess of that of recent years. Present conditions in the industry offer southern lamb producers a favorable opportunity for improving their breeding flocks by the purchase of breeding stock that is better suited for the production of high-grade early lambs.

Low wool prices have resulted from continued large world wool production and the reduced consumer purchasing power which has accompanied the present world-wide business depression. No widespread liquidation of sheep numbers has occurred, but low wool prices may result in a gradual reduction in the world sheep population. Lower wool production and improving demand can be expected to improve the economic position of wool growers within the next two or three years.

Sheep have never been important commercially in the South, except in parts of the Virginias, Kentucky, Tennessee, and Texas. In the first four States there are sections in which the production of early lambs has reached a high stage of development. These are the mountain and bluegrass sections, in which sheep raising is carried on primarily as a secondary enterprise in connection with the grazing of cattle. The flocks are small in size, and the lambs are marketed mostly from late May to early August.

Texas has the largest number of sheep of any State in the Union, but only 2.3 per cent of its farms had sheep according to the 1925 census. The Texas flocks are concentrated largely in the southwestern part of the State in what is known as the Edwards Plateau. The industry in this section is conducted much as is that in the western range country, except that the flocks are smaller in size and the sheep are mostly of merino foundation and are raised primarily for their wool. Relatively few lambs are marketed, but a considerable number of fat wethers are sold for slaughter.

Although the South has almost 18 per cent of the sheep in this country, more than 75 per cent of its total are in Texas. If the States of Texas, Oklahoma, Kentucky, and West Virginia are excluded, the South has less than 3 per cent of the sheep of this country and more than half of this 3 per cent is in Virginia and Tennessee.

According to the 1925 census, sheep were raised on only 7.4 per cent of the farms in Virginia in 1924, and 5.6 per cent of the farms in Tennessee. In the combined group of nine States, consisting of the six States south of Virginia and Tennessee, and the States of Arkansas, Louisiana, and Oklahoma, only 1.1 per cent of the farms had sheep. Many of the sheep in this group of nine States are found in the piney-woods area which extends through central Louisiana eastward into Georgia and Florida.

In most of the Southern States, excluding Texas and Oklahoma, the general trend of sheep numbers has been downward for many years, although there has been a slight tendency toward expansion in some of the States during more recent years. In Virginia, numbers are about the same as in 1900, although there has been an increase of almost 50 per cent since 1922. In Tennessee, numbers are about the same as in 1900, but there has been an increase of 30 per cent since 1926. In Texas, numbers are four times as great as in 1900, and twice as large as in 1920. Oklahoma numbers are two and one-half times as great as in 1900, and there has been an increase of 200 per cent since 1923. In the other Southern States present numbers are from one-fourth to two-thirds as great as in 1900, and are near the low points of the last 30 years.

LAMBS

The 1930 lamb crops, estimated at 28,458,000 head, was about 2,000,000 head, or 8 per cent larger than the crop of either of the two preceding years. Although the number of lambs saved per hundred ewes was considerably larger this year than last, it was but little different from the average of the preceding five years. In other words, the lamb crop this year was about the average number to be expected from the present number of breeding ewes. About two-thirds

of the crop was produced in the Western States, including Texas. The Texas crop amounted to 1,961,000 lambs compared with 2,168,000 in 1929 and 1,824,000 in 1928. Texas was the only State in the western group that had a smaller lamb crop in 1930 than in 1929. The largest increases in the western crop were in the late-lambing sections where unfavorable feed and weather conditions last year reduced materially the number of lambs saved per 100 ewes. Similar conditions in Texas this year resulted in a decrease in the number of lambs saved per 100 ewes in that State from 77 last year to 62 this year, and this decrease more than offset the State's increase of over 12 per cent in breeding ewes.

The crop in the South, excluding Texas, amounted to 2,659,000 head or 9.3 per cent of the United States total, but 1,524,000 of this number were in Kentucky and West Virginia, and 715,000 were in Virginia and Tennessee. The crop in the other Southern States totalled only 420,000 head, or less than 1.5 per cent of the total for the United States. This group of States produced 403,000 lambs in 1929, and 374,000 in 1928. The Virginia crop was about the same size as that of 1929, but was 11 per cent larger than that of 1928. The Tennessee crop was smaller than in 1929 and slightly larger than in 1928.

Marketings from this year's lamb crop thus far have been much larger than those for the corresponding period of any previous year. Inspected slaughter for the five months, May to September, 1930, was 14.6 per cent larger than in those months of 1929, and each month witnessed the establishment of a new slaughter record for the month.

The upward trend in consumer demand for lamb and mutton which prevailed throughout recent years did not continue through 1930 because of unfavorable business conditions and lower prices for competing meats. Per capita consumption of federally inspected lamb and mutton during the first nine months of this year amounted to 3.89 pounds, compared with 3.38 pounds in the corresponding period of 1929. This increase of 15 per cent was accompanied by material declines in wholesale and retail prices of dressed lamb.

The average price of sheep and lambs slaughtered during the fed-lamb season, December, 1929 to April, 1930, was $10.58 as compared with $15.03 paid during the corresponding period of a year earlier. Average price for the first five months of the current crop marketing year, which began with May, was $8.92 compared with $12.59 for the same period in 1929 and $13.79 in the 1928 period. The low level of sheep and lamb prices during 1930 has been due in large part to the unusually large market supplies, but additional depressing influences include the unfavorable business situation, low prices for wool and pelts, and a general decline in all commodity prices.

WOOL

Early estimates place the clip now being shorn in Southern Hemisphere countries slightly above last year's production, but still a little below the record clip of 1928. For the five important wool-producing countries of the Southern Hemisphere, production estimates total 1,963,000,000 pounds. These countries produce more than three-fifths of the world's clip outside of Russia and China, and contribute most to the year-to-year change in world production. The Australian clip is estimated at 4 per cent less than last year; the decline is due to drought which reduced numbers and fleece weights. Sheep numbers in Australia at the beginning of the season reached 106,000,000 head, or approximately the same number as in the record year of 1892. Sheep numbers are at high levels in other Southern Hemisphere countries, and with favorable weather conditions no important sheep losses have been reported this year. Low prices received for the 1929–30 clip stimulated slaughter and culling but there has been no marked liquidation as yet. It is not to be expected, however, that so great expenditures of effort and money will be made on sheep as when prices are high. Larger-than-usual death losses from neglect and starvation will probably cause a reduction in sheep numbers in many parts of the world during the next two or three years.

