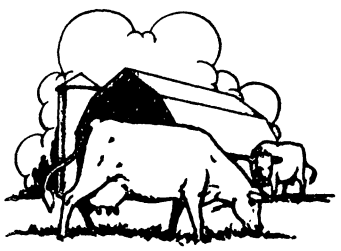
SPECIAL EDITION—EGG PRODUCTION AND MARKETING



MINNESOTA
farm business
NOTES

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Minnesota Egg Handling and Marketing Methods

W. H. Dankers[1]

The quality of an egg cannot be improved after it is laid, but much can be done to preserve it. A survey of several years ago showed that only two out of three eggs were Grade A when Minnesota producers sold them. This focuses attention on the need for better flock management and egg handling methods.

A special survey was made by the Minnesota State-Federal Crop and Livestock Reporting Service in June and November of 1954 to determine how closely egg producers followed approved management practices and egg handling methods.[2]

A questionnaire was mailed to every 20th Minnesota egg producer selected from the 1953 State Farm Census. The June survey provided 853 useable reports and the November survey 1,826.

Confinement of flocks results in more uniform feeding than if the laying hens are allowed free range. This, in turn, gives more uniform yolk color and more uniform flavor in the eggs. Confinement of flocks was more common in eastern than western Minnesota. It was also more common with larger producers than with the smaller ones.

Table 1. Daytime Confinement of Flocks—November

Flock size	Under 200	200-399	400 and over	All flocks
Confinement		Per cent		
All the time	15	26	52	27
Part time	24	31	22	27
None	61	43	26	46

A good **poultry house** should remain dry, sufficiently warm in winter, and fairly cool in summer. In Minnesota these conditions can be met by proper insulation and ventilation. Insulation is a prerequisite to proper ventilation regardless of whether or not a fan is used. Insulation provides a means toward more and cleaner eggs. The percentage of Minnesota poultrymen who provided these conditions is shown in table 2.

Table 2. Insulation and Ventilation

Flock size	Under 200	200-399	400 and over	All flocks
Practices		Per cent		
Insulated house	27	40	54	39
Fan ventilation	8	22	39	20

Frequent gathering is important. Newly laid eggs are about 104° F., the body temperature of the hen. If left in the nest, the eggs will be kept near body temperature by the other hens and quality will deteriorate rapidly.

There was a noticeable tendency for larger flock owners to gather eggs more frequently than the smaller ones. (See table 3.)

Table 3. Frequency of Gathering Eggs, June 1954

Flock size	Under 200	200-399	400 and over	All flocks
Frequency		Per cent		
Once a day	19	9	9	15
Twice a day	56	61	49	57
More often	25	30	42	28

The **container used in gathering eggs,** as such, is not especially important as long as the eggs are protected from breakage and soiling. However, the containers used in gathering eggs are usually those in which eggs are held until they are marketed. According to the survey, 75 per cent of all producers leave eggs in the containers in which they are gathered.

For this reason, the container should be one which permits free air circulation around the eggs. Wire baskets are good but cans and pails are unsatisfactory. Information on the type of containers used is given in table 4.

Table 4. Containers Used for Gathering Eggs

Flock size	Under 200	200-399	400 and over	All flocks
Containers used		Per cent		
Wire basket	35	46	61	40
Pail or can	60	53	37	56
Other	5	1	2	4

Four per cent of the producers transferred their eggs to cases immediately after gathering. Since the fillers and flats prevent air circulation and are excellent insulators, this retards the cooling of the eggs. Only five per cent transferred their eggs to wire trays for rapid cooling. This is a desirable practice otherwise but involves unnecessary extra labor.

To retain quality, **eggs must be held at a relatively low temperature,** at least below 65° F. and at a relative humidity of at least 75 per cent. Conditions vary greatly and no one place on the farm can be recommended as the best.

Special cooling arrangements are possible on some farms. Mechanical cooling equipment is practical for producers with large volume of production.

Table 5. The Places Where Eggs Were Held

Flock size	Under 200	200-399	400 and over	All flocks
Holding place		Per cent		
		June		
Basement	66	65	72	66
Porch	13	15	9	13
Kitchen	12	10	3	11
Other	9	10	16	10
		November		
Basement	61	64	67	63
Porch	18	18	16	18
Kitchen	19	14	11	15
Other	2	4	6	4

(Continued on page 2)

[1] In cooperation with the Minnesota State-Federal Crop Reporting Service, Roy Bodin, in charge.

