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THE INFLUENCE OF LIVESTOCK ON FARM EARNINGS

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Livestock has been growing rapidly in relative importance as a source of farm income in Minnesota for the past 25 years. During the years 1910 to 1914, 54 per cent of the gross cash income of Minnesota farmers was derived from crop sales and 46 per cent from the sales of livestock and livestock products. During the years 1926 to 1930, the proportion of income from crops was 24 per cent and that from livestock 76 per cent. Part of this difference is due to relatively higher prices for livestock and livestock products as compared with the prices of crops during the latter period but the major portion is due to an increased marketing of crops thru livestock. There has been a marked shift from cash sale crops to feeding crops. The acreage of wheat was decreased 66 per cent from 1910 to 1930 whereas the acreage of feeding crops was increased. The corn acreage was increased 122 per cent from 1910 to 1930 and the oat acreage 49 per cent during the same period.

This shift to feed crops and livestock farming indicates that farmers are finding the production of livestock more profitable than the production of crops for sale. Some of the ways in which livestock serve to increase the farmers' earnings are as follows: (1) by increasing the size of business, (2) by concentrating feed crops into products that are less expensive to ship, (3) by providing for a more complete utilization of the supply of labor, power and equipment than can be made with crops alone, (4) by converting into usable form products that otherwise would be wasted, and (5) by aiding in maintaining the productivity of the soil. Data from a 254-acre farm in Stevens County furnish specific illustrations of some of the effects of livestock upon the farm business.

Selling versus Feeding Crops in 1932

There were 166 acres of corn, small grain and roughages harvested on this Stevens County farm in 1932 and the total production of these crops was 128½ tons. The total cost of producing this tonnage was $1324 or $10.30 per ton. If the entire crop from this acreage had been sold at the prices prevailing December 1, 1932, the gross receipts would have been $609 or $4.74 per ton less than one-half the cost of production. In other words, if the entire crop had been sold directly, this farmer would have failed by $5.56 per ton of getting a fair remuneration for all the production costs involved. Instead of selling the entire crop, this farmer fed 86 tons to cattle, hogs and poultry. The gross income from this livestock was $2150. After deducting all other costs, there was $1022 left to pay for the 86 tons of farm-raised feed used, or a return of $11.88 per ton. This was $1.58 per ton more than it cost to produce the feed and $7.14 more than he could have secured by selling the crops at the December first price.

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A Cash Crop versus a Livestock Organization in 1932

The above computations are based on the crops grown on this farm in 1932. Obviously, if a farmer planned to sell all of his crops for cash, he would make a different selection than if he planned on feeding part of them. For this reason, a cropping plan was arranged for this farm which includes the crops commonly grown for sale in this locality and only enough feed crops to take care of the work horses. In 1932 the gross income from this organization would have been $710 as compared with an actual gross income of $2453 received when most of the crop was marketed thru livestock. The direct expense involved in the cash-crop organization would have been $202 as compared with $765 for the livestock organization. The balance left after deducting the direct expenses from the gross income, which is the return the farmer receives for his labor, management and land would have been only $508 with the crop organization. With the livestock organization his return was $1688, or more than three times as great.

A Comparison of Crop and Livestock Organizations with Normal Yields and Prices

Because crop prices prevailing in 1932 were the lowest in the present century and other prices were also abnormally low, the data used in the above illustration were recomputed on the basis of 1932 yields and the average prices prevailing during the years 1928 to 1930. With these conditions, the cash-crop organization would have yielded a gross income of $2393 and incurred direct expenses of $345, leaving a balance above direct expenses of $2048. With the livestock organization, the gross income would have been $5749, the direct expenses $1412 and the balance above direct expenses $4337. This gives livestock an advantage of $2289. The advantage of livestock with 1932 prices was $1180.

Crop yields were also low in Stevens County in 1932 because of abnormally low rainfall and excessive heat. For this reason the data were again recomputed, using ten-year average county yields of crops and 1928 to 1930 average prices. Under these conditions, the cash-crop organization would have yielded gross receipts of $2298 and incurred direct expenses of $329, leaving a balance over direct expenses of $1969. With the livestock organization, the gross income would have been $5850, the direct expenses $1396 and the balance above direct expenses $4454. With these conditions, the balance in favor of livestock would have been $2485. Under all three sets of conditions, the advantage is decidedly in favor of the livestock organization.

