AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

FARM BUSINESS NOTES

Prepared by the Divisions of Agricultural Economics and Agricultural Extension
Paul E. Miller, Director Agricultural Extension

NO. 303 UNIVERSITY FARM, ST. PAUL APRIL 26, 1948

The Coming Squeeze in Agriculture

AUSTIN A. DOWELL and ARNOLD BREKKE

University Farm Radio Programs

HI-LIGHTS IN HOMEMAKING
10:45 a.m.

UNIVERSITY FARM HOUR—12:30 p.m.

Station KUOM—770 on the dial

Indications are that the end of the boom will reveal a cost-price situation that may place a severe squeeze on the net incomes of American farmers. This will not be an entirely new development but a resumption of the squeeze which set in following World War I and continued for the next two decades.

The inter-war squeeze was intensified by events accompanying the World War I boom. The expectation that high prices and high farm earnings would continue encouraged many farmers to go into debt to buy farm land, to erect new buildings, to invest heavily in farm equipment, and to purchase breeding stock at inflated prices.

An important long-run cause of the inter-war pressure on farm net income was the continuing revolution in agricultural techniques. These changes increased the productivity per agricultural worker and the total supply of farm products more rapidly than the increase in demand. This called for two significant adjustments: (1) a speeding up of the movement of surplus labor out of agriculture into other occupations and (2) an increase in size of farm in harmony with modern production techniques.

The 20-year inter-war squeeze was relieved by the war effort and by postwar activity to meet domestic demands and to supply considerable quantities of agricultural and nonagricultural products for shipment abroad, largely for relief and rehabilitation purposes. The World War II boom has temporarily overshadowed most of the forces which contributed to the inter-war squeeze, but many of these are likely to reappear, some in aggravated form, during the readjustment which lies ahead.

This discussion is concerned with the long-run rather than the short-run economic position of farmers. No attempt is made to forecast the end of the boom or the level of farm and nonfarm prices after the initial adjustment occurs. It is not yet clear whether the recent sharp drop in agricultural prices marks the beginning of the readjustment or whether the underlying inflationary forces are sufficiently strong to prolong the boom. If the latter should be the case, the squeeze will merely be delayed, not prevented; it will tend to be aggravated rather than softned. In other words the discussion is based upon the assumption that the boom will ultimately run its course and that it will not be possible, even if it were desirable, to stabilize prices, wages, and profits at the peak of the boom.

As agriculture has become more commercial, its dependence on the situation in the rest of the economy has increased. The typical farmer is a small-scale operator who sells his products in a highly competitive market in which prices are relatively flexible and buys in a market in which prices are relatively rigid. Under such conditions, farm net income fluctuates even more violently than prices of farm products. From the peak of the World War I boom to 1921, for example, prices paid by farmers dropped only 18 per cent, while prices received dropped 41 per cent and farm net income dropped 60 per cent. Again, from 1929 to 1932, prices paid by farmers dropped only 25 per cent, prices received dropped 50 per cent, and farm net income declined nearly 70 per cent.

The current boom, together with continuing technological changes, has added greatly to farm costs during recent years. Production expenses of American agriculture for 1947 totaled 16.3 billion dollars which was 50 per cent higher than the gross farm income for 1939, over two and one-half times the gross farm income for 1932, and only 1.4 billion dollars less than the gross farm income at the peak of the world war boom in 1919.

As would be expected, marketing margins have increased sharply along with the rise in prices. The charges for marketing farm food products were 55 per cent higher in 1947 than the average for 1935-39. The combination of high and relatively rigid farm costs and marketing margins and of relatively flexible prices for farm products will exert strong downward pressure on farm net income when the boom subsides.

Farmers will be unable to escape or even to reduce appreciably some production costs regardless of the relationship between prices received and prices paid. Among these are the costs for gas, oil, and repairs for farm implements, farm real estate and personal property taxes,

freight and other marketing charges, and essential family living.

There were relatively few tractors, trucks, and automobiles on farms when the crash in prices of farm products occurred shortly after the end of World War I. Hence, when depression struck, cash expenses for gas, oil, and tractor repairs were comparatively unimportant. The farm produced both the horses and the feed they consumed. This situation has changed greatly since 1920. The number of horses in Minnesota has declined to an average of 1.8 animals per farm, many of these too old for heavy work. Furthermore, much of the farm machinery now in use is adapted to tractors rather than to horses. Consequently, in most of the commercial farming areas of the state, if farms are to be operated at all, it will be necessary to pay cash for gas, oil, repair parts, and perhaps for labor to make the repairs, and ultimately to buy new tractors to replace those worn out. Farms, in general, are more highly mechanized now than a quarter of a century ago.

