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**AGRICULTURAL OUTLOOK
FOR MICHIGAN
1932**

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

**EXTENSION DIVISION
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INDEX

	Page
GENERAL OUTLOOK	5
Price and Business Situation	6
Domestic and Foreign Demand	13
Credit Situation	14
Farm Labor and Wages	15
Farm Machinery, Building Materials and Fertilizers	15
Land Values	16
Mechanization	16
LIVESTOCK AND LIVESTOCK PRODUCTS.....	17
Dairy Products	17
Poultry and Eggs	19
Turkeys	21
Hogs	22
Beef Cattle	23
Sheep and Wool	24
Horses and Mules	25
CROPS	26
Wheat	26
Corn	27
Oats	27
Barley	27
Clover and Alfalfa Seed	28
Hay	29
Beans	30
Potatoes	31
Sugar Beets	32
FRUITS AND VEGETABLES	33
Apples	33
Plums	34
Cherries	34
Peaches	35
Strawberries	36
Grapes	36
Melons	37
Onions	37
Tomatoes	37
Cabbage	37
Celery	38
Commercial Vegetables in General	38
Honey	38
ADJUSTMENTS TO MEET PRESENT AND PROSPEC- TIVE ECONOMIC CONDITIONS	38
Adopt A Live-at-Home Program	39
Adjustments in Crops and Livestock Production	39
Lowering Cost of Production per Unit of Product.....	41
Miscellaneous Suggestions	43

FOREWORD

The following Outlook, prepared by specialists in Economics and Farm Management and representatives of the production departments of the Michigan State College, carefully sets forth the position of agriculture in the present economic structure. The strong position of farming as a direct contributor to the living of farm families, as well as a source of income, is indicated. Trends that may be followed with reasonable safety by the individual and which will result in strengthening the position of agriculture in the state, are stressed. The Outlook deserves careful study by all engaged in agricultural pursuits.

For the past 10 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 markets, 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.

It is not intended to discuss production practices in this Outlook. Suggestions and information of this character may be obtained by writing directly to the particular department of the College concerned.

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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This report was prepared by a joint committee of the Michigan State College Departments of Economics and Farm Management, and the Michigan State Agricultural Statistician, including R. V. Gunn, H. A. Berg, V. H. Church, and O. Ulrey, in cooperation with Prof. G. A. Brown, Prof. C. G. Card, Prof. H. C. Rather, Prof. V. R. Gardner, and Prof. E. L. Anthony, heads of the five production departments, Dr. H. S. Patton, head of the Economics Department, and Prof. E. B. Hill, head of the Farm Management Department. Liberal use was made of the 1932 Agricultural Outlook report for the United States prepared by the Bureau of Agricultural Economics of the United States Department of Agriculture and also of the annual summary of the 1931 Crop Report for Michigan.

AGRICULTURAL OUTLOOK FOR MICHIGAN

1932

GENERAL OUTLOOK*

Improvement in the condition of Michigan's agriculture depends on the future course of business activity and the movement of the general price level. Both of these are, at the present time, uncertain factors. An increase in business activity in the cities of Michigan and elsewhere would result in an increase in employment, an increase in the purchasing power in the hands of the industrial workers, increased demand for Michigan farm products, and an improvement in the prices of farm products. Improvements in industrial activity may take place very slowly on account of the international scope of the present business depression, the great number of industries affected, the numerous bank and business failures and other financial and credit difficulties, and the present lack of confidence in the immediate future by the producing, trading, and buying public. The disturbed business conditions have resulted in a very low domestic demand for farm products. Farmers and others must look to increased activity in the automobile, iron, steel, and construction industries for first signs of general improvement in the domestic demand for farm products. There is little hope for improvement in foreign demand during 1932.

Unless prices are inflated by some method, farmers must expect the general price level to remain near the pre-war level during the next few years. Although the farm price situation should improve from its present position, the relationship of farm prices to prices paid by farmers may not be as favorable as during the six-year period, 1924-29. However, Michigan farm prices will be more favorable than farm prices in States located at great distances from their markets because of the nearness of Michigan farm products to their markets and the consequent relatively lower transportation costs. It is not expected that the general price level will continue to fall during 1932 because the rate of fall has been decreasing within recent weeks, fewer banks have failed during the past two months, and the activities of the recently created Reconstruction Finance Corporation should aid in preventing further declines.

Farm credit in Michigan is scarcer at the present time than in any period within recent years because of the numerous bank failures and the reduction in deposits in banks remaining open. However, the demand for farm credit has probably declined during the past year on account of lower prices of things farmers buy. Credit may be secured by making use of the available facilities, the Intermediate Credit banks, the Federal Land banks, the funds under the control of the Farm Board, the funds to be made available by

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

the Reconstruction Finance Corporation, and by the creation of credit corporations.

Farm labor in Michigan is abundant for 1932 at wages approximately the same as during the pre-war period; but this condition is only temporary as farm wages will advance when business activity increases.

Michigan farmers are severely affected by these price and business factors which are beyond their control. Farm prices are low compared to costs of things which farmers buy. Taxes have remained high, and farmers are having difficulty in paying interest on their indebtedness.

Even more difficulties have been faced by previous generations of farmers. Adjustments to changing economic conditions have been made in the past, and, at the present time, there are many things which individual farmers can do to improve their situation.

In spite of unfavorable farm prices and the decreased demand for farm products on account of the business depression, farmers are in a better position than many people who are normally engaged in business and manufacturing. Wage rates may still be high relatively, but partial employment has materially reduced wage incomes. At least, farmers are not faced with the unemployment problem which is causing acute distress in the homes of many families in our larger cities. Furthermore, as farmers were the first to feel the effects of the business depression, they should be the first to benefit from business recovery.

Still another factor encouraging to Michigan farmers is their relatively advantageous position compared with farmers in other sections of the country. For the year 1931, the index of Michigan farm prices was exactly equal to the pre-war average while the United States farm price index was only 80 per cent of the pre-war level. There are two reasons for the more favorable farm price situation in Michigan than for farm sections farther west and south. First, the markets for Michigan farm products are closer and marketing costs lower than for the farmers located at greater distances from centers of population. Second, 75 per cent of Michigan's farm sales consist of dairy, poultry and livestock products and fruits and vegetables, prices for which, for 1931, were about 96 per cent of the pre-war level as compared to a 63 per cent pre-war price level for grains and cotton. Since Michigan farmers are located close to their markets and because of the type of farm products produced for sale, business recovery will aid Michigan farm prices more rapidly than farm prices in farming sections farther from market.

Price and Business Situation

The chart of the indexes of wholesale prices in the United States shows that prices have fallen rapidly during the past two years from an index of 143 in August, 1929, to 97 in December, 1931, or to a point below the pre-war level. This recent drop in prices is one of the consequences of credit inflation during the war period. Prices have followed a similar course following each of the past three great wars. In each case, the primary cause of the post-war fall in prices was war inflation. Prices returned to the pre-war levels. Prices fell steadily, although irregularly, after the War of 1812 from an average index of 182 in 1814 to 75 in 1843. Prices again fell, following the Civil War from an average index of 193 in 1864 to 68 in 1896 and 1897. Following the World War, prices have dropped from an average index of 226 in 1920 to 104 in 1931. The drastic drop in 1920 and 1921

was followed by a slight recovery and relatively steady prices until late in 1929 when prices again started to fall quite rapidly.

There are two evil results of falling prices. The creditor is favored at the expense of the debtor since debts are paid in money of greater purchasing power. Debts are more difficult to pay, since more goods must be sold in order to repay the obligations which were incurred when prices were higher. The second evil results from the fact that all prices do not fall uniformly. For example, farm prices fall more rapidly than farm costs, living costs, farm taxes, and farm wages. Consequently, a condition called an agricultural depression results from price deflation.

During the war period of rising prices, Michigan farm prices rose more rapidly than the prices paid by Michigan farmers for commodities used in production and for commodities used in the home. Michigan farmers were

United States Wholesale Prices of All Commodities
(1910-14 = 100)

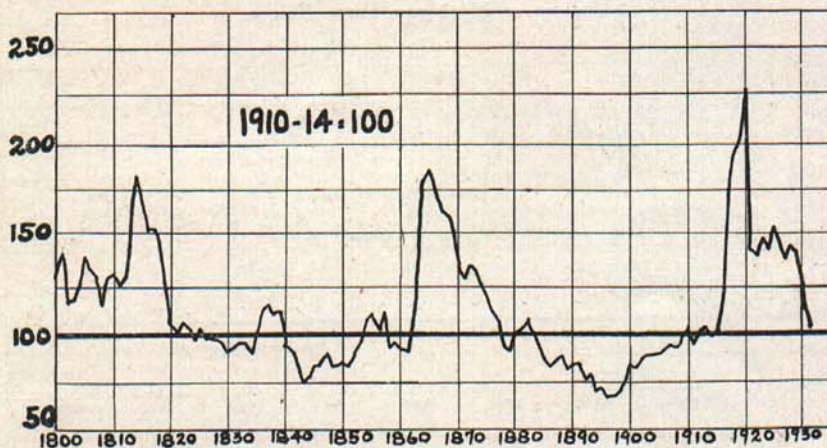


Fig. 1.—During the War of 1812, the Civil War, and the World War, prices rose rapidly. The decline in prices following the World War appears to be taking the same general trend as that which followed the two previous wars.

relatively prosperous. When prices fell in 1920 and 1921 and again during the past two years, Michigan farm prices fell more rapidly than the prices paid by Michigan farmers for commodities purchased. The result was a depression of Michigan's agriculture from 1920 through 1924 and since 1930. Michigan farm prices fell from an average index of 222 in 1920 to 137 in 1921 and from an average index of 165 in 1929 to 100 in 1931. The prices of commodities purchased by farmers fell from an index of 206 in 1920 to 156 in 1921 and from an index of 155 in 1929 to 129 in 1931. Consequently, the purchasing power of Michigan farm prices, in terms of prices of commodities purchased by farmers, fell from an index of 108 in 1920 to 88 in 1921 and from an index of 106 in 1929 to 78 in 1931. The recent drop in prices has been much more severe upon Michigan's agriculture than the drop in 1920 and 1921 because farm prices have fallen relatively more than farm costs during the recent deflation than during the deflation in 1920 and 1921.

The future prices of Michigan farm products are primarily dependent upon two factors, both beyond the control of Michigan farmers. These factors are, namely, the course of the general price level and the business situation. If the general price level continues to fall, the Michigan farm price situation is not likely to improve. If the general price level is stabilized, the farm price situation will improve because farm prices will rise and the prices of commodities purchased by farmers will continue to fall. If the general price level rises, the farm price situation will improve very rapidly since farm prices will rise much more rapidly than the prices of commodities purchased by farmers.

The movement in commodity prices in the United States will depend on gold production and distribution, the efficiency in the use of gold, foreign tariff, trading and credit extension policies, domestic credit and financial policies, business activity in the United States and abroad, and the trend of

Michigan Farm Prices, Prices Paid by Michigan Farmers, and Purchasing Power of Michigan Farm Prices

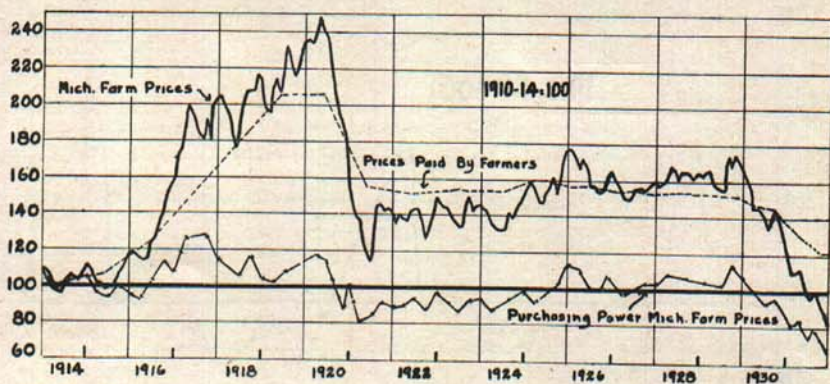


Fig. 2.—During the World War, farm prices rose more rapidly than prices of commodities which farmers purchased. Farm prices fell the most in 1920 and 1921, and again in 1930 and 1931.

prices abroad. The number of uncertain factors influencing commodity prices makes it difficult to predict the movement of prices. The present indications are that the general level of wholesale prices in the United States will be about or somewhat below the pre-war level during the next 10 years. The general price level has been falling quite steadily even to the present time but there are reasons to believe that the activities of the Federal Reserve Banks and the recently created Reconstruction Finance Corporation will check the fall in prices and may cause some slight rise in 1932.

The general level of farm prices may be expected to average about the same as the general level of wholesale prices over the next decade. At the present time, the general average of farm prices in the United States is about 30 per cent below the general level of wholesale prices. It may reasonably be expected that the farm prices will recover their normal relationship with wholesale prices.