Livestock Increases the Size of Business

An important factor in increasing the returns from the livestock organization was the larger business possible on the same acreage of land. The work involved in raising the crops grown in the cash-crop organization would have required only 164 ten-hour days of direct crop labor. The livestock organization, on the other hand, required 638 ten-hour days of labor or nearly four times as much. Even tho the return per day was slightly less for the livestock organization, the increased size of business far more than offset this disadvantage. Furthermore, the fixed charges for the land and capital goods used by both organizations represented a relatively smaller charge against the large livestock business than it did in case of the smaller business involved in the crop organization.

Livestock Concentrate Feed Crops into Products Less Expensive to Ship

The livestock products sold were butterfat, eggs, poultry and beef. The freight charges on these products are much less than on the crops used in producing them. Since Minnesota is relatively distant from large consuming centers, the price of livestock products is relatively higher in proportion to crops than in areas nearer to consumption centers. This gives livestock a definite advantage with the present high costs of transportation.

Livestock Serve to Utilize the Supply of Labor, Power and Equipment over More of the Year than is Possible with Crops

Under the cropping system outlined, the farmer would be engaged in directly productive work only about one-half of the year. Because of the seasonality of crop labor, there would be periods during this time when the operator would not be fully employed and other periods when it would be necessary to hire additional help. The livestock organization would provide productive employment for him thruout the year. Furthermore, some of the power and equipment needed for crops could be utilized profitably by livestock at times when there was no crop work to be done.

Livestock Use Farm Products that might Otherwise be Wasted

There were 33 acres of non-tillable pasture on this farm. This was more than was needed for the work horses. Cattle converted this as well as other non-salable roughage into marketable products. On most farms there are low grade crop products or crop by-products, such as corn stalk pasture and straw, that have little or no sale value but that can be converted into salable products by livestock.

Livestock Aid in Maintaining the Productivity of the Soil

Livestock aid in maintaining soil productivity in two ways. By feeding crops to livestock and returning the manure, much of the fertility is returned to the land that is lost when crops are sold. Manure also aids in maintaining a good physical condition of the soil. Furthermore, livestock provide a means of utilizing profitably soil-building crops such as legume hays and pastures. In the illustration cited, the crop yields were assumed to be the same for the crop organization as for the livestock organization. However, it is common experience that yields are higher on farms on which livestock are maintained and therefore the actual advantage of livestock is greater than that indicated.

MINNESOTA FARM PRICES FOR JUNE 1933

Prepared by Adena E. Terras

The index number of Minnesota farm prices for the month of June 1933 was 47.7. When the average of farm prices of the three Junes 1924-25-26 is represented by 100, the indexes for June of each year from 1924 to date are as follows:

June 1924 - 84.2	June 1929 - 108.6
" 1925 - 108.1	" 1930 - 90.3
" 1926 - 109.5	" 1931 - 57.6
" 1927 - 99.8	" 1932 - 38.7*
" 1928 - 109.7	" 1933 - 47.7*

*Preliminary

The price index of 47.7 for the past month is the net result of increases and decreases in the prices of farm products in June 1933 over the average of June 1924-25-26 weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, June 15, 1933, with Comparisons*

	June 15, 1933	May 15, 1933	June 15, 1932	Av. June 1924-25-26	% June 15, 1933 is of May 15, 1933	% June 15, 1933 is of June 15, 1932	% June 15, 1933 is of June 15, 1924-25-26
Wheat	$.60	$.59	$.43	$1.36	102	140	44
Corn	.28	.29	.26	.69	97	108	41
Oats	.20	.18	.17	.39	111	118	51
Barley	.29	.32	.26	.59	91	112	49
Rye	.46	.39	.21	.74	118	219	62
Flax	1.41	1.22	.88	2.31	116	160	61
Potatoes	.29	.27	.32	.84	107	91	35
Hogs	3.90	3.90	2.70	9.87	100	144	40
Cattle	4.00	3.80	3.70	6.26	105	108	64
Calves	4.45	4.50	4.50	8.44	99	99	53
Lambs-sheep	5.32	4.67	4.53	11.28	114	117	47
Chickens	.078	.086	.083	.180	91	94	43
Eggs	.08	.11	.09	.24	73	89	33
Butterfat	.21	.21	.16	.40	100	131	53
Hay	5.88	6.14	7.72	11.57	96	76	51
Milk	1.00	.86	1.04	1.98	116	96	51

*Except for milk, these are the average prices for Minnesota as reported by the United States Department of Agriculture.

