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AGRICULTURAL EXTENSION DIVISION
UNIVERSITY OF MINNESOTA

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MINNESOTA FARM BUSINESS NOTES

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University Farm, St. Paul, Minnesota

HOW TO JUDGE THE EFFICIENCY OF A COOPERATIVE CREAMERY

Prepared by L. L. Ullyot

Farmers judge the efficiency of their cooperative creameries by the price they receive for butterfat. This is not the only test that might be used in judging the efficiency of a creamery but it is perhaps the best single test. A recent analysis of the annual reports of 150 Minnesota cooperative creameries for the year ending December 31, 1932, showed that there was a wide variation in the average price paid farmers for butterfat. The actual range in price was from 16.7 to 22.5 cents per pound of butterfat.

Average Price Paid Farmers for Butterfat Varies with Volume
of Butterfat Handled

A classification of these creameries according to the average price paid and volume of butterfat handled is given in Table 1. This shows that those

Table 1

A Classification of 150 Creameries According to the Average
Price Paid Farmers for Butterfat and to Volume Handled

Average price paid farmers for butterfat (cents per pound)	Volume of Butterfat Handled					
	Less than 100,000 lbs.	100,000 to 200,000 lbs.	200,000 to 300,000 lbs.	300,000 to 400,000 lbs.	400,000 to 500,000 lbs.	Over 500,000 lbs.
16.0 - 16.9	1	1	-	-	-	-
17.0 - 17.9	1	8	4	-	-	-
18.0 - 18.9	2	14	7	5	1	1
19.0 - 19.9	5	18	16	4	-	-
20.0 - 20.9	-	17	11	4	3	5
21.0 - 21.9	-	4	3	2	4	2
22.0 - 22.9	-	-	1	2	-	3
Number of creameries	9	62	42	17	8	12
High	19.7	21.6	22.5	22.3	22.0	22.2
Low	16.7	16.7	17.5	18.1	18.7	18.1
Range	3.0	4.9	5.0	4.2	3.3	4.1
Average	18.6	19.4	19.6	20.1	20.7	20.9

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culture, University of Minnesota, cooperating with U. S. Department of Agriculture.

groups which handled a large volume paid a higher average price. For example, the nine creameries handling less than 100,000 pounds of butterfat paid an average price of 18.6 cents, while the twelve creameries handling over 500,000 pounds paid 20.9 cents per pound of butterfat.

The creameries handling a large volume of butterfat were able to pay a higher average price because (1) they received a higher average price for butterfat sold, and (2) their average operating costs per pound of butterfat were less.

Relation between Price Received for Butterfat Sold and Volume of Butterfat Handled

Table 2 classifies these creameries according to the average price received for butterfat sold and to the volume of butterfat handled. The twelve creameries handling over 500,000 pounds of butterfat received an average price of 24.1 cents a pound for butterfat sold and the creameries handling less than 100,000 pounds received 23.3 cents per pound. The average price received by the individual creameries ranged from 21.1 to 26.1 cents per pound.

Table 2

A Classification of 150 Creameries According to the Average Price Received for Butterfat Sold and to Volume Handled*

Price received for butterfat sold (cents per pound)	Volume of Butterfat Handled					
	Less than 100,000 lbs.	100,000 to 200,000 lbs.	200,000 to 300,000 lbs.	300,000 to 400,000 lbs.	400,000 to 500,000 lbs.	Over 500,000 lbs.
21.0 - 21.9	1	3	-	-	-	-
22.0 - 22.9	2	15	11	5	1	-
23.0 - 23.9	3	29	23	4	2	4
24.0 - 24.9	3	15	5	8	4	8
25.0 - 25.9	-	-	2	-	1	-
26.0 - 26.9	-	-	1	-	-	-
Number of creameries	9	62	42	17	8	12
High	24.4	24.9	26.1	24.6	25.4	24.8
Low	22.0	21.1	22.0	22.1	22.4	23.5
Range	2.4	3.8	4.1	2.5	3.0	1.3
Average	23.3	23.5	23.5	23.7	24.0	24.1

*The average price received for butterfat sold was calculated by dividing the total amount received from the sale of butter, cream, milk and buttermilk by the total pounds of butterfat handled.

The advantage of creameries handling a large volume may be due to one or more of several causes such as quality of cream received, quality of butter made from a given grade of cream, distance to market, selling methods, shipping methods, seasonality of production and size of overrun.

Relation between Operating Cost and Volume

Table 3 shows these creameries classified according to the operating cost per pound of butterfat and to volume of butterfat handled. The average

operating cost per pound of butterfat for the twelve creameries handling over 500,000 pounds of butterfat was 3.2 cents and for the nine creameries handling less than 100,000 pounds, 5.0 cents. The operating cost of the individual creameries ranged from 1.5 to 6.4 cents per pound of butterfat.