Production of shorn wool in the United States rose from 222,000,000 pounds in 1922 to 328,000,000 pounds in 1930, the clip in the latter year being 6 per cent above that in 1929. Sheep numbers in the United States increased 35 per cent during this period, but low prices for wool and lambs are expected to result in flock reductions during the next few years.

Wool production in the South in 1930 totaled 54,145,000 pounds, 75 per cent of which was produced in Texas and 13 per cent in Kentucky and West Virginia, the other 12 per cent being distributed over the remaining Southern

States. Production in this last group of States this year was about 4 per cent larger than in 1927; Texas production this year was 1.5 per cent smaller.

The large stocks of wool which had accumulated last spring at the primary markets of the Southern Hemisphere have been reduced and the stocks in those markets are now below last year, except in New Zealand. The extent to which wool shipped out of these countries is held in stock in other countries is not completely known, but stocks in Great Britain are larger than they were a year ago.

Domestic consumption of wool during the present year has been below that of the past four seasons and imports have been greatly reduced.

Wool prices in the chief wool centers of the world are now lower than at any time since 1921. Domestic wool prices fell rapidly during 1929 and the first six months of 1930. In June of this year prices became more stable and remained so with little change until October when the weakness in foreign markets and continued low domestic demand caused a slightly weaker tendency.

Present low wool prices are the result of continued large world wool production, reduced consumer demand associated with the world-wide business depression, and falling general commodity price levels.

The sheep industry has expanded rapidly within recent years and is now in a condition which is likely to be followed by liquidation and readjustment. Although there is but little evidence as yet that a general liquidation in sheep numbers has begun, the current low prices for wool throughout the world, together with the low prices for lambs in this country, are expected to result in a gradual reduction in the world sheep population. Reduced production of both lambs and wool and an improving demand for these products as business conditions become more favorable are expected to effect gradual improvement in the sheep growers' position during the next few years.

Although present conditions in the sheep industry do not warrant expanding lamb production in the South, a favorable opportunity is offered for improving breeding flocks by the purchase of breeding stock that is better suited for the production of high-grade early lambs. Producers should keep in mind that lambs marketed early (before July 15) usually sell for better prices than those marketed later, and this is likely to continue, since the possibilities for expansion are greater in the late lamb areas than in the early producing territory.

BEEF CATTLE

Prospects favor a gradual improvement in the cattle situation during 1931. Market supplies and slaughter of cattle during the first half of the year probably will be smaller than in the same period of 1930. A continuation of small imports of both live cattle and calves and of fresh and frozen beef and veal seems likely. Demand for stockers and feeders is not expected to improve materially before the beginning of the 1931 spring-pasture season. Consumer demand for beef probably will continue near present levels until there is marked improvement in industrial activity.

The long-time outlook is for a gradual expansion in cattle production during the next five or six years, but in view of a probable increase in the demand for beef during this period, as a result of improving industrial conditions and the normal growth in population, a moderate expansion in production does not appear undesirable.

Estimated cattle numbers on farms and ranges in the United States on January 1, 1930, were 2.7 per cent larger than in 1929, and 4.1 per cent greater than on the corresponding date in 1928, which was the low point in the present production cycle. Numbers this year, however, were 18.6 per cent below the record number on hand January 1, 1918, the peak year of the previous cycle. Estimates based on calf crops, slaughter records, and numbers on hand at the beginning of this year and last, indicate that cattle on farms and ranges at the end of this year will be somewhat larger than a year earlier.

Federally inspected slaughter of cattle during the first 10 months of 1930 was about 1 per cent smaller than in 1929, and was the smallest for any corresponding period since 1921. Compared with 1926 when slaughter was the largest on record for the last 12 years, the 1930 slaughter showed a decrease of 18 per cent. Calf slaughter during the first 10 months of 1930 was 1 per cent larger than in 1929, but 15 per cent smaller than the record, 1925.

Cow and heifer slaughter during the first nine months decreased 5.3 per cent compared with the same period in 1929, whereas steer slaughter increased 3.3 per cent. All of the increase in steer slaughter and most of the decrease in cow and heifer slaughter occurred during the three months July to September.

Shipments of stocker and feeder cattle from 12 important markets into the Corn Belt during the four months July to October were about 11 per cent smaller than during the same period last year. Nebraska, South Dakota, and Minnesota were the only States that took more feeders than in 1929. The most marked decreases were in the States where feed production was most seriously affected by the drought. Shipments into the States east of the Mississippi were 25 per cent smaller than last year, whereas in the States west of the river they were only about 5 per cent smaller.

Although feed crops were reduced materially by drought, the areas affected and the numbers and distribution of livestock are such that there has been no extensive liquidation of livestock. In those sections of the Corn Belt in which most of the cattle are fed, supplies of hay and feed grains other than corn, are fairly large. Corn production was materially reduced, but the crop in the principal cattle-feeding sections is relatively better than in other sections. Pastures and late hay crops were materially improved in most sections by rains that came in the late summer and early fall.

Crop conditions on October 1, 1930, indicated that production of feed grains and hay per animal unit, in the United States, this year, will be about 15 per cent under the average of the last five years. The quantity of feed in relation to livestock numbers, however, is relatively greater in the western Corn Belt and in the far Western States, as a whole, than in other sections. Although the production of feed grain per animal unit in the western Corn Belt States is below the 5-year average, it is about equal to that of 1924, when there was a short corn crop and larger numbers of hogs and cattle than at present. The deficiency in the supply of coarse grains may be partially offset by feeding wheat where the relation of the price of wheat to prices of other grains makes it desirable to do so. The quantity of hay produced in relation to livestock numbers in the western Corn Belt is about 10 per cent under that of 1924 and the 5-year average. The feed situation is most serious in the South Central States bordering on the Ohio and Mississippi Rivers, where only a small proportion of the cattle supply is produced.

