

**AGRICULTURAL OUTLOOK
FOR MICHIGAN-1930**

**MICHIGAN STATE COLLEGE
Of Agriculture and Applied Science**

EXTENSION DIVISION

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FOREWORD*

For the past eight years, the Bureau of Agricultural Economics of the United States Department of Agriculture has issued an annual national Agricultural Outlook. These Outlook reports have brought together facts relating to prospective world-wide and nation-wide supply and demand conditions under which farm products are likely to-be marketed during the coming year. All available price and market information concerning the important farm products has been carefully studied, and the Outlook has been based on conclusions drawn from these facts.

The purpose of this Agricultural Outlook is to aid farmers to adjust their production programs to the prospective market demands. It is intended to assist farmers to make better decisions concerning what and how much crops and livestock to produce, and to discourage radical and frequent changes in their farming program. Furthermore, it is not intended that these suggestions should be followed by every individual farmer. The adoption of these suggestions is affected by so many local factors and conditions that safe generalizations may not apply to the individual farm. The individual farmer must consider not only general production and price prospects, but also the situation affecting his own farm such as local market, labor supply, soil and climatic conditions, insect pests, size of the farm, and supply of capital. Since he must take the risk of future production and prices, he should also take the responsibility of deciding what should or should not be done on his particular farm.

As the generalized statements in the national Agricultural Outlook cannot fit all local conditions, this publication is designed to present information as applicable to Michigan conditions. It also includes information of a national character which has a direct influence upon the demand for Michigan products.

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Additional copies of this Outlook Bulletin may be obtained by addressing the Extension Service, Michigan State College, East Lansing, Michigan.

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GENERAL OUTLOOK

The outlook for Michigan's agriculture for 1930 appears somewhat more favorable than in 1929. During this past year, adverse weather at planting time reduced the acreage and yield of spring grains. The drought during the late summer, the most severe in 34 years, reduced the yields of the majority of cash and feed crops considerably below the average. The livestock industry was severely affected by the pronounced shortage of feeding grains, the increase in importation of grain feeds from outside the state, and the longer winter feeding period which was necessary because of the dry fall pastures. The quantity of livestock fed during the winter was reduced, and much livestock was sent to market in a light, unfinished condition. Crop yields, crop acreages, and pasture conditions on the basis of climatic averages may be expected to be more favorable in 1930.

The curtailment in business activity and the resulting unemployment in our manufacturing centers during the fall months of last year decreased the purchasing power of our industrial laborers and caused a decline in consumer demand for some farm products. The demand for dairy products was noticeably affected, as indicated by the decrease in consumption of milk, cream, and butter. The demand for poultry and eggs, beef, lambs, and a few fruits was affected in a lesser degree.

Indications are for a gradual improvement in business conditions throughout the year, although the improvement may be very slow during the first half. As workers become more fully employed, the consumption of some of our food products will increase. A continuation of the upward trend in the exchange value of farm products for nonagricultural products may be expected. Non-agricultural products are apparently slowly falling to the level of farm prices. Farmers may receive a larger percentage of the price which consumers pay for farm products if the co-operative marketing organizations now being created can eliminate some of the marketing wastes and can reduce costs.

The application of such farm management practices as will decrease production costs and increase the volume of business per agricultural worker is the principal method by which the individual farmer may increase his income. These farm practices include an increase in the size of farm business, the better utilization of land, labor, buildings and equipment. increased crop yields, better feeding practices and efficiency per animal, better labor distribution, the selection of the most profitable enterprises, the use of labor-saving machinery, and larger power units. It is recognized, however, that, the greater the extent

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to which such practices are applied, the fewer will be the number of independent farm enterprises which will be needed to supply the requirements of the market.

The general outlook for farm-mortgage financing and for marketing credit is better for borrowers than a year ago. The unfavorable bond market and the stock market speculation curtailed the sale of Federal and joint Stock Land Bank bonds in 1929. More funds will be available for purchasing these bonds in 1930, and the interest rate should be lower. Farmers who are obtaining or renewing farm mortgages in 1930 should secure funds at lower interest rates. Rates on direct loans by the Intermediate Credit Banks have also decreased since the high level of last fall. The commodity loans by the Federal Farm Board to co-operative marketing organizations are increasing the supply of marketing credit.

Farmers in Michigan are having greater difficulty in obtaining short-time bank loans, as both time and demand deposits are on a lower level than usual. This condition may not permit farmers to shift from merchant credit to bank credit, which usually costs from a third to a half as much as merchant credit. This tight commercial credit situation should improve as employment permits laborers to continue payments of installments on merchandise purchased, and as the loans made for the purchase of commercial stocks are repaid.

With industrial activity at lower levels, the supply of farm laborers is more plentiful than last year. Lower farm wages may be expected, and farmers should have less difficulty in holding desirable help. They will probably find this a good year to make needed repairs and improvements, as the prices of building materials are lower and carpenters and masons can probably be obtained at lower wages by those farmers who are good at bargaining.

Evidence indicates that prices of good land in Michigan have passed the low point. Farmers who are planning to buy farms, or persons who are lending money on farm mortgages can proceed with more confidence than at any time in recent years.

It should be remembered that farming is a long-time proposition. Michigan farmers will continue to have an advantage in the production of bulky and perishable farm products, in producing quality products for special markets, in the nearness to consumers, in low transportation costs, and in the great variety of alternative crops and livestock enterprises adaptable to Michigan's diversified conditions. The long-time outlook for Michigan farmers will also be aided by the continued increase in urban population, by taxation adjustments, and by the utilization of sub-marginal farm lands for non-farming purposes.

LIVESTOCK AND LIVESTOCK PRODUCTS

Dairy

Dairymen face a period of readjustment. A normal annual increase of about 1 per cent in milk cow numbers in the United States is necessary to increase the production of dairy products sufficiently to balance the increasing demand, but the number was increased 3 per cent in

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1929. The number of heifers, which is 6 per cent greater than a year ago, is sufficient to cause still further increases in cow numbers in 1930 and 1931. Although the underlying situation is not as bad as would appear from current butter prices, the duration of the period of readjustment will depend partly upon the promptness with which producers adjust their methods to meet the surplus situation. Close culling of low producing cows and either the marketing of a larger quantity of milk in the form of veal or the allowing of more calves to run with the cows will immediately reduce the supply of dairy products.