Farm real estate taxes tend to rise during a boom and, instead of declining promptly when depression sets in, may advance for some time thereafter. For example, they continued to rise for a decade after the break in prices in 1920. These must be paid regardless of farm net income, if the owner is to retain possession of the property. Attention also should be called to the possible effect of the large national debt on farmers as well as other groups of society.

Freight rates also have increased during the boom. Transportation costs, like most other farm costs, are likely to prove relatively inflexible and, hence, contribute to the pressure on farm net incomes.

There are some costs, however, which are more directly under the control of the farmer. Farmers and prospective farmers can avoid going heavily into debt during the boom. Young men may find it desirable to continue to work for wages somewhat longer before becoming renters. Renters can continue to rent until they accumulate a relatively larger down payment on a farm than is common in more normal times. Part owners can continue to rent part of the land they operate rather than assume a heavy mortgage to cover the purchase of additional land at inflated prices. Farm owners with limited surplus cash can postpone the erection of farm buildings, the purchase of farm equipment not urgently needed, or of high-priced breeding stock until the future becomes much clearer. A debt, whether it be a store debt, chattel mortgage, or farm mortgage, becomes a fixed charge on future earnings. Though it may appear modest during a boom, its liquidation may prove difficult in less prosperous times.

Other cash costs of little or no consequence on most farms at the time of the first world war have become relatively common during recent years. These include the purchase of hybrid and other improved seeds, chemical seed treatment, artificial breeding, baby chicks, insecticides, materials for weed control, commercial fertilizer, electric lights and power, and others. Some of these increase farm net income, others add to the convenience or satisfactions of farm life. In less prosperous times it may be necessary to reduce or eliminate the purchase of some items that add to the satisfactions of farm life without increasing net income.

The intensity of the squeeze will tend to vary with the size of the farm business. In general it will be most severe on uneconomic size units.

It is important that consideration also be given to developments which will tend to alleviate the squeeze. The population of the United States and of the world has increased considerably during recent years. There is growing recognition among the citizens of the United States of the part this country should and no doubt will play in the world economy. Much experience was gained from efforts made during the 1930's to prevent or relieve unemployment and to aid the underprivileged. To the extent that the potential demand for agricultural products can be made effective at home and abroad, it will soften the impact of the squeeze both in the short and long run.

The boom has enabled large numbers of farmers to pay off or reduce their debts and in some cases to increase liquid assets. Farmers, in general, are now in a much stronger position to withstand reduced net incomes than they were following the first world war. Improved credit facilities now available to farmers should contribute both to desirable adjustments in size of farm business and to efficient use of resources.

It is quite unlikely, however, that these or other counterforces will be sufficient to prevent an important squeeze on the net incomes of American farmers. This will lead to renewed demands for action to achieve specific economic and social ends. Programs designed to relieve the situation should seek to promote rather than retard desirable long-run adjustments.

Crop Costs in 1947

S. A. Engene

Net incomes from cash crops were high in southern Minnesota in 1947. Yields were high for many crops, and prices were high for all crops. Data on costs and returns for some of the cash crops are presented in the table below.

These data were obtained from records kept by farmers. The records were checked and summarized by the Minnesota Valley Canning Company in cooperation with the University of Minnesota. The farmers were located in an area between Wright county and Faribault county. Most of the farmers were above average in managerial ability and operated farms slightly larger than the average of their neighbors.

Even though all of the crops shown in the table yielded a substantial net return, some yielded more than others. All of these farmers obtained profits from their operations, but those with the best choice of crops obtained the most. Net returns from sweet peas or flax were twice as high as from sweet corn or winter wheat. These relationships will not hold for each year or for each farm. By substituting long-time average yields for his farm and expected prices for the figures shown in the table, each farmer can make a close estimate of the relative returns for his farm.

Costs and Returns per Acre for Cash Crops, Southern Minnesota, 1947

	Alaska peas	Sweet peas	Sweet corn	Flax	Winter wheat	Soy-beans
Number of farms	11	11	16	6	7	6
Acres per farm	14.3	15.0	18.5	17.5	12.7	17.7
Costs						
Man labor	$ 1.63	$ 1.57	$ 3.08	$ 4.62	$ 5.53	$ 2.52
Power	1.26	1.26	1.71	2.59	3.20	2.07
Contract labor and power	10.53*	15.30*	13.67*	.....	.....	4.15
Seed	22.17	22.40	.....	7.48	3.65	5.18
Twine	.....	.....	.....	.65	.70	.....
Commercial fertilizer	.62	.75	1.94	1.71	.....	.13
Manure	1.52	1.76	1.96	1.28	1.83	2.66
Threshing	.....	.....	.....	2.40	1.37	.....
Machinery	.74	.74	.98	1.62	1.62	1.28
Total operating	$38.47	$43.78	$23.34	$22.35	$17.90	$17.99
Land charge	7.50	7.50	7.50	7.50	7.50	7.50
Total cost	$45.97	$51.28	$30.84	$29.85	$25.40	$25.49
Return						
Crop value	$75.53	$117.66	$52.66	$106.98	$55.00	$76.04
By-product value	4.00	4.00	2.32	.....	2.00	.....
Net return	$33.56	$70.38	$24.14	$77.13	$31.60	$50.55
Yield	1,841 pounds	3,113 pounds	2.91 tons	17.2 bushels	25.0 bushels	22.7 bushels
Labor and power used						
Before harvest						
Man	2.3	2.2	4.4	1.8	1.7	3.2
Horse	.2	.....	.9	.2	.2	.9
Tractor	2.0	2.1	2.4	1.7	1.6	2.6
Harvest						
Man	.....*	.....*	.....*	4.8	6.2	.4
Horse	.....*	.....*	.....*	1.0	3.0	.....
Tractor	.....*	.....*	.....*	2.0	2.1	.4