[2] The survey was made possible with state funds matched with federal funds provided under the Agricultural Marketing Act of 1946.

(Continued from page 1)

The basement can be quite satisfactory for holding eggs if the air is not too dry and if strong odors from other materials are not present. The storage place used by producers is shown in table 5. Special coolers were included in "other" holding places.

Twenty-two per cent of the producers sorted out some of the eggs before marketing. The people following this practice were mostly smaller producers.

More of the smaller producers live in the relatively low egg producing area of northeastern Minnesota. A substantial percentage of the eggs produced in this area are sold directly to consumers. The eggs do not pass through a produce plant where considerable sorting is ordinarily done.

About 75 per cent of the producers washed soiled and dirty eggs, 14 per cent buffed them, six per cent washed and buffed them, and only five per cent sold them without cleaning.

Market Outlets

Producers used a variety of market outlets as indicated by the following:

43 per cent delivered to produce stations

32 per cent had eggs picked up by produce station truckers

4 per cent had eggs picked up by independent truckers

10 per cent sold to stores which were acting as produce buyers

3 per cent sold to stores which were selling at retail only

8 per cent made direct sales—to consumers, hotels, restaurants, hatcheries, etc.

Seventy-five per cent of the producers sold their eggs to produce stations but they sold 86 per cent of all the eggs. This indicates that more of the larger producers were using this method of marketing. In general, the smaller producers **delivered** the eggs to the produce station, while the larger producers had them **picked up** at the farm. (See table 6.)

Table 6. How Eggs Were Sold

Flock size	Under 200	200-399	400 and over	All flocks
Method		Per cent		
Produce truck pick-up at the farm	28	43	53	46
Delivered to a produce station	53	44	32	40
Delivered to a store (buying station)	9	10	8	9
Delivered to a store (for retail sale)	4	2	4	3
Sold direct—to consumers, hotels, hatcheries, etc.	6	1	3	2

The method of marketing also varied between areas of the state. In the eastern area 58 per cent of all the eggs were **picked up** by a produce truck and in the western area only 38 per cent. In the eastern area only 26 per cent of all the eggs were **delivered** to produce stations and in the western area 49 per cent.

Sales of eggs to stores which were acting as buying stations were most common in the east central counties. Direct sales were relatively important in the northern and northeastern areas, particularly in the latter where as many as one-fifth of all the eggs were sold direct. Eggs sold to stores by producers in the northeastern area were mostly for retail sale.

Under the Minnesota Egg Law, **Uniform Purchase Grades for eggs** were established several years ago. To date, the purchase of eggs on grade by the first buyer (to whom the producer sells his eggs) is voluntary. However, if a producer wants to sell "on grade" and the first buyer agrees to buy on grade then the Minnesota Uniform Purchase Grades consisting of A large, A medium, A small, B, and C will apply and must be complied with.

The excellent progress made under the Minnesota egg grading system is emphasized in the 1954 survey. In November, 79 per cent of the total number of sales were made on grade, and 87 per cent of all the eggs were sold this way. Large producers as a group sold more eggs on grade than smaller producers. The selling of eggs on grade was more common in the heavy producing areas, particularly in southeastern and west central Minnesota.

Sales on an ungraded basis were most common in the northern third of the state and in the east central and northeastern counties where sales direct to consumers and to stores for retail sale are more common.

There is a wide variation in the **prices received for eggs** by producers from one county or area of the state to another. The higher prices are received by producers in the northeastern Minnesota area where consumption exceeds production and in the Twin Cities area, where somewhat similar circumstances prevail. Lowest prices are received in the surplus areas of southern and western Minnesota. (See article on *The Minnesota Egg Industry* in this issue.)

Size and quality in eggs determine the grade and these factors in turn have a bearing on the price which producers can obtain for their eggs. A comparison was made between prices received by producers for different grades of eggs and between prices for eggs sold on grade and ungraded (see tables 7 and 8.)