FOREIGN SUPPLIES

Cattle imports into the United States totaled 212,000 head for the first nine months of 1930, compared with 393,000 a year ago. Of the 1930 total, 157,000 came from Mexico and 56,000 from Canada. No definite information is available concerning cattle numbers in Mexico, but there are indications of reduced production in the Northern States, where the normal outlet is the American market. Practically all of the cattle imported from Mexico entered during the first six months of the year. In Canada, cattle numbers in 1929 were slightly more than in 1928 but under those of 1927 and below the average for the 5-year period, 1921–1925.

Records of the Bureau of Animal Industry show that from January 1 to September 30, 1930, canned beef inspected for entry into the United States decreased 17,762,000 pounds or about 28 per cent, compared with the first nine months of 1929, but were larger than for the entire year 1927.

Total imports of fresh and frozen beef into the United States during the first nine months of 1930 were less than one-fourth as large as during the corresponding period in 1929, amounting to 8,679,000 pounds this year, compared with 37,824,000 last. This decrease was due largely to decreased imports from New Zealand. From June 30 to September 30 only 1,318,000 pounds of fresh and frozen beef and veal entered the United States from all sources. The new import duties of this country probably will tend further to curtail imports of cattle, beef, and veal into the United States.

Consumer demand for beef declined sharply from the middle of 1929 to mid-August, 1930. In the middle of 1929 it apparently had reached the highest level of several years. By mid-August, 1930, weakness in demand was most pronounced, as indicated by the sharp drop in prices of cattle and of beef at retail from June to August, although there was only a slight increase in supplies. Ordinarily during this period average prices of cattle and beef make a seasonal advance. After mid-August somewhat lower temperatures brought a seasonal increase in demand, but demand throughout the fall was far below the level of a year earlier. The general low level of demand which has prevailed throughout 1930 has been due largely to the business depression. Per capita consumption of federally inspected beef amounted to 29.2 pounds during the first nine months of 1930, compared with 30.1 pounds

in 1929, a decrease of 3 per cent. This decrease in consumption was accompanied by average declines for the period of 2.4 cents per pound, or 7 per cent, in retail beef prices, and 2 cents per pound, or 18 per cent, in live cattle prices. In September, 1930, retail prices of beef were 5.2 cents per pound, or 15 per cent lower, and prices of slaughter cattle 2.5 cents per pound, or 24 per cent lower than a year earlier.

Average prices of slaughter cattle and calves during the first nine months of 1930 were considerably below those for the corresponding period in both 1929 and 1928. The nine months' average price of cattle this year was $9 compared with $10.98 in 1929, $10.88 in 1928, and $6.86 in 1922, the latter being the low point for that period in the last 10 years. The average price of slaughter calves was $10.19 in 1930, $12.98 in 1929, $12.35 in 1928, and $8.22 in 1922.

The trend of cattle prices has been generally downward since about the middle of 1929. During the first quarter of 1930, prices of the lower grades began the seasonal advance that usually occurs at that time. The advance was short lived, however, for in early March prices of all grades of cattle again weakened and the downward movement was very pronounced during July and August. By mid-August prices of all grades had declined below the low levels of 1926, and prices of slaughter steers were 38 per cent below the level of 1929. The decline was relatively greatest on the lower grades, prices of some of them being as much as 40 to 45 per cent below those of a year earlier. Following the August low point there was a sharp recovery in prices in the latter half of that month and prices of the better grades advanced about $2 per 100 pounds. Since early September prices of such grades have been fairly steady. Prices of the lower grades weakened, however, and by the end of October had lost about half of the August rise.

It is noteworthy that the marked decline in cattle prices during the first seven months of 1930, which carried the market to the lowest levels in five years, accompanied the smallest marketings and the smallest inspected slaughter since 1921.

BEEF PRODUCTION IN THE SOUTH

Aside from Texas and Oklahoma, the black-soil belt in Alabama and Mississippi, and the bluegrass areas, which include the southern Appalachian section in Virginia, West Virginia, North Carolina, and Tennessee and the central section of Kentucky, the South[1] has never contributed extensively to the commercial supply of beef.

Total cattle and calves in the South on January 1, 1930, numbered 15,940,000 head, or 27.5 per cent of the total in the country. Almost 48 per cent of the cattle in the South are in Texas and Oklahoma and 14 per cent in Kentucky and the two Virginias. Those States annually ship large numbers of cattle and calves out of the area for both slaughtering and finishing. The 1925 census showed that in the remaining States of the South less than 30 per cent of the farms carried beef cattle and only about 68 per cent had milk cows.

From 1920 to 1928 numbers of cattle in the entire South were reduced 4,847,000 head or 24 per cent. The number of cows and heifers kept for milk declined only 348,000 head, or 6.3 per cent, and reached their low point in 1927. Since then the total has increased 5.4 per cent and on January 1, 1930, was almost as large as in 1920. Yearling heifers kept for milk cows decreased 230,000 head or 19.5 per cent from 1920 to 1926, but most of this decrease has since been regained. The number of all other cattle dropped from 13,393,000 head in 1920 to 8,940,000 head in 1929, or 33.2 per cent. In 1929 there was an increase of 418,000 head in these cattle.

Outside of the Alabama-Mississippi black-soil belt, the bluegrass regions, and Texas and Oklahoma, the cattle in the South generally are rather low in grade and small in size. Because of their low grade they command such low prices on the public markets that few of them are shipped out of the South. Before and during the World War considerable effort was made to build up and improve the cattle industry in this area by introducing better breeding stock, but conditions that developed shortly after the war checked this movement.

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[1] The South comprises all States south of Kansas and Missouri and the Ohio and Potomac Rivers.

The tick-eradication campaign and the opposition to it that developed in some sections tended to unsettle the industry. The tremendous decline in cattle prices after the war was another very disturbing factor. Relatively high prices for cotton and other products well adapted to the South diverted attention from cattle raising. The growth of southern cities and of the textile industry, with the resulting increase in urban population, increased the demand for dairy products, and interest in cattle production has tended more toward dairy cattle. Prevalence of the plantation system and cultivation of a large area in the South by croppers have also retarded development of a beef-cattle industry.