* Performed by cannery or custom work.

Crop planning based upon such calculations will help to increase farm profits.

These data are valuable guides when selecting crops for a high profit crop rotation. They should not be used as an exact measure of "costs of production." Many estimates are necessary in calculations such as these. For example, most of the labor was supplied by the family, and it is very difficult to set a significant value upon this labor. Also, many operations serve for several crops. Thus, one seedbed preparation will serve for a crop of flax and for alfalfa that is seeded with it. Allocation of this cost to the flax and the alfalfa is necessarily arbitrary.

Investments in Farm Machinery

J. A. Shute and S. A. Engene

As farming becomes mechanized, more capital is required for machinery and equipment. According to the United States Census, Minnesota farmers valued their machinery at $195 per farm in 1900. In 1945 they valued it at $1,601, or more than eight times as much as in 1900. Of course, the index of machinery prices increased during this period. However, even if the machinery on farms in 1900 had been valued at 1945 prices, the value would have been about $375, giving a four-fold increase by 1945.

Two other factors must be considered. First, the value of machinery in 1945 included tractors and trucks but did not include automobiles. If automobiles had been included, the value would have been considerably higher than $1,601. Second, as a result of mechanization, farmers reduced their investment in horses and colts from $273 per farm in 1900 to $148 in 1945. They reduced the number of horses and colts from 4.5 in 1900 to 2.6 in 1945.

Since census figures include many very small farms, data from the Southeastern Minnesota Farm Management Service for the period 1928 through 1946 were used to provide information on trends on commercial farms. Those farms averaged slightly more than 200 acres in size and were equipped for efficient production. The investment in machinery and equipment, including the farm share of automobiles, rose from $1,895 for the years 1928-30, to $3,325 for the years 1944-46. Only a small part of this rise was due to higher prices; most of it was due to an increase in the amount of machinery. There was a large increase in the total number of tractors on farms during this period. Many farmers did not own any tractors in 1928; practically all owned at least one in 1946, and some had two or three. They also found it desirable to replace their horse-drawn implements with larger, more sturdy, and more expensive types designed for use with tractors. Many farmers added some of the harvesting machines such as corn pickers, combines, pickup balers, or field choppers which usually require a large investment.

Mechanization has increased until farmers now must invest a large amount of capital in machinery. As has been mentioned, the average value of machinery other than automobiles for all Minnesota farms in 1945 was $1,601. The value was even higher than this on the farms where most of the agricultural commodities were produced, since the census included as farms all units of at least three acres or with production worth $250 or more. In the western part of the state, where farms are fairly large and highly mechanized, the average census value was about $2,500 per farm. Among the members of the Southeastern Minnesota Farm Management Service the machinery investment averaged $3,325 for 1944-46. About one-seventh of them had investments of $5,000 or more.

Since the members of the farm management service probably had depreciated their machinery to one-half of the original value, the total purchase price was above $6,000. To replace it with new equipment at present prices would cost still more. During the years 1940 through 1946 farmers spent an average of $507 a year for new machinery. Complete data on purchases are not available for previous years, but probably these expenditures were considerably smaller.

This large investment in machinery is a serious obstacle for a young man who wishes to start farming. He may find it difficult to save enough to purchase machinery and livestock and to provide working capital. Unless he inherits property he must borrow heavily, must operate with less equipment than is needed for efficient operation, or must depend upon custom operators. Because of the large capital requirements, the beginning farmer may have to maintain a low level of living for many years before he can build his farm into an efficient unit.

