FARM BUSINESS NOTES

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NO. 281 UNIVERSITY FARM, ST. PAUL MAY 24, 1946

Minnesota Egg and Poultry Processing and Marketing

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The poultry industry in Minnesota has been expanded so that 3,757,000,000 eggs were produced in 1945 compared with an annual average production of only 1,599,000,000 during the prewar years of 1935 to 1939. This increase was the result of a larger number of layers and more eggs per layer. Because a large portion of the poultry meat supply is produced in flocks maintained for egg production, poultry meat production in Minnesota has increased correspondingly. In line with this increase, egg and poultry buying and processing facilities were expanded during the war period and further expansion is contemplated.

A survey was made in 1945 by the Agricultural Extension Division to study the trends in the industry and especially the developments in processing and marketing.

Local Buyers—Eggs: Average weekly purchases were only about 260 cases of eggs, or about a half carload. When refrigeration facilities are not available, small volume operation makes it difficult, if not impossible, to ship in carlots because the eggs lose quality by the time a carload has been accumulated. Local creamery buyers had refrigeration and were in a better position to accumulate carlots. Several also found it possible to combine butter and egg shipments, thereby increasing the frequency of shipment. Because of low volume, most local egg buyers operate a pickup station for a regional buyer. Most local buyers procured eggs from producers about twice a week. The method of procurement varied greatly, from door delivery by producers to pickup on special trucks owned by the buyer. Creameries picked up eggs on the regular cream trucks as a means of cutting the per unit hauling cost for both products.

The variety of grades used by local buyers indicates a need for more uniform "purchase grades." There is also need for more uniform interpretation of grades, so that grade A or grade B or grade C will mean the same thing when used by different local buyers. Eggs were oiled by local buyers, but no other processing was done.

Regional Buyers—Eggs: Regional buyers had an average of 13 pickup stations, with a range from 5 to 32. An average of 4,086 cases of eggs were handled per week. No special pattern was followed in obtaining the eggs. Along with the eggs received from stations, all regional buyers received eggs directly from farmers. Such eggs were largely delivered at the door by producers. Most regional buyers had their own trucks pick up the eggs from stations three times a week. *Large volume* makes it possible for most of these operators to ship out carlots of shell eggs daily. Large volume is especially necessary where drying equipment has been installed, and also helps greatly in holding per unit costs low in "egg breaking" operations.

Most regional buyers had adequate refrigeration at the central plant but had no cooling facilities at pickup stations. With an average pickup from farms of twice a week at local receiving points, and an average pickup from local stations of three times a week, a substantial proportion of the eggs are more than a week old before they are properly cooled at a regional plant. In hot weather the quality has already materially deteriorated before the eggs start for terminal markets. Some buyers are considering refrigeration facilities at pickup stations. Other buyers are considering the expansion of direct-from-farm pickup around the central plant, and in this way replacing the supply of eggs now being obtained from local receiving stations. With present circumstances local buyers who ship directly to terminal markets and the regional buyers alike encounter a quality problem. The local buyers, who are largely without refrigeration, do not accumulate carlots fast enough, and the regional buyers have too much delay before the eggs arrive where there are cooling facilities. This problem needs further attention.

All of the regional buyers were buying eggs on grade and most buyers found "some kind" of a three-grade system to be the most practical. The grades were in effect both wholesale and local purchase grades because the same grades were used for eggs purchased from stations as for the eggs purchased directly from producers. Like the buying grades used by local buyers, there was little uniformity in the grades used by regional buyers. Some buyers with the same market outlet used distinctly different purchase

grades. It should be possible and practical for both local and regional buyers and helpful to the industry to adopt more uniform standards and purchase grades of eggs.

Only a few regional egg dealers have installed egg-drying equipment. It is generally agreed that egg drying was largely a wartime enterprise and that it will be largely discontinued when the relief emergency period is over.

About half of the regional plants were breaking and freezing eggs. This phase of the egg industry is expected to continue after government buying ceases. A large volume of surplus shell eggs move from Minnesota to consumer markets in Chicago and the East. The egg-breaking enterprise nicely supplements such a shell egg program and together with improvements in refrigeration and transportation makes Minnesota a stronger competitor in the egg business with the East and Pacific coast area than before the war.