The basis of the cattle industry in any locality is an adequate supply of good pasturage. This is lacking in many sections of the South. The lack of stock-proof fences and the scarcity of long-term and intermediate credit that would enable producers to finance livestock enterprises until returns from production became available are additional handicaps to southern cattle producers.

The type of cattle enterprise that appears to promise the best returns in most sections of the South is that of producing stocker and feeder cattle for finishing in those sections in which conditions are more favorable for this purpose.

The bluegrass areas will continue to produce cattle because they are necessary for the economic utilization of the bluegrass pasture. The general practice in those areas is to produce aged steers that are finished on grass alone or grass and corn. These steers are mostly marketed at eastern points such as Baltimore, Lancaster, and Jersey City. Considerable numbers of the thinner steers are sent to the Lancaster, Pa., feeding district for finishing. The steers finished on grass alone are marketed in the summer and fall; those finished on grain are marketed from January to April. Cattle fed in the Lancaster district are marketed from March to June.

With the foregoing brief sketch as a background, two pertinent questions immediately arise: (1) Should the comparatively few men in the South who are already raising beef cattle expand or otherwise modify their operations; and (2) should some of those who now follow other agricultural pursuits engage in raising, feeding, or marketing cattle?

In considering either of these problems it should be borne in mind that in the South, as elsewhere, success or failure in raising cattle depends largely on an adequate feed and pasture supply produced at reasonable cost. It is probably safe to say that in that section of the country more failures in cattle raising have been directly attributable to inadequate pasturage than to any other single cause. Convincing evidence of this consists in the fact that in the bluegrass areas cattle have always constituted an important feature in the agricultural economy. Where good pasturage is reasonably abundant cattle are almost inevitably introduced early and they maintain a secure foothold. That corn and forage crops can be produced fairly cheaply has been demonstrated in most parts of the South. Furthermore, tick eradication has progressed to a point where the production of high-grade beef cattle is wholly feasible so far as danger from Texas fever is concerned.

In view of these and other considerations it would seem practicable for the man who is already producing better grade cattle under favorable feed and pasture conditions to expand his operations, not only to the limits of existing pasture and feed supplies, but even to the extent of expanding and improving these somewhat.

With respect to the second problem—the production of cattle by those now engaged in other lines—the answer is not so obvious. Experience and a real liking for livestock are essential to success, and those who have never tried cattle raising are likely to pay a rather high price for experience. Furthermore, cattle raising is a long-time enterprise and it may easily happen that those going into it now would get their stock to market just at a time when national supplies are heaviest and prices lowest. Prices of good breeding stock are now lower than for many years, but starting in the beef-cattle business involves considerable financial outlay or extensive use of credit. In any event it would seem inadvisable for any one not in the business to go into it until an adequate supply of feed and pasture is reasonably sure.

For the inexperienced beginner in the cattle business there is a possibility that the best approach to a beef-cattle project would be through utilizing the services of the milk cow. This might involve the use of dual-purpose cattle, which, while producing a good type of beef calves could also be utilized for milk production. Such procedure would enable the farmer to start on a small scale, and would provide a cash income practically from the beginning. A strictly beef-cattle enterprise involves not only large original expenditures but

also a considerable lapse of time before the producer has anything to market. In the case of milk cows cash returns accrue almost immediately and the producer is not obliged to pay for all his experience out of accumulated surplus or borrowed capital. It is true that milk and beef cattle production differ rather widely in certain respects, but both involve the same fundamental principles of breeding, feeding, and handling cattle.

LONG-TIME OUTLOOK FOR AGRICULTURE IN THE SOUTHERN STATES

A long-time outlook for southern agriculture is necessarily closely related to the outlook for agriculture in general as modified by the special conditions peculiar to the South as a region.

At present (November, 1930), the average price of farm products is lower than it has been in any single year since 1915, and the ratio of that average to the average of prices paid by farmers for commodities bought is lower than in any year since 1910, when the indexes indicating this relationship was begun. Grain and cotton prices, upon which the prosperity of so large a proportion of America farmers largely depends, are especially low. Conditions have been aggravated over large areas by the drought.

These unusually unfavorable conditions are likely to be reflected, in the immediate future, in some further recession of land values and perhaps in an increased rate of forced sales and other kinds of related defaults.

It is unlikely that one would be justified in viewing the long-time outlook for agriculture in the light of the natural pessimism prevailing in so unfavorable a year. From the point of view of the low condition of agriculture in 1930, the general outlook is most probably one of improvement within the next year or two. From the low level of 1921 the relative purchasing power of farm products in terms of the prices of things farmers buy had reached a level by 1923 that it has maintained, with minor fluctuations, since that year, until 1930, when there was a marked recession. It is possible that with business recovery prices of agricultural products will improve more rapidly than prices of nonagricultural products.

The income from agricultural production of 1930 is likely to be considerably lower than was realized in 1929. The gross income from agriculture in 11 Southern States amounted to $3,435,000,000 in 1925. The big cotton crop of 1926 was accompanied by a reduction of about $300,000,000 in gross income. Part of this reduction was recovered in 1927–28, to be lost in 1929. The agricultural income of these States in 1929 was 4 per cent below that of 1928. The recovery in prices from the present depression may not be sufficient to bring the gross income of the South, within the next few years, back to the level of the last five years.

Basic tendencies do not point toward a period of unusual agricultural prosperity or justify the expectation that a notable expansion of agriculture in general or of particular lines of production will be justified. This conclusion rests on a number of tendencies, some of which were mentioned in the 1930 national outlook report.

For one thing, many students of the situation think that the gradual downward trend of general commodity prices may continue, although some recovery from the present level is to be expected. The average prices of all commodities declined about 19 per cent from 1925 to September, 1930. A large part of this decline, 14 per cent, has occurred during the last 12 months. Southern farm products appear to face a period of unusually keen competition during the next few years, at least. The expansion of grain and cotton production into semiarid areas of relatively level topography under mechanized types of farming has been temporarily checked by unfavorable conditions, but large areas of these lands remain for future development. It seems likely that extensive undeveloped areas of this kind in various parts of the world will be put in cultivation during the next decade. The movement for greater national self-sufficiency in many European countries has affected unfavorably the demand for United States farm products, especially the food products. There is a general tendency in European countries toward legislation for stimulating agriculture, partly by granting protection against foreign agricultural imports, modified by preferential agreements for importation of farm products from neighboring countries. The decreasing rate of natural increase of population in the United States appears to have its counterpart in other countries where industrialization is making headway.