Table 3.

A Classification of 150 Creameries According to the Operating Cost and to Volume Handled*

Operating cost per pound of butterfat (cents per pound)	Volume of Butterfat Handled					
	Less than 100,000 lbs.	100,000 to 200,000 lbs.	200,000 to 300,000 lbs.	300,000 to 400,000 lbs.	400,000 to 500,000 lbs.	Over 500,000 lbs.
1.0 - 1.9	-	-	-	-	-	1
2.0 - 2.9	-	1	2	4	3	5
3.0 - 3.9	1	26	23	7	5	4
4.0 - 4.9	3	27	15	5	-	-
5.0 - 5.9	4	7	2	1	-	1
6.0 - 6.9	1	1	-	-	-	1
Number of creameries	9	62	42	17	8	12
High	6.4	6.3	5.9	5.3	4.0	6.1
Low	3.5	2.6	2.8	2.3	2.6	1.5
Range	2.9	3.7	3.1	3.0	1.4	4.6
Average	5.0	4.2	3.9	3.6	3.3	3.2

*The operating cost per pound of butterfat was calculated by dividing the total of all costs, except interest on loans and capital stock, by the total pounds of butterfat handled.

The relationship of costs and volume arises out of the fact that a creamery with a given plant, equipment, and labor force usually can handle a somewhat larger volume of butterfat without increasing the total costs correspondingly. The increase in volume makes possible a fuller utilization of the plant, equipment, and labor force and, as a result, a lower per unit cost.

The creamery with a small volume tends to be at a disadvantage in competing with creameries having larger volume. In certain cases, this may be overcome by employing better methods of operation or by consolidation with neighboring creameries. There are many communities in which there are possibilities of increasing the price paid farmers for butterfat by consolidation of small creameries.

MINNESOTA FARM PRICES FOR SEPTEMBER 1933

Prepared by Adena E. Terras

The index number of Minnesota farm prices for the month of September 1933 was 60.5. When the average of farm prices of the three Septembers 1924-25-26 is represented by 100, the indexes for September of each year from 1924 to date are as follows:

September 1924 -	93.6	September 1929 -	109.7
" 1925 -	102.7	" 1930 -	84.4
" 1926 -	102.8	" 1931 -	55.0
" 1927 -	99.5	" 1932 -	40.0*
" 1928 -	101.0	" 1933 -	60.5*

*Preliminary

The price index of 60.5 for the past month is the net result of increases and decreases in the prices of farm products in September 1933 over the average of September 1924-25-26 weighted according to their relative importance.

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

	Sept. 15, 1933	Aug. 15, 1933	Sept. 15, 1932	Av. Sept. 1924-25-26	% Sept. 15, 1933 is of Aug. 15, 1933	% Sept. 15, 1933 is of Sept. 15, 1932	% Sept. 15, 1933 is of Sept. 15, 1924-25-26
Wheat	\$.74	\$.78	\$.41	\$1.24	95	180	60
Corn	.35	.36	.21	.91	97	167	39
Oats	.29	.28	.12	.36	104	242	81
Barley	.46	.38	.18	.56	121	256	82
Rye	.60	.57	.22	.77	105	273	78
Flax	1.68	1.68	.93	2.19	100	181	77
Potatoes	.85	1.20	.22	.84	71	386	101
Hogs	3.60	3.60	3.70	10.59	100	97	34
Cattle	3.65	3.70	4.60	6.12	99	79	60
Calves	5.00	4.75	5.50	9.17	105	91	55
Lambs-sheep	5.34	5.85	4.33	10.92	91	123	49
Chickens	.072	.076	.100	.179	95	72	40
Eggs	.12	.10	.14	.29	120	86	41
Butterfat	.21	.20	.19	.41	105	111	51
Hay	7.20	7.44	6.66	12.00	97	108	60
Milk	1.23	1.18	1.21	2.21	104	102	56

*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*

	Sept. 1933	Aug. 1933	Sept. 1932	Av. Sept. 1924-26
U. S. farm price index	51.1	51.1	43.1	100.0
Minnesota farm price index	60.5	55.7	40.0	100.0
U. S. purchasing power of farm products	69.1	71.0	61.8	100.0
Minnesota purchasing power of farm products	81.8	78.5	58.0	100.0
U. S. hog-corn ratio	8.0	7.8	-	-
Minnesota hog-corn ratio	10.3	10.0	17.6	12.9
Minnesota egg-grain ratio	7.4	7.4	27.6	17.5
Minnesota butterfat-farm grain ratio	24.7	25.0	50.0	35.4

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