The business depression of an international scope has been particularly severe in the automobile and furniture manufacturing cities in Michigan

and has resulted in a reduced consumption of Michigan farm products in the local markets. Since the production of agricultural products cannot be curtailed immediately, the reduced demand has resulted in very low prices for Michigan farm products. An improvement in the local business situation which would be associated with an increase in employment should result in an immediate rise in the prices of Michigan farm products because of the increase in demand.

Business Activity in United States, 1863-1897

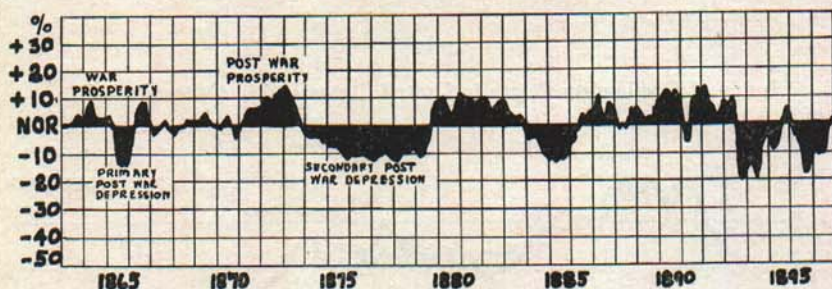


Fig. 3.—The activity of business is continually changing. Periods of depression follow periods of prosperity. The present depression is one of the most severe. We can expect it to be followed by another period of prosperity.

Business Activity in United States, 1898-1931

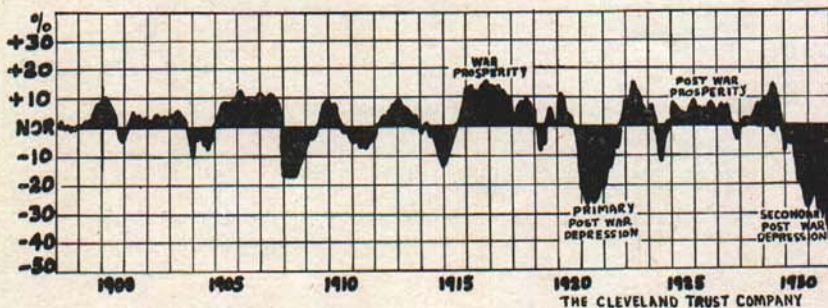


Fig. 3.—Continued. Changes in business activity have been very similar following the Civil and the World Wars. The secondary depression in each period began about 10 years following the close of the War.

The normal growth of American business has been at the rate of approximately three per cent per year for the past seventy-five years. During some periods, business has increased more rapidly than the normal growth. These are called periods of prosperity. During other periods, business has increased less rapidly than the normal growth or has actually declined. These are called periods of depression. These alternate periods of business prosperity and business depression may last for a few months or for a few years, depending on the causal factors.

The chart of American industrial activity since the Civil War shows that the present depression is not only the most severe but the longest since the

nineties and the seventies. During the previous depressions, it has taken about the same time to return to normal business activity as it took to reach the bottom. There are several reasons for comparing the present economic situation with the situation existing in the seventies. Prices have followed the same course since the World War period that they did following the Civil War period. Industrial prosperity, real estate speculation, and building booms followed each war period. In each period, the secondary post-war depression began about nine years after the beginning of the post-war prosperity. In each case, the depressions might be termed debt-deflation depressions. Debts were incurred when prices were higher to be paid later when prices were lower.

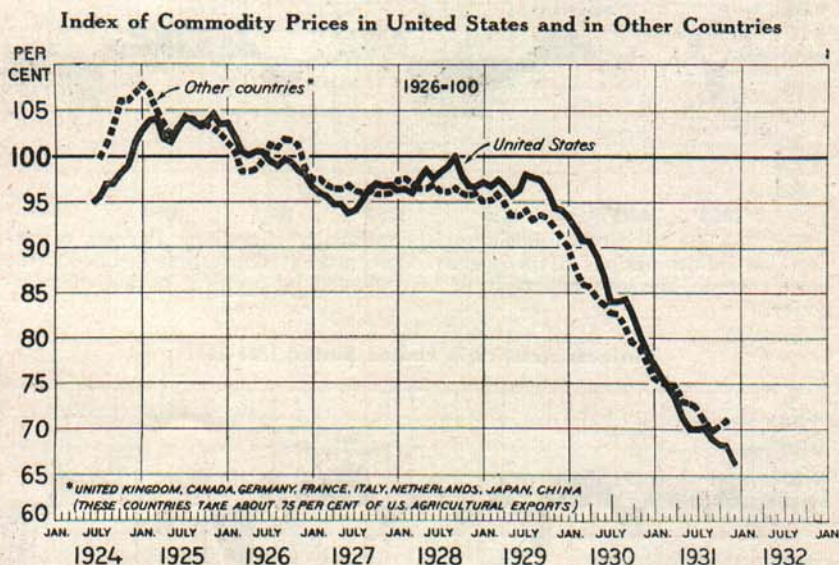


Fig. 4.—Index numbers of wholesale prices in the United States and in countries to which we export 75 per cent of our agricultural products, 1924-1931.

Bank failures and business failures have been numerous in both depressions. The great increase in private and public debts which were incurred during the previous prosperity period will make recovery slow. The liquidation of the real estate and building booms is also a very slow and painful process and much more time is required to adjust city real estate to a new and lower price basis. More time is also required to reduce certain production and distribution costs so that industrial production and merchandising will be profitable.

The present depression is different from the one in the seventies in that it is more international in scope and the fact that we are more dependent upon economic conditions in the foreign countries with which we trade than we were during the earlier period. Consequently, our recovery from this depression will be influenced by changes in the economic situation abroad. The economic situation abroad is influenced by a number of uncertain factors

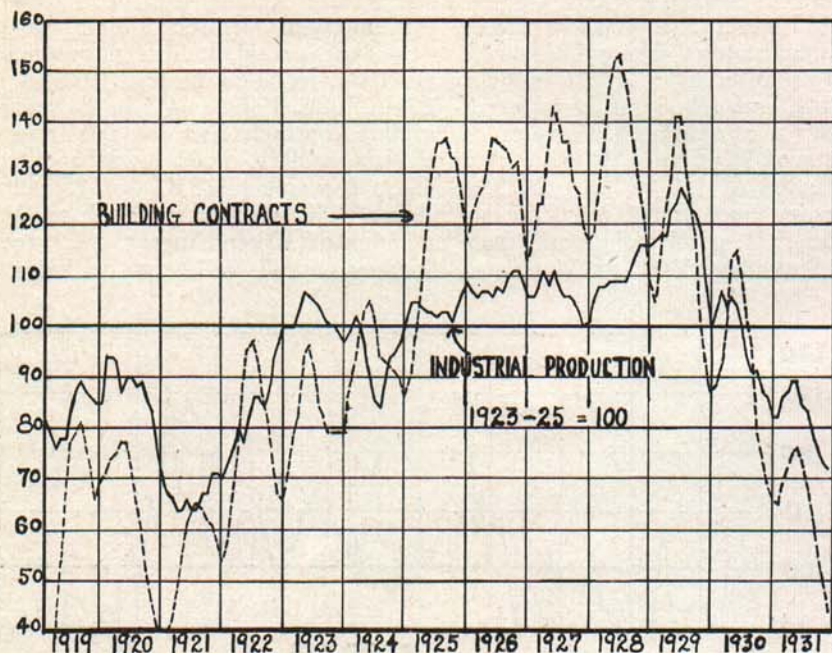


Fig. 5.—Index numbers of industrial production and building contracts in the United States, 1919-1931.

as the political uncertainty, war debts and reparations, tariffs and other trading inferences, credit extension policies of the United States and the internal credit and financial difficulties of foreign countries.

The present business depression which started late in 1929 in the United States has been the most severe in the history of the country if measured in terms of the amount of business activity compared with normal (Figure

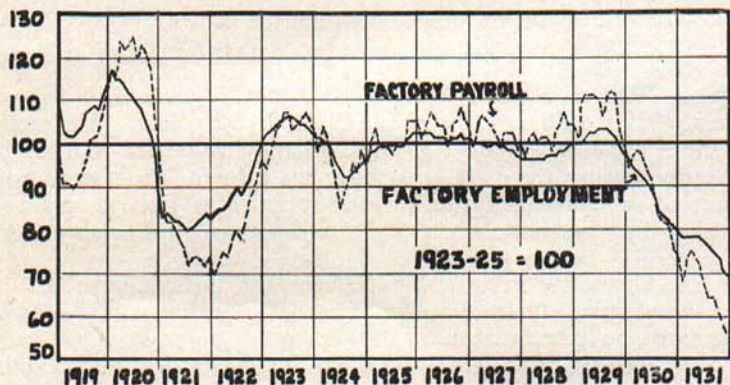


Fig. 6.—Index numbers of the factory payrolls and factory employment in the United States, 1919-1931.

3). Figures 5 to 7 show changes in important business indices for the United States. Using 1923-1925 as the base period, industrial production fell from an index of 94 in February, 1920, to 64 in March, 1921, or 30 points, and fell from an index of 127 in June, 1929, to 72 in November, 1931, or 55 points. The value of building contracts awarded fell from an index of 92 in July, 1919, to 30 in February, 1921, or 62 points and from an index of 159 in July, 1929, to 44 in November, 1931, or 115 points. Factory employment fell from an index of 117 in January, 1920, to 80 in July, 1921, or 37 points and from an index of 103 in August, 1929, to 69 in November, 1931, or 34 points. Factory payrolls fell from an index of

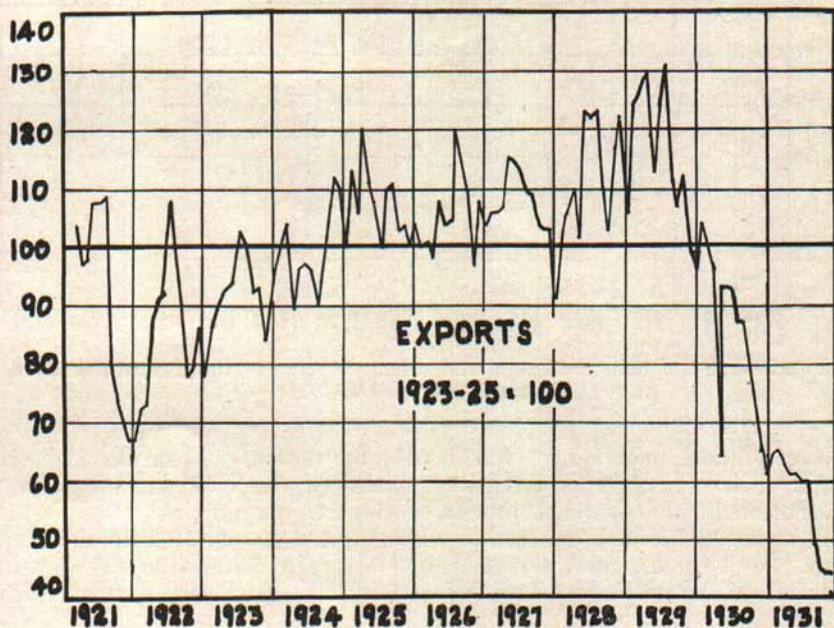


Fig. 7.—Index numbers of the exports from the United States, 1921-1931.

125 in June, 1920, to 70 in February, 1922, or 55 points and from 112 in September, 1929, to 56 in November, 1931, or 56 points. The volume of United States exports remained about the same from 1922 to 1929 but has fallen rapidly during the past two years as foreign loans were restricted on account of economic and political uncertainties in Europe and as tariffs and other trading restrictions checked importations into many European countries.

There is a very close relationship between the present business situation and the present price situation. The price deflation has contributed in curtailing business activity because of the difficulties of paying debts out of a lower income secured from selling products at lower prices and because production costs were incurred at one price level while the products have been sold later at lower prices. When business activity is reduced, the resulting decrease in purchasing power of laborers makes it necessary that the prices

of goods be reduced in order to find buyers. The business depression when combined with credit deflation causes a very severe agricultural situation. Farm prices fall very rapidly because of the price deflation and because of the reduced demand for food and reduced demand for farm products for industrial uses resulting from the business depression. Farm prices fall more rapidly than such production costs as farm machinery, fertilizers, building materials, equipment and supplies. Farm prices fall more rapidly than such farm living costs as purchased food, clothing, furniture and furnishings and building materials for the house. Farm prices fall more rapidly than farm taxes and farm wages. If the farmer is in debt, the interest and principal is more difficult to pay from selling low-priced farm products. Thus farmers are affected by a number of adverse circumstances which are beyond their control. The trend of commodity prices and the trend of business activity are both uncertain movements. The farm price situation cannot improve until the fall in commodity prices is checked and until improvement begins in the business situation.

Domestic and Foreign Demand

The demand for Michigan farm products has been sharply curtailed during the past two years on account of the unemployment situation and the reduced consumer—money incomes. This demand will increase with an increase in activity in the business centers. A few basic industries, automobile, iron and steel, and the construction industries are the largest factors in the general business situation. Farmers should watch these industries for evidence of general business improvement. They were primarily responsible for the rise out of the post-war depression by supplying employment and buying power to large numbers of consumers and by creating a demand for the products and services of allied industries.