Over a longer period, the general dairy outlook is less favorable because of the large number of heifers now being raised, and because of the tendency to increase the numbers of cattle for beef purposes. It is advisable to follow a conservative policy in regard to the number of dairy calves to be raised. Probably more calves were raised in Michigan in 1928 and 1929 than can be raised to advantage during the next few years. Dairy men will probably be able to buy replacements at lower prices for the next few years. Farmers who sell dairy cows to outside markets should anticipate lower prices for several years to come.

Total milk production for all purposes in Michigan in 1929 was apparently only slightly in excess of 1928. The production of manufactured dairy products in Michigan in 1929 in terms of milk equivalent was about the same as in 1928. Estimates for the year for the United States show increases of about 2 per cent in creamery butter products, 9 per cent in condensed and evaporated milk and a decline of about 14 per cent in cheese products. The quantity of butter absorbed by our markets is estimated to have declined about 1/2 per cent, or 38,000,000 pounds during the past year. Coincident with this decrease in the consumption of butter, there has been a corresponding increase in the consumption of butter substitutes.

Production of milk in Michigan in 1930 will depend largely on the extent to which farmers adjust their production methods to the change in prices. The number of milk cows on farms will probably continue to increase for at least another year, but any increase in milk production may be partially offset by using more milk in raising calves. A gradual shift in feeding methods is now taking place. A further decrease in the quantity of grain fed is expected. This will tend to reduce milk production, especially during the early months of 1930. Hence, total milk production will probably be less in 1930 than in 1929.

Although material improvement in the purchasing power of consumers is not expected before the second half of 1930, butter and cheese markets have probably felt the worst of the depression. The demand for fluid milk and market cream will probably show some decline during the rest of the first half of 1930 as compared with the first half of 1929. If industrial conditions improve, the demand for all dairy products will increase and the consumption of dairy products per capita may recover its long-time upward trend during the 1930-31 season.

Competition, within the United States, from foreign supplies of butter will probably be lessened rather than intensified during the coming year. Yet, butter prices will have to drop materially lower than at present before significant export will likely take place.

Fluid milk prices to farmers have been depressed to some extent. Un

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favorable prices will probably tend to reduce production through the rest of the winter and coming spring. This decrease in production may be counter-balanced to some extent by a reduced demand, due to depressed industrial conditions. The immediate outlook, for this reason, is not very favorable and producers in fluid milk districts should consider all possible economies in production by eliminating poor animals and generally following a cautious production policy. A long-time outlook for fluid milk districts adjacent to large cities, where further expansion of population will call for greater quantities of fluid milk, is probably more favorable than in the districts devoted to the manufacture of dairy products.

The immediate outlook for butterfat and cheese districts is more hopeful than present prices would indicate. With reduced retail prices, consumption will tend to increase. Winter production will probably shrink in response to the present unfavorable returns. A serious further downward trend of butter prices during the coming spring season is not probable. In the true butterfat districts of Michigan, men who are planning long-time expansion in their dairy enterprises will do well to base their plans on about the present price for butterfat.

The present situation calls for both economy in production and caution in planning for the future. The high price of meat still favors the elimination of inefficient cows, and thus heavy culling at this time is desirable. Enough dairy heifers are now being raised in Michigan to maintain dairy cow numbers during the next few years sufficient to produce as many products as can be sold to advantage and also supply cattle for eastern buyers.

Because of our nearness to large consuming markets, the situation for Michigan dairymen need not be regarded as pessimistically as for many other states. Any improvement in the industrial situation will be immediately reflected in increased demand and higher prices for dairy products.

Poultry and Eggs

According to the national Outlook Report, any increase in production of chickens in 1930 over the production in 1929, either for eggs or meat, will tend to reduce prices of eggs and poultry to below the levels of recent years.

Early indications are that the number of chickens for the entire United States for 1930 will exceed that of 1929 by about 5 per cent. This means some increase in the supply of poultry meat. The present storage holdings of poultry are fully 25 per cent larger than a year ago. The demand for chicken's in 1930 is expected to be fair, though probably not as good as during the last year or two. With depressed industrial conditions, it is likely that the price for poultry meat will be low for at least the first six months of 1930. The price in the fall of 1930 will depend mainly on the number of chickens raised this year. Michigan hatched approximately 35,000,000 chicks last year. Estimates are that the hatching this spring will be at least 10 per cent larger than a year ago. There is a tendency for prices of poultry meat to move in approximately a four-year cycle, two years up and two years down. We are on the second year of the downward trend.

Due to an increase in the number of birds in laying flocks, and to the tendency to increase the number of eggs per hen, the volume of egg production during the year 1930 promises to exceed that of 1929. The amount of eggs in storage reached small proportions earlier than usual this winter.

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This fact should encourage more liberal buying of the early spring production for storage purposes.

Hence, it would seem advisable to hold the industry on the present level. This would apply especially to large flock producers having three hundred or more hens. The tendency, because of disease, methods of hatching, and other factors, is for farmers to keep about 100 hens, or else to jump to 300 or 400 as they endeavor to put the poultry enterprise on a business basis. It does seem advisable to recommend to small flock owners that they make such a change at this time.

The trend in turkey production during the last two or three years has been strongly toward specialization. This means larger flocks, better methods of sanitation, and better feeding, so that mortality has been decreased, production costs lowered, and quality improved.

Prices paid producers at Thanksgiving and Christmas in 1929 were much lower than in 1928. Information indicates that a greater number of birds than usual were held over for breeding purposes in 1930. These lower prices might be expected to reduce production this year. But growers, using modern methods, may not reduce their production even though they failed to realize as great profit as anticipated prior to the last market season. The average price paid to farmers for turkeys during October, November, and December in 1929 was only 5.6 cents above the price of chickens for these months, while in 1928 this spread was 8.1 cents and in 1927 it was 10.4 cents. This indicates that turkeys have lost much of their advantage in the relative price to producers as compared with chickens during the last two years.

It may be that production will hold its own or will even continue to expand because of greater specialization and increased efficiency of methods. It is likely that any deliberate decrease will not be drastic, but involuntary reductions are often brought about by unfavorable spring weather. The more general adoption of improved production methods should enable growers in the future to produce at lower costs and thus allow turkeys to compete with chickens on a more nearly equal price basis. The adoption of these modern production methods will permit a greater expansion of the turkey industry than would otherwise be possible.