Southern agriculture, as well as agriculture in other parts of the United States, is being profoundly affected by the increased commercialization of agriculture, and the increase in wants that must be satisfied by purchase rather than by consumption direct from the farm. Farm people are rapidly developing a desire for the kinds of goods which many people in cities enjoy. They want better houses and furniture, better clothing; they want automobiles and radios, telephones, and kinds of food that must be purchased rather than raised on the farm. Many of the farms in the South and in other parts of the United States, capable of supporting the backwoods mode of living of an earlier day, are incapable of yielding a sufficient money return to maintain modern standards of living.

Furthermore, farmers are more and more considering the value of their own labor and becoming unwilling to use it for a return notably less than it will command in other occupations. In July, 1930, the index number of industrial wages stood at 224, as compared with the average for 1910–1914, inclusive, considered as 100, while the index number for farm wages was only 160, and the prices of 30 principal farm products 108. Moreover, a comparison of the trend in farm wages in typical cotton States with the trend in northern general farming States indicates that the differential, heretofore to the disadvantage of the Southern laborer, has increased still further during the past decade. These facts make the increasing tendency for farmers to compare returns in other occupations with returns from farming one of great significance.

Although the staple-producing sections of the South have long been highly commercial, other extensive sections (mostly outside of the cotton belt and handicapped by remoteness or natural conditions unfavorable to economical production) have continued in a semicommercial or a largely self-sufficing farm economy. The South has a larger number of farms of this type than any other important section of the United States. Changing standards of living and of labor valuation, combined with the unfavorable conditions for general farm products, have led to cosiderable farm abandonment in such sections. It seems probable that these tendencies will continue for some years.

Some of the commercial sections of the South have also experienced notable decreases in number of farms, partly for the above reasons and partly because of unfavorable prices and conditions of production. This was especially notable in the Georgia plantation piedmont area, and to a somewhat less extent in the South Carolina piedmont. The collapse of cotton prices in 1921 struck this area at a time when the planters and farmers had heavily extended their credit obligations. The progressive spread of the boll weevil, supplemented by losses from drought, greatly disorganized agriculture in this area, and in less extreme form over other extensive areas in the old Cotton Belt. Experience has shown that recovery of agriculture, after the initial invasion by the boll weevil, is slow by reason of extreme dependence on a commercial crop, prevalence of extensive landholdings many of which are under nonresident ownership, the prevailing credit system which emphasizes cotton, and the fact that soils are depleted by long and exhausting use under single cropping.

During the last five years the tendency toward a decrease in number of farms has been reversed in most of the principal cotton States except the Carolinas and Tennessee. Mississippi shows an increase of more than 55,000 farms, Texas and Louisiana about 30,000 each, Alabama and Arkansas about 20,000, and Georgia and Oklahoma about 7,000 each. Of the cotton States, only South Carolina and Tennessee experienced a decrease in number of farms in both 5-year periods, the latter losing heavily in both periods. Georgia was a large net loser during the 10 years, but in each of the six cotton States west of Georgia there was a net increase in number of farms, amounting in the aggregate to more than 150,000. This increase is mainly related to expansion of the cotton acreage, discussed later in this report. On the other hand, Virginia, Kentucky, Tennessee, and North Carolina have experienced decreases in number of farms within the last five years. These decreases are probably connected with types of farming not based on cotton and involve mainly small farms of inferior natural advantages hitherto only semicommercial.

Excepting South Carolina and Georgia, the principal cotton States have demonstrated their ability to expand their cultivated acreage during a decade of general agricultural depression. In all the States in which such an expansion occurred, except Alabama and Oklahoma, the expansion is more than accounted for by the increase of cotton acreage. Thus, the relative importance of cotton in southern cropping systems, as measured by the percentage of the cultivated acreage in cotton, greatly increased from 1920 to 1929 in every

southern State except South Carolina and Georgia, and except in Florida and Kentucky, which are of only minor significance in cotton production. In Georgia the percentage appears to have increased between 1925 and 1929.

These tendencies are not surprising when it is noted that from 1922 to 1929, inclusive, the index number of the price of cotton has been above the index number of the 30 principal farm crops (including cotton) in every year except 1926 and 1927, and has averaged 163 as compared with 135 for the 30 principal crops. The increased relative importance of the cotton acreage is all the more significant in view of the fact that during the last decade there has been a considerable increase in the acreage of other commercial crops, such as tobacco, citrus fruit, and truck crops, although the increases have been concentrated mainly in a few States in each case.

For the most part, the increased predominance of cotton corresponds to a relative, and in some States an absolute, decrease in the principal feed crops. This is connected with a notable decrease in livestock population which still further emphasizes the increased predominance of cotton in southern agriculture.

The rapid mechanization of agriculture in certain parts of the United States, and especially the increased use of tractors, automobiles, motor trucks, and grain combines, is exerting, and will exert for some years, a most important influence on American agriculture, particularly in the South. In addition to increasing the competition encountered by grain and cotton producers through stimulating expansion of those products, it has shifted from feed production extensive areas of crop and pasture land that were formerly required to maintain horses and mules. This tendency has been accentuated by the steady decrease from 1920 to 1929 in number of beef cattle in the United States as a whole and in nearly every State. The great decrease in number of work stock and beef cattle, combined with the tendency to economize feed by selecting more efficient types of livestock and more economical kinds of feeds, has contributed toward an excess of certain kinds of pasture, hay, and feed grains. This has contributed not only to relatively low prices for such commodities, but also to a shifting of livestock production to the areas where conditions are most favorable and away from the less favorable areas.

The South shared in the downward movement of the beef-cattle cycle from 1920 to 1929 with a greater proportional decline than was experienced in the other parts of the country. There appears to have been a slight reduction in the number of dairy cattle in the South during this period.