The automobile industry has shown improvement during the past two months. It is in a good position to contribute some stimulus to general activity. Its inventories are low, costs have been cut, efficiency has been increased and a number of engineering improvements have been adopted. But there is no hope of a favorable export demand for automobiles for many months. One industry cannot alone revive business activity.

Improvements in the building and construction industries will be retarded by the existence of surplus industrial and commercial capacity, by the present high-mortgage indebtedness on real estate, dwelling houses and apartments, by relatively high building costs in many localities and by unsatisfactory financing conditions.

The unusual low purchasing power of consumers will continue to affect adversely the demand for farm products during at least the first part of 1932. The domestic demand conditions during the second half of 1932 will depend mainly on the stabilization of credit sufficient to restore confidence, and to relieve the difficulties of banks and other lending institutions. Such stabilization should check further recession in business and should result in an improvement in industrial conditions and consumer demand during the 1932-33 season.

The foreign demand for the agricultural products of the United States has fallen to a very low level on account of the industrial depression, declining prices, increasing trade barriers, political unrest, depreciation of currencies, and limitations on credit extended to the foreign countries with

which we trade. There is no definite evidence of significant improvement in the business situation abroad, in fact, further recessions are possible. In order to protect their domestic markets against declining prices and to reduce unfavorable trade balances, many foreign countries which have imported our agricultural products in the past have recently adopted trade restrictions such as higher tariffs, milling quotas, import licensing systems, importing monopolies, sanitary restrictions and other modes of limiting imports. Thus our agricultural exports have been severely reduced. Foreign sales have been made during the past few years mainly because the United States citizens loaned money abroad. When their loans were curtailed during the past two years, exports were consequently reduced. The recent passage of the Reconstruction Finance Corporation Act which provides for the extension of credit in connection with the exportation of agricultural products should aid such exportation. It is doubtful if there will be any increase in the export demand for agricultural products during 1932 on account of the many unfavorable factors.

Credit Situation

Farmers require three types of credit, production, marketing and investment or long-term credit. The supply of local credit in Michigan for each of these needs has been severely reduced during the past two years. The chief sources of production credit in the past have been the local banks and local merchants who sold on credit. The numerous bank failures and the decline in deposits in the banks remaining solvent have reduced the supply of available local bank credit and have placed merchants and dealers in a very restricted credit position. It is doubtful if farmers need as much credit as they did a year ago because they are not expanding their operations and they can purchase their supplies at lower prices. However, there are many farmers who need credit to pay interest, taxes and current expenses. If there are a sufficient number of these farmers who cannot secure adequate credit for current purposes, locally, agricultural credit corporations might be created in deficit credit areas. These agricultural credit corporations make it possible to bring in credit from outside sources, at reasonable costs for local uses. If use is made of the credit corporations by farmers, the credit accounts of cooperatives and merchants can be reduced, making available more credit for marketing and for cash buying. Requests for information concerning the credit corporations should be directed to the local county agent, the local bankers, the Economics Department of Michigan State College or to the Federal Intermediate Credit Bank of St. Paul, Minnesota.

The supply of available credit for marketing the 1932 farm products in Michigan will be ample. Marketing paper, which meets certain specifications, is rediscountable by the local banks at the Federal Reserve Banks where there is an abundance of available credit. Local banks may rediscount certain types of marketing paper at the Intermediate Credit Bank at St. Paul, and cooperatives may borrow directly by pledging collateral. The funds made available by congress through the Agricultural Marketing Act and administered by the Farm Board will continue to be employed by cooperative associations in marketing farm products.

The outlook for farm mortgage credit is less favorable than a year ago. Continued heavy foreclosures and delinquencies and the urgent demands for funds for other purposes have induced restrictive measures on the part of

the lenders on farm real estate security. The insurance companies and local loan associations have become skeptical concerning farm real estate as security for loans because of falling farm and land prices. The Federal land banks and the joint stock land banks have found an adverse market for securities which they sell to secure funds for loaning on farm real estate. The business depression and the price deflation have brought increased demands for mortgage loans as the curtailment of incomes and the failure to obtain loans on personal and collateral security have forced many to seek loans on farm real estate. The recent Federal act, appropriating \$125,000,000 to strengthen the Federal land banks, should assist these banks in continuing their loan activities. Farmers in need of mortgage credit should make application to the local loaning association in their county or inquire from the Federal Land Bank of St. Paul, Minnesota.

The falling prices and the business depression has placed a severe pressure upon the debtor, especially if he is a farmer who is paying his debts with low-priced farm products. This is a period when a lenient policy should be adopted toward debtors by their creditors. All buyers, especially debtors, should find ways to buy for cash since cash prices are much lower than credit prices. Farmers have opportunities of securing credit, at reasonable rates, through cooperatives, credit corporations, intermediate credit banks and Federal land banks. They should use these institutions.

Farm Labor and Wages

During 1932, the supply of labor for farm work will be abundant and farm wages will be lower than any time since the pre-war period. The continued decline in the prices of farm products during 1931 caused a sharp falling off in the demand for farm labor. During the same time the increasing unemployment in industry added greatly to the supply. The changes in the farm labor and wage situation in Michigan is clearly indicated by the following table:

	January 1932	January 1931	January 1930	January 1929
Farm wages per month with board.....	\$16.50	\$25.00	\$38.50	\$39.25
Farm wages per month without board.....	31.75	43.75	59.50	55.25
Farm wages per day with board.....	1.10	1.60	2.45	2.50
Farm wages per day without board.....	1.60	2.25	3.15	3.25
Farm labor supply in per cent of demand.....	262	213	136

Farm wages in Michigan have fallen to a level comparable to farm prices since the index of weighted wages per month was 78 in January, 1932, while the index of farm prices was 83 in December, 1931.

The present low farm wages, and high machinery costs will slow up the substitution of machinery for labor.

Farm Machinery, Building Materials and Fertilizers

The wholesale price of farm machinery declined 6 per cent during the past two years to 30 per cent above the pre-war level in June, 1931. The prices paid by farmers for machinery was 53 per cent above 1910-14 level

for the same month. Farm machinery prices have remained high because of the high labor and other relatively fixed costs of manufacturing and marketing, the high proportion sold on a credit basis and because of the decreasing sales which have reduced the advantages of manufacturing under conditions of decreasing costs. Farm machinery prices decline slowly as the costs of manufacturing and marketing fall. If the price level does not rise we should expect lower farm machinery prices in the future. Farmers might save at the present time by repairing old machinery and purchasing second-hand machinery.

The wholesale prices of building materials declined 20 per cent during the past year to an index 130 per cent of the pre-war prices. The prices paid by farmers for building materials declined only 12 per cent during the same period. Farmers can expect lower prices of building materials as retail prices become adjusted to wholesale prices.

Wholesale prices of fertilizer materials declined 16 per cent during the past year and retail prices to farmers declined 11 per cent. The decline in wholesale prices during the latter half of 1931 indicates the probability of lower fertilizer prices to farmers during the coming season.

Land Values

The low farm incomes resulting from low farm prices and high fixed and operating costs caused foreclosures and distressed sales to continue during 1931. Michigan farm income was approximately 30 per cent less in 1931 than in 1930. Operating costs were not reduced in proportion to the decline in farm prices. Fixed charges declined but little, taxes have continued at high levels and interest charges on debts have remained undiminished for many farmers. It is difficult to determine recent changes in farm land prices since but few voluntary farm sales have been made in many months.

Many financial institutions have secured farms from foreclosures. Since their business is not farming, they may be regarded as prospective sellers of farm land. The continuing decline in farm prices and farm income has led to a cautious attitude on the part of many prospective buyers of farm land. However, there are some factors which will tend to check the fall in farm land prices. The recent distinct tendency for farms in strong hands to be withheld from the market at present prices indicates that there will be increased resistance to further declines. The uncertainty of stock and bond prices will cause investors to consider land as an investment. Land prices in Michigan have declined almost to the pre-war level and should not fall much farther unless the general commodity price level continues to fall. Since land prices fall more slowly than prices of farm products, any improvement in land prices in Michigan during the next two or three years cannot be expected unless the general commodity price level rises.

The next few years will probably be an excellent period to start farming on good land. Excellent farms can be purchased at low prices, taxes on land will probably be reduced and Michigan farmers will have the advantages of favorable prices as they did during 1924 to 1929 because of the nearness to their market.

Mechanization

The last two years of agricultural depression has checked the progress of mechanization of agriculture. The low farm income has slowed up the sale of farm machinery. But as business activity increases, unemployment is

reduced, farm wages rise and as farm prices rise, the mechanization of agriculture will continue. Farmers will continue to reduce production costs and increase farm incomes by increasing the size of their farm and by careful selection of equipment, horses, tractors and electrical power to meet their individual needs. Mechanization will not take place in Michigan to the same extent that it will farther west because of differences in the natural topography of the land.

LIVESTOCK AND LIVESTOCK PRODUCTS

Dairy Products

The demand for dairy products, especially milk and ice cream, was further reduced during last year by the continued business depression. Consumption of fluid milk in our larger cities is 15 to 20 per cent below normal. Surpluses of liquid milk continue to crowd the markets. These surpluses are largely due to underconsumption rather than larger production. Total production of all dairy products in 1931 was about 2 per cent larger than in 1930. With the considerably lower prices which have prevailed throughout most of the year for butter there has been a marked falling off in the consumption of butter substitutes and an increase in the consumption of butter. Oleomargarine production has fallen off about 30 per cent and creamery butter consumption has increased over 3 per cent. Continued increase in butter consumption may be expected as long as the present very low price for butter continues. Butter at this time is one of the very cheapest of essential foods.

There has been some increase in the number of dairy cows. The number of dairy cows (24,000,000) on farms in the United States on January, 1932, is about 6 per cent larger than that of two years ago. In Michigan there has been about a 10 per cent increase during the past four years. These increases have been due both to decreased culling and an increase in heifers raised. Notwithstanding the state-wide warning last year of impending overproduction of dairy products and the plea for heavy culling of unprofitable cows, such heavy culling has not taken place. Inspected slaughter of cows and heifers during November, 1931, was only 57 per cent of the November average from 1923 to 1930. More unprofitable and undesirable farm cows are being pressed into use today than at any previous time during the last ten years. The reason little or no culling has taken place and cows of questionable value are being milked is simple and easily answered.

Prices of dairy products, although very low and although the markets are glutted, have declined less during the year than the average for most other farm products. Dairy prices have followed approximately the wholesale price level of all other commodities whereas most other farm products have fallen far below that level. Farm prices of feed have fallen over 50 per cent during the past two years while farm prices of dairy products have fallen about 37 per cent. The returns from milk and cream have continued to be relatively better than most other farm enterprises in Michigan, and the dairy cow has continued to be the most desirable medium through which to market the farm grain feeds produced.

Storage stocks of dairy products are much lower than usual. Butter supplies on January 1, 1932, were 26,000,000 pounds compared to 63,000,000

pounds one year ago and 54,000,000 pounds for the previous five-year average. Cheese stocks are about 12 per cent below a year ago and 7 per cent below the five-year average.

United States continues to have some seasonal competition from foreign countries. Production in such exporting countries as Denmark, New Zealand, Canada, and Australia increased from 2 to 30 per cent over 1930. Despite lower prices and a 14c import duty on butter there were net imports of 400,000,000 pounds of milk equivalent in 1931. However, excess of imports over exports in 1931 was only one-half of that in 1929 and two-thirds of that in 1930.

Comparison of Butterfat Prices and Feed Costs.

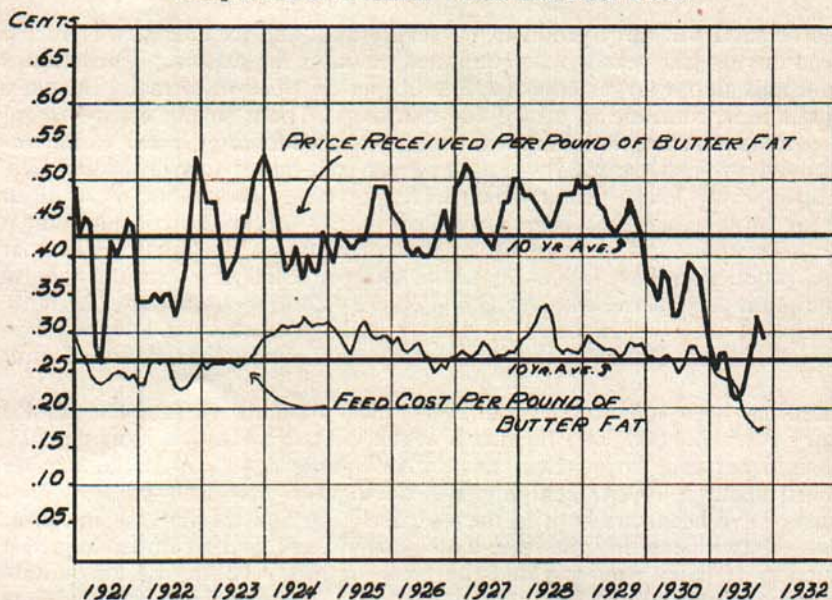


Fig. 8.—During the past 10 years, there has been an average spread of 16.3 cents between the price of a pound of butterfat and the cost of feed required to produce a pound of butterfat. This margin narrowed materially during 1930, and, during the fore part of 1931, left no returns above feed costs. Since the middle of 1931, this margin widened until November, after which it narrowed again slightly.