Beef Cattle

The outlook for beef cattle in 1930 appears favorable, although with increasing numbers of livestock, somewhat lower prices than in 1929 may result. The number of cattle in the country steadily declined from 1923. to 1929, until cattle prices reached a high level. The increase of 2.7 per cent in all cattle in the United States in 1929 was mainly due to an increase in dairy cattle. However, the tendency to retain beef breeding stock is shown by the fact that, although a larger number of steers were slaughtered during 1929 than the previous year, the slaughter of cows, heifers, and beef calves was reduced. While the retention of breeding stock continues, market receipts are reduced and prices are supported. The increase in the breeding herds will result in increased marketings later and may lead to lower prices. Farmers who are located in areas of abundant pastures and cheap roughages will continue to find it profitable to raise their own calves and finish them as high class baby beef at around 12 to 15 months of age.

Prices of purebreds normally reach their peak about two years after the

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peak is reached for other cattle. Prices of purebreds change more during the cycle than do the prices of grade cattle. The purebred cattle business is a good business if one raises the cattle in advance of the period when they sell well. It is a disastrous business when one buys breeding stock during a period of high prices, and then has to sell the offspring when the prices for the entire industry are low.

The number of cattle on feed on January 1 of this year was about the same as a year ago. The total market supplies of fat cattle during the first 6 months of 1930 are expected to equal those of the same period of a year ago. Farmers should follow their usual practice in marketing their fat cattle, as there are no reasons to expect any great change in prices of fat cattle during the next few months.

Although unfavorable dairy prices may result in the culling of dairy herds, it is doubtful if this movement to market will be great enough to, have much influence on the price of fat cattle, especially those of the better grades.

High wages and steady employment are essential for a full demand for beef. Apparently, there will be some improvement in demand for beef during the year as labor becomes more fully employed.

The Michigan cattle feeder needs to exercise caution during the next few years. During a period when beef cattle prices are falling, more of the feeding seasons are unprofitable. It is doubtful if the favorable feed-cost cattle price ratio of the past few years will continue with cattle prices declining and with no reasons to believe that feed prices in Michigan will fall during the next few years.

Hogs

The outlook for hog prices in 1930 appears more favorable than in 1929. The number of hogs on farms in the United States on January 1, 1930, was 7 1/2 per cent less than a year ago and 11 1/2 per cent below the five-year average number from 1923 to 1927. We are near the bottom of the hog production cycle and the peak of the hog price cycle. The hog price cycle is from 3 to 5 years in length, depending primarily on the length of time required to increase the number of hogs and the corn-hog ratio. The prospective favorable hog prices in 1930, especially if corn prices are favorable, will, cause farmers to increase the number of their hogs. Increased numbers will mean lower hog prices.

The increase of 4 percent in the fall pig crop indicates an increase in market supplies from April to June. The market receipts from July to September will probably be smaller as the higher hog prices will cause the farmers to ship fewer of their breeding sows to market. The December pig-survey report on breeding intentions for the spring crop of 1930 indicated that the number of sows farrowing in the spring will not be greatly different, from the number farrowing in the spring of 1929. Any change in the supply of hogs marketed in 1930 will depend primarily upon the sows actually farrowing and the number of pigs saved from the spring pig crop of 1930.

Supplies of both pork and lard in storage on January 1, 1930, were greater than the five-year average, although accumulations since the first of the year have not been so great as normally. The increase in hog production in Denmark-and other European countries, together with a good supply of feed there, indicate that our export demand for pork may be weaker than it was last year. The decline in business activity has not affected the demand

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for pork as it has the demand, for other meat products, If the unfavorable business condition continues, the demand for the higher-priced pork cuts may be reduced.

The corn-hog ratio for Michigan remained unfavorable to hog raisers during the last half of 1927, throughout 1928, and during the major part of 1929. Hog raisers in Michigan responded to this situation by decreasing the numbers by 17 per cent during 1929. The outlook for hog breeders in 1930 appears generally favorable on account of the decreased numbers and the rising hog prices.

Hog raising in Michigan will be most profitable in those areas which produce large amounts of grain for feed. Hog feeders will do well to finish and market their hogs at lighter weights because of the higher costs of gains and the usual lower prices for heavy lard hogs. The marketing of hogs at lighter weights will reduce the supply of surplus lard which must be sold on the foreign markets at a low price by the processor of animal products. The desirable meat type hog is one carrying a maximum of lean meat with only sufficient fat to indicate finish and firmness of carcass.

Sheep and Wool

The number of sheep in the United States continued to increase during 1929 for the eighth successive year. The estimated number of sheep on farms on January 1, 1930, of 48,913,000 is 33 per cent more than on January 1, 1922. The last low point in sheep numbers occurred in 1922, following the unusually heavy lamb and sheep liquidation of 1920 and 1921. The increase of 3 per cent last year was not so great as during each of the three previous years.

The normal price cycle for sheep is about nine to ten years, four to five years of rising prices and an equal number of years of falling prices.' Farm prices of sheep continued to rise from 1922 to 1929 or two years longer than the normal. This abnormal long period of rising prices was due mainly to the shortage of beef and to the fact that laborers have eaten more high priced lamb as their wages have increased. Prices have already been influenced by the great increase in numbers of sheep and by the curtailment in consumer demand. The average value per head on January 1, 1930, was \$8.90 compared with \$10.61 a year ago. The price of sheep fell during 1929 and no improvement in price may be expected this year.

The 5 1/2 millions of lambs on feed on January 1, 1930, was 15 per cent more than a year ago. This is the largest number for 8 years and about as large as for any year on record. The total lambs slaughtered from the 1929 crop will probably exceed that of the 1928 crop by at least 1,000,000 head. The increased supply and the restricted demand point to a lower level of lamb prices during the next few years than that of 1929, although the downward course of the market may be checked by an improvement in the business conditions. Unless sheep and lamb liquidation is unusually drastic, no such sharp price decline as took place in 1920 -and 1921 is expected.

World wool production has been increasing rapidly during recent years. Present indications point to a 1930 crop about equal to the large crops of 1928 and 1929. Wool prices will be lower in 1930 than in 1929. The trade recession has caused a curtailment of domestic demand, and the foreign demand for Australian and other foreign wools has continued downward into 1930. In view of the present low wool prices, material further expan-

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sion of flocks in foreign countries kept mainly for wool is not to be expected and some decrease is likely by 1931. After that, wool prices are likely to improve.

Expansion of the sheep industry in Michigan is not advisable at the present time, except in areas of cheap pasture and where there is a supply of roughages to market. A period when sheep prices are starting downward is a desirable time to cull flocks, and to retain only the ewes which are most productive in both wool and lambs. Radical reduction in flocks is not advisable as the farm flock will be a profitable enterprise on the farm of the efficient flock-master. The lamb feeder must exercise extreme caution during a period of falling sheep and lamb prices, as he will undoubtedly have some unprofitable seasons. Both growers and feeders should produce well finished lambs weighing not to exceed 85 pounds, because of the higher cost of gains and lower market price for the heavier lambs. The heavy lamb is not only hard to dispose of but also unnecessarily increases the quantity of meat to market.