Local Buyers—Poultry: The volume of poultry handled by local buyers averaged only about 250,000 pounds per year. With few exceptions local buyers operated a pickup station for a regional buyer, had no facilities for dressing, and sold live poultry. The major proportion of the supply was delivered at the door by producers. The local buyers in turn moved it out as soon as possible to avoid loss from shrinkage. No chickens were bought on grade. Hens were bought as "heavy" or "light" with a price differential. In practically all cases spring chickens were bought at the same price, whether heavy or light. A problem in buying poultry on grade is the small volume handled by local buyers who, in many cases, do not have sufficient facilities or experience to do an effective job of grading.

Regional Buyers—Poultry: The average volume of poultry handled was over 2½ million pounds per year. As with eggs, the regional buyers were serving as local buyers as well as wholesale or regional buyers. Local poultry was largely delivered at the door by producers, although some dealers sent out special trucks or picked up poultry on egg trucks. Poultry from local pickup stations was hauled in by the regional buyer's own truck.

It is doubtful whether much improvement can be expected in the quality of poultry produced and sold as long as the present buying system prevails. Although "rejects" were sent back or were killed, most of the regional buyers bought on the basis of only heavy and light hens and heavy and light "springs," with no further quality or grade differentiation. Practically all poultry was sold on government grades, A, B, and C, even though it was not purchased on grade.

All regional buyers were dressing poultry. There was considerable variation in methods of operation, sanitary conditions, and general efficiency. Although most employees were paid on a piecework basis, a minimum wage rate was in effect in most plants. A low output per worker therefore resulted in a higher cost per bird dressed. The average number of birds dressed per worker per day was 199 and the range was from 100 to 250. Only about one fourth of the plants were waxing. Most of the rest had done some waxing but had discontinued, which indicates that it is on a downward trend. To justify the heavy expenditure in waxing equipment, as well as the effort and expense in heating the wax and getting the operation started, a continuous large volume of poultry is required. A dealer with small volume can start dressing operations with a much smaller investment and in less space when waxing is not included.

Hand roughers were used on a very limited scale. The common practice was to use two mechanical roughers for rough picking and to follow with hand pickers.

About one fourth of the plants were eviscerating poultry, and indications are that evisceration will expand. Evisceration is highly specialized, with a large number of employees performing their special tasks.

From limited records available, it was observed that the evisceration of poultry is a more time-consuming operation than dressing. Successful evisceration requires thorough cleaning and washing of the birds after evisceration, rapid sharp freezing, and storage at low temperatures.

Only one of the large plants surveyed was canning chicken. This plant was equipped with a neat, clean, and well-ventilated canning room. All chicken was "boned" previous to canning. The operators were hopeful and confident that a domestic outlet would be available for some canned chicken when government purchases would end. However, it was indicated that the expense involved in canning would probably limit the volume of poultry that can be marketed in this form.

What Can I Pay for A Poultry House?

S. A. Engene

What can I afford to pay for a poultry house? This will depend upon my flock and my conditions. It will also depend upon future prices. Poultry records obtained from Minnesota farmers from 1935 through 1943 provide estimates of investments that could have been made in the past. Estimates of future costs and returns can be similarly calculated to determine feasible investments for today.

Table 1. Costs and Returns Per Hen, Based on Minnesota Poultry Records, 1935-1943

	All flocks	High-producing flocks	Low-producing flocks
Hens per flock	171	164	177
Eggs produced per hen	137	179	96
Man hours per hen	2.7	3.0	2.3
Value produced per hen*			
Eggs	$2.48	$3.32	$1.72
Meat	.63	.64	.61
Total	$3.11	$3.96	$2.33
Cost per hen*			
Feed minus manure credit	$1.72	$1.92	$1.62
Equipment, interest on hen, medicine, litter	.33	.36	.30
Total	$2.05	$2.28	$1.92
Value remaining to pay for labor and poultry house	$1.06	$1.68	$ .41

* Costs and returns for entire flock divided by number of hens.

The costs shown in table 1 hold first priority against the income. They must be paid each year or within a few years.

How much would be left to pay for labor after paying

building costs? A minimum cost for a 200-hen house—24 by 28 feet—probably would be $400, or $2.00 a hen. To hold the cost to this figure a farmer would have to exercise every possible economy. He would have to use salvage or home-grown lumber and do most of the work himself in spare time.

The annual cost of a poultry house is about 8 per cent of the original cost. That is, with an investment of $2.00 a hen for the new house, the farmer would have to charge the hen 16 cents a year rent in order to break even on the house. This would eventually repay the original investment and pay the annual costs for repairs, taxes, insurance, and interest.