The decade 1920 to 1929 also witnessed a general and extensive decrease in number of swine on southern farms. It ranged from a decrease of 23.8 per cent in Oklahoma to 52.4 per cent in Tennessee. During the decade swine production was increasing in the western part of the Corn Belt and in the northern Great Plains at the expense of the South and the Northeastern States and most of the East North Central group. Most of the decrease in the South occurred from 1920 to 1925, and in the next four years the decreases were not notable, and there were slight increases in several States.

Sheep are not very important in southern agriculture, except in Texas and Kentucky, yet there was a decrease in all Southern States from 1920 to 1929 except in those two States and in Virginia and Oklahoma.

There was a substantial increase in number of chickens on farms in all of the Southern States, except Mississippi, Alabama, South Carolina, and in Georgia where there was a slight decrease.

The general decrease in number of livestock other than poultry was associated with and probably due in part to the large decrease in number of farms in the southeastern cotton States. It is probable also that the liquidation of livestock holdings was partly due to distress selling in some of the Southern States during the years of severe depression following 1920. The net result, however, has been to reduce greatly the relative importance of livestock husbandry in southern agriculture.

It seems probable that the tendency toward the reduction in number of livestock on southern farms, except possibly work stock, is essentially complete. On the other hand, there do not appear to be strong reasons for expecting a rapid return to the larger livestock population prevailing at the beginning of the last decade, especially in the cotton States. The decrease in number of work stock due to mechanization is likely to continue for some years and to stimulate the shift of livestock production to other areas that have more favorable conditions for producing livestock on a commercial basis.

The outlook for commercial dairying in the United States points in general toward lower price levels and keener competition than has prevailed during the last few years. Even with the passing of the immediate effects of the drought and the return to normal business conditions, the dairy industry will probably find itself still somewhat overexpanded, particularly if other lines of farm production continue to offer poor alternatives for more profitable operation. However, the Southern States did not experience a very heavy liquidation during the last decade in number of cows and heifers kept for milk, and at the present time the number is almost as large as in 1920. The steady growth of southern cities has provided an increased local demand, and there has been some tendency in sections in which cotton has become unprofitable to introduce dairy cows as a supplementary source of livelihood. In the Cotton Belt, commercial dairying encounters serious obstacles in the prevailing tenancy and credit systems, lack of experience in dairy operation, lack of marketing machinery, unsuitable types of pasturage, and in some sections presence of the cattle tick. Here and there, however, gratifying progress is being made in overcoming these difficulties. There has been a considerable increase in production of manufactured dairy products, although the aggregate output is still relatively small. It appears likely that there will be a gradual development of dairying as southern urban markets expand and dairy-manufacturing facilities become available, or as a means of supplementing the family food supply. But it has yet to be demonstrated that for the greater part of the Cotton Belt there is justification in expecting a notable development of dairy production for the supply of outside markets in competition with northern products.

The present difficult position of beef-cattle producers, which is due to a decline in demand on account of business depression, a reduced feed supply owing to the drought, and the necessity of maintaining a beef-cattle population somewhat larger than two years ago, is likely to be improved, temporarily at least, with the return of more normal conditions. There are certain parts of the South in which the beef-cattle industry has been long established, including the bluegrass areas of the border States and the range areas of Texas and Oklahoma. An old established range industry in parts of the Gulf coastal plain and in Florida, maintained against such disadvantages as the tick. the relatively poor grade of forage, inferior types of stock, and the low market rating, has gradually become less important, partly because of real-estate developments and partly because of the expansion of cultivated acreage in that territory. Outside of the existing specialized areas, the production of beef does not at present promise to be an extensive development in southern agriculture.

Somewhat the same observations apply to hogs and poultry in the South as to dairying. The production of hogs is likely to be affected for some years by the conditions that have caused a decrease in the South during the last decade. There may be a gradual increase in production to meet local needs, but a considerable expansion for the supply of extra-sectional markets appears unlikely.

The number of poultry has apparently decreased within the last four years in States like Georgia, Alabama, and the Carolinas, where it would be expected that their increased production for home use at least or for the supply of local markets would have afforded a helpful means of tiding over a severe period of economic readjustment. On the other hand, poultry have increased notably in the Southwestern States where cotton has been expanding rapidly. In general, the great expansion of commercial poultry production in the Cotton Belt, except in certain specially favored areas, is limited by the same factors that limit the expansion of other forms of livestock production—lack of relatively cheap feed, lack of aptitude on the part of a large proportion of the population, and the existence of the special economic conditions that emphasize the production of cotton. There is likely to be sharp competition in poultry production in the United States during the coming years. It is not improbable, however, that means will be found to develop a greater degree of poultry production for domestic use on cotton farms as tenancy and credit relationships are gradually modified.

The indication that livestock production does not hold out promise of displacing cotton to a material extent in southern agriculture applies also to the other money crops. Within the last few decades a number of commercial crops have been added to the list of southern-grown products but without materially displacing cotton except in limited areas; nor do they seriously threaten the predominance of cotton. Rice in the Southwest has developed

to the point of occupying nearly 900,000 acres, and when market conditions permit, there is said to be a considerable area of potential rice land where the industry may further develop. The demand for rice in the United States is likely to increase gradually, with the increase of population, but this product is subject to keen competition from the Orient. For the most part the area in cultivation and the potential area comprise territory not previously devoted to cotton or other crops.

Sugar, one of the important antebellum crops, has actually lost ground during recent years through the mosaic disease and extremely low prices resulting from the world-wide overproduction. The mosaic disease has been largely met by the introduction of resistant varieties; and the higher tariff rates recently imposed and attempts at control of the production and marketing of the Cuban crop may bring some slight improvement. However, the Louisiana industry appears to be confronted with a prospect of the continuance of keen competition, including the possibility of increased production in the new sugar territory of the Florida Everglades. There is little likelihood of a material expansion of the Louisiana industry, and the territory occupied is, for the most part, not adapted to cotton.

Flue-cured tobacco has been a notable addition to the list of southern commercial crops. It has provided a profitable substitute for cotton in certain sections of the Carolinas and Georgia where such a substitute seemed very desirable, and production has increased rapidly for a number of years. But as indicated in another part of this report, it is probable that the rapid expansion in demand due to increased cigarette smoking will not continue. In that case, further expansion should be made with caution.