Horses and Mules

The outlook for horses and mules will be influenced primarily by longtime factors. The number of horses and mules on farms in the United States has steadily declined from the high point of 26,436,000 on January 1, 1919, to 18,762,000 on January 1, 1930. The substitution of motor transportation for horses in cities and on highways, the decreasing use of land for farming in eastern States, and the increasing mechanization of agriculture has decreased the number of horses required for farm operations. According to the National Outlook Report, indications are that the number of horses and mules on farms will be reduced to 11,000,000 or less by 1940~ providing births continue at about present levels. Increased interest in horse breeding has been observed in some parts of the country, but the number of colts on farms continue to decline at about the same rate as the number of older work stock. A shortage of draft stallions has prevented breeding in many sections.

Prices of draft animals, during the recent years of rapidly declining numbers, have not been sufficiently high to stimulate production even in the surplus feed areas of the central west. The average price of horses in the United States has shown some tendency to increase during the last four years even though the average age has been increasing. The prices of old horses have continued to decline, but the prices of young horses have been increasing. The average age of all horses in the United States is about 13 years. When a few more of the old horses die, the shortage of young horses will cause horse prices to rise more rapidly.

The price of young horses of good quality is especially high in Michigan. The farmers, whose horses are old, will have difficulty in buying horses for replacements, as there is a limited number of western horses which are available. They will find it profitable to raise colts for replacements in their work stock during the next few years. As there is a limited number of farmers who are in a position to raise colts, any surplus of good young draft horses will find ready sale at remunerative prices.

Feed Crops and Livestock

Combined numbers of animals on farms are gradually increasing.. Only small changes in acreage of feed crops, for the country as a whole, are in prospect. Such a condition will work to the relative disadvantage of growers and feeders of livestock who buy their feed crops. With few opportunities for expanding the acreage of cash crops in 1930, the Michigan livestock producer will do well to grow more of his feed crops and to market them through livestock. This State imports a large amount of grains for livestock feeding. Thus, the Michigan livestock producer has higher feed costs than the producer in surplus grain, sections. These feed costs, however, may be reduced by growing larger acreages of feed crops, especially alfalfa and other legume hays as well as barley and corn in the areas to which they are adapted.

CROPS

Wheat

The national Agricultural Outlook Report states that "There is little in; the wheat situation in the United States and other countries at present to indicate, that prices for the 1930 crop of the United States will be much different from those prevailing for the 1929 crop-"

For those farmers who are located on suitable soil types and who c6lfi~'m4intaih low production costs, the 1930 Michigan wheat outlook is-more favorable than the outlook for the competing soft winter wheat areas farther south. This is due to the fact that the soft white winter wheat which is produced in Michigan is becoming increasingly popular in the pastry, cracker, and breakfast food industries. A premium of 5 cents per bushel has been offered by certain millers for the soft white winter wheat.

The production of soft winter wheat is only slightly in excess of domestic consumption and the price is more dependent on the domestic market than is the price of hard winter wheat which is determined by the world demand. Hence, the price of Michigan soft winter wheat is greatly influenced by the production in the limited competing areas in the United States, outside of Michigan. A small crop in these competing states results in a premium over hard wheat being paid to Michigan farmers for their soft wheat for milling purposes. A large crop means that the Michigan soft winter wheat farmers must sell their crop on a world price basis.

Thus, due to the limited production areas of soft white winter wheat, the special demand for this type of wheat for milling, the possibilities of crop shortage in the competing winter wheat areas, and the fact that wheat fits into, a great many of Michigan crop rotations as a companion crop for clover and alfalfa seedings, indications are that farmers of this state are following a sound practice in maintaining the present winter wheat acreage.

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Corn

The corn acreage in Michigan has continued to decline since- 1922. Last year's acreage of 1,,344,000 is 15, per cent below the ten-year average of 1,588,000 acres. The yield per acre in 1929 was 25 bushels per acre as compared with the ten-year average yield of 34 bushels. The portion harvested as grain in 1929 was less than 14,000,000.bushels, or only about one-half of the usual production. Michigan is importing considerably more corn than usual. this year to supplement the low yielding crop of 1929. The importation of corn into Michigan for feeding purposes will probably continue to increase as the numbers of livestock increase. This will mean that the price of corn in Michigan will continue to be relatively higher than the Chicago price.

These conditions indicate that Michigan farmers may safely increase their corn acreage over 1929. The Michigan farmer should continue to grow about all the corn he can conveniently handle in accordance with the limitations placed upon him by his crop rotation, labor distribution, insect pests, and soil and climatic conditions.

Oats

"Coat production for market," according to the national Agricultural Outlook Report, "during the 1930 crop year is not likely to bring better returns to the producers than during the past crop year. No material improvement in either domestic or export demand is in prospect, whereas, more active competition from larger supplies of other feed grains appears probable."

However, there seems to be no immediate reason for the Michigan farmers to greatly change the oat growing policy which they have been following. Because of a short crop this past year, a considerable quantity of oats has been shipped 'in, which has resulted in giving Michigan growers more than Chicago prices. This situation, however, cannot be looked for in years of normal production.

While the acreage of oats in the United States has had a rather definite downward trend since 1921, the Michigan acreage has been increasing slightly. In view of the prospects for further decline in -the horse population in the United States and of the apparently lower gross and net returns from market oats when compared with competing crops, a further decline in the United States oats acreage is probable. Doubtless, in many cases in Michigan, barley would furnish more and better feed, though the oat crop is somewhat more certain under adverse weather conditions.

Barley

As a general rule, Michigan consumes more barley than it produces. While, occasionally, a little surplus exists, by far the greater portion of the Michigan barley crop is fed on the farms within the state; Since the 1929 yields of both corn and barley were below the average, the present crop year will see large shipments of barley into Michigan for feeding purposes.

Michigan's barley acreage has been growing steadily since 1924, and further increases are warranted because of increasing numbers of livestock. The average yield of barley in pounds of grain per acre is

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greater than that of oats-1233.6 pounds and 1046.4 pounds respectively, as a ten-year average. In feeding value, barley exceeds oats and is practically equal to corn for most classes of livestock. For much of northern Michigan where corn growing is hazardous, barley may well be used to supply needed home-grown concentrates. Barley, because of its lower labor requirement, is increasing in importance even in southern Michigan.

