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FARM BUSINESS NOTES

Prepared by the Divisions of Agricultural Economics and Agricultural Extension
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UNIVERSITY FARM, ST. PAUL

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Livestock Production Outrunning Feed Supply

SELMER A. ENGENE

Livestock production in Minnesota is increasing rapidly. A recent study of agricultural production in the state indicates that feed needs in 1942 will exceed feed production.¹ Plans for changes in feed or livestock production must be made soon in order to avoid feed shortages in the future.

The current expansion in livestock production is a continuation of more than five years of constant increases. The number of milk cows increased by 5 per cent from 1937 to 1941, all cattle by 11 per cent, native sheep by 12 per cent, chickens by 20 per cent, and hog production by 60 per cent. The largest increases in 1942 will be in hog production, estimated at 16 per cent over 1941, and chickens, 24 per cent.

This increasing livestock production has required increasing supplies of feed. The quantities of corn and small grains used for feed during the years 1937 through 1941 increased by 35 per cent (table 1). The quantity of roughages used each year increased by 70 per cent, from 8,135,000 tons in 1937 to 9,003,000 tons in 1941.

Feed requirements will be even higher in 1942. The approximate quantities of concentrates and roughages needed in 1942 are presented in table 2. Corn and small grains needed will be 6,406,000 tons, or 10 per cent more than in 1941. Roughages needed will be 4 per cent above 1941.

Feed requirements have increased since 1937, but feed production has not. Low feed requirements and high yields made it possible for farmers in the state to increase materially reserves of corn and small grains on their farms during 1937, 1938, and 1939 (see table 1). But larger feed requirements, a large volume of sales, and lower feed production made it necessary to draw on feed reserves in 1941.

According to present indications,² the production of concentrates in 1942 will be slightly higher than last year (table 1). The production of oats is 50 per cent larger than in 1941 while the production of barley, wheat, and rye is about 10 per cent larger. But the production of

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corn may be about 12 per cent below last year, although this will be influenced by weather conditions during August and September. Production in 1943 may be lower than in 1942.

With the production of concentrates in 1942 slightly higher and in 1943 equal to that in 1941 and with feed requirements considerably higher, it will be necessary for

farmers to draw on reserves more heavily than in 1941. On the basis of estimates presented here, how long will the present feed reserves on Minnesota farms last?

According to present indications the sales of corn and small grains in 1942 will be at least as high as in 1941,

Table 1. Production and Utilization of Corn and Small Grains

Use and crop	1937	1938	1939	1940	1941	1942*	1943†
Thousands of tons							
Production less seed:							
Corn	3,849	3,602	4,828	3,932	4,578	4,027	4,523
Oats	2,453	1,872	2,237	2,689	1,648	2,448	1,824
Barley	1,122	1,041	1,314	1,266	975	1,080	825
Wheat	976	1,051	591	889	547	584	495
Rye	277	249	189	145	87	116	103
Total	8,677	7,815	9,159	8,921	7,835	8,255	7,770
Feed:							
Corn	1,863	2,442	2,797	3,030	3,114	.....	.....
Oats	1,575	1,623	1,741	1,979	1,965	.....	.....
Barley	582	485	722	529	496	.....	.....
Wheat	178	214	124	121	126	.....	.....
Rye	62	54	42	46	44	.....	.....
Total	4,260	4,818	5,426	5,705	5,745	.....	.....
Sales:							
Corn	454	748	860	1,428	1,148	.....	.....
Oats	257	459	329	480	320	.....	.....
Barley	459	467	547	696	624	.....	.....
Wheat	600	693	660	630	600	.....	.....
Rye	165	184	153	84	56	.....	.....
Total	1,935	2,551	2,549	3,318	2,748	.....	.....
Changes in stocks on farms from Jan. 1 to Jan. 1 (including sealed grain)							
Corn	+1,532	+412	+1,171	-526	+316	.....	.....
Oats	+ 621	-210	+ 167	+230	-637	.....	.....
Barley	+ 81	+ 89	+ 45	+ 41	-145	.....	.....
Wheat	+ 199	+144	- 193	+138	-179	.....	.....
Rye	+ 49	+ 11	- 6	+ 15	- 13	.....	.....
Total	+2,482	+446	+1,184	-102	-658	.....	.....

* Estimates of U. S. Crop Reporting Board as of July 1 for corn and rye and July 17 for oats, barley, and wheat.

† Probable acreage in 1943 multiplied by 25-year average yields with adjustment for hybrid corn.

¹ Wartime Farm Adjustments in Minnesota, an unpublished report to the Secretary of Agriculture.

² Written August 4.