Peanuts constitute another cash crop that has become important in some parts of the South. The outlook for increasing the demand for this crop is somewhat uncertain, for the markets of this country are subject to very keen competition from the Orient, but peanuts continue to be found useful as a feed crop in various parts of the South where hog production is profitable.

For the most part, the peach industry has been supplementary to, rather than competitive with, cotton in the use of land. The outlook for the next few years appears favorable, but any expansion should be made with caution because of market limitations.

A similar observation applies to watermelons, strawberries, sweetpotatoes, potatoes, and various other commercial truck crops which have come to occupy an established place in southern agriculture. For the most part they are grown outside the Cotton Belt. The total acreage that can be developed without reaching the point of overproduction is very limited as compared with the large potential acreage in the South capable of producing such crops, even without seriously encroaching on present cultivated acreage.

The growth of industrial cities, together with further improvement in equipment for and methods of handling fresh fruits and vegetables in the late fall, winter, and early spring months, is likely to continue to increase the demand for the fruit and vegetable products of the South. Within the last 10 years there has been a very rapid growth in the winter consumption of fresh fruits and vegetables. Transportation rates and facilities for handling the products have been so developed that it is possible now to place fresh fruits and vegetables in good condition in northern markets throughout the season, and sell them in the winter time at prices not far in excess of, and sometimes less than, the prices of such products produced locally for the northern markets, in season. This has resulted in a great increase in the consumption of such products. Since the markets are now being fairly well supplied throughout the country, there is not much opportunity for expanding the business further by developing new market areas, but the growth of cities and some towns, which is proceeding at a fairly rapid rate, together with the increase in distribution by truck from wholesale centers to smaller communities, will continue to increase the demand for these products at a moderate rate. Some competition in certain truck crops may be expected from Mexico and the Caribbean Islands, but competition from these sources is not likely to be sufficient to prevent a moderate increase in the demand for these products of the Southern States.

Demand for the citrus fruits of Texas and Florida is increasing, both in the United States and in foreign countries. Canada is a near-by market of growing importance, and some grapefruit and oranges are beginning to find markets in northern Europe in competition with the fruits from the Mediterranean Basin and South Africa. The growth of population in the United States is also contributing to an increase in demand, but the rate of increase in

the domestic demand during the next 10 years is hardly likely to be as great as during the last 10 years. It is not probable that the per capita consumption in the United States can be increased at as great a rate as it has increased in the last 10 years without a material reduction in prices. Competition with California in the production of oranges, in particular, is a factor that southern producers must take into account. The number of young trees not yet in bearing in the lower Rio Grande area is very large in proportion to the acreage in bearing trees, not only in the valley but also in other parts of the South.

When all the alternatives are considered it appears that cotton must continue to be the mainstay of southern agriculture. Therefore, the long-time outlook for the maintenance or expansion of cotton production is the keystone to the general outlook for the agriculture of the South.

Cotton producers face a number of important long-time problems. World commodity price levels in general have had a downward trend ever since the World War. This has affected cotton prices as well as the prices of other commodities. In time retail prices of commodities bought by farmers and production costs can be expected to adjust themselves to lower levels. While the changes are taking place, however, producers whose products are sensitive to price changes receive lower prices for what they sell without receiving equivalent reductions on what they buy.

Demand for cotton, the great crop of the South, increased at a very rapid rate following the World War, until 1928. During the last two years the demand has fallen off, largely because of an accumulation of cotton goods and a curtailment in general business activity. Doubtless the curtailment in demand of the last season is temporary in so far as it is due to a temporary business depression. The world's demand for cotton probably will continue to increase but at a rate somewhat less than through the 1921–1928 period when industrial uses were expanding rapidly and central Europe was recovering from the effects of the war.

Demand for cottonseed and linters is likely to continue to increase with the growth of the population of the United States. The development of special demands for linters in the manufacture of rayon and other products has contributed to increasing the value of the cotton crop. The seed has also been increasing in value because of the expanding demand for cottonseed oil and the by-products of the oil crushings used as feedstuffs. The continued growth of specialized dairying naturally increases the demand for high-protein feedstuffs, including cottonseed meal. Cotton production in foreign countries is gradually increasing. In part this increase is due to a natural development of foreign producing areas and in part it is a result of efforts by foreign consumers to develop more stable sources of supply. Larger production abroad has increased the competition that American cotton faces in world markets. Moreover, cotton mills are increasing in oriental countries, where Indian and Chinese cottons are largely used, at the expense of mills in other countries where American cotton is chiefly used. Rayon production is increasing rapidly, stimulated in part by the great decrease that has occurred in the price of that product, but as yet it contributes only about 4 per cent to the total poundage of textile fibers used in this country.

A most notable development in the South during the last decade has been the great expansion of the cotton industry in Texas and Oklahoma, largely into range territory. In these two States alone there has been an increase of more than 6,000,000 acres in 10 years. For a time there was much speculation as to whether this development implied the extensive displacement of the industry in the older cotton States. The answer to this is suggested by the expansion in most of those same States during the last decade although stimulated by fairly good prices for cotton. The net result, combined with unfavorable demand conditions in the last year and a half, has been an accumulation of stocks of raw cotton and a price level so low that it is not unlikely to cause some temporary contraction of acreage. The real test of the ability of the industry to maintain its position in older cotton-producing areas is likely to come within the next few years. Although there is no definite information as to the potential undeveloped acreage in western Texas, it is believed to be considerable. In the old South there is a large potential cotton acreage. The release of crop acreage required to produce feed for livestock has been a factor in making available additional acreage for cotton cultivation. Much more arable land will become available through the same

forces with the extension of the process of mechanization of agriculture in parts of the South.

The tendency to mechanization thus far has developed much less in the South than in the Northern and Western States. It has been delayed by serious obstacles in the system of land tenure, by the character of the farm layout, and perhaps in some sections, by unfavorable topography. Difficult financial conditions during the last 10 years have been an impediment. Nevertheless, it seems more than probable that such a tendency is due to make considerable headway in the South during the next decade. If a successful cotton picker is developed, which appears likely, it will probably stimulate other forms of mechanization and reduce the prevalence of 1-horse agriculture, as well as give rise to other far-reaching changes in farm organization, land tenure, credit procedure, and social organization in general.