There has been a decided increase in the number of farms giving attention to dairy production throughout the state with many producing a small amount of cream to be sold as a side line as well as many farmers attempting again to retail milk in the towns throughout the state. This is causing much disturbance of previously well organized and well serviced markets, and in many cases has been the prime cause of local milk wars and illogical price cutting.

In most of the area of Michigan the effects of the drought of this past year were not so severe as in 1930 and most dairy farmers throughout the state have a fairly abundant supply of home grown feeds, such as hay, barley,

oats and corn. The unusually mild fall and rainy weather made abundant pastures, with cows being pastured late and with winter feeding being much delayed and reduced. This had the effect of causing cows to go into the barns in very thin flesh and heavily milked out. For these reasons production will probably be somewhat disappointing for late winter and early spring, although the mild fall and winter has left greater reserves of feed on hand at this time which will probably stimulate more liberal feeding during the rest of the year. Lack of cash and low prices of dairy products, however, are causing a great decrease in the outside purchase of feeds and many farmers are using only home grown feeds which may lack the protein balance needed for most economical and sustained production. This pronounced swing during the year to simpler rations made up almost wholly of home grown feeds will likely continue as long as present farm prices and conditions prevail.

Michigan dairymen apparently face a continued period of low price levels. There is little hope of better prices until general business conditions improve and a return to normal consumption and buying begins. Dairy farmers generally are confronted with a complete reorganization of the entire dairy enterprise on a new plane of economic production and distribution. Old methods and ideas, which have prevailed and were satisfactory in the past when prices were from 50 to 100 per cent higher than at present or likely to be in the near future, must be ruthlessly discarded and new ones adopted. Cheaper production methods must be adopted. More economical feeding based on the farm as the main source of the feed supply must be recognized. Greater attention to the handling of surplus milk by the farmers themselves must be developed. More milk and milk products must be used in the farm home, and wholesome cooperation must be given to better marketing methods in order that the greatest consumption of dairy products may be maintained in the cities.

Now that cattle prices are low, effort should be made to reorganize the dairy herd. Disease should be eradicated. Breeding stock, especially bulls, should be improved. At no time in the history of dairying in Michigan has there been such a favorable opportunity to improve breeding as now. This is a most favorable time for any dairyman who intends to stay in the business to rebuild and reorganize his dairy herd.

From a long time point of view Michigan dairymen face some radical adjustments. No quick upturn in dairy prices can be expected but Michigan even in depressed times offers a mighty market to Michigan dairymen. Those who recognize their opportunities and modernize their methods to produce most economically are better situated in Michigan than in many other parts of the country. The present time is not one for the "in and outer" or for any encouragement to the marginal producer. Equal or better opportunities continue to exist for real dairymen as compared with producers of other major farm products.

Poultry and Eggs

The poultry industry entered 1932 with 6 per cent fewer pullets and 5 per cent fewer laying birds in the farm flocks; with 400,000 fewer cases of eggs in storage and with 12,000,000 pounds more dressed poultry in storage than a year previously. However, the egg storage was 300,000 cases more than the five-year average and the dressed poultry storage was 7,000,000 pounds less than the five-year average. The normal change in numbers of

chickens has been uniformly four years, an increase for three years followed by one year of decrease. The decrease in numbers in 1931 which followed only two years of increase was probably due to the low egg prices during the early part of 1931.

The number of chickens raised during 1931 was approximately 5 per cent less than in 1930. Farm hatchings made up a larger proportion of the total in 1931 than in 1930, as there was a decrease in commercial hatchings. Close culling during the winter of 1930-31 resulted in there being fewer laying birds in farm flocks than during 1930. However, the number of eggs laid per hen was unusually large because of the favorable season, abundance and cheapness of feed and close culling. The net result was a total production of eggs in 1931 slightly greater than in 1930.

This heavy culling of farm flocks during the winter of 1930-31 resulted in a heavier than normal movement of dressed poultry to market during the first half of 1931. The summer and autumn rise in fresh egg prices checked the movement of hens to market. Receipts of dressed poultry during 1931 was heavy because of this heavy culling, some forced selling of poultry to secure cash to meet current expenses and the increased weights of birds marketed. Relatively cheap feed in 1931 resulted in feeding to heavy weights.

The consumption of eggs for 1931 was probably two or three per cent larger than in 1930. Approximately 17 per cent more eggs were consumed in the larger cities during the first three months of 1931 than during the same time in 1930. Egg consumption was stimulated during this period because of the low egg prices which resulted from the glutted condition of the storage egg markets and an unusual heavy midwinter fresh egg production. When egg prices did not show their usual seasonal decline during March and April, consumption became irregular. During the early summer months, consumption increased as egg prices fell. With prices during the last half of the year approaching closely the comparative prices for 1930, consumption was less. Extremely low prices increased farm consumption during the first two months of 1931 and also during the early summer months.

The urban consumption of poultry in 1931 was approximately 4 per cent less than in 1930. The consumption was heavy during the first part of the year when farmers were selling off their flocks and low prices prevailed, but declined during the latter part of the year in line with continued decrease in the general consumption demand and because of the competition of lower prices for meats.

Fewer eggs were stored during the into-storage season of 1931 than were stored during the corresponding period of 1930. Although fewer eggs were stored and at lower prices than in the previous year, the combination of a continued lessened consumer demand and a liberal fresh egg production developed a very unsatisfactory trade in storage eggs. The losses in 1930 reduced the storage in 1931. Two unprofitable storage years in succession will tend to curtail demand for eggs for storage this spring.

The stocks of frozen eggs have, within recent years, become an important factor affecting the prices of storage eggs and to a lesser extent the prices of fresh eggs. The economies in handling, storing and using frozen eggs make them well suited for manufactured products in which eggs are used.

Feed prices were favorable for poultry production in Michigan during most of 1931. Michigan poultry products prices averaged 103 per cent of

the 1910-14 level, while farm feed prices averaged 80 per cent. Egg prices averaged 88 per cent and poultry prices averaged 143 per cent of the pre-war level.

Since the 1931 season was more favorable to poultry and egg producers than to producers of many other farm products and since the feed ratios are favorable, an increase in hatchings in 1932 might be expected. However, the recent fall in egg prices is a factor tending to prevent that increase. The production of eggs during 1932 is expected to be less than during 1931 since there are fewer laying birds. The need for cash may cause farmers to market a larger proportion of the eggs produced. The marketings of poultry will be less during the first part of the year. The number of chickens raised, cullings and the feed ratios will affect marketing during the latter half of the year. Farmers can expect egg and poultry prices to be about the same as in 1931.

Turkeys

The upward trend in turkey production seems likely to continue, because of the increasing number and size of specialized flocks handled on a commercial scale by producers using modern methods. Improved methods of incubation and brooding are reducing the cost of raising turkeys and making it possible to sell them at prices nearer to the market price of chickens. Production of turkeys will tend to expand as long as the increasing consumption at the narrowing price differential between turkeys and chickens leaves a price for turkeys that shows a profit to the producer.

The relatively favorable returns to turkey producers in 1931 will encourage an increase in production in 1932. The size of the 1932 crop will be determined to a considerable degree, however, by weather conditions during the hatching and growing season. The losses from unfavorable weather, although largely overcome by those using the improved methods of brooding, are still an important element in the number of turkeys raised from the ordinary small flock of poults allowed to range with the hen. Also, losses to older birds held in large flocks, from various causes including diseases, are severe at times.

There has been a distinct shift this year in the turkey market to a demand for smaller sized birds. In previous years large young toms commanded a premium over small toms and hens, but this year the smaller birds were quoted at 2 to 4 cents per pound premium. This unusual demand for small birds was probably caused by more families eating their Thanksgiving and Christmas dinners at the home table, which requires a smaller bird, and by the need for greater economy. This shift in demand, if continued, will require breeders and producers to pay more attention to quick maturity and finish of both hens and toms.

The carryover in cold storage on January 1, 1932, was 10,300,000 pounds as compared with 4,566,000 pounds on January 1, 1931, and the five-year average of 9,000,000 pounds. The necessity for the trade to push the sale of turkeys, especially to the hotel and restaurant trade, will have the favorable effect of keeping turkeys before the public during the remainder of the winter season. There have been indications for a number of years of a tendency for turkeys to be consumed over a wider period, and the reserve supplies now on hand will enable this trend to be continued.

The outcome of the 1931 turkey marketing season was favorable to producers considering the general conditions prevailing. The farm price of turkeys held up much better than the farm price of most other products.

Although the absolute prices of turkeys touched pre-war levels, the 1931 relation of turkey prices to feed prices was higher than in any year of the past 20 except in 1921. The outcome in 1931 may tend to stimulate excessive promotion of turkey production in 1932, with resulting disappointment to many who may be led to venture into this field, as well as to unsatisfactory returns to those already producing turkeys.

Hogs

Slaughter supplies of hogs are expected to be considerably larger during the remainder of this year than last with no material improvement in the demand for hog products. Indications are that the total Federally inspected slaughter for the 1931-32 marketing season will approximate 48,000,000

Seasonal Change in Prices of Lightweight Hogs (Chicago, 1922-1931 Average)

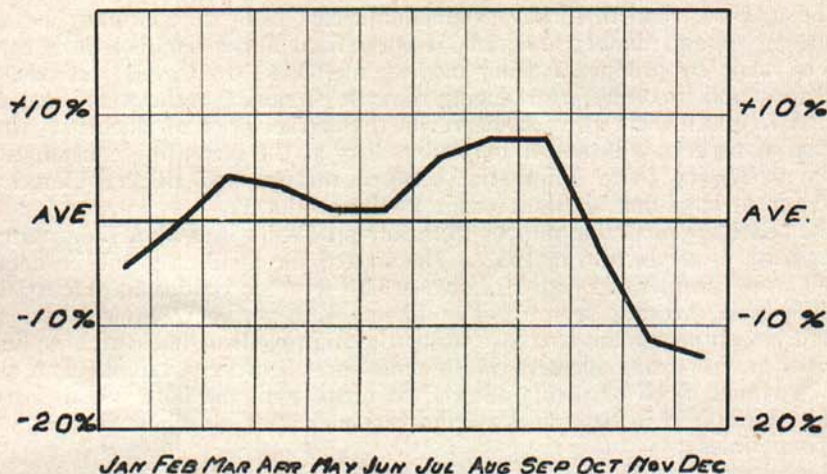


Fig. 9.—Over a period of 10 years, hog prices have averaged highest in March and April and again in August and September, and the low periods have come during May and June and again in November and December. Many Michigan producers send their hogs to market about two months sooner than do producers in the general corn belt, which gives the Michigan farmer the advantage of the higher seasonal price.

head, a ten per cent increase over the 1930-31 season. The pig survey in 1931 showed an increase of nine per cent in the number of pigs saved for the whole country. The largest relative increase was in the fall pig crop which the survey showed was 20 per cent larger in 1931 than in 1930.

Hog prices are now at the lowest point in 30 years, approximately \$4.00 per cwt. on the Chicago market compared to \$10.00 a year and a half ago. The world-wide business depression, the decline in the general price level, and the increased European production are the three factors chiefly responsible for this situation.

The falling off in foreign demand for pork is particularly effective. Under normal conditions from 12 to 18 per cent of our pork production is exported. This constitutes from 80 to 90 per cent of all meats exported and from 10

to 12 per cent of all our agricultural exports. United States exports of pork for the 1930-31 marketing year declined 44 per cent compared to the previous year. Lard exports fell 26 per cent.

With swine increasing in numbers and continuation of low prices in prospect, any expansion in production should be made a matter of very careful consideration by the producers. The 1932-33 slaughter is expected to be fully equal to the 1931-32 supply. Breeding intentions as reported in December indicate a probable two per cent increase in sows to farrow in the spring of 1932 over 1931.

Expanding hog production in the south as a part of their "live at home" program; expansion of commercial hog production in the west, increased cattle numbers and probably a slaughter increase in 1933, and prospects for continued large slaughter of sheep and lambs are unfavorable factors confronting the cornbelt hog producers. The favorable factors are decreased hog production in the corn belt proper, and prospective smaller European production in 1933. If the foreign consumer's purchasing power is not further reduced, the foreign outlets, should improve.

