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FARM BUSINESS NOTES

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

NO. 210 UNIVERSITY FARM, ST. PAUL JUNE 1940

Methods of Handling Minnesota Eggs

W. H. Dankers

The need is great at present for adjustments in egg and poultry marketing in the Midwest. Worthwhile recommendations can be made only on the basis of a complete understanding of the problem. With this in mind and with very little information available, a survey was made of egg and poultry marketing in Minnesota during the years 1938 and 1939. Studies were made of methods of handling by producers, cooperative creameries and "other" cooperatives, private merchants, and produce companies.

UNIVERSITY FARM HOUR
Monday - Wednesday - Friday
12:30 to 1:00 p.m.

MID-MORNING MARKETS
Monday through Friday
10:30 to 10:45 a.m.

Station WLB—760 on the dial

From reports of 192 producers, it is apparent that egg producers do not gather eggs frequently enough from the nests. One fourth of the total number surveyed gathered eggs only once a day; about one half gathered twice a day, and another one fourth three times or more; thus only one fourth gathered frequently enough to avoid deterioration in the nest. Frequent gathering is particularly necessary during the summer so that eggs are not subjected to hot weather temperatures longer than necessary. Even during the winter, it is desirable to gather frequently so that the eggs are not subjected unnecessarily long to the body temperatures of hens on the nest.

Nearly three fourths of 191 producers reporting gathered eggs in a can or pail, leaving only one fourth of the total using desirable containers. Wire, wood, or reed baskets are particularly desirable for cooling eggs since air is allowed to circulate around the eggs, and the body heat is removed rapidly. Pail or can containers would not be undesirable for gathering if the eggs were immediately removed into other containers for cooling. Such transfer, however, involves considerable labor, with the result that ordinarily the eggs are allowed to cool in the container in which they are gathered. Two thirds of the producers who gathered eggs in a can or pail, or about one half of the total number surveyed, allowed their eggs to cool in those containers. In a Missouri experiment, it was found that an egg at body temperature from the nest, placed in the center of a galvanized pail required about twice as long for cooling as a similar egg in the center of a wire basket when the same number of eggs were placed in each container.

About one fourth of 179 producers reported 10 per cent of the eggs gathered as dirty; another one fourth reported 5-10 per cent. Improvement can be made by gathering eggs more frequently and keeping the nests cleaner. Considerable improvement will also come from keeping the floor litter clean and the nests as far away as possible from water fountains and exit doors. In eggs of equal quality, the price margin between clean and dirty eggs may be four or five cents per dozen.

Over three fourths of 160 producers who reported washing dirty eggs, used undesirable solutions of water, soap water, or vinegar. Eggs washed in this manner will deteriorate more rapidly in storage, since the "cuticle" is removed, the "bloom" is lost and the eggs appear shiny. Less than 3 per cent reported using a diluted lye solution, the only desirable method of washing. A large supply of midwestern eggs are placed in storage during the surplus season, hence quality maintenance for storage purposes becomes significant. The Chicago Mercantile Exchange has constantly emphasized to dealers the need for discriminating against washed eggs "because they deteriorate more rapidly in storage."

Slightly over one half of 188 producers reporting stored eggs in the cellar. The remainder kept their eggs in the house, summer kitchen, shed, or such miscellaneous places as the pantry, milk house, porch, or back room. On many farms the cellar or a basement is the most suitable place for egg storage if no musty or other sharp odors are present. A relatively low temperature from 40-55° F. and a relatively high humidity are desirable.

Nearly one half of 69 producers indicated that their egg supply was kept at a distance of less than 10 feet from some heating unit. Eggs kept under relatively high temperatures will dry out and break down rapidly to low quality. The conditions under which eggs are stored are more significant than the "age" of eggs in terms of days.

About one third of 165 producers deliver eggs to market only once a week. With proper storage conditions this would be sufficiently frequent in the winter. In the summer, however, under most farm storage conditions it is hard to maintain quality unless delivery is more often.

Egg producers need a better understanding of the importance of quality and how to maintain it. Eggs should be bought from producers on a grade basis in order to supply an incentive for quality production. Owners of small flocks are limited in the amount they can profitably expend for quality improvement. Those who are on a more or less commercialized basis can afford to give more attention to improved methods. Egg dealers play an important role and can make fully as many improvements in handling methods as the producer on the farm.

Only 80 out of about 630 Minnesota cooperative creameries handle eggs or poultry or both. Most of these creameries are located in the west central part of the state. Thirty-three out of 49 cooperative creameries studied refrigerated eggs in their possession, a higher percentage than reported by any other group of local dealers. Although there was considerable variation in the type of grading, 45 out of 53 cooperative creameries reporting on this item graded their eggs. However, a less favorable factor is that eggs are largely moved to other local dealers, thus duplicating marketing facilities. Only 12 out of 51 reporting moved eggs directly to eastern or Chicago buyers.