Table 2. Feed Required by Minnesota Livestock in 1942

Class of Livestock	Number of units	Per unit		Total	
		Concentrates	Roughages	Concentrates	Roughages
		Pounds	Tons	Thous. tons	Thous. tons
Work horses	551,000 hd.	1,800	2.20	496	1,212
Other horses	49,000 hd.	300	1.50	7	74
Milk cows	1,807,000 hd.	790	2.80	715	5,065
Other cattle	1,991,000 hd.	555	1.36	553	2,699
Native sheep	1,167,000 hd.	17	.26	10	302
Feeder lambs	270,000 hd.	100	.10	14	27
Hogs	1,602 mill. lbs.*	485†	.....	3,885	.....
Chickens	2,290,000 hens	85	.....	973	.....
Turkeys	47 mill. lbs.*	750†	.....	178	.....
Total required				6,831	9,379
Commercial feeds				425	
Corn and small grains				6,406	

* Marketable hogs and turkeys produced during the year.

† Feed per 100 pounds produced.

or 2,750,000 tons. Sales and feed will total 9,156,000 tons, or 901,000 tons more than production. Unless considerable feed is shipped in, which does not seem likely, or wheat is released for feed, this feed must be obtained from stocks now on farms. The 901,000 tons is equivalent to 32 million bushels of corn. The effect of this upon the farm stocks of corn and oats is shown in table 3. These are the principal crops of which considerable stocks are carried on farms. By January 1, 1943, the quantity of corn on farms will be down to 105 million bushels. Most of this will be used by harvest time in 1943. The same situation holds true for oats.

About 9 million bushels of corn is held by the Commodity Credit Corporation in steel bins or country elevators in the state, but this is only 6 per cent of one year's crop.

Adequate Supply of Roughage

The quantity of roughage required in 1942 will be larger than during past years, but the supply appears adequate. Pastures have been very good in most sections of the state. Hay yields are very high although rain reduced the quality of a large part of the first cutting. Since a part of the increased acreage of corn, soybeans, and flax may come out of hay and pasture, average or lower yields in 1943 may cause a shortage of roughages.

Table 3. Farm Stocks of Corn and Oats in Minnesota

Year	Jan. 1	April 1	July 1	Oct. 1
		(1,000 bushels) Corn, grain		
1932-38	54,810	31,302	16,304	9,335
1939	98,579	67,773	52,986	38,199
1940	140,391	103,622	81,895	68,524
1941	121,622	82,433	58,108	45,946
1942	132,922	91,779	53,802	40,000*
1943	105,000*	.....	.....	.....
		Oats		
1932-38	83,305	53,101	23,107	72,076
1939	92,664	61,776	27,027	130,521
1940	103,123	62,177	27,297	159,100
1941	117,517	74,126	36,159	99,776
1942	77,773	47,568	20,883	130,000*
1943	90,000*	.....	.....	.....

* Calculated from estimated 1942 production and feed requirements as presented in text.

These estimates indicate that the present or a slightly higher level of livestock production can be continued until the harvest season of 1943. Continuation of a high level of production after that date will require (1) increased feed production, (2) a new source of feed, or (3) more efficient utilization of feed.

Corn will produce more feed than will small grains in southern Minnesota. Substitution of corn for oats, barley, and wheat in 1943 will increase the feed supply. The acreage of hay and pasture, particularly the high yielding legumes, should be maintained. Good cultural practices, good seed of proven varieties, and wise use of manure and commercial fertilizers will help to increase yields.

New Feed Sources Scarce

New sources of feeds are scarce. Little feed can be purchased from neighboring states because they are likely to experience a similar shortage. Industrial needs for grains may expand rather than contract. But stocks of wheat are abnormally large. In view of the prospective feed situation, this wheat should be kept available for feed use in order to assure adequate supplies of livestock and livestock products.

Improvement in the efficiency of feeding are improbable. Labor shortages and disease problems arising from more livestock will make this difficult.

The need for feeds in excess of production must be faced seriously, and soon. The energies of farmers and governmental agencies must be directed to increasing, not limiting, feed production. Feed crops must be reserved for livestock unless other rises will contribute more to our war effort than will adequate supplies of food.

Prices Obtained for Minnesota Farms Sold by Principal Corporate Lending Agencies

A. A. DOWELL

Prices obtained for farms sold in Minnesota by the principal corporate lending agencies were slightly lower during 1940-41 than during the preceding two-year period. The weighted average sale price for the state declined from \$35 per acre in 1938-39 to slightly over \$32 per acre in 1940-41.

Agencies which supplied farm land sales data included insurance companies, trust companies, joint stock land banks, the Minnesota Department of Rural Credit, and the Federal Land Bank and Federal Farm Mortgage Corporation. These agencies sold 2,587 Minnesota farms in 1938, 2,601 in 1939, 3,368 in 1940, and 3,143 in 1941, or a total of 5,188 during 1938-39 and 6,511 during the last two years.