It is true, however, that in many localities where skim milk is available or where there is a surplus of feeding grains, swine, even at present prices, offer the most favorable market available for these materials. Given a surplus of grains, therefore, or dairy by-products, the Michigan farmer might well consider the advisability of keeping more swine. Profits can only be realized under proper methods of management to control parasites and to insure healthy and thrifty pigs, and by efficient feeding.

Hog feeders will do well to finish and market their hogs at lighter weights, 160 to 200 pounds, because of the higher costs of gains and the usual lower prices of heavy lard hogs. The premium for light weight hogs reached \$1.50 per cwt. during the summer of 1931, whereas the average margin is about 50c per cwt. The marketing of hogs at lighter weights will reduce the supply of surplus lard which must be sold at a low price by the processor of animal products.

The lightest marketing months for the corn belt area are April and September which accounts largely for the seasonal price upswing as indicated in Figure 9. Michigan farmers can partially overcome higher feed costs as compared to producers in the main sections of the corn belt by marketing at light weights and earlier in the season. Over the past 10-year period March and April for spring sales and August and September for fall sales have proved to be months of highest prices.

Beef Cattle

Since 1880, cattle production has gone through three complete cycles, each about sixteen years in length, with rather significant regularity. These cycles have embraced a period of six to eight years of increasing numbers followed by a period of eight to ten years of declining numbers. The low point of the last cycle was reached in 1928, since which time cattle numbers have increased about 10 per cent and, if it follows the usual cyclical trend, will continue to increase for another three or four years. The increase since 1928 has been more gradual than in the corresponding period of the cycle which began in 1912. A large part of this increase in numbers appears to be in cows and older heifers, while steers and calves seem to have been marketed freely.

The number of cattle on feed at the beginning of the year has been esti-

mated to be about five per cent smaller than a year earlier. Because of heavy losses incurred from feeding operations in 1930 and the first half of 1931, and because of restricted credit, cattle feeders are not finishing out so many long-fed cattle.

Inspected shipments of stocker and feeder cattle and calves from public stockyards during the first half of 1931 were about 18 per cent smaller than those of the corresponding period of 1930. During the second half of the year the decrease amounted to about four per cent. Reports from eleven of the leading feeder cattle markets show a much larger decrease in feeder shipments during January, 1932.

Prices for choice and prime grades of fat steers have been exceedingly attractive during the last third of 1931, due to extreme scarcity. Should a material increase in numbers of cattle develop without a corresponding increase in consumers' purchasing power, lower prices will undoubtedly result. Extensive marketing of half-fat cattle during December and January lend encouragement for smaller supplies during the spring months. Restricted credits and lower prices since the holiday season will result in conservative operations during the spring and summer. Unless an over supply of beef develops in spite of such hindrances or unless consumers turn toward large supplies of cheaper meat in the form of pork, good prices for well finished cattle appear likely during the last half of the year for those willing to take the chances.

Efficiently managed herds of beef cattle will convert pasture, roughage and grains into a marketable product with a minimum of labor and equipment.

Sheep and Wool

Sheep numbers in the United States on January 1, 1932, reached a new high record of 54,000,000 head. This is 49 per cent larger than on January 1, 1922. The number of sheep and lambs on feed January 1, 1932, was also the highest on record. The 1931 lamb crop was eight per cent over the 1930 crop. The lamb crop for 1932 is expected to be about the same as for 1931.

The numbers of breeding stock are expected to show a reduction by 1933. During 1931 old ewes increased eight per cent and ewes two to five years old increased five per cent, but at the same time there was a decrease of six per cent in yearling ewes and a 20 per cent reduction in ewe lambs being kept for breeding purposes.

With consumer incomes smaller in 1931 than in 1930 the demand for lamb and mutton was reduced. Per capita consumption increased five per cent while retail prices declined 16 per cent. During 1932 mutton and lamb sales will meet competition from larger supplies of other meats.

Prices for sheep and lambs reached new low levels at the close of 1931. In Michigan, December farm prices were 25 per cent less than one year ago and 58 per cent less than two years ago.

World wool production has continued at the peak of the cycle for an unusually long period. However, the increase between 1930 and 1931 was less than the increase between 1929 and 1930. Wool production in the United States has been increasing since 1922. This increase in production has been accompanied by a decrease in consumption. In 1923, 51 per cent of the United States wool consumption was imported. In 1931, only 11 per cent was imported. As our import requirements become smaller the effectiveness of the import duty on raising prices in the United States is reduced.

Prices for wool are also at a low point. The average Michigan farm price for unwashed wool was 15 cents per pound for 1931, as compared to 23 cents for 1930, 36 cents for 1929 and 42 cents for 1928.

During war periods the demand for wool is stimulated, prices rise out of proportion to prices for other products, and wool production expands rapidly. However, following war periods wool prices also make greater relative declines. With heavy stocks of wool at the close of the war prices dropped rapidly and reached a low point of 18 cents during 1921. Sheep numbers declined after 1921, reaching a low point in 1922 and 1923. The upward trend in sheep and wool prices from 1922 to 1928 was accompanied by a steady increase in sheep numbers. Although numbers of sheep continued to increase since 1928 up to the present the fall in prices for sheep, lamb and wool during the past three years will likely result in reversing this trend in numbers. This is already evident in the decrease in young breeding ewes on farms January 1, 1932, which should soon reduce the domestic supply of lambs and wool. This should, in turn, start prices on the upward trend again. Changes in numbers follow the direction of prices but usually with a lag of from two to three years.

Even though sheep are selling at comparatively low prices, they still provide a market for grains and roughages for which there is practically no other outlet. Michigan producers should exert every possible effort to increase efficiency in production and to sell only well finished lambs of good quality. There is always a sharper discrimination during periods of low price and consequently a wider spread between finished and unfinished lambs. It would also be well for Michigan lamb producers to endeavor, where possible, to get their lambs off on the early summer market before the bulk of western lambs are available. Extremely high freight rates and present low prices for both feeding and fat lambs are likely to be very severe upon the large producers in the range states and result in the forced liquidation of a great many flocks in that territory which would eventually favor the Michigan producers.

While it may not be good advice to suggest that Michigan farmers increase their sheep flocks, except where favorably situated, there seems to be no good reason why they should reduce sheep numbers at present.

Horses and Mules

Numbers as well as the farm prices of horses and mules continued to decline during 1931. Horses and mules on farms in the United States were approximately 17,800,000 on January 1, 1932 compared with 18,400,000 one year ago and 25,000,000 in 1920. The prices of horses and mules declined approximately 12 per cent during the past year. However, this decline is relatively less than the decline in prices of all agricultural commodities which amounted to approximately 24 per cent. A major reason for this situation is the present low prices of grain and roughage which makes a cheap source of power.

With an upturn in the agricultural price level, horse and mule prices will probably start on the upward phase of the price cycle. The downward trend in the horse price cycle has been considerably retarded because (1) of the introduction of mechanical power and equipment and (2) by the depression.

The price of young horses of good quality is relatively high in Michigan. The farmer whose work stock is old will have difficulty in making replace-

ments during the next few years owing to the small number of colts being raised and to the limited supply of western horses. Farmers will undoubtedly find it profitable to raise colts for replacement of their work stock during the next few years. Owing to the limited number of farmers who are in position to raise colts any surplus of good draft horses will find ready sale at remunerative prices. The man who is in a position to raise or utilize horse power should give careful consideration to the comparative cost of power in the form of grains and roughages grown on his own farm as compared with purchased fuel and oils.

FIELD CROPS

Wheat

For the first time in several years, the world production of wheat shows a decline. While the reduction in volume as yet is small and the increasing surplus accumulated during recent years is relatively large, the fact that a downward trend has started is evidence that a readjustment of wheat production is well under way. This will, in time, improve wheat prices both in the United States and abroad, and eventually increase the export demand for the surplus production of this country.

At present there seem to be no developments which indicate any substantial advance in the domestic price of wheat in the immediate future. The amount of exportable surplus in the United States is large and promises to be large for another season. The acreage of winter wheat sown last fall was 10.4 per cent less than that sown in the previous fall. An average yield, after allowance for average acreage abandonment, would give a production nearly 18 per cent less than the record-breaking crop of 1931. However, if the spring wheat crop should be up to the average in volume, it would be much larger than the extremely short crop of 1931 and bring the combined total of winter and spring wheat production up to about 750,000,000 bushels which occurred in the 1930-31 season and which included an unusually large quantity fed to livestock.

The prospective increase in the size of the 1932 spring wheat crop over that of last year will enlarge the relative supply of hard red spring wheat of which there is an acute shortage. This will remove or at least reduce the premium being paid for that variety and, at the same time, improve the chances for a premium on soft winter wheat.

Early estimates indicate a probable production of 140,000,000 bushels of soft red winter wheat in the United States and normal domestic consumption of wheat of this class has been 150,000,000 bushels. It is possible to substitute the softer and lower protein wheat of the hard red winter class for soft red winter wheat; however, crops of about the size which would result with average yields on the present acreage, have in recent years resulted in premiums for soft as compared with hard winter wheats.

White winter wheat during the past season has brought something of a premium over soft red winter, and, during 1932, should bring at least as high a price to Michigan farmers as the soft red winter types.

Michigan growers, with relatively small acreages of wheat in their cropping systems, find other factors besides wheat prices have much to do in determining their wheat acreage. Among these factors are the utilization of

wheat as a feed for cattle, hogs and poultry, and the advantages of wheat in a rotation where the more important crops are the cultivated crops grown prior to the wheat and the leguminous forages seeded with it.

The planting of high yielding varieties like Red Rock, a soft red winter wheat, and American Banner, a white wheat, and the treating of seed wheat with copper carbonate to control stinking smut are inexpensive measures which help to insure lower bushel growing costs and the production of wheat of good market and feeding quality.

Corn

That quite a few Michigan farmers had corn to sell from the 1931 crop was unusual. The state as a whole, of course, continues to be a corn consuming state and is interested in the corn market as a consumer rather than as a producer.

The acreage of corn in the United States was increased in 1930 and again in 1931. If weather conditions are favorable at planting time a further moderate increase is expected in 1932. If this occurs and an average yield is obtained, the Michigan feeder who does not raise as much corn as he needs should be able to purchase his additional requirements at favorable prices. A nearly normal acreage was grown in Michigan in 1931 with exceptionally good yields in certain localities, especially southeastern Michigan and the Thumb District but with poorer yields in central Michigan because of the drought.

From 50 to 60 per cent of Michigan corn is harvested for grain, about 25 per cent for silage, 15 to 20 per cent for fodder and a little less than five per cent is hogged off. No radical change in acreage or method of handling is anticipated for 1932.

There was an increase of European corn borer infestation in southeastern Michigan in 1931 after a severe setback to this pest by the drought of the preceding year. If two or three years in succession should provide favorable conditions for the borer, corn growing, at least in that section of Michigan, would be seriously effected.

Oats

Only a small portion of the Michigan oats crop is sold. Primarily this crop is grown because of its convenience in the rotation following such cultivated crops as corn, beans, sugar beets, and potatoes, and preceding hay. The value of the straw for roughage and bedding is about as important as the grain to the average Michigan oats grower. Thus far no satisfactory substitute for spring grains in Michigan has been found so their acreage is likely to be maintained on about its present basis for some time. Growers with soils in good state of fertility can advantageously plant barley on some of the land which might normally be put to oats and thereby secure more pounds of a better quality of feed per acre. The straw of the smooth bearded barley varieties now available should prove just as acceptable as oats straw.

Barley

The present relatively strong market for barley in Michigan in comparison with other grains probably is the result of two factors. One is the unusual distribution of the 1931 barley crop in the United States and the other the demand for Michigan barley for malting, pearling and the manufacture of other commercial barley products.

The 1931 barley crop in the United States was only about two-thirds as large as the production in each of the preceding two years due to low yields and abandonment of acreage in Montana and the Dakotas. All crops were curtailed somewhat in the principal barley producing states and consequently the supplies of feed grains in those states are relatively small with barley supplies shortest of all in relation to normal needs for local feeding. So far as feeding barley is concerned, its advantage with reference to other feed grains may continue only until the 1932 crop becomes available.

Most of the Michigan barley which is sold goes for malting and other commercial purposes rather than for feeding. The premium for barley of malting grade over feeding barley has been substantially higher than usual during the past season. In 1931 for the first time, Spartan barley, a white, two-rowed, smooth-bearded variety, became a real factor on the market. Because of its quality, its plump uniform kernels, its high test weight, and its high weight per 1,000 kernels, Spartan barley has been found especially desirable for pearling and since the 1931 crop has been available Spartan barley has brought a premium over six-row barley in this state, outselling any of the other small grains including wheat.

Spartan barley has not only found favor commercially but its plumpness and relatively smaller percentage of hull give it advantage as a feeding barley; it out-yields the old rough bearded six-row barleys formerly grown in this state; its smooth beards make it easier to feed and handle, while its earlier maturity and stiffer straw are characteristics which make this variety an unusually good nurse crop for seedings of clover and alfalfa. In this respect it is probably the best of the small grain varieties now available to Michigan farmers.