Of the "other" cooperatives (made up largely of cooperative retail stores) only 5 out of 37 used refrigeration. Of those not refrigerating, very few stored in desirable places. Only 19 out of 39 were buying eggs on a grade basis, with little uniformity of grades. Because many of these organizations are in the northeastern area of the state surrounding a relatively large consuming center, and egg production is low, these eggs should logically move into local channels. The conditions as stated would appear to result in a seller's market. However, competition in this market from distant sellers has been keen, and on the other hand some of the local producers have sought other more distant markets. The reason is a limited local supply of higher quality eggs, desired by some consumers. It appears that better handling methods in this area would result in higher returns to the local producers.

Handling methods used by independent merchants differ from those used by "other cooperatives" only in that they are less favorable. Of 236 surveyed only 11 refrigerated eggs in their possession. The storage facilities varied greatly, from the store proper to such places as a special room, an adjacent building, and the store basement. Only 73 of those not refrigerating used the more desirable place, the basement. Only about one fourth of the merchants purchased on a grade basis, with a great variation in the grades used. One-hundred-forty-three out of 243 were selling to a local produce company and a few more to other local merchants, thus duplicating marketing facilities.

Local produce companies that handle eggs as a major enterprise in their business give more consideration to better methods, but still need to make many adjustments if quality is to be maintained. Twenty-two out of 68 surveyed refrigerated eggs in their possession. Only a few of those not refrigerating kept the eggs in the basement and a large proportion reported keeping them in the candling room or the plant proper. A considerable number reported that the eggs moved out of the plant daily. It need be emphasized again that eggs can deteriorate materially in a short period of time in hot weather and that refrigeration should be used even when eggs are moved out frequently and regularly. Thirty-nine out of 68 bought on a grade basis which in most cases was No. 1 and No. 2. Similar to other local buyers there was little uniformity in what constituted a No. 1 or No. 2 egg. A small number of produce dealers reported buying eggs on a no-grade basis and selling on grade. From the standpoint of further improving quality in a community and increasing the proportion of high quality eggs sold, it would appear desirable to pass back to the producer any premium that his product might be able to net in the terminal markets. Over one third of the produce dealers reporting were buying a part or all of their supply from other dealers, not producers. Likewise, quite a few were using another local produce company for their outlet. Both indicate a duplication of marketing facilities and unnecessary handling.

In following through some of the egg supplies to the terminal markets, it was found that the eggs were frequently handled by four or five local dealers before getting on the way to the terminal markets. Such frequency in handling results in unnecessary handling costs and unnecessary delay, thus lower quality, before eggs arrive in consumers' markets. The job in Minnesota, as well as in other states of the Middle West, seems to be one of gathering eggs in larger lots from as small an area as possible and to move such supplies to their destination as rapidly as possible. Although this has not been accomplished in the past, it appears that changes in handling methods could be made to make this a reality.

AAA Payments in Southeastern Minnesota[1]

T. R. Nodland

Farm records kept by approximately 145 dairy farmers in southeastern Minnesota from 1934 to 1939 show a considerable variation from year to year in AAA payments and in their effect on the farm earnings (Table 1). The average payments received were highest in 1934, $380 per farm, and then gradually declined for the next 3 years until in 1937 the average per farm was $197. The average payments for 1938 and 1939 were $262 and $371, respectively.

When the AAA payments were large, more of the farmers cooperated in the programs. In 1934 when the payments amounted to 17.5 per cent of the net cash farm income[2] on these farms, 95 per cent of the farmers cooperated. In 1939 the AAA payments were 19.2 per cent of the net cash farm income, with 93 per cent of the farmers cooperating in the program. In 1936 and 1937 the receipts from the AAA were 7.7 per cent of the net cash farm income on these farms, with 86 per cent of the farmers cooperating. As long as the payments continue to be a significant proportion of the total cash income,

[1] Assistance in the preparation of this material was furnished by the personnel of Work Projects Administration, Official Project No. 65-1-71-140, Sub-project 468.

[2] Net cash farm income is cash farm receipts minus cash farm expenses calculated on the basis of full ownership of the farm capital by the farm operator.