Minnesota Farm Prices For March, 1948

Prepared by W. C. Waite and K. E. Ogren

The index number of Minnesota farm prices for March, 1948, is 269.6. This index expresses the average of the increases and decreases in farm product prices in March, 1948, over the average of March, 1935-39, weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, March, 1948, with Comparisons*

	Mar. 15, 1948	Feb. 15, 1948	Mar. 15, 1947		Mar. 15, 1948	Feb. 15, 1948	Mar. 15, 1947
Wheat	$2.34	$2.26	$2.53	Hogs	$21.40	$21.30	$26.90‡
Corn	2.00	1.79	1.28	Cattle	20.30	19.40	16.70‡
Oats	1.15	.99	.83	Calves	23.70	23.90	21.10‡
Barley	2.16	2.07	1.65	Lambs-sheep	19.29	19.11	19.56
Rye	2.22	2.03	3.35	Chickens	.184	.183	.200
Flax	5.89	5.78	8.20	Eggs	.373	.381	.378
Potatoes	1.60	1.50	1.15	Butterfat	.87	.93	.79
Hay	15.80	16.00	12.80	Milk	3.90	4.05‡	3.30‡
				Wool†	.41	.42	.41‡

* These are the average prices for Minnesota as reported by the United States Department of Agriculture.
† Not included in the price index number.
‡ Revised.

Prices of Minnesota farm products, as a whole, did not change from February to March; although crop prices increased 7 per cent, livestock prices increased 2 per cent, while prices of livestock products decreased 6 per cent. In the sharp price decline from January to February, crop prices decreased 18 per cent, livestock prices 13 per cent, and livestock products only 3 per cent. Thus, March prices of the three commodities groups were all about 10 per cent below the record January levels.

The March 15 index of Minnesota farm prices was 5 per cent above mid-March of 1947. The purchasing power of Minnesota farm products, however, was 4 per cent below a year ago because of a 9 per cent rise in the index of prices paid by farmers.

Indexes and Ratios for Minnesota Agriculture*

	Mar. 15, 1948	Mar. 15, 1947	Mar. 15, 1946	Average 1935-39
U. S. farm price index	259.2	256.4	191.4	100
Minnesota farm price index	269.6	257.7	175.4	100
Minn. crop price index	285.2	232.7	193.9	100
Minn. livestock price index	275.3	288.3	170.1	100
Minn. livestock product price index	254.2	233.3	171.9	100
U. S. purchasing power of farm products	131.2	141.8	128.6	100
Minn. purchasing power of farm products	136.4	142.5	117.9	100
Minn. farmers' share of consumers' food dollar	64.8†	64.9	64.1	48.2
U. S. hog-corn ratio	10.3	17.6	12.5	13.4
Minnesota hog-corn ratio	10.7	20.9	14.8	16.5
Minnesota beef-corn ratio	10.2	14.1	12.5	12.9
Minnesota egg-grain ratio	10.1	12.1	14.8	13.6
Minnesota butterfat-farm-grain ratio	22.8	28.9	33.5	32.4

* Explanation of the computation of these data may be had upon request.
† Figure for December, 1947.

Intended Crop Acreages for 1948

K. E. Ogren

The farmers' intentions to plant, as reported on March 1 to the Crop Reporting Board, indicate an increase of about 3 million acres over last year in the total acreage of principal crops planted or grown. The prospective total of 361 million acres is the third largest since 1937, but is one per cent below the goal set for 1948.

If present plans materialize, feed grains will be grown on about 5 million acres more than in 1947, an increase of more than 3 per cent. The corn acreage will be about the same as last year, but planned acreages of oats and barley are up 8 and 5 per cent, respectively. These increases reflect, in part, a desire for quick additions to a short feed supply.

Food grain acreage is likely to exceed that of last season by a very small amount. To a record winter wheat acreage may be added a spring wheat acreage only slightly smaller than in 1947, which will give a current planted acreage of all wheat a half million acres more than last year.

Oilseed crops will be grown on acreages smaller than either last year or the goals for 1948, despite a 6 per cent increase in flaxseed. A 10 per cent decline in soybean acreage is foreseen. The record soybean acreage in 1947 was largely the result of unfavorable spring planting conditions for small grain and corn.

In Minnesota, prospective shifts in acreage of corn, oats, barley, and flaxseed are not much different from the national picture. A record soybean acreage is expected with a 4 per cent increase over last year. A decrease of 6 per cent in spring wheat other than Durum is planned. Potato acreage, according to present intentions, will be the lowest in many years, almost 50 per cent below the 1937-46 average.

UNIVERSITY OF MINNESOTA
Department of Agriculture
Agricultural Extension
University Farm, St. Paul 1, Minn.

PAUL E. MILLER, Director
Form 8—4-48—2900
Permit No. 1201

PENALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE, $300

FREE—Cooperative Agricultural Extension Work, Acts of May 8 and June 30, 1914.

UNIVERSITY FARM, ST. PAUL 1, MINNESOTA
Cooperative Extension Work in Agriculture and Home Economics, University of Minnesota, Agricultural Extension Division and United States Department of Agriculture Cooperating, Paul E. Miller, Director. Published in furtherance of Agricultural Extension Acts of May 8 and June 30, 1914.