Clover and Alfalfa Seed

Red and alsike clover seed production has decreased far more than hay production since 1929. If farmers in the United States this year bring their seeded clover acreage up to that of 1929 and thus overcome losses sustained from the killing of stands by drought and heat during the past two years, available supplies of these seeds may well be expected to be absorbed. Sweet clover and alfalfa acreage for seed production were below those of recent years. Current supplies of sweet clover and alfalfa seed are about one-third lower than last year and two-fifths lower than the five-year average, they have not declined relatively as much from pre-war prices as have many other agricultural products.

Foreign competition in red clover seed seems not to exist at present. The European crop was relatively small, and of inferior quality. There will be but a small surplus for export at prevailing prices. In Europe prices are about four or five cents a pound lower than in the United States. This, however, is more than offset by the tariff of eight cents a pound. Current wholesale prices in the United States are lower by about \$9.75 per 100 pounds (36 per cent) than a year ago on a corresponding date and by \$13.15 (44 per cent) than the five-year average, 1926-1930.

Available supplies in the United States of alsike clover seed are much smaller than usual because of the small quantity of old seed carried over, the decreased production in 1931, and the decline in imports. These factors, however, were offset in part by a reduction in sales last year as well as in other recent years. The 1931 crop was the smallest since 1928 and imports for the last fiscal year dropped to the lowest point on record, amounting to only 93,800 pounds, compared with 7,220,300 pounds for the preceding year

and about 7,600,000 pounds, the average annual imports for the five years 1925-1929. Large imports are not expected during the next six or more months because the Canadian crop was even smaller than the short crop of 1930. Current wholesale prices are lower by about \$7.80 per 100 pounds (33 per cent) than a year ago and by \$13.25 (46 per cent) than the five-year average.

Alfalfa seed production in the United States in 1931, amounting to 51,200,000 pounds, was about 25 per cent smaller than in 1930, when the largest crop since 1926 was produced, and 15 per cent smaller than in 1929. Production was smaller than last year in Montana, South Dakota, North Dakota, Idaho, Wyoming, Colorado, Kansas, Oklahoma, Arizona, Texas, and Wisconsin but larger in Utah, California, Oregon, Nebraska, New Mexico, and Michigan. Greatest decrease generally occurred in the more northern producing districts where the drought was more detrimental to the crop than elsewhere. Sales in both spring and fall were smaller than in 1930. Exports fell off sharply, amounting in 1931 to 218,044 pounds, compared with 832,965 pounds in 1930 and 825,830 pounds in 1929. Imports were unusually small, no seed having entered the United States during the second half of 1931. Stocks are more than sufficient to take care of normal requirements. Current wholesale prices for common alfalfa seed are lower by about \$7.85 per 100 pounds (33 per cent) than a year ago and by about \$6.60 (30 per cent) than the five-year average. Grimm alfalfa prices are lower by about \$11.65 (33 per cent) than a year ago and by about \$15.50 (40 per cent) than the five-year average.

The production of alfalfa seed in Michigan was about twice as much in 1931 as in 1930 and in general yields were satisfactory. The total production for the state was over 2,000,000 pounds of which 300,000 pounds is certified Grimm and Hardigan in about equal proportions.

Some have attributed Michigan's success in alfalfa seed production in 1930 and 1931 to unusually dry weather. However, the largest production was in the Thumb district which was favored with more rainfall than other parts of the state during the past season. Probably the increasing seed production during the last three years results from two factors; one an increased interest on the part of growers because of excellent profits and the other the total alfalfa acreage increase in Michigan leaving more of the crop available for seed production.

The amount of alfalfa seed grown in this state is still a little below Michigan's requirements and Michigan seed is well adapted to other states. Present low prices have not resulted from overproduction as the 1931 United States crop of alfalfa seed is relative short. Alfalfa seed production in Michigan is one of the crop enterprises in which further expansion appears to be warranted.

Hay

The expansion in the legume hay acreage which has been taking place during the last decade should be continued. Alfalfa is replacing other hays because of its greater feeding value, superior yielding ability particularly in dry seasons, and its greater value per acre as a cash crop.

The increasing number of cattle and dairy cows and the declining number of horses, according to the United States Department of Agriculture reports, is resulting in an increase in the requirements for alfalfa, clover, and other legumes, and a decrease in the need for timothy and other tame grass hays. Although the percentage of legume hays being produced has increased, the

farm price is higher than that for timothy hay. On December 15, 1931, the farm price of alfalfa hay was \$10.38 and clover \$9.70, compared with \$9.14 for timothy hay.

According to the Annual Crop Summary for Michigan, the area cut for tame hay in 1931 was six per cent less than in 1930 and eleven per cent less than in 1929. However, the alfalfa acreage in 1931 was 24 per cent larger than in 1929. In fact, the acreage of alfalfa in Michigan has increased every year since the beginning of the records in 1919. In that year the Federal Census indicated 74,000 acres cut for hay. This was 2.8 per cent of the total tame hay acreage for the state. The estimated acreage for 1931 was 652,000 or 27.2 per cent of the total.

In spite of this favorable showing, however, in twenty-eight southern Michigan counties, where dairying and livestock raising are important farm enterprises, there are sixty-five per cent of the farms not growing alfalfa, according to the 1930 census figures. This fact, together with the increased use of alfalfa for pasture, would seem to make its acreage expansion advisable. Home grown feeds for livestock will help in meeting the present price situation and a high-protein roughage is the starting point.

In those sections of Michigan where dry weather caused a failure in seedings, it will be necessary to have an emergency hay crop in 1932. Soy beans furnish a good yield of high protein hay. They will give practically the same satisfaction in any given locality as a hay crop, that corn gives as a grain crop. A mixture of oats and peas, seeded in the early spring makes a good emergency hay crop, especially in the northern part of the lower peninsula and in the upper peninsula.

A splendid emergency pasture crop is Sudan grass. It provides pasture for cattle, horses and hogs, during the dry part of the summer when other pastures are poor.

Beans

Present prices of Michigan beans are materially below the cost of production even for yields much higher than the average. At \$2.00 and less per hundred pounds, the 1931 Michigan bean crop is even more unprofitable than wheat considering the greater production costs of beans. There is nothing in the present situation to encourage increased plantings and the acreage in 1932, especially in areas which are not well adapted to bean production, will doubtless be reduced. Eventually this may react in favor of the growers in Michigan's best bean producing areas by lessening their competition, just as the very high prices of a few years ago increased acreage and competition by encouraging bean production in areas not then growing the crop extensively.

While the total United States production of dry edible beans in 1931 of 12,705,000 bags was 11 per cent less than in 1930 and appears to have been about equal to the average annual disappearance during the last three years, there were significant changes in the relative production of leading varieties. There was an increase of 25 per cent in the production of pea beans and 38 per cent increase in red kidneys, against a decrease of 3 per cent in Great Northerns and about 50 per cent in Pintos and Blackeyes. This shift increased the supply of white pea beans this year by an amount considerably in excess of the maximum amount of white beans imported in any recent year. Hence, the decline of imports to almost a negligible quantity from the high figure of 1,135,000 bags during the 12 months from September, 1929, to August, 1930, has been much more than offset by the increase in white pea

beans from the 1931 crop over the 1930 production. With the 1931 crop moving slowly at very low prices another heavy carryover of white pea beans at the end of the present season is probable.

Undoubtedly much of the low price of beans may be attributed to the general fall in all commodity prices. Bean growing is an important Michigan industry and should be continued. Some growers have devoted too large a portion of the crop acreage to beans and a better balance of cropping enterprises can be secured on such farms by increased seedings of alfalfa. For such acreage as is devoted to beans it is exceedingly important that cultural methods be used which make for higher acre yields and consequently lower percentage costs of production.

Of the twenty most profitable fields in the 1931 Michigan bean growing contest 19 were planted to Robust beans. These fields were plowed an average of 17 days in advance of planting giving ample opportunity to work up good seed beds and kill weeds prior to planting time. Early planting and a judicious use of commercial fertilizers also proved profitable.

The 1931 crop of 154,800 bags of Red and Dark Red Kidneys was 38 per cent larger than that of 1930. Although production of these red varieties is still considerably below the average for 1924-1928, a marked decline in prices has followed, due to a rather fixed or inelastic demand as well as to the lower price level.

Potatoes

The United States total potato acreage in 1932 will probably be only slightly smaller than that of 1931. According to reports from potato growers in all parts of the country, the intended decrease is less than two per cent, which would indicate a probable acreage for harvest in 1932 of 3,328,000 acres compared with 3,382,000 acres harvested in 1931 and 3,038,000 in 1930.

Total United States production in 1931 amounted to 376,000,000 bushels which is about equal to the 10-year average, but a much larger crop than the 333,000,000 bushels grown in 1930 or the 329,000,000 in 1929. The normal yield of potatoes in the United States as a whole is around 118 bushels per acre, compared with a yield of 111.3 last year, 109.7 bushels in 1930 and 110.5 bushels in 1929, all three of which were drought years. It seems reasonably certain that the 1932 crop will equal the present one and if normal yields are harvested the crop would exceed 390,000,000 bushels.

The intentions to plant report indicates that Michigan will plant 245,000 acres to potatoes in 1932. The Michigan potato acreage harvested in 1931 was 250,000 acres while in 1930 it was 227,000 and in 1929, 225,000 acres. The average potato acreage planted in Michigan for the 10-year period (1918-1927) was 303,000. This is 58,000 more than the intended acreage for 1932. Since 1924, Michigan has reduced her potato acreage approximately 20 per cent.

Although the decline in potato prices for the 1931 crop as compared with 1930 has been somewhat greater than the decline in many other farm products, it is believed that Michigan growers should plan to maintain their normal acreage of potatoes in 1932. For many sections of the state there seems to be no other cash crop than can be profitably substituted for potatoes, and, on the average, no other crop in potato growing sections brings as large a total cash return per acre. While the prospects are for a somewhat larger potato crop in 1932 than in 1931, the 1932 crop probably will be produced with a smaller cash outlay as prices of materials and labor are now

cheaper than a year ago. Certified and near-certified seed can be procured in Michigan this year more cheaply than ever before and growers planting it will secure increased yields and improved market quality. High yields and good quality are two factors that Michigan growers must pay particular attention to this year if they are to lower production costs and market their crop satisfactorily in competition with other potato states. More care than usual should be used in selecting soils that are adapted to potato growing and in fitting and fertilizing the seed bed.

Growers who are remote from good tablestock markets and who are equipped to produce seed potatoes, will no doubt find better returns in the production of certified seed than of table potatoes. It is probable, however, with low prices for table stock that the demand for certified seed will be slow.

On the more fertile potato soils the production of early potatoes offers a favorable opportunity especially to those growers near good markets. Good seed, the use of commercial fertilizer and Bordeaux sprays are necessary to insure satisfactory and economical yields.

Sugar Beets

The outlook for the sugar beet crop in Michigan for the season of 1932 carries a number of encouraging items, notwithstanding an unsettled situation so far as the price of sugar is concerned.

The price of raw sugar fell to a new all-time low level during the first few weeks of 1932. This radical decline in price was due, apparently, to the failure of Cuba and Java to abide by the export restrictions and production curtailment as agreed upon under the "Chadbourne Plan." The fact that refined sugar did not decline in price to the same proportion and the fact that raw sugar has advanced in price with the announcement of plans for continued reduction in production through 1933, are accepted by Michigan sugar interests as indications that the price of sugar is likely to be maintained at a slightly higher level during the 1932-33 season than has prevailed during the past season.

The production of slightly more than 10 tons per acre as an average for the 1931 crop at an average price of approximately \$6.25 per ton resulted in the highest acre return for any large area crop in Michigan during the season. The total tonnage was sufficient to allow a capacity operation of six sugar factories at an apparent profit to the operators. This relatively successful season has greatly quickened the interest of both farmers and operators and there has been an unusual effort expended in attempts to provide for the operation of more of the factories within the state. Lack of ready finance has been the main limiting factor while the problem of sufficient acreage for capacity operation has been met with the ready response of more acreage than can be handled.

One development of the past season which is having a distinct influence upon the extension of the industry for this season and which is likely to be an important factor in the reestablishment of the industry at full capacity within the state during the future, is a change in the contracts and general relationship between the growers and operators. A new form of contract is coming into general use which reduces the guaranteed price for beets, but provides for a more equitable division of the net proceeds which are realized from the sale of the products.

According to recent announcements at least seven factories will be operated

in 1932. Between 90,000 and 100,000 acres have been contracted to date. This compares with a total of only 65,000 acres contracted in 1931.

Growers who contract for this crop and who have satisfactory conditions for production and who will give special attention to all of the details which may influence the total production of sugar per acre, should be able to produce this crop during 1932 with profit.