Table 1. AAA Payments and Related Data on Southeastern Minnesota Farms, 1934-1939

Year	Per cent of all farmers in the study	AAA payments	Net cash farm income	Per cent AAA payments are of net cash farm income	Size of business (days of productive work)	Acres per farm	Per cent of crop land in: Small grain	Cultivated crops	Hay and pasture	Productive livestock units per 100 acres in farm
				Cooperating in the AAA Programs						
1934	95	$380	$2169	17.5	768	211.2	35.7	31.3	33.0	19.8
1935	89	271	2091	12.9	710	205.2	44.8	28.0	27.2	18.3
1936	86	211	2754	7.7	758	208.2	38.3	31.6	30.1	20.1
1937	86	197	2542	7.7	773	213.0	38.4	30.4	31.2	19.4
1938	85	262	2225	11.8	833	238.7	39.8	28.8	31.4	19.4
1939	93	371	1927	19.2	800	240.5	40.8	28.2	31.0	19.0
Average	89	282	2285	12.8	777.4	219.5	39.6	29.7	30.7	19.3
				Not Cooperating in the AAA Programs						
1934	5	.....	1899	.....	1066	170.1	29.3	31.1	39.6	25.5
1935	11	.....	1395	.....	771	174.7	38.6	31.8	29.6	21.6
1936	14	.....	2513	.....	810	195.9	43.4	33.1	23.5	20.4
1937	14	.....	2040	.....	854	210.6	36.1	37.1	26.8	20.8
1938	15	.....	2976	.....	1058	252.6	33.2	40.9	25.9	21.2
1939	7	.....	939	.....	803	232.3	36.1	45.4	18.5	18.4
Average	11	.....	1960	.....	893	206.0	36.1	36.6	27.3	21.3

farmers in most cases, at least, cannot afford to stay out of the programs.

In general the farmers that cooperated with the AAA programs had a smaller business than those not cooperating; the average size of business measured in days of productive work was 774 for the former group and 893 for the latter. This was due primarily to the larger amount of livestock maintained on the farms not in the programs. In terms of acres the farms operated by the AAA cooperators were larger and a higher proportion of the acreage was in small grains, hay and pasture and a smaller proportion in cultivated crops than those of the noncooperators. The proportion of the tillable land in cultivated crops on the farms operated by the AAA noncooperators has increased steadily since 1934.

Budgeting Alternative Soil Conservation Programs

C. Herman Welch, Jr., and Selmer A. Engene

The selection of crops and cropping practices which will help to control soil erosion usually requires the careful weighing of several alternative plans. All of these alternatives may provide adequate soil conservation, but they may differ widely in their effects upon the remainder of the farm organization and upon the farmer's earnings.

Three crop rotations have been recommended for use on fields of moderate slope in a soil conservation district in Winona County. A five-year rotation of corn, grain, and three years of hay is recommended if tillage operations are performed in straight lines disregarding the direction of the slope. A four-year rotation of corn, grain and two years of hay is recommended for large fields with all operations performed on the contour. A three-year rotation of corn, grain, and hay is recommended if the slope is divided into contour strips, with different crops on adjoining strips. The effectiveness of each of these in reducing soil erosion will be approximately equal.

The production of feed nutrients will be largest with the first rotation and smallest with the last rotation if yields equal to the average for the county are obtained. The production of feed nutrients is presented in Table 1. In this area more feed nutrients per acre are produced by hay than by husked corn or small grains.

There is a big difference, however, in the effect of these rotations upon the rest of the farm organization. As shown in Table 1, the ratio of hay to corn and small grain varies widely among these rotations, being almost three pounds to one for the first, two pounds to one for the second, and pound for pound for the third. If the first rotation is used, these crops must be fed largely to dairy cattle, sheep, or other livestock consuming large quantities of hay. If the last rotation is used, they must be fed to hogs, poultry, or other livestock consuming principally grains. If a farmer wants to have large fields, tilled in straight lines, he will need roughage-consuming livestock. While if he uses contour strips, with more and smaller fields, he can keep more grain-consuming livestock.

Table 1. Comparison of Alternative Soil Conservation Programs on 60 Acres of Cropland

Rotation	Supplemental practices	Acreage: Corn	Small grain	Hay	Production*: Total corn and small grain	Hay	Pounds hay per pound corn and small grain	Total digestible nutrients**
					pounds	pounds		pounds
C,G,H,H,H	None	12	12	36	39,600	115,200	2.91	87,649
C,G,H,H	Contour tillage	15	15	30	49,500	96,000	1.94	86,041
C,G,H	Contour strips 100-125' wide	20	20	20	66,000	64,000	0.97	83,362

* At average yields per acre for Winona County—Corn, 37.5 bu.; small grain (½ oats and ½ barley), 30 bu.; tame hay, 1.60 tons.
** Corn, 81.5%; oats and barley, 73.3%; tame hay, 49%. Minnesota Bulletin 218, "Feeding the Dairy Herd."