Barley, especially the new Michigan variety Spartan barley, is one of the most satisfactory of all grains as a companion crop for clover and alfalfa seedings and greatly cheapens the cost of making such seedings where conditions are sufficiently favorable to warrant the use of nurse or companion crops.

Flax

According to the national Agricultural Outlook for 1930, some further expansion in acreage of seed flax is warranted where soil is free from weeds and otherwise suitable for flax. There are indications that farmers in leading flax-producing states may increase their acreage this year 40 to 50 per cent over- 1929. If this is done, prices will be much lower than at present. If the United States acreage is not increased more than one-third, average yields of flax would promise a satisfactory return per acre. This information should be of particular interest to growers on the heavier and more fertile soils of the Upper Peninsula. Many growers in Chippewa County have demonstrated that yields of 12 to 20 bushels per acre can be secured in that territory when the fall weather is favorable for harvest.

Hay

The outlook for hay suggests the advisability of a further increase in the acreage of legume hays and a decrease in the acreage of timothy. In recent years, the trend of hay prices has been in favor of legume hays. A continuation of this trend may be expected this year because the decreasing' numbers of horses and mules will further restrict the demand for timothy while the increasing numbers of other livestock will probably increase the demand for legume hays. Producers in the deficit hay areas in Michigan will find it profitable to increase their acreage of legume hay as a cash or feed crop.

Despite the fact that Michigan has made great strides in alfalfa production, a material increase in the acreage of this crop is still warranted. No farm with potential alfalfa soil is growing enough alfalfa until sufficient is produced to provide hay for all the dairy cows and a portion of the rations for the other livestock. The present alfalfa acreage in Michigan can profitably be doubled if the increase is properly distributed throughout the state. Not only is alfalfa Michigan's most productive hay and the hay of greatest feeding value, but eastern hay markets are also looking upon the alfalfa from this State as superior in quality to most of that grown under humid conditions. Good curing methods have accounted for much of this quality.

The year of 1930 should also see an increased acreage seeded to red clover. Red and alsike clover seed is cheaper than it has been for years. It will be but little more expensive to make a seeding of red clover than

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it will of sweet clover in the spring of 1930. 'Both red and alsike clover will tolerate acidity more than will sweet clover or alfalfa. Present seed prices will give thousands of growers a chance to get legume seedings into fields badly needing the rejuvenating influence of these soil builders.

Clover and Alfalfa Seed

The national Agricultural 'Outlook Report has the following comments to make on clover and alfalfa seed.

"A larger surplus of domestic red-clover and alsike-clover seed than in recent years is expected after the sowing requirements this spring have been met. The relatively high prices and lack of a heavy surplus of alfalfa seed indicate that the present acreage of this crop, particularly in northern-producing districts, should be maintained. On the other hand, continued low prices of sweet clover, carry-over of old seed, and lack of evidence of an increased demand suggest that a reduction in the acreage of this crop for seed be made this year.

"Growers should not be unduly influenced by prevailing low prices for red-clover seed in determining the acreage they will cut for seed next fall because higher prices at that time could normally be expected. During the past 10 years there have been seven small crops of red-clover seed and conditions resulting in the large production of 1929 are not likely to be repeated this year. In recent years there has been a pronounced preference of farmers for domestic seed, which makes competition from relatively cheap imported seed of less significance than in the past. Therefore, it would seem highly desirable to forestall, if possible a recurrence of shortages in supplies of domestic red-clover, such as have been noted frequently during the last decade."

Michigan farmers should not overlook the opportunity of harvesting the seed from these crops if the weather conditions during the summer are favorable to seed production.

Potatoes

The 1929 potato prices were relatively high because of low yields. In 1930, there will probably be an increase in the United States potato acreage, which, if coupled with average yield will cause lower prices. The sound policy, however, is for the Michigan potato grower to maintain an average acreage of potatoes. The individual should adjust his acreage to best fit his crop rotation and his farm management plan. Such a policy, coupled with cultural practices that will help insure high yields per acre, should make for a more stable and satisfactory potato industry in Michigan.

Estimates show there will probably be an increase in the potato acreage in the United States of approximately six per cent over that of 1929. With average growing conditions in 1930 and a consequent average yield of 118 bushels per acre, a total production of around 421,000,000 bushels can be expected in the United States. In former years when approximately this same quantity was produced, the December I average farm price for Michigan was about \$0.40 per bushel com-

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pared with \$1.25 per bushel on December 1, 1929 when the United States production was 357,000,000 bushels. (In considering the average price for potatoes in Michigan, the prices in counties near large cities are above the average, whereas the prices in outlying districts are below the average price for the state.)

In 1929, Michigan growers harvested 263,000 acres of potatoes with a total production of 18,410,000 bushels. The 1928 acreage harvested was 306,000 with a total production of 35,802,000 bushels. In spite of the lower acreage and production of 1929, this crop was worth 60 per cent more than the 1928 crop, based on the December 1 price. Severe droughts in the summer of 1929 were largely responsible for the decided cut in total production. The average yield per acre in 1929 was 70 bushels as compared with the average yield of 117 bushels in 1928.

Figures recently compiled indicate intentions to increase the potato acreage in Michigan by 10 per cent over the 1929 acreage. This is approximately eight per cent more than the average acreage harvested for the years 1924 to 1929 inclusive. The average yield per acre for the five year period 1924-28 was 110 bushels. If this yield were obtained in 1930, the crop would be 31,790,000 bushels compared with 29,480,000 bushels, the average for the 1924-28 period.

The certified seed potato crop in the United States was approximately 20 per cent less in 1929 than in 1928. In Michigan, approximately one-half million bushels of certified seed were produced in 1929 compared with three-quarter million bushels in 1928. As markets for the certified seed develop, more growers will engage in this line of work. For growers who are remote from good table stock markets and who are able to produce potatoes which will meet the certification requirements, certified seed production offers good possibilities. It is believed that the acreage planted for inspection in 1930 will approximate that of 1929.

The production of potatoes for the early market should bring satisfactory returns in 1930 to those growers who are located close to good markets and who can produce high yields. High yields of early potatoes are particularly dependent upon the use of disease free seed, fertile soil, and thorough spraying. The Irish Cobbler is recommended as one of the best early varieties.

Growers should consider the advisability of holding acreage very close to that of 1929 for the following reasons:

First: In view of last year's low yield and the possibility of a higher yield in 1930, the planting of an area equal to that in 1929 would, with a yield in line with the trend in recent years, result in a larger crop, which would reduce prices considerably below present levels.