For the average of all flocks, a charge of 16 cents a hen for housing would have left 90 cents as pay for 2.7 hours of labor, or 33 cents an hour. That is 10 cents an hour more than the cost of hired labor during the years when these records were obtained. The cost of 23 cents an hour for hired labor included the value of board and room as well as cash wages.

A liberal investment for a 200-hen house might be $1,000, or $5.00 per hen. The annual cost would be 40 cents, leaving 66 cents a hen or 24 cents an hour as return to labor. Even with such an expensive house the return to labor would have been slightly above hired man's wages.

The return per hour of labor with the three levels of production shown in table 1 would have been:

Investment	Production		
	Average	High	Low
	Cents per hour		
$2.00 per hen	33	51	11
$5.00 per hen	24	43	0

With egg production equal to the average of these flocks, farmers investing $1,000 in a 200-hen house would have earned only hired man's wages for their time. Farmers with low egg production would have worked for less than hired man's wages, even if they could have built for $400. The average production of all poultry in Minnesota is between these two levels. The typical poultryman would have earned less than hired man's wages if he had invested more than $400, or $2.00 a hen. Farmers with high-producing flocks could have paid for any of the practical houses being built today and still have had very satisfactory pay for their labor.

Trends and Improvements In the Poultry Enterprise

TRUMAN R. NODLAND

The records of the cooperators in the southeastern Minnesota farm management service show that farmers have made some significant changes in their poultry enterprise during the 18 years the service has been in operation. The extent of some of the changes and improvements made by approximately 150 flock owners are shown in table 1. The average number of hens kept per flock was nearly doubled during the 18-year period. In 1928 the average-sized flock on these farms was 140 hens as compared to 267 in 1945, or an increase of 90 per cent. There was an increase

Table 1. Trends in Poultry Production, Southeastern Minnesota Farm Management Service, 1928-1945

	1928	1930	1935	1940	1945
Number of hens per farm	140	151	184	219	267
Proportion of hens that are pullets	59	70	76	79	89
Eggs laid per hen	93	110	131	131	168
Pounds feed consumed per hen	95	109	122	122	146
Return above feed cost per hen	$1.86	$1.35	$1.59	$0.92	$2.66
Price received per dozen eggs sold	0.270	0.217	0.221	0.165	0.374

of 80 per cent in average egg production per hen. A considerable proportion of the increase in both size of flock and egg production occurred during the war years when it was most urgently needed.

A portion of the increase in egg production per hen was the result of higher rate of feeding and a larger proportion of pullets in the flocks. The total quantity of feed consumed per hen was 53 per cent greater in 1945 than in 1928. However, less feed was required to produce a dozen eggs in 1945 than in 1928. Of late years most farmers have been selling the old hens by fall and starting the laying season with only pullets. In 1945 an average of 89 per cent of the hens maintained on these farms were pullets.

Not all the farmers were equally successful in their poultry enterprise. Some showed considerable improvement while others showed little or no change from year to year. The data in table 2 show some of the changes made by one flock owner from 1936 to 1945 and a comparison with the average of the southeastern Minnesota farm management service. This flock owner decreased the size of his flock but more than doubled the egg production per hen. In 1936 his hens were considerably below the average in egg production, but by 1945 they were 26 per cent above the average of all flocks in the service. The quantity of feed consumed was increased until in 1945 he was feeding 149 pounds per hen. In 1936 about one half of the flock was composed of old hens; in later years he followed the practice of selling all the hens in late summer or early fall. In late years only sexed chicks were purchased. Consequently, the total returns are composed of egg sales and the sale of old hens.

The return over feed secured by this flock owner was very much higher in 1945 than in 1936. Some of this improvement in returns was due to higher prices in 1945; a large portion was due to improvement in the management of the flock. To make improvements in any farm enterprise or in the farm business as a whole it is desirable to keep a set of complete and accurate records and study them to find where improvement needs to be made.

Table 2. Improvement in Poultry Factors and in Return Over Feed Shown by One Farmer from 1936-1945

			Per cent of average*	
	1936	1945	1936	1945
Number of hens	337	205	168	77
Proportion of hens that are pullets	56	100	73	112
Eggs laid per hen	102	212	78	126
Pounds feed consumed per hen	113	149	90	102
Total returns per hen	$2.14	$7.73	74	124
Return over feed cost per hen	0.64	2.48	61	93
Price received per dozen eggs sold	0.195	0.382	97	102

* Per cent of average of Southeastern Minnesota Farm Management Service.