FRUITS AND VEGETABLES

Apples

The general apple situation indicates that the average commercial production of the last few years will be maintained or may even be increased slightly during the next few years. The 10 most important commercial varieties for 41 states in 1928, in terms of numbers of trees, ranked as follows: Delicious, Winesap, Jonathan, Baldwin, Stayman, Ben Davis, Rome, York, McIntosh, and Grimes. These 10 varieties constituted 60 per cent of the total trees in commercial orchards. Seventy-three per cent of the Delicious and 60 per cent of the McIntosh and Stayman trees were under 14 years old in 1928. There were also prospects for increased production of Winesap, Jonathan, and Grimes.

During the past 20 years the number of apple trees in the United States has decreased approximately 46 per cent but total production has decreased but 3 per cent. The decline in tree population has been due largely to the abandonment of farm orchards and commercial orchards located on marginal and submarginal sites and soils.

Only 14 per cent of the trees in the three Pacific Coast states were under bearing age in 1928 but the potential bearing capacity in these states is likely to be maintained by resets and by increasing age of the trees. About one-third of the trees under 14 years of age in 1928 were Delicious and new plantings are largely of this variety. The Wenatchee and Yakima Valleys are becoming decidedly "Delicious minded" and increasing proportions of the box pack will be of this variety.

Production is increasing in Virginia, West Virginia, Maryland, New Jersey, and Delaware and recent reports indicate that tree losses in the Shenandoah-Cumberland district from the 1930 drought will not exceed 5 per cent. Production has declined slightly in some of the mid-western and eastern states but probably will not continue much farther.

A survey made in 1928 shows certain significant trends in the apple variety lists of Michigan orchards. Of the trees 24 to 33 years of age Duchess led, in terms of numbers of trees, followed by Baldwin, Northern Spy, Wagener, and Wealthy in the order named. The population of trees 14 to 23 years of age showed the same five varieties leading with ranking slightly changed as follows: Duchess, Northern Spy, Wagener, Wealthy, and Baldwin. Of the trees 4 to 13 years old the ranking in tree population of the five leading varieties was Jonathan, Delicious, McIntosh, Northern Spy and Wagener. For trees under four years old the order was Delicious, McIntosh, Jonathan, Northern Spy, with Wagener and Steele Red practically tied for a low fifth position. Of the trees under 14 years old of 16 leading varieties in 1928, 24 per cent were Delicious, 19 per cent Jonathan, 15 per cent McIntosh, 14

per cent Northern Spy, and 5 per cent Wagener. Ninety-two per cent of the Delicious trees of all ages were under 14 years old and 45 per cent under four years old.

In general, the present apple situation is such that keen competition among growers may be expected. Also the apple industry will continue to be confronted with competition from heavy supplies of other fruits. Additional commercial plantings are, therefore, justified only where unusually favorable conditions exist for the production of good quality fruit at low cost. Great losses to apple growers have occurred from setting out trees that were not profitable because of location. New plantings should be confined to soils and sites that are likely to produce a crop in years of generally light production as well as in years of generally heavy production. Care should also be taken to see that new plantings consist of varieties and combinations of varieties that will insure proper pollination. In general such varieties as McIntosh, Fameuse, Jonathan, Steele Red, Northern Spy, and Rhode Island Greening will be found most satisfactory for planting in Michigan orchards.

Michigan growers will usually find a ready market for well colored, good sized fruit 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 can not afford to omit any orchard practice that will materially increase the yield or improve the grade. Profits in 1932 are certain to depend largely on the adoption of a spraying schedule that insures pest control, and on soil management and thinning practices that will result in fruit of good merchantable size.

Plums

Few commercial plum orchards have been planted in Michigan in recent years. The demand for plums has been decreasing largely because of greater competition with peaches, with other fruits, and with cantaloupes. General planting must be discouraged though limited plantings of carefully selected varieties in counties within trucking distance of Chicago and Detroit may be warranted.

Cherries

Sour cherries have been planted to such an extent in recent years that production may be expected to increase materially during the next five or ten years. If there had been no depression the marketing facilities of the canning factories probably would have had difficulty in selling the product in full crop years at prices that would permit a good return to the growers. Even with less than a 40 per cent crop in the northern portion of lower Michigan in 1931 there was a larger total production in the country than could be consumed at prices profitable to the grower.

Additional plantings of sour cherries are not warranted at this time except as replants in existing orchards and in localities where there exists a good local market for fresh fruit.

There is a fairly good demand for sweet cherries within trucking distance of parts of the state well suited to the production of this fruit and limited plantings are justified. However, the sweet cherry is not

hardy enough in wood or bud to warrant planting for commercial production in any but the most favorable locations.

Peaches

Probably the largest crop of peaches ever produced in the United States resulted from a combination of favorable circumstances in 1931. This large crop occurring in a year of depressed business conditions resulted in the lowest average price in many years. The outlook, however, is considerably better than the two foregoing statements might indicate.

In the South the annual commercial plantings of peach trees during the last four years have averaged less than 5 per cent of the number of them now in commercial orchards. Assuming the average length of life there to be 13 to 15 years, this planting rate is not sufficient to maintain the present commercial acreage. An unusually favorable combination of conditions in these states in 1931 resulted in one of the largest crops on record. It probably will be many years before there will be another season when the trees and weather conditions will be as favorable for peach production as in 1931 and in the meantime the potential production will materially decline with decrease in tree population.

Virginia, West Virginia, Maryland, and Delaware apparently will maintain the present number of bearing trees for some time, though the North Atlantic States showed a 17 per cent decline in numbers of trees from 1925 to 1930. The North Central States also showed a slight decrease in numbers of trees for this period and do not indicate any pronounced change in production from the average of recent years. Illinois, the principal producing state of the region, apparently reached the peak of its production in the present cycle in 1931 as recent plantings have been light.

Of the Western States, Colorado showed an increase of 93 per cent in number of trees from 1925 to 1930, indicating a decided increase in production. There were also some increases in numbers of trees in Utah, Washington, and Oregon. The peak production of clingstone varieties in California has apparently been reached, although surplus production may continue for several years. During each of the last two seasons, large quantities of peaches were not harvested in California because of market conditions. There is also a slight downward trend in the production of freestone peaches in California.

The 1931 peach crop in Michigan was larger than any produced during the past decade, though the combined crop of Michigan and New York was larger in 1922 and again in 1926 than that of last year. Prices were very low but because of the high yields many Michigan orchards returned profits to their owners.

There was no material change in numbers of peach trees in Michigan from 1925 to 1930, but a larger proportion of the present trees are not of bearing age (37 per cent). It is also believed that the newer plantings have been on sites better adapted to peach production than formerly. There is, then, an indication that the potential peach production of the state will be somewhat greater during the next five-year period than during the past five years.

Under present conditions, there is no justification for any great increase in the acreage of peach trees in Michigan. However, moderate

plantings in favorable locations to maintain the present acreage seems advisable. Extreme care should be exercised in the selection of sites for peach orchards to avoid frosty locations. The varieties should be those that may be marketed soon after the crop from Southern Illinois orchards and that of other States to the south have gone into consumption. Such varieties as Rochester, South Haven, Halehaven, Elberta, J. H. Hale and Wilma should receive major consideration. Growers whose orchards show promise of a fair crop should not hesitate to put into operation every practice that will tend to insure a clean crop of large sized fruit.

Strawberries

Reports from the various strawberry producing states indicate that the total commercial acreage for harvesting in 1932 will be in the neighborhood of 190,000 acres. This is approximately 25 per cent higher than the acreage harvested in 1931 and only 5 per cent less than the average acreage harvested from 1927 to 1929 when prices to growers in some of the more important shipping states were barely enough to cover the cost of harvesting.

The largest increases in acreage are reported from the second early and intermediate states where acreage reductions from 1928 to 1931 were especially large. In the other groups of states the acreage for harvesting in 1932 is reported to be the highest for several years, although not much higher than in 1931. In the eastern late-producing states of Indiana, Iowa, **Michigan**, New York, Ohio, Pennsylvania, and Wisconsin, a fairly constant commercial acreage has been maintained since 1919. However, reports from these states indicate that the commercial acreage for harvesting in 1932 will be about 13 per cent higher than the average acreage during the last five years. Yields per acre and total production in these States in 1931 were the largest since 1927 and prices were the lowest for many years. In general, however, prices have been relatively favorable, especially when compared with the prices of other farm crops, and, although any considerable increase in acreage might not be warranted, Michigan growers should not hesitate to plant enough to maintain at least the present commercial acreage.

Grapes

Although the total production of grapes in 1931 was far below the average of the last five years, returns to growers were unsatisfactory. Total production in California dropped from 2,181,000 tons in 1930 to 1,287,000 tons in 1931. The small crop of 1931, however, was due to excessive heat, insect injury and a shortage of water and not to any marked change in potential production. The bearing capacity of the vineyards in 1931 was estimated to be about 13 per cent lower than in 1927. However, with normal growing conditions the total production in California might be even larger than in 1930 when approximately 20 per cent of the crop was left on the vines.

In normal years, therefore, eastern grape growers may expect heavy competition from California grapes which will continue to complicate the marketing problem. Michigan vineyards produced somewhat less in 1931 than in 1930, but New York, Pennsylvania and Ohio had heavy yields so that the combined yield of these states was larger than that of

any previous season. Reports indicate that there is little new acreage coming into bearing in the Concord producing states and that there will be no continued increase in production. On the other hand, few vineyards have been removed or abandoned and there is no prospect of any immediate decrease in production.

In view of the heavy competition from California grapes and those of nearby states any increase in commercial acreage is not justified at the present time. New plantings should be restricted to small areas near local markets which offer a possible outlet for the crop, and then only on sites and soils which will afford conditions which are favorable for annual production.

Melons

There was a decided increase in acreage in 1931 devoted to melons but the rather low yields due to dry weather prevented a bumper crop. If this same acreage is planted in 1932 and a normal yield is obtained it seems reasonably certain that some of the crop will not be harvested due to low prices. However, the grower who produced good high quality melons, who puts them up in attractive crates and who is within several hours' trucking distance from market, should receive a fair price for his crop.

Onions

The acreage of late onions in 1931 was nearly 13 per cent below the high peak of 1930. The hot weather and drought caused the lowest average acre yield on record. The average 1931 price was nearly twice that of 1930. The onion crop in storage on January 1 this year was only half of what it was at the same date last year.

There is a 23 per cent increase this season of the Early Bermuda and Creole crop in California, Louisiana and Texas.

If there is no increase in the 1932 late plantings, onions should bring a fairly good price in 1932. If, due to the high prices and short crop of 1931, there is a decided increase in acreage in 1932, there will probably be a decided overproduction with resultant low prices.

Tomatoes

Even though there was an increase in tomato acreage in 1931 over that of 1930, the total production was about the same, due to the lower acre yield, yet the 1931 price was approximately 13 per cent lower than 1930. If the same acreage is planted in 1932 as was planted in 1931 an overproduction will probably result with still lower prices.

There is not likely to be a market in 1932 for mediocre or inferior fruit, but high quality fruit will probably bring a fair price.

Cabbage

There is every reason to expect about the average demand for Michigan grown cabbage during the season of 1932. The acreage harvested in 1931 was 10 per cent less than in 1930, but about 20 per cent larger than the previous five-year average. As half of Michigan's cabbage acreage is for kraut manufacture at a contract price, plantings for this purpose should be governed by such contract offers.

Celery

There is no reason to expect any considerable increase in demand or any marked increase in price for celery during the 1932 season. The rather high prices this past season have been occasioned by rather unsatisfactory growing conditions during 1931 and an unusual amount of disease attack.

The acreage planted to celery in Michigan has increased about sixty per cent during the past five years. With average growing conditions this year, the present acreage should be sufficient to meet all requirements. Special effort should be put forth to prevent spread of pests which did much damage to the stored crop of 1931.

Commercial Vegetables in General

There should be a reasonable diversification of vegetable crops and production at a lower unit cost in 1932. It would appear that the growers nearest to market have a greater advantage than usual due to lower food prices and relatively high freight rates.

The distant truck grower can afford to ship only the highest quality produce, and the local producer likewise will save labor and expense if he leaves all the mediocre and inferior produce at home.

The slogan of 1932 for vegetable crops both for fresh market and canning will be "*Graded Basis*" for the producer, wholesaler, retailer, canner and consumer. The 1932 buyer will, more than ever, demand quality for his money and the producer must carefully grade and pack his produce before placing it on the market.

Honey

Honey prices have been low in spite of the somewhat smaller production than usual in many of the honey producing states. They are likely to continue low on account of the low price of sugar with which honey competes. Production plans for the next two or three years should be based on these facts.

ADJUSTMENTS TO MEET PRESENT AND PROSPECTIVE ECONOMIC CONDITIONS

Agriculture is in a distressed condition on account of the deflation of prices and the business depression. If the causes of this distressed condition continue to exist, farmers must continue to find methods of adjusting their farm operations to meet and improve their situation. In order to improve the present condition of farming, there are some things that can be done only by the government, some things that can be done only by collective action of farmers and some things that can be done only by individual action of farmers. This publication considers primarily only those things which can be done by individual action. All of the things suggested may not be done by every farmer. Some things will offer only temporary relief while others may become a part of a long-time program.