Two factors were at work at the time the November survey was made which brought about an abnormally large spread in the price between Grade A large and Grade A medium eggs. (1) An abnormally large flock of pullets was coming into production in 1954 compared with 1953 and 1952. (2) Most of the pullets were still laying medium size eggs.

Table 7. Prices Received for Various Grades of Eggs—November

Grades	A large	A medium	A small	B	C
Prices received			Cents		
First week	33	18	13	16	12
Second week	32	21	15	20	14

Table 8. Prices Received for Eggs Sold on Grade and Ungraded—November

			Ungraded eggs	
	All graded eggs	All ungraded eggs	Commercial channels	Direct to consumer
Prices received		Cents		
First week	25.5	23.6	22.0	32.0
Second week	26.9	24.7	24.0	33.0

The price spread between large and medium eggs narrowed from 15 to 11 cents per dozen from the first to the second week in November as the supply of medium eggs became relatively smaller. According to later market information, this spread narrowed rapidly to about 5 cents per dozen in early December and was 4 and 5 cents for most of the rest of the winter.

The price spread between all eggs sold on grade and those sold ungraded was 1.9 cents and 2.2 cents for the first two weeks in November. The price spread between all graded eggs and **the ungraded eggs that moved into regular commercial channels** was 3.5 and 2.9 cents for the same two weeks. The latter comparison is probably more significant because many of the direct to consumer sales of ungraded eggs in northeastern Minnesota were made at premium prices because of special market conditions.

A spread in price between graded and ungraded eggs ranging from 2 to 3.5 cents per dozen should encourage most producers to sell on grade and to adopt such flock management and egg handling methods which will put an increasing percentage of the eggs in the higher grades. As this is accomplished the net returns to individual producers should increase.

Minnesota Egg Industry Going Forward

W. H. Dankers and F. L. Olson

Minnesota produced 4,043 million eggs and ranked fourth in the nation in egg production in 1954. Only about 30 per cent of the eggs produced in Minnesota are consumed in the state. The remaining 70 per cent are shipped to markets in practically all directions from Minnesota.

During the period of 1930-34 the number of eggs laid per hen in the United States averaged 93 and in Minnesota only 86. (These figures were based on the number of hens and pullets on hand January 1.) In 1954 the average was 156 in the United States and 174 in Minnesota. This indicates that there have been tremendous forward strides in the Minnesota egg industry.

Many more eggs are produced in some counties of Minnesota than in others. However, because the counties vary greatly in size, a better measure of density in egg production is to compare the eggs produced per square mile of total land area. (See figure 1.) The great density in egg production in the south central and southern areas of the state can readily be observed.

The relationship of egg production to consumption in various areas of the state has a significant bearing on the prices received by producers. Those having access to significant local markets usually have a price advantage. In Minnesota there are only two such markets, namely in the Twin Cities and in northeastern Minnesota. These markets reflect the large number of consumers in Minneapolis and St. Paul and in Duluth and the Iron Range towns.

In these areas more eggs are consumed than are produced and the markets are in part dependent on "in shipments." The "surplus" and "deficit" egg production counties of the state are indicated in figure 2. The Minnesota surplus in 1954 was 2,580 million.

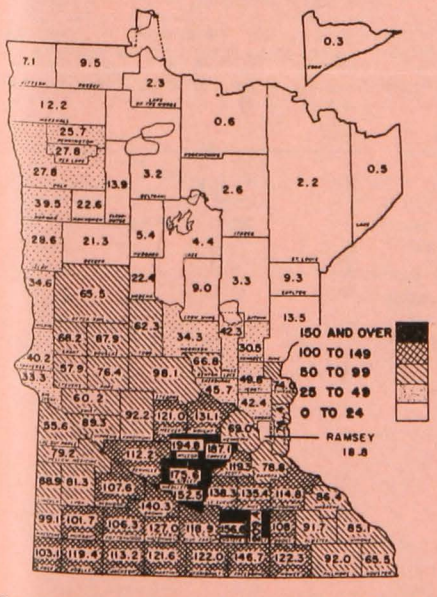

Fig. 1. Egg production by counties—1954. The average production per square mile in Minnesota is 50.5 thousand. (Thousand eggs per square mile).