Indexes and Ratios of Minnesota Agriculture*

	June 1933	May 1933	June 1932	Av. June 1924-26
U.S. farm price index	46.0	44.9	37.4	100.0
Minnesota farm price index	47.7	48.6	38.7	100.0
U.S. purchasing power of farm products	70.5	70.2	54.5	100.0
Minnesota purchasing power of farm products	72.3	75.9	55.3	100.0
U.S. hog-corn ratio	9.9	10.0	9.6	-
Minnesota hog-corn ratio	13.9	13.4	10.4	14.5
Minnesota egg-grain ratio	11.0	15.5	15.3	14.5
Minnesota butterfat-farm grain ratio	35.5	36.2	30.8	33.2

*Explanations of the computation of these data are given in Farm Business Notes No. 126.

MINNESOTA FARM PRICES FOR JULY 1933

Prepared by Adena E. Terras

The index number of Minnesota farm prices for the month of July 1933 was 55.8. When the average of farm prices of the three Julys 1924-25-26 is represented by 100, the indexes for July of each year from 1924 to date are as follows:

July 1924 -	84.8	July 1929 -	109.5
" 1925 -	107.3	" 1930 -	82.2
" 1926 -	107.4	" 1931 -	57.4
" 1927 -	97.8	" 1932 -	43.7*
" 1928 -	110.3	" 1933 -	55.8*

*Preliminary

The price index of 55.8 for the past month is the net result of increases and decreases in the prices of farm products in July 1933 over the average of July 1924-25-26 weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, July 15, 1933, with Comparisons*

	July 15, 1933	June 15, 1933	July 15, 1932	Av. July 1924-25-26	% July 15, 1933 is of June 15, 1933	% July 15, 1933 is of July 15, 1932	% July 15 1933 is of July 15, 1924-25-26
Wheat	$.95	$.60	$.38	$1.39	158	250	68
Corn	.48	.28	.28	.80	171	171	60
Oats	.38	.20	.15	.39	190	253	97
Barley	.51	.29	.22	.64	176	232	80
Rye	.84	.46	.20	.72	183	420	117
Flax	1.92	1.41	.83	2.21	136	231	87
Potatoes	.50	.29	.34	.97	172	147	52
Hogs	3.90	3.90	4.30	9.99	100	91	39
Cattle	3.95	4.00	4.90	6.17	99	81	64
Calves	4.40	4.45	5.00	9.10	99	88	48
Lambs-sheep	5.47	5.32	4.66	11.33	103	117	48
Chickens	.082	.078	.090	.181	105	91	45
Eggs	.11	.08	.10	.24	138	110	46
Butterfat	.24	.21	.16	.41	114	150	59
Hay	7.33	5.88	7.20	11.70	125	102	63
Milk	1.18	1.00	1.05	2.01	118	112	59

*Except for milk, these are the average prices for Minnesota as reported by the United States Department of Agriculture.

Indexes and Ratios of Minnesota Agriculture*

	July 1933	June 1933	July 1932	Av. July 1924-26
U.S. farm price index	54.7	46.0	41.0	100.0
Minnesota farm price index	55.8	47.7	43.7	100.0
U.S. purchasing power of farm products	82.3	70.5	60.2	100.0
Minnesota purchasing power of farm products	83.3	72.3	63.3	100.0
U.S. hog-corn ratio	7.2	9.9	14.1	-
Minnesota hog-corn ratio	8.1	13.9	15.4	13.2
Minnesota egg-grain ratio	9.0	11.0	18.3	14.0
Minnesota butterfat-farm grain ratio	22.4	35.5	33.3	32.0

*Explanations of the computation of these data are given in Farm Business Notes No. 126.