There are three major means of improving the financial condition on the farm by the individual action of farmers, namely (1) by the adoption of a "live at home" program, (2) by making such timely adjustments in acreages and production of crops and kinds and amounts of livestock as may be advisable under prospective economic conditions, existing soil, and climatic conditions, and (3) by lowering production costs per unit of product.

Adopt a Live-at-Home Program

A most important factor in the adjustment plans of Michigan farmers, at least as a temporary expedient, is the adoption of a "live at home" program to curtail cash expenses. This applies not only to producing on the farm a greater share of the family living requirements and making a greater use of home grown feed for livestock, but also the delaying of expenditures for permanent improvements and high-priced equipment.

Every article of food consumed by the farm family which is produced on the farm saves a cash outlay at retail prices, or, in other words, it furnishes the equivalent of a retail market for at least a portion of the farm production. With the products of a farmer's labor selling at a low cash return extra labor can well be put upon producing even more of the commodities for which, in recent years, farmers have been paying cash. The increased use of fresh and home cured meats, fresh and home canned fruits and vegetables, home baked bread and other home produced foods will result in greater relative economy than before. The same thing is true regarding the use of the wood-lot for the production of fuel, lumber, and fence posts for use on the farm.

In the feeding of livestock, careful consideration by the farmer to the growing and mixing of farm feeds often makes unnecessary the purchase of much additional concentrates in order to balance the ration. Furthermore, under a low price schedule for livestock and livestock products the profits to be obtained by supplementing farm grown rations with commercial feeds are not so great as when high prices are prevailing.

Adjustments in Crop and Livestock Production

The second of these possibilities, namely, "timely adjustments," offers the individual farmer the best means of meeting changing price relationships between farm products. When the price of one product such as potatoes, or beans, or eggs, is out of line with the general level of farm prices, adjustments in production are of major importance. However, when the general price level falls, as during the past two years, reducing the costs of production is the major remedy. Since the cause of the present low prices of farm products in Michigan is primarily deflation, the efforts to reduce production costs are especially important.

Every farm is best adapted to the production of certain crops and livestock, depending quite largely upon the kind of soil, climate and topography. Other commodities may be produced if the market or price conditions are favorable. Thus, with changing prices many producers make radical changes in their farm organization in an endeavor to increase their farm income. Is this a desirable practice? The factors that should be taken into consideration before making such changes are as follows:

1. Base Plans on Prospective Rather Than Present Prices: After the farm plans have been decided and the program put into operation it will be at least six months and possibly several years before the finished product is ready for market. Prices at that time are usually quite different than when the original plan was put into operation.

The prices of individual farm products do not follow the general price level of agriculture, but fluctuate about it, each the result of particular conditions surrounding its production and use. The most important factors causing fluctuations of the prices of individual products are cycles of over- and under-production and long-time changes in demand. The dominant factors in hog, cattle, and sheep prices will continue to be hog, cattle, and sheep production cycles. Livestock producers should base their plans of production on the prospective prices over a series of years rather than on prices at the moment. Farmers should study the effect of weather upon crop production in previous years before they make radical changes in acreage because of present low or high crop prices.

2. Produce Crops and Livestock Adapted to your Conditions. Crops and livestock are produced at the lowest cost under conditions to which they are best adapted. It is as important to keep in mind cost of production as well as the prices of the resulting product. Therefore, the farmer must not only consider the general production and price prospects, but also the conditions affecting his production such as the kind of soil, climate and topography, local markets, labor supply, insect pests, size of farm, available equipment and amount of capital. A farmer in the potato region should react differently to information on that crop than would the man farming in regions not well adapted to potato production.

3. Consider Costs and Risks of Making Changes: Many well planned changes such as enlarging or intensifying certain enterprises may be made in the farm business which involve little or no additional costs or risks. These would be in the nature of temporary or permanent changes which should be made to balance up the farm organization program regardless of the present price situation. On the other hand some changes involve additional costs and risks which are not recommended at the present time.

Sudden changes in the farm plan may either throw out of use entirely or reduce the amount of use of certain types of equipment. In addition, the new venture may require the purchase of new equipment if the enterprise is to be handled efficiently. Thus, costs may be increased sufficiently to offset the expected gain. However, if the change is known to be a permanent one, the changes in equipment may be advisable.

Some farm enterprises such as tree fruits and purebred livestock kept for breeding purposes require considerable capital investments over long periods of time. Other changes might involve the acquiring of additional farm land. Sufficient capital should be available before such long-time changes are started. Investments should not be made at much above pre-war prices.

4. Use a Farm Budget to Make Farm Adjustments: A large number of farmers have not yet attained the ideal organization of their farm business. These men, by using good judgment and guided by sound

principles of farm management, can use the information presented in the Outlook Report in making the temporary or permanent changes which will make the entire farm a more efficient unit and thereby reduce the costs of production per unit. The farm operator should consider the effect the contemplated changes would have upon the farm business as a whole. Certain changes might seriously disturb the balance of the farm organization and thereby increase costs, and make less efficient the available labor, power, equipment and buildings. In general, the better farmers refrain from making violent changes in crop or livestock production.

The farm budget offers the best means of applying outlook information to the individual farm. It is very desirable to work out on paper the probable changes in receipts and expenses which would result from important changes in the farm program. The farm budget is a carefully prepared plan based on estimates to show how well a particular combination of crops or combination of crops and livestock will pay. These estimates should be based on the best available information as to what prices and production are likely to be during the year or period of years just ahead. Although prices, crop yields and livestock production cannot be forecast exactly, they can be foretold within such limits as to make it profitable to study them and to work out a plan for the individual farm. For further information in regard to working out a farm budget write to your County Agricultural Agent or to the Farm Management Department of the Michigan State College.

Lowering Cost of Production Per Unit of Product

There are many means of lowering production costs. They could be classified under the following headings: (1) Increasing the volume of farm business handled with the present organization and the present operating expense, and (2) obtaining the present volume of farm business at a smaller expense. Reducing costs may or may not be the same as reducing expenses. The reducing of certain vital expenses might increase the cost per unit of product. The methods of reducing costs on one farm may not be the best for another. The more important means of reducing costs of production per unit are as follows.

1. Increase the Volume of Business per Farm: One outstanding weakness on many Michigan farms is the small volume or amount of business handled with the available labor, buildings, land, power and equipment. The amount of the farm income is affected more often by the volume of business handled than by the expenses. Many of the expenses on a farm are fixed. These fixed charges include taxes, interest on the investment, depreciation on buildings and equipment, operators and family labor. These expenses occur regardless of the amount of business handled. A certain volume is necessary to meet the fixed costs. It is the excess over this minimum amount of business that provides for the farm profits. There are many ways of meeting this problem, some of which are listed as follows: (a) Increase or intensify livestock production by keeping more livestock, more intensive kinds of livestock and by increasing production per unit; (b) intensify crop production by adding cash crops, growing more alfalfa and by higher yields per acre; (c) procure special markets; (d) work off the

farm; and (e) procure by purchase or rent good land from an adjoining farm.

2. Balance the Farm Program: The second outstanding weakness of Michigan farms is the lack of balance between the livestock, crops, power and equipment, buildings, and labor. The last three items together with the land constitute the basic items of cost in the farm business. The lowest cost is usually obtained when each is utilized fully.

3. Increase Production per Acre and per Animal: These are important means of increasing the efficiency of labor. Production per acre and per animal must be maintained or increased by relatively cheap methods. This means ceasing to work poor land and ceasing to keep poor animals. With the prospects of low prices there will be greater loss than usual from farming poor land or keeping poor animals. Livestock should be culled rigorously and replacements made with more productive animals. It is also important to take better care of good land and good animals. This involves balanced and better feeding for good animals, the use of crop rotations, increased attention to seed selection and other good crop practices, disease control and similar measures.

4. Produce a High Percentage of Crops having the Highest Feed, Fertilizer or Cash Value: Under this heading would come the legumes, especially alfalfa for hay and seed, sweet clover for pasture and green manure, and the red clovers. It should be remembered that alfalfa and clover seed are produced best during seasons of dry weather such as occurred in the past three years. In the southern part of the state, corn would also be included under this heading. In the regions to which they are adapted, the list would also include potatoes, beans, sugar beets, fruit, truck, and many other special crops. Wheat, barley, and oats are grown to the extent to which they fit into the particular farm program.

5. Make Increased Use of Home Grown Feeds: This will reduce the volume of money leaving the local community and will avoid the marketing costs on purchased feed. Thus, more credit would be available from local sources. More of the protein requirements for feeding livestock can be produced by growing more legumes, chiefly alfalfa. This will at the same time build up the crop-producing power of the land and reduce the cash outlay for purchased fertilizer.

6. Utilize Labor Efficiently: Profitable employment should be provided for the labor available on the farm. This does not usually mean more hours of work per day, but greater emphasis on the accomplishment of income-producing work. It is important to organize and plan work at the time and in the manner that will make one hour of labor count most. Equipment should be repaired and farm improvements made when labor is not needed on the productive farm enterprises. Farm enterprises should be chosen to secure the best utilization of labor throughout the year. Fields and buildings should be arranged to permit efficient work. Labor-saving devices should be employed. When farm wages are low as at present, labor may be used as a partial substitute for machinery.

7. Postpone making Farm Investments if Prices are Much Above the Pre-War Level: The prices to farmers of farm machinery, farm equipment and building materials have not declined as much as the gen-

eral level of prices. If the present price level continues, the farm prices paid for these commodities should decline during the next few years. Farmers may find it to their advantage to make repairs so as to postpone the purchase of these commodities. Care should be exercised in making any investment at much above pre-war prices, unless it will pay for itself quickly.

8. Purchase Supplies in Quantities for Cash: It takes less total cash to buy in this manner than to buy in small quantities for credit. Because of credit losses and the costs of doing credit business, credit charges are very high. This increases the advantage of obtaining the large discounts offered for cash payments.

9. Keep, Study, and Make Use of Farm Records: Farm accounting and farm business analysis are increasingly necessary in periods of small profits to eliminate unprofitable operations and enterprises. Each individual farmer must study his own business to find farm adjustments to make and to find methods of increasing his efficiency and reducing his costs.

Miscellaneous Suggestions

Other suggestions which do not come within the scope of farm adjustments or lowering of production costs follow.

1. Produce Products of High Quality: When commodity prices fall, industrial wages fall, less rapidly. Thus, the increase in the purchasing power of wages increases the demand for the choicer foods. As the business situation improves and employment increases there will be a further increase in demand for the choicer foods.

Michigan farmers have another reason for producing high quality products. Since low quality products cannot pay high transportation costs, the competing products which come from distant states are of high quality, graded and well packed. To compete with these distant producers, Michigan farmers must also produce products of high quality and then grade and pack carefully. Michigan farmers will then have a distinct advantage in being close to consumers and in having low transportation costs to market.

2. Organize Credit Facilities When Needed: In some communities bank failures have seriously reduced the local supply of available farm credit. In such cases it may be important to consider the formation of credit corporations, in order to furnish solvent farmers with the credit needed in their farming operations at a reasonable cost.

3. Reorganize Farm Financing When Possible: In times of economic uncertainty, it is important for farmers to get their debts in shape. In many cases this means converting short-time notes into mortgages which can gradually be repaid over a series of years. The facilities of the Federal land banks can be used to fund many short-term debts by means of long-time farm mortgages.

4. Support Cooperative Organizations for Buying and Selling: The primary difficulty in the present situation is the disparity between farm prices and retail prices. Both manufacturers and farmers have the problem of paying high wages and taxes with low priced products. Manufacturers buy their raw materials at wholesale prices, which are low, and sell their products at wholesale prices, which are also low. Farmers have the problem of buying their supplies at retail prices, which are high, and selling their products at wholesale prices, which are low.

In order to meet this situation, it is important for farmers to reach nearer to wholesalers in buying and nearer to consumers in selling. Only a few farmers can sell by truck, roadside stands and on municipal markets at retail. For most farmers the only feasible way of reducing costs of distribution is through efficient cooperative organizations. The most important means of reducing costs of distribution of incoming supplies and of outgoing farm products are by studies of methods of reducing costs and by active support of efficient cooperative organization for buying and selling.

5. Make Increased Use of the County Agent, the State College, and Other Educational Forces: Since the major cause of the agricultural depression is price deflation and the resulting unfavorable price relationship for agriculture and not over-production of agricultural products, it has never been more important to support agricultural research and extension work. The application of the findings of scientific research in the production and marketing of agricultural products is a force tending to correct the distressed condition of agriculture. The farmers who have shown the greatest efficiency in their crop and live-stock operations have been those who were able to make practical applications on their own farms of the results of scientific research.

Research and extension teaching especially in the economic problems of production and marketing, are important ways of aiding the present agricultural situation by lowering production costs, by decreasing prices of commodities which farmers buy and by securing for farmers a larger portion of retail prices. The extension forces of the state and the county agents are more important now than formerly to aid farmers to adjust their businesses to the existing unfavorable economic conditions.