Of the farms sold by these agencies during 1940-41, 43 per cent were sold by the Minnesota Department of Rural Credit, about 32 per cent by the Federal Land Bank and Federal Farm Mortgage Corporation, nearly 19 per cent by insurance companies, 4 per cent by joint stock

Table 1. Number of Farms Sold in Minnesota by Principal Corporate Lending Agencies and Average Sale Price Per Acre, by Districts, 1938-39 and 1940-41

District	1938-39		1940-41	
	Number of farms sold	Average sale price per acre	Number of farms sold	Average sale price per acre
Southeastern	471	\$44	706	\$41
Southwestern	846	58	990	60
West Central	928	31	1,344	29
East Central	1,356	19	1,829	16
Northwestern	1,050	19	1,036	14
Northeastern	537	12	606	9
State	5,188	\$35	6,511	\$32

land banks, and nearly 3 per cent by trust companies. The distribution of sales made by the various types of agencies differed greatly from district to district. Sales by insurance companies were concentrated largely in the southern and west central parts of the state; by the Federal Land Bank and Federal Farm Mortgage Corporation and by joint stock land banks in the central part of the state; by trust companies in the central and northwestern areas; and by the Minnesota Department of Rural Credit in the east central and northern areas.

Sale prices were lower in 1940-41 than in 1938-39 in all parts of the state except the southwestern district (table 1). The greatest relative declines occurred in the northwestern and northeastern areas.

The data revealed no significant change in the trend of sale prices for the state as a whole during 1940-41. The weighted average sale price was slightly higher in 1941 than in 1940 in the southeastern and northwestern districts, slightly lower in the northeastern and east central districts, and approximately the same in the other districts.

It is possible that the farms sold during 1941 were less desirable on the average than those sold during 1940, and that those sold during 1940-41 were less desirable than those sold during the preceding two-year period. On the other hand, it is possible that some of the agencies tended to lower asking prices to hasten liquidation of acquired properties. The effect, if any, which these factors may have had on sale prices could not be determined from the available data. Inflation had not had sufficient time to have much effect on the sale prices reported herein.

Adapting Farm Leases to War Conditions

J. B. McNULTY

Farm leases are equitable when both parties share in the income in the proportion that each contributes to obtaining the income. But in short periods of changing price levels cash rent is likely to be above or below an equitable level. At present a tenant whose cash rent is based on 1935-39 prices for farm products is in a favorable position. But a tenant with a long-term lease, with cash rent based on present prices, may be unable to pay his rent if prices decline to 1935-39 levels or if there is a marked increase

in operating costs before his lease expires. Since the former arrangement is unfavorable to the landlord and the latter is unfavorable to the tenant, one or the other is likely to want to change. Under these conditions the length and security of tenure is likely to be reduced. At present cash leases should be for a one-year period or be subject to annual revision.

With a crop share lease, rent is paid with a share of the crop. Under a livestock share lease a specified share of the crops, livestock, and livestock products is given. These types of leases adjust rent to variations in production and prices and are, therefore, particularly suited to our present situation. But in the past, cash leases have increased in periods of relatively high prices. Expectations of making a better deal on a cash basis will be strong. Another factor will be the higher cost of supervising livestock share leases. In some instances, the advantages of cash leases may outweigh the advantages of the price adjustment features of share leases for a particular farm, tenant, or landlord.

Cash rent may, however, be adjusted to price changes if the rent is based on specified quantities of farm products. For example, if the annual cash rent for a 180-acre farm from 1935-39 was \$900.00, or \$5.00 per acre, and the three leading products, butterfat, hogs, and corn, contributed in about equal shares, or one third each, to the farm receipts, then rent would be determined as follows: About one third of the total cash rent or approximately \$300.00 would be paid from the sale of each product. During the five-year period 1935-39, butterfat averaged \$0.274 per pound; hogs \$8.40 per 100 pounds; and corn \$0.61 per bushel. The average quantity of each product required to pay the annual cash rent during this five-year period is obtained by dividing \$300.00 by these average prices and is approximately as follows: butterfat 1,100 pounds, hogs 3,600 pounds, corn 490 bushels. If the landlord received the cash equivalent of these quantities, his average rent for the five-year period would have been \$900.00. The advantage of this plan is that the tenant pays more rent when prices are high and less rent when prices are low. The lease might specify that the 1,100 pounds of butterfat would be paid in 12 equal monthly installments; that the 3,600 pounds of hogs would be delivered at the usual marketing date; and the 490 bushels of corn on some specified date in the husking season.

This arrangement does not obligate the tenant to produce either the kind or the amounts of the products specified in the lease. He pays the cash equivalent of these quantities. Except for the method of determining the rent due, the lease retains all of the usual characteristics of a cash lease.

If actual records are not available, the percentages of the total receipts obtained from leading sources may be approximated from sales slips, cream stubs, or other sources, or these percentages may be assumed to be about the same as for the community in which the farm is located. In cases where the farming system is changed, estimates may be made on the basis of planned acreages and numbers of livestock. This method of adjusting cash rent was used by a Minnesota landlord and his tenant from 1931, until the landlord died in 1941.