Second: The early fall crop of 1930 in the Northern States is likely to meet increased competition due to the increased acreage in the Southern States.

Finally: Growers have usually avoided financial losses and disappointment in prices whenever they refrained from acreage expansion under conditions like those now existing.

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Dry Beans

No radical changes in the total Michigan bean acreage seems desirable in 1930. The total United States production of 19,337,000 bushels of beans in 1929 is closely in line with present domestic requirements, except for the relatively low production of pea beans and the heavy excess of pintos in the southwest. The production of white beans in 1929, of 9,100,000 bushels is below our domestic requirements. The shortage was due to low yields. The severe droughts in Michigan, which normally produces 60 per cent of our total supply of white beans, reduced the yields to 8.2 bushels per acre, or 2.8 bushels below the ten year average. If average yields had prevailed in all of the white bean sections, the crop in 1929 would have been about 1,500,000 bushels more. Such a crop would probably be slightly in excess of domestic needs.

Total United States production of red kidney beans in 1929 was about 300,000 bushels less than in 1928, and 350,000 less than the five-year average, 1923-1927. This low production was due principally to low yields.

There was practically no holdover of the 1928 Michigan bean crop and prices for the 1929 bean crop started at high levels. The prices which Michigan farmers received for beans dropped from \$4.98 per bushel in October to \$4.50 in November and \$3.90 in December and \$3.60 in January. The heavy importation of beans from some of the surplus-producing foreign countries, which began late in September and continued during the remaining months of the year, was an important factor in causing prices to decline to the lower level. Prospects for a good return on pea beans in 1930 will depend upon the foreign crop and on possible changes in the bean tariff.

Twelve to fourteen bushels of clean beans per acre have usually fully covered production costs throughout the past ten years. The Robust bean is one of the most satisfactory varieties of white beans for Michigan, while the McNaughton system of stacking beans greatly reduces harvest hazards.

Domestic consumption of beans is increasing at about 2 1/2 per cent, or 500,000 bushels annually. With no change in acreage of white beans and with average yields, the production will approximately meet the domestic requirements. With average yields of red kidneys on the same acreage, the production will meet domestic requirements. A slight change in the supply of red kidneys has a distinct effect upon the price because of the limited demand for this type of bean. Hence, no change in acreage seems advisable.

Sugar Beets

Unfavorable weather conditions for the past two or three seasons have been important factors in reducing both yields and acreages of sugar beets in Michigan. The 1929 acreage was 50,000 with an average yield of 5.7 tons per acre. The ten-year average was 103,000 acres with a yield of 7.7 tons per acre. At present, the price situation remains the same as for 1929. Most contracts this spring guarantee the grower \$7.75 per ton for beets delivered to the weigh-stations and \$8.75 for beets delivered directly to the factories. Efforts to obtain an increased tariff on sugar continue.

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A crop of eight to nine tons per acre at the above price should cover production costs. Larger yields should return substantial profits. Sugar beet production should not be attempted on poorly drained or on light droughty soils. However, on the heavier types of silt and clay loam soils in a good state of fertility good yields can be obtained. Extensive unemployment in industry indicates that labor costs will be lower on Michigan farms. Hence, one of the chief objections to sugar beet production, that of high labor costs, will be somewhat lessened.

Farmers who have soils well suited to sugar beets and who live close enough to weigh-stations or operating factories to deliver their own, beets may do well to consider this crop as a means of obtaining a portion of their farm income. In addition, this may help in saving one of Michigan's important industries. The increase in acreage of sugar beets should be helpful to Michigan agriculture under present, economic conditions, provided the increase in tariff materializes.

FRUITS AND VEGETABLES

Apples

The apple industry has recovered largely from the disturbed conditions which accompanied the rapid expansion of plantings in the Northwest and elsewhere 20 to 25 years ago, and, although commercial production for the country as a whole will increase gradually for several years, the rate of increase is expected to be much less than during the past two decades. The increase in production will come from relatively large numbers of young trees and is expected to be such as will result in heavy production and low prices when weather and other growing conditions are especially favorable throughout the commercial apple areas. Under such conditions, additional commercial plantings are justified only where unusually favorable conditions, such as climate, soil, and topography, exist for the production of good quality fruit at relatively low costs. Even then, only efficient growers will likely be able to show a favorable balance during years of heavy production for the country as a whole.

The plantings in the eastern states have shown such a decided shift to such varieties as Delicious, McIntosh, Jonathan, Stayman, and Yellow Transparent that these six varieties constituted 43 per cent of the market supplies in 41 cities in 1926. The proportion of these varieties in the terminal markets will continue to increase. Plantings of other well known varieties have been only moderate in recent years for the country as a whole.

The small family orchards contain nearly one-third of the apple trees and will continue to have considerable influence on apple prices in seasons when growing conditions are good throughout the country.

Twenty-five to 30 per cent of the trees in commercial orchards were less than nine years old in 1928 and 65 to 70 per cent were under 19 years. This relatively large proportion of comparatively young trees, together with the general tendencies toward increasing the bearing life and productive capacity per tree, points to a continued upward trend in commercial production for several years.

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Production in the Northwest is near its peak. The yearly production in the boxed-apple States during the past four years was 80 per cent higher than that of 10 to 15 years ago, but only 4 1/2 per cent greater than the average of four to eight years ago. In 1928, only 13 per cent of the trees in these States were under nine years of age. About 70 per cent of the trees are less than 20 years old. While no material increase in production is in sight for the boxed-apple States, it must be borne in mind that the present average annual production is about 55,000,000 bushels.

The prospective grower of apples in Michigan, cannot afford to disregard the foregoing conditions for the country as a whole, for prices of Michigan apples are largely determined by the total commercial production of the country. In view of this, new plantings should be restricted to favorable locations-locations where the soil is naturally well drained and reasonably fertile and where the site is relatively free of spring frosts. Apples are not produced profitably where spring frosts destr6y two or three crops in five years. Furthermore, no one should be encouraged to go into apple production under present conditions unless he has had experience in such work and has sufficient capital resources. Once determined to engage in the business or to expand present plantings, much study should be given to varieties. In general, reliance should be placed upon such varieties as McIntosh, Fameuse, Jonathan, Steele Red, and Northern Spy.

It cannot be predicted at the time this is written what the production and prices for 1930 will be. Government crop forecasts which will provide some idea of the expected tonnage will be available in early summer. In the meantime it will be safe to assume that a commercial production of more than 30,000,000 barrels will result in prices below the average and that a crop smaller than that amount will likely have the opposite effect. However, Michigan growers of standard varieties need have little fear of not finding a ready market for well colored fruit of good size that is free from insect and disease injury. Such fruit will result in satisfactory returns even in years of heavy production for the country as a whole. Owners of well located orchards with good varieties cannot afford to omit any orchard practice that will materially increase the yield or improve the grade.