Gradual industrialization of southern economic life, particularly in the eastern portion, will tend to create a diversified community life, inducing more favorable conditions for a diversified agriculture. Judged by the proportion of the population gainfully employed in agriculture, forestry, and animal husbandry, the South is still the most predominately rural large section of the United States. Southern manufactures have made considerable progress in certain States. Between 1914 and 1927 the number of employees increased about 50 per cent in the Carolinas, Georgia, Alabama, and Tennessee. In each of the other States, however, it was in the neighborhood of 10 per cent or less, except in Kentucky, where it amounted to about 16 per cent. The last decade has also revealed considerable increase in southern urban population.

Although this progress is noteworthy, apparently it is easy to exaggerate its significance from the standpoint of its probable early influence on southern agriculture. Its effects in providing a larger local market for southern food products are likely to be manifested gradually.

Offsetting this tendency, in part, will be the gradual reduction in the magnitude of the southern forest industries. Already there are many southern communities, formerly largely dependent on these industries for local markets or the part-time employment of farmers, that have been deprived of this resource.

The South as a whole, like the greater part of the United States, appears to be nearing the end of more than a decade of liquidation of farm real estate values from the high levels reached in 1920. In five cotton States—the Carolinas, Georgia, Mississippi, and Arkansas—the index numbers of farm real estate values for 1920 were higher than in any other State of the Union. In the other cotton States, values in 1920, although high, were much less extreme; but the border States (Kentucky and Tennessee) were notable, also, for values nearly as high as in some of the five States mentioned above. In most of the cotton States, the decline was checked and in some cases even reversed during the period of relatively high cotton prices from 1922 to 1926, inclusive. Florida experienced a second peak in 1926 because of the culmination of a general real-estate boom not primarily connected with agriculture. In Texas and Oklahoma advancing values in the newly settled sections offset somewhat declining tendencies in most of the eastern part of those States. Farmers in these newer sections, however, should proceed conservatively in valuing lands for purchase and in incurring indebtedness for that purpose.

The greatest weakness during the last year was manifested in the border States and in the Carolinas. In the remainder of the cotton South drastic liquidation appears to be nearly, if not quite, complete. Conditions in general do not justify the expectation of a considerable advance in values or even that there may not be some further recessions, particularly as a result of the extremely unfavorable prices for cotton and tobacco during the current year.

The outlook for farm real estate values is closely connected with the outlook for taxes on farm property. Farmers of every Southern State except North Carolina paid more property taxes in 1929 than in 1928. Figures for 1930 are not yet available, but the persistent annual increases of past years indicate that the southern farmers' tax bill for 1930 and 1931 will be approximately as large and perhaps somewhat larger than in 1929.

Although farm taxes have been increasing, farm real estate values have been declining, partly because of the higher taxes. The value of farm real estate in 1929, for the United States as a whole, was almost one-third less than in 1920. In marked contrast, farm taxes in 1929 were nearly two-thirds greater than in 1920. The Southern States have experienced similar trends. Real

estate values in most Southern States declined slightly between 1928 and 1929, and in others they remained stationary during the same period.

Increasing taxes coincident with declining real estate values have resulted in pronounced increases in the "true tax rates" (the ratios of real-estate taxes to true values as distinguished from assessed values). The true farm tax rate for the United States as a whole increased from 0.68 in 1913 to 1.22 in 1924 and to 1.46 in 1929. The 1929 rates as well as the increases since 1913 are less for all three groups of Southern States than for the country as a whole. Since 1924, however, the increase has been about average for the East South Central and above average in the South Atlantic States. The increase in the West South Central States has been below average since both 1913 and 1924.

In the South Central States, 1928 taxes on farm property absorbed 11.9 per cent of net farm returns (before deducting taxes)—a smaller proportion than for any other geographic division. Moreover, the ratio of taxes to net farm returns for the South Central States was relatively low every year between 1922 and 1928, chiefly because per capita expenditures for schools and roads as yet have not reached the high level attained in other sections.

Reduction in the amount of farm taxes is distinctly unlikely. Substantial reduction can take place only as a result of far-reaching modifications in fiscal policy, and it is not likely to be an easy matter to prevent increases, particularly in those States whose school and highway programs are less fully developed than in the Nation at large. Past experience in no way precludes the possibility of radical changes in public fiscal policy; but to the extent that the future is to be judged by the past, the most optimistic prediction is that taxes in most Southern States will continue to increase for some time.

The farm-mortgage debt of the three southern geographic divisions increased from $556,000,000 in 1910 to $1,371,000,000 in 1920, to $1,656,000,000 in 1925, and to $1,775,000,000 in 1928, respective increases of 149 per cent, 20 per cent, and 8 per cent. The South Atlantic increases were 147 per cent, 26 per cent, and 12 per cent. This is the most steady rise of mortgage debt of all principal areas. Although the percentage of farms mortgaged (1925, averaged 28.1 per cent; 1928, 30.4 per cent) is still generally lower in the South than in other regions, the rate of increase has been greatest in that region. The South Atlantic region during this period increased the proportion of its mortgaged farms from 23.4 per cent to 26 per cent. In proportion to number of farms mortgaged, foreclosures for debt are more frequent there than in any other region. This is true despite a lower ratio of debt to value for farms mortgaged (37.1 per cent as compared with 41.9 per cent for the whole United States). A decrease of 8.5 per cent in the farms of that area since 1920 suggests that adjustment of the farming unit is necessary to profitable operation.

An indicated decline of 5 per cent in the outstanding loans of the operations of insurance companies in 11 Southern States during 1929 suggests that leading lending agencies will restrict new credit to the preferred risks.

Merchant and dealer credit has remained a large proportion of the short-term credit used in the South than elsewhere. The current season's prospect is for an increased use of this expensive form of credit, especially for fertilizer purchases. Manufacturers estimate that 65 per cent of their dealers will require credit for this purpose in 1931, as compared with 44 per cent in 1930.

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