Minnesota Farm Prices For April, 1946

Prepared by W. C. WAITE and R. W. Cox

The index number of Minnesota farm prices for April, 1946, is 178. This index expresses the average of the increases and decreases in farm product prices in April, 1946, over the average of April, 1935-39, weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, April, 1946, with Comparisons*

	Apr. 15, 1946	Mar. 15, 1946	Apr. 15, 1945		Apr. 15, 1946	Mar. 15, 1946	Apr. 15, 1945
Wheat	$1.59	$1.59	$1.51	Hogs	$14.10	$14.10	$14.00
Corn	.98	.95	.84	Cattle	12.80	11.90	12.20
Oats	.71	.71	.63	Calves	13.60	13.60	13.50
Barley	1.14	1.13	.99	Lambs-Sheep	12.82	12.46	12.72
Rye	2.33	2.08	1.14	Chickens	.20	.20	.22
Flax	2.92	2.92	2.91	Eggs	.31	.31	.32
Potatoes	1.30	1.35	1.60	Butterfat	.54	.54	.53
Hay	8.90	9.50	9.10	Milk	2.85	2.85	2.60
				Wool†	.44	.46	.41

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

Prices of rye and cattle received by Minnesota farmers continued their marked advance during the month ending April 15. Rye has risen one dollar since the beginning of the current crop season and cattle have advanced almost four dollars in a period of five months. Potatoes and hay were the only commodities to decline in price from March to April. Livestock product prices showed no change during the month. The upward trend in farm prices during the past year is indicated by the increase of 4.5 points in the Minnesota farm price index. Of the commodity group indexes, the crop price index shows the largest change since April, 1945.

The feed ratios are all lower than one year ago because of the relatively larger increase in feed prices compared with livestock and livestock product prices.

Indexes and Ratios for Minnesota Agriculture*

	Apr. 15, 1946	Apr. 15, 1945	Apr. 15, 1944	Average Apr. 1935-39
U. S. farm price index	193.8	185.5	179.2	100
Minnesota farm price index	177.9	173.4	167.6	100
Minn. crop price index	185.5	175.8	170.2	100
Minn. livestock price index	177.9	173.2	165.3	100
Minn. livestock product price index	175.3	172.8	168.9	100
U. S. purchasing power of farm products	129.5	129.4	128.6	100
Minn. purchasing power of farm products	118.8	121.0	120.3	100
Minn. farmers' share of consumers' food dollar	60.5†	65.3	60.7	47.9
U. S. hog-corn ratio	12.2	13.2	11.3	12.5
Minnesota hog-corn ratio	14.4	16.7	13.0	15.4
Minnesota beef-corn ratio	13.1	14.5	11.7	12.6
Minnesota egg-grain ratio	13.9	15.6	12.9	13.7
Minnesota butterfat-farm-grain ratio‡	31.7	37.3	28.8	31.8

* Explanation of the computation of these data may be had upon request.
† Figure for January, 1946.
‡ Includes an allowance for dairy production payments.

Meat Consumption

Civilian meat supplies were lower on a per capita basis in 1935-1939 than they had been for many years. As a result of the drouths of the 1930's, meat consumption averaged only 126 pounds in 1935-1939, compared with 135 pounds in 1925-1929. Production increased about 45 per cent during the war, but export and military requirements were so large that per capita consumption increased less than 20 per cent. Nevertheless, it reached the high figure of almost 150 pounds in 1944, the highest level since 1911.

Civilian per capita consumption declined to 131.5 pounds in 1945, or a drop of about 12 per cent from the 1944 level. Practically all of this decline was in pork as the consumption of other meats changed but slightly.

The total meat supply in 1946 is expected to be about the same as in 1945. Exports will be at least as large but military needs will be only one fourth of last year. The supply of meat for civilians will probably average 145-150 pounds per capita, or about 12 per cent larger than last year. Despite this increase, the supply of meat will be insufficient to meet consumer demand at present prices. It is estimated that civilians in 1946 would take about 165 pounds of meat at present reported prices, if the supply were available.

Per Capita Civilian Consumption of Meat, Average, 1935-1939; Annual, 1941-1945*

Year	Total meats	Beef	Veal	Lamb and mutton	Pork†
	Pounds, dressed weight				
1935-1939	125.6	54.8	8.0	6.7	56.1
1941	141.4	60.5	7.6	6.8	66.6
1942	137.9	61.2	8.0	7.2	71.5
1943	136.3	49.6	7.9	6.4	72.4
1944	149.6	55.1	11.2	6.6	76.7
1945	131.5	54.5	11.1	7.0	58.9

* The National Food Situation, No. 32.
† Excluding lard.

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

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.