Peaches

The number of peach trees of bearing age for the country as a whole is still so great as to make possible heavy production and unfavorable marketing situations during the next few seasons.

In the south, the peak of production has probably been reached and the trend is expected to be downward. Carload shipments in the southern states during the past four years averaged 35 per cent more than for the preceding four-year period. One year ago it was estimated that 27 per cent of the trees were less than six years old and 56 per cent were from 'six to nine years of age. Four years earlier, the percentages were 67 and 24 respectively. These figures indicate that recent plantings have been relatively light and that nearly 60 per cent of the trees are near the age of maximum yield. Furthermore, many trees have been removed or weakened by neglect and disease during recent years. A downward trend in production in the south is, therefore, expected. In fact, it is said that the rate of planting could

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be increased 50 per cent in the next few years without bringing the production five to eight years hence to that of recent heavy crop years.

In the principal middle western States (Illinois, Indiana, Ohio, Michigan, and Missouri) carlot shipments of the last four years have been 70 per cent greater than for the preceding four-year period. Fifty-two per cent of this production for 1929 was in Illinois. Some increases in production are likely to occur in southern Illinois during the next few years.

Only moderate changes in commercial production have resulted in the east, the Rocky Mountain States, and the Pacific northwest during the past four years. In New York, the acreage is decreasing considerably. The peak of clingstone production in California will likely be reached in 1931 or 1932 when the trend of production will be about 15 per cent higher than in 1928.

Moderate plantings in favorable locations in Michigan so as to about maintain the present bearing acreage seems advisable. Certainly, there is no justification for a material increase in acreage. Extreme care should be exercised in the selection of sites for peach orchards to avoid frosty locations. The varieties should largely be those that may be marketed soon after the rather heavy tonnage from Southern Illinois orchards has gone into consumption. Such varieties as South Haven, Elberta, and J. H. Hale should receive major consideration.

The outlook for the season of 1930 is particularly good for Michigan' peach growers whose orchards show promise of even a fair crop. Reports available to March 15 indicate that there will be an extremely light crop in the States immediately south of the southern boundary of Michigan, as a result of the low temperature of January 18. There also was much damage in some localities of southwest Michigan. It is thus apparent that there should be a good demand for varieties of peaches which are ready for market in late August and September. Michigan growers should not be hesitant in putting in operation every practice that will tend to insure a clean crop of good-sized fruits.

Cherries

A large percentage of the sweet cherry crop of Michigan is consumed locally. Thus far trees have come through the winter in good condition and average production is anticipated. This crop comes into little competition with sweet cherries brought into the state from the outside and there is, therefore, every reason to believe that average, prices will prevail.

The fruit buds on the sour cherry trees of Michigan were in good condition on March 1 and an average or perhaps somewhat larger than average tonnage may be expected, owing to new acreage coming into bearing.

There has not been any extensive carry-over of the commercially canned product and, therefore, normal prices can reasonably be expected. At least, the, cherry grower is warranted in making every effort to control the leaf spot diseases and the cherry fruit flies by thoroughly spraying.

Within the last several years, there have been a large number of trees planted and production during the next five to ten years can be expected to increase considerably. It is doubtful if new plantings are to be encouraged except where the location and the soil are especially favorable.

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Grapes

The national Agricultural Outlook for 1930 emphasizes the probability of continued heavy grape production, and that with favorable seasons the grape acreage is still large enough to produce a crop of sufficient size to cause difficult marketing conditions. Most of the states producing American-type grapes, which includes Michigan, are at present following the wise course by not increasing acreage. They had a smaller crop in 1929 and in 1928 which brought slightly higher prices. However, the returns in both of those years, being somewhat lower than in other recent years, makes it apparent that no increase in acreage is justified. Michigan's commercial growers, being favorably situated with respect to large consuming markets, should not be unduly alarmed to the extent of making any radical reduction in acreage because of the increase in competition from the distant areas.

Strawberries

According to the national Outlook report the prospects for strawberry growers now seem, to be better than in any year since 1926. There has been a material decrease in acreage among the second-early and intermediate sections. Hence, the general marketing situation which has been acute because of heavy production from these states should be greatly relieved this season. Not only are smaller acreages reported for 1930, but because of drought last season and lack of care on account of low prices, many old fields are in such condition that there is a probability of smaller yields in some sections,

Preliminary figures-for the United States show a net reduction of about 16,000 acres or 8 per cent from last year's total strawberry acreage. Practically all, of this reduction is indicated in four states-Arkansas, Missouri, Kentucky, and Tennessee-where about one-fourth of the commercial strawberry crop is grown and where prices have been relatively low and marketing conditions most unsatisfactory.

Apparently, there will be little change in the total strawberry acreage in the late states. There are some reductions in Washington, Oregon, Indiana, and Ohio, but these will be nearly offset by increases in Pennsylvania, New York, Michigan, and Iowa. This group as a whole had a successful season last year, averaging about 16 cents per quart to the grower.

A general survey of the strawberry situation. indicates that the present acreage in Michigan may well be maintained and that there is an opportunity for some expansion in acreage, especially in the production of late berries to supply the markets after the peak of the shipping season is over. in the more southern states.

Muskmelon (Cantaloupe)

Muskmelon growers in Michigan received a fair average price for the crop of 1929. The yield was below normal and had it not been for a very high yield in Colorado, which came at a season to compete with the Michigan crop in the central markets, it is quite likely that crop prices would have been much higher. The quality of the 1929 Michigan crop which was much above the average helped greatly to stimulate consumption.

It is not likely that an increase in acreage in 1930 over that of 1929 will be justified, but the efficient grower who plants a uniform acreage each year and who uses every effort to produce high quality in his product will likely

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receive a fair compensation for his labor. It may be that a gradual decrease in acreage would be of benefit. New Jersey, which ranks second in late cantaloupe production, has been decreasing its acreage since 1926 (from 4,500 acres in 1926 to 3,300 in 1929), and farm prices of cantaloupes in that state have shown an upward trend since that time.

Shipments, of honey-dew and other melons from western states again made substantial increases in July, August, and September, above the same months of 1928 and are increasing the competition with the cantaloupes in the intermediate and the late states.