He must carefully weigh these and other advantages and disadvantages of each organization. He should estimate as accurately as possible the financial returns that can be obtained from each on his farm. A method of estimating these returns was presented in an article entitled, "Checking Conservation Plans by Budgeting," FARM BUSINESS NOTES, November, 1939. This will assist him in deciding which plan may give the largest net return.

Minnesota Farm Prices for May, 1940

Prepared by W. C. WAITE and W. B. GARVER

The index number of Minnesota farm prices for the month of May, 1940 was 72. When the average of farm prices of the three Mays, 1924-25-26, is represented by 100, the indexes for May of each year from 1924 to date are as follows:

1924— 84	1929—113	1934— 53	1939— 68*
1925—106	1930— 98	1935— 86	1940— 72*
1926—110	1931— 64	1936— 79	
1927—109	1932— 43	1937— 97	
1928—113	1933— 49	1938— 75	

* Preliminary.

The price index of 72 for the past month is the net result of increases and decreases in the prices of farm products in May, 1940, over the average of May, 1924-25-26, weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, May 15, 1940, with Comparisons*

	May 15, 1940	April 15, 1940	May 15, 1939		May 15, 1940	April 15, 1940	May 15, 1939
Wheat	$0.84	$0.91	$0.66	Cattle	$7.10	$6.90	$7.10
Corn	.51	.47	.37	Calves	8.90	8.50	8.30
Oats	.31	.34	.25	Lambs-sheep	8.25	8.16	8.09
Barley	.42	.43	.36	Chickens	.11	.10	.12
Rye	.49	.55	.34	Eggs	.14	.14	.14
Flax	1.77	1.93	1.62	Butterfat	.29	.29	.23
Potatoes	.55	.55	.50	Hay	4.69	4.61	4.28
Hogs	5.30	4.75	6.50	Milk	1.40	1.45	1.30

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

The rise of three points in the index represents net price gains chiefly in livestock and livestock product commodities. Relative declines predominated in the crops group, where the only improvement shown was in corn, with all other grains declining. All the livestock items rose in price above the April levels. The rise in hogs was the most marked, but the advances for cattle, calves, and lambs-sheep were greater than the usual April-to-May seasonal rises. As a matter of fact, hogs, calves, and lambs-sheep have in the past shown a downward April-to-May seasonal tendency. Butter, eggs, and chickens all showed relative price strength.

Indexes and Ratios of Minnesota Agriculture*

	May 1940	April 1940	May 1939	Average May 1924-26
U. S. farm price index	71.0	70.5	65.2	100
Minnesota farm price index	72.0	69.2	67.7	100
U. S. purchasing power of farm products	90.6	90.0	85.3	100
Minn. purchasing power of farm products	91.9	88.4	88.6	100
Minn. farmer's share of consumer's food dollar	.....	43.6	41.0	52.7
U. S. hog-corn ratio	8.4	8.4	13.2	12.1
Minnesota hog-corn ratio	10.4	10.1	17.6	15.1
Minnesota egg-grain ratio	12.4	11.8	15.6	14.4
Minnesota butterfat-farm-grain ratio	31.2	30.1	30.9	34.5

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

Agricultural Export Trade and the War

Before the war began it was rather generally believed that war would have a stimulating effect upon agricultural exports. These expectations have not been realized, for a number of reasons.

Recent reports of the U.S.D.A. indicate that agricultural exports for July 1, 1939 to May 5, 1940 are up 9 per cent in value over the corresponding period in the previous fiscal year. However, this gain is accounted for by the doubling of cotton exports. Minnesota producers will be interested in exports of farm products other than cotton. Agricultural exports other than cotton declined 24 per cent in value in the current fiscal period as compared with the previous year. The Allies resisted complete control of foreign trade until the war broke, whereupon they were obliged to institute complete control as war strategy in order to eliminate all imports except those essential to carrying on the war. As far as possible essentials are being purchased from allied countries where foreign exchange is not required, in order to conserve exchange for cash payment for planes and war materials in this country. Moreover, considerable buying from unaccustomed sources has been undertaken in order to deprive Germany of sources.

The United Kingdom has been the principal outlet for U. S. exports, receiving about half of the "agricultural exports other than cotton." In the first 6 months of the war, lard exports to the United Kingdom declined 24 per cent below the low level of the previous six-month period (at the same time exports to other countries increased 63 per cent); exports of hams and shoulders declined materially; exports of bacon rose substantially for the six-month period, but for March the exports of cured pork to the United Kingdom practically ceased. Yet the total exports of pork products are substantially larger in the current fiscal year than the corresponding months a year earlier. But it must be pointed out that the countries which absorbed these increases have recently been cut off by the spread of the war. Wheat exports were less than one fourth of the quantity a year earlier.

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