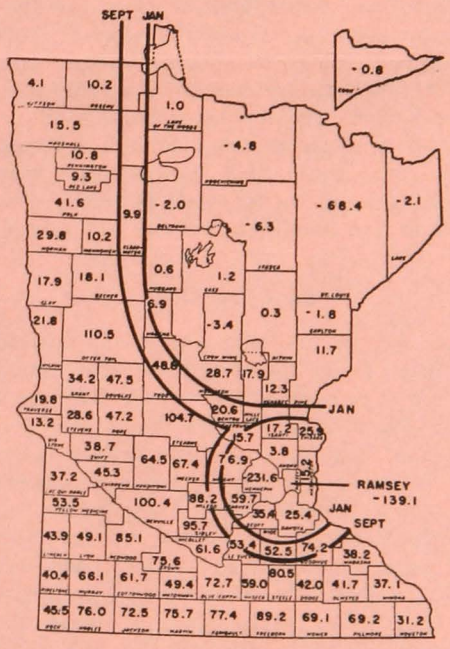

Fig. 2. Egg surplus in counties—1954. County egg consumption was based on the 1950 population and 400 eggs per person. (Millions of eggs).

The Twin Cities egg market and the northeastern Minnesota egg market vary in one aspect. There is a very large surplus of eggs in the counties immediately surrounding Hennepin and Ramsey, so a sufficient supply of "nearby" eggs can be readily obtained to balance the needs of the market. The northeastern Minnesota market is considerably smaller than the Twin Cities market.

However, because of limited production in the immediate area, it is necessary to reach out a considerable distance to obtain the needed supply for the market. A variety of factors such as small flocks, less emphasis on improved methods of production, and the need for transporting some eggs a considerable distance have greatly complicated the egg marketing pattern in northeastern Minnesota.

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Egg Production Is Seasonal

The pattern of egg marketing and egg prices in Minnesota is also complicated by the seasonality in egg production. In the season of larger production the local markets can be supplied from a smaller production area than in the season of smaller production. The approximate areas of supply which were required in January, one of the large production months, and in September, the month of smallest production in 1954, are indicated by the lines in figure 2.

The area required to supply the local markets will also vary from year to year depending on whether it is a year of comparatively large or small egg production. The area required to supply local markets also varies as the individual producers in the area increase or decrease egg production and as the demand for eggs changes.

Egg prices are quite irregular in the supply areas where a local market outlet is available for only part of the year (between the lines in figure 2). In these areas the marketing facilities for outshipment are not available when needed or, if available, are costly to operate because of small volume.

Most of the producers and the handlers throughout western and southern Minnesota must look beyond Minnesota for markets in which to sell their eggs. (See figure 2.)

Prices Paid Are Above Average

Prices to producers were considerably above average in the northeastern Minnesota deficit area and were also comparatively high in the Twin Cities area. (See figure 3.) The prices listed for Anoka and Ramsey Counties are not representative of the prices paid for market eggs because each of these counties has a very large hatchery and the average prices reflect the higher prices received for hatching eggs. However, prices to farmers were also higher in the other counties surrounding the Twin Cities than in counties farther out.

(Continued on page 4)

Minnesota Farm Prices, Aug. and Sept. 1955

Prepared by Harlan C. Lampe

Average Farm Prices for Minnesota, August 1955, September 1953, 1954, 1955*

	Aug. 1955	Sept. 1955	Sept. 1954	Sept. 1953
Wheat	$ 2.08	$ 2.14	$ 2.29	$ 2.09
Corn	1.21	1.16	1.43	1.36
Oats	.48	.51	.66	.64
Barley	.88	.89	1.08	1.04
Rye	.77	.78	1.23	.93
Flax	2.85	2.80	3.12	3.53
Potatoes	.80	.65	.90	.90
Hay	14.10	14.20	16.00	14.40
Soybeans†	2.10	1.95	2.38	2.26
Hogs	15.70	15.70	19.20	23.40
Cattle	16.30	15.50	16.40	16.30
Calves	18.00	16.50	16.70	18.00
Sheep-lambs	17.15	16.52	17.10	17.56
Chickens	.156	.163	.116	.184
Eggs	.340	.410	.240	.465
Butterfat	.61	.61	.61	.71
Milk	3.15	3.25	3.25	3.60
Wool†	.39	.38	.50	.48

* Average prices as reported by the USDA.
† Not included in Minnesota farm price indexes.