Cabbage

The average price for cabbage over the entire year of 1929 was much higher than the average for the past five years. The storage stocks of old cabbage now on hand are relatively small. There is a reduced planting in the extreme southern states so that it is quite likely that the market price of cabbage during the early months of 1930 will be favorable to the grower. This condition may stimulate the grower in the later states to plant a much greater acreage in this area in 1930 than was grown in 1929. With a favorable season for production, this increase may result in comparatively low prices to the grower.

The national Outlook report for the late cabbage crop is as, follows:

"Plantings of late or main-crop cabbage in 1929 were increased 12 per cent over the previous year, but the average yield per acre was the lightest in eight years, which kept production down to a fairly moderate volume. The average farm price for the late states declined 13 per cent, or about \$2.50 per ton, but is still the second highest price since 1921, and about 70 per cent above the average of yearly prices from 1923 to 1927. There was a particularly sharp decrease in the New York price in 1929. More than one-fourth of the late crop is grown for kraut. Demand was active last fall and the quantity used for manufacturing purposes was greater than in any of the last six years except 1927. Returns for kraut stock were quite favorable. On the strength of the exceptionally high prices received for the past two years, growers in the late states are likely to be considering a material increase in the acreage in 1930. Even if the acreage is held down to the 1929 level, and average yields are secured, the resulting crop would be almost as large as that of 1927 which would probably lower the average farm price from 30 to 40 per cent below that of 1929. No increase in acreage seems warranted in the late states, in view of these possibilities and the rather uniform demand for late cabbage as indicated by carlot movement."

Onions

Onion growers in Michigan, will find it to their advantage to reduce some what their acreage in 1930, as compared with 1929. A large portion of the onion crop produced in Michigan is of the late domestic type.

The national Agricultural Outlook report states for this particular type:

"Growers of the late domestic onion crop failed last year to recognize that the small production' in 1928 which resulted in high price was largely due not to the reduced acreage but to

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the smallest yield per acre since 1921. Plantings in these northern states in 1929 were about 17 per cent above the 1928 acreage and the average of the previous five years. The large acreage in 1929 was accompanied by a high yield per acre and resulted in a record production. All important states of the late group increased their acreage except Indiana and Massachusetts. The increase in Colorado was outstanding, the acreage being about doubled in 1929, the production more than doubled, and the average price reduced about two-thirds compared with 1928. A reduction of 15 per cent from the 1929 acreage would, with average yields, still give a production equal to the average of the last five years. Growers of this crop should remember that while there have been alternate years of increase and decrease in acreage with surprising regularity during the last ten years, the general trend has been upward. A corresponding downward trend in prices indicates that the acreage increase has been at too rapid a rate."

Tomatoes

Michigan is not an important tomato producing State either from the stand point of commercial canning or out-of-state fresh shipments. Therefore any policy which Michigan growers find advantageous will have no perceptible effect on the general market situation.

Growers of tomatoes for the fresh fruit markets in Michigan, however, should not lose sight of the fact that the very satisfactory prices obtained for the crop in 1929 were not due to a large decrease in acreage but to a reduction in yield due to an extreme drought, a condition which prevailed over all of the state during the growing season. Owing to the fact that the 1928 pack of canned tomatoes was very small on account of short crops over the canning area, the canners of the United States put up a very heavy pack in 1929. This 1929 crop was 50 per cent greater than the extremely short crop of 1928 and the largest crop since 1925. Following, the light pack of canned tomatoes in 1928, the larger pack this year is not expected to result in excessive holdover.

There are indications that the early acreage in certain of the southern states in 1930 will be double that of 1929. Acreage in the second early states shows a decided upward trend for 1930. In the late states, the trend in recent years has been toward a reduction in acreage, although Michigan has retained about the same acreage during this period.

HONEY

Due to unfavorable weather conditions, brood-rearing was checked earlier last fall than usual, with the result that there are more than the usual number of old bees in the colonies. While plenty of honey was left for food in most cases, due to the heavy flow from clover, bees have had few opportunities to fly since November, and the entrances to all colonies should be cleaned and opened to permit ready flight at the first opportunity.

Prices for honey are somewhat lower than last year for retail and bulk packages, and the demand was rather dull during January. Comb honey has largely been moved at about the same prices as last year. It is probable that the 1929 crop will be entirely sold before the 1930

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crop is ready, but present prices in car lots are about one cent per pound less than those of a year ago. Certain commercial bee-keepers are trying to offset this lower market price with methods of management which will reduce labor costs and increase the yield per colony. The trend is toward the use of more efficient machinery and equipment and the application of the factory methods of cutting costs. Also, there is a tendency to increase the number of colonies operated in each outfit.

From the standpoint of the country as a whole, with the exception of certain portions of the clover belt and the southeast, the supplies of honey from the 1929 crop were light and little carry over into the 1930 season is anticipated. Demand for honey is increasing and, as far as the present conditions indicate, the flow for 1930 should be equal to that of recent years. Therefore, there is nothing to warrant any marked change in production.

OTHER CROPS

In addition to the major crops already discussed in this report, Michigan produces a great variety of minor crops. This is due to the wide range of soil and climatic conditions and to the nearness of large consuming markets. These additional crops are mainly of local importance or are grown under contract. The purpose of this portion of the report is to direct attention of producers to these minor crops which have not been previously described in detail.

Some of these crops grown under contract and the acreages produced in 1929 are as follows: Chicory; cucumbers, 21,000; sweet corn, 8,200; green peas, 9,000; snap beans, 3,800; tomatoes, 1,900 acres; carrots; and table beets. Other crops grown under contract include peas and beans for seed. Many of these crops, as well as others, are also grown for local consumption and not under contract. Additional crops are celery, 4,150 acres; asparagus, 860 acres; cauliflower, lettuce, and other truck crops and small fruits.

Many farmers who are favorably located with regard to soil, climate, and markets, may find it to their advantage to produce one or more of these minor crops as a means of increasing the volume of their farm business and their farm income. The outlook for many of these crops will probably be about on the 1929 level, although more favorable weather conditions in 1930 may cause some lowering in prices in some commodities. Prices on these products are also affected by industrial conditions which may be expected to show gradual improvement throughout the year.

Michigan is an important mint state, ranking second in the United States. This crop, however, is grown on limited areas of muck soil especially suited to its production. The market for this crop is somewhat limited.

Vetch seed production is of importance on some of the lighter soils in the state, especially in Newaygo and adjoining counties.

Radish seed production is of major importance in Northwestern Michigan, especially in Antrim and adjoining areas.

Other crops grown in limited areas in the state are rye, field peas, and soy beans.