Minnesota Farm Prices For July, 1942

Prepared by W. C. WAITE and H. G. HIRSCH

The index number of Minnesota farm prices for the month of July, 1942, was 145. When the average of farm prices of the five Julys, 1935-39, is represented by 100, the indexes for July of each year from 1935 to date are as follows:

1935— 95	1937—122	1939— 80	1941—121
1936—108	1938— 94	1940— 87	1942—145

The price index of 145 for the past month is the net result of increases and decreases in the prices of farm products in July, 1942, over the average of July, 1935-39, weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, July 15, 1942, with Comparisons*

	July 15, 1942	June 15, 1942	July 15, 1941		July 15, 1942	June 15, 1942	July 15, 1941
Wheat	\$.98	\$.96	\$.86	Cattle	\$11.00	\$11.00	\$ 8.70
Corn .....	.72	.70	.56	Calves	12.70	12.70	10.20
Oats .....	.40	.40	.27	Lambs-Sheep	11.52	11.34	9.11
Barley .....	.66	.70	.41	Chickens .....	.16	.15	.15
Rye .....	.49	.50	.43	Eggs .....	.28	.27	.23
Flax	2.28	2.33	1.72	Butterfat .....	.40	.40	.38
Potatoes	1.25	1.00	.60	Hay	4.70	5.50	4.20
Hogs	13.70	13.40	10.10	Milk	2.00	2.00	1.75
				Wool† .....	.39	.39	.38

* These are the average prices for Minnesota as reported by the United States Department of Agriculture.

† Not included in the price index number.

The changes in crop prices tended to lower the Minnesota farm price index, while livestock product prices offset this tendency by a slight rise. Thus and with livestock prices stable, the Minnesota farm price index shows a change of less than 1 per cent for the third month after a steady upward movement from October, 1941 to May, 1942.

The farmers' share of the consumers' food dollar is highest for any June since 1920 and second highest for any month since September, 1928, exceeded only by the figure for April, 1942, which was 57.9.

Indexes and Ratios for Minnesota Agriculture*

	July 15, 1942	June 15, 1942	July 15, 1941	Average July 1935-39
U.S. farm price index	146.4	146.3	118.8	100
Minnesota farm price index	145.2	145.1	120.6	100
U.S. purchasing power of farm products	120.4	120.5	115.1	100
Minn. purchasing power of farm products	119.4	119.5	116.9	100
Minn. farmers' share of consumers' food dollar		56.4†	51.4	47.0
U.S. hog-corn ratio	16.6	16.3	14.7	11.9
Minnesota hog-corn ratio	19.0	19.1	18.0	14.3
Minnesota beef-corn ratio	15.3	15.7	15.5	12.0
Minnesota egg-grain ratio	19.8	19.3	20.3	14.4
Minnesota butterfat-farm-grain ratio	31.0	30.7†	42.9	29.8

* Explanation of the computation of these data may be had upon request.

† Corrected figures for June 15, 1942. Minn. farmers' share of consumers' food dollar for May 15, 1942, was 55.7.

Monthly Sources of Minnesota Farm Income

The source of Minnesota farm income shows considerable variation throughout the year. The relative importance of each of the three groups—crops, livestock, and livestock products—is shown by months for the period 1935 to 1939 in the table below. The crop group includes wheat, corn, oats, barley, rye, flax, potatoes, and hay; the livestock group includes hogs, cattle, calves, and lambs-sheep; and the livestock products group includes butterfat, milk, eggs, and poultry.

Proportions of Income from Sale of Various Groups of Products on Minnesota Farms, 1935 to 1939

	Crops	Livestock	Livestock Products	Total
January	14.2	50.5	35.3	100.0
February	16.6	44.9	38.5	100.0
March	19.6	44.5	35.9	100.0
April	15.2	41.1	43.7	100.0
May	15.6	36.5	47.9	100.0
June	12.4	40.0	47.6	100.0
July	17.5	38.2	44.3	100.0
August	47.4	25.5	27.1	100.0
September	36.1	35.1	28.8	100.0
October	24.8	46.8	28.4	100.0
November	18.0	48.9	33.1	100.0
December	15.2	49.3	35.5	100.0

Crops are the most important source of income in only two months, August and September, and in all other months except October provided less than one fifth of the income. Livestock sales provide the largest share of the receipts from October to March and furnish nearly half of the income in the period from November to January. From this period there is a decline in relative importance until the following August at which time livestock contributes only about one fourth of the total receipts. Livestock products are the most important source of income from April to July. They reach a peak of 48.7 per cent of the income in June. This diversity of receipts results in a fairly stable agricultural income in the state throughout the year.

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