A normal seasonal fall in corn prices from August to September brought them to the lowest level since April 1950. With the fall in corn prices the corn ratios improved seasonally over last month.

Egg prices reached the highest level since November 1953, and the egg-grain ratio is the most favorable since that time.

Comparison of August and September Prices

Commodity class	Average September prices as a per cent of average August prices
Crops	101
Livestock	97
Livestock products	104
All commodities	101

Minnesota Egg Industry–

(Continued from page 3)

Producers in the surplus egg counties of Minnesota are frequently concerned about the large spread between retail prices paid for eggs in the Twin Cities and the prices received for them. However, the spread is narrower between retail prices in the Twin Cities and the prices received by producers in the nearby area who actually supply the Twin Cities market.

There is little merit in comparing producer and retail prices which are not comparable. Producers in the surplus egg counties should compare their returns for a given supply of eggs with the available returns for the same supply in distant terminal markets where the eggs are actually sold. In making such a comparison proper allowance must be made for costs in transportation and handling and loss in quality.

Eggs Lose Quality

Loss in quality is a rather intangible price factor. In a study of some truck lot shipments of eggs from Minnesota to New York, it was found that less than half of the eggs which were bought as Grade A from producers were Grade A when they arrived in New York. Consequently, less than half commanded a Grade A retail price in New York. The rest brought considerably lower prices which reduced the average price received for the shipment. This is an important factor and should be given full consideration when prices received by producers for Grade A eggs are compared with prices paid in terminal markets.

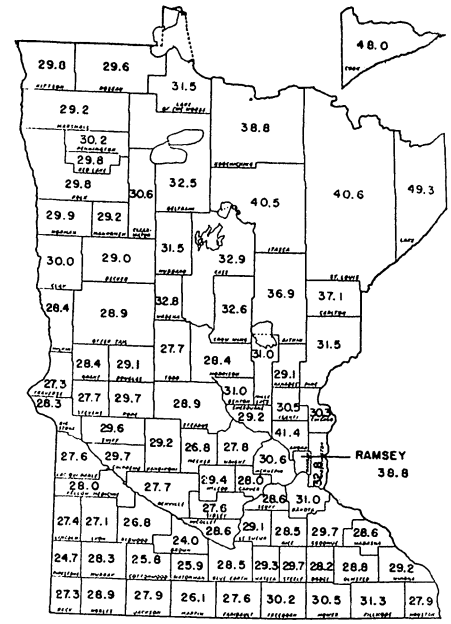

Fig. 3. Egg prices received by producers—1954. Average prices were calculated from the total cash receipts for eggs and the number of dozens sold. (Cents per dozen).

If increased emphasis is placed on retaining egg quality and a large proportion of Minnesota eggs reach terminal markets as Grade A, producers will receive a larger return for their efforts. The spread between producer and retail prices will then also be narrower. Retention of quality requires teamwork between producers, handlers, transporters, and distributors.

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Indexes for Minnesota Agriculture

	Average Sept. 1935-39	Sept. 1955	Sept. 1954	Sept. 1953
U. S. farm price index	100	219.2	229.5	238.8
Minnesota farm price index	100	192.2	206.2	226.2
Minnesota crop price index	100	190.8	222.8	216.6
Minnesota livestock price index	100	191.8	215.8	238.8
Minnesota livestock products price index	100	194.2	174.5	222.8
Purchasing power of farm products United States	100	98.4	102.3	107.6
Minnesota	100	86.3	91.9	101.9
U. S. hog-corn ratio	12.6	12.7	12.9	15.9
Minnesota hog-corn ratio	14.9	13.5	13.4	17.2
Minnesota beef-corn ratio	11.9	13.4	11.5	12.0
Minnesota egg-grain ratio	17.3	15.9	8.1	16.8
Minnesota butterfat-farm-grain ratio	32.4	34.3	27.3	33.0

* Minnesota index weights are the average of sales of the five corresponding months of 1935-39. U. S. index weights are the average sales for 60 months of 1935-39.

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