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AGRICULTURAL EXTENSION DIVISION
UNIVERSITY OF MINNESOTA

F. W. Peck, Director

MINNESOTA FARM BUSINESS NOTES

No. 96

November 20, 1930

Prepared by the Division of Agricultural Economics
University Farm, St. Paul, Minnesota

SOME PROBLEMS OF COOPERATIVE CREAMERIES

Prepared by D. S. Anderson and L. L. Ullyot

Annual reports of 597 Minnesota cooperative creameries for 1929 indicate that prices paid for butterfat by those creameries ranged from 43.4 to 52.8 cents per pound, a spread of 9.4 cents between the lowest and the highest. This annual price depends, of course, on the prices paid each of the twelve months, and an examination of this monthly price suggests that the spread in any particular month may be greater than that for the year. It is not unusual for the prices reported as paid by the creameries of a single county for a given month to vary 4, 5 or 6 cents, and considerably wider variations are reported. The spread for the state will be considerably greater than for a single county.

Is It Fair to Compare These Prices?

Farmers frequently make comparisons between the prices reported as paid for butterfat by neighboring creameries, and "the price paid to patrons for butterfat seems to be the best single test" of creamery efficiency. So these prices reported as paid for butterfat and the causes of their variation between creameries are of interest to farmers and creamery officers.

For creameries selling their butterfat as butter, the price they can pay for butterfat will be affected by the price received for butter, their overrun and their creamery margin. However, there are other factors that affect the price a creamery will report as the price it paid for butterfat.

Methods of Computation Affect Price Reported

A preliminary survey, covering a few Minnesota cooperative creameries, indicates that methods of computation are of considerable importance in determining the price a creamery will report as paid for butterfat. The usual method of calculating the yearly price reported is to divide the total paid out for butterfat by the total butterfat received. Creameries grading cream may make a separate computation for each grade. A few creameries add the twelve monthly prices and divide by twelve to arrive at the yearly price. This latter method will give a figure higher or lower than the first depending upon whether the heavy run for the creamery is during a period of low or of high prices.

The creamery's expenses also influence the price which it can pay for butterfat and the method of computing these expenses will affect the price paid. For example, in the extreme case of a creamery charging expenses as the bills happen to come in, it is possible that expenses charged might be excessively heavy on certain months and correspondingly light on other months. The price paid by this creamery might easily be far out of line with that paid by a neighboring creamery operating under very similar conditions, but using a different method of arriving at the amount charged as expense for that particular month.

Such cases are reported but they are unusual. The most common practices will fall in one of three following methods.

The manager may compute the actual expense for the particular month, giving proper attention to opening and closing inventories of supplies and to charging to the month its proper share of such items as taxes and insurance, that are actually paid only at yearly or less frequent intervals. This need not necessarily involve a burdensome amount of bookkeeping and does tend to give a very complete account of the creamery's business. A second method is to charge, as expense for the month, a fixed amount per pound of butter manufactured or of butterfat received. This method lessens the burden on the farmer who delivers every month of the year and increases it on the man who delivers only during the period of heavy butterfat deliveries. It allows for a minimum of bookkeeping but if only this minimum is kept, a complete picture of the creamery's business is not available. Finally, some managers estimate the average monthly cost of operation and tend to charge this uniform lump sum each month of the year, varying it slightly according to the peculiar conditions of the month.

How Is the Price Reported Determined?

The method of arriving at the price the creamery will report as paid for butterfat is of even greater influence in causing variations between creameries, than the method of determining expenses. Here the extreme case, and one which may not be found in its extreme form, is that of the creamery which arrives at the price reported by dividing the total income for the month by total pounds of butterfat received and then makes sufficient deductions from the patrons' checks to cover expenses. The usual method is a variation of this. Certain expenses are deducted from total income before the division is made. Deductions sufficient to cover the other expenses are made from the patrons' checks. These deductions from the check, usually so much per pound and referred to "for sinking fund", are used for a variety of purposes but more commonly for taxes, insurance, repairs and permanent improvements. The extent by which this second method differs from the first depends upon the relative proportions of expenses deducted before and after making the division. A third method is to make all deductions before dividing. No deductions are made on the check and the price reported is that actually received by the patron.

The following may be used as an illustration of differences in the price reported due to differences in the method employed. Let us assume that a creamery receives 10,000 pounds of butterfat per month and that its overrun is 23.5 per cent, making its butter output 12,350 pounds. Say that its total expenses chargeable to the month are \$500 and that the butter sells for 43 cents. If the first method is employed, the price would be $\frac{12,350 \times \$.43}{10,000} = 53.1$ cents. This would be the gross price from which it would be necessary to deduct 5 cents ($\frac{\$500}{10,000}$) per pound of butterfat from the patrons' checks, leaving a net price of 48.1 cents. Under the second method, the creamery might be following the plan of deducting 1 cent a pound for the so-called "sinking fund". This would provide for \$100 of the expenses and would leave \$400 to be deducted before making the division. Its price then would be $\frac{(12,350 \times \$.43) - \$400}{10,000} = 49.1$ cents. After the one cent deduction the patron would actually receive 48.1 cents, while the creamery might report 49.1 cents. If the creamery deducted all the expenses before making the division, the price would be $\frac{(12,350 \times \$.43) - \$500}{10,000} = 48.1$ cents, the price actually paid the patron. Thus, under different methods of computation, the price reported under the above circumstances might range from 48.1 to 53.1 cents, even though the actual price paid was 48.1 cents in each case. Since comparisons of prices reported are frequently made, this suggests the advisability of creameries "getting together" on problems of creamery records.

Uniformity Would Also Aid in Comparison of Costs

The same difficulty, lack of uniformity, is encountered in making comparisons of creamery costs. The annual reports of cooperative creameries commonly give a figure representing the cost, for that creamery, of making a pound of butter. These figures are of value for comparison with those of other creameries only if the same items are included in both calculations. The problem is illustrated by a study of creamery costs based on the annual reports of 100 Minnesota cooperative creameries. The items which it was possible to include in a summary of these 100 annual reports are given in the following table:

Cost of Manufacturing a Pound of Butter Based on Reports for 100 Minnesota Cooperative Creameries for 1929			
<u>Cents per pound of butter manufactured</u>			
<u>Manufacturing Cost</u>		<u>General Expense</u>	
Creamery labor	1.29	Other salaries	.21
Supplies	.93	Taxes & insurance	.17
Repairs	.10	Office expense	.16
Depreciation	.33	Total General Expense	.54
Fuel, light, power & water	.39	Other deductions	.17
Freight, express & drayage	.13		
Total Manufacturing Exp.	3.17	Total All Expenses	3.88 cents

Certain annual reports could not be included in this study because the expenses were given as a single lump sum, or as manufacturing expense and as sinking fund disbursements. In others, the classification was so different from that used that they could not be included. These differences in classification may not detract from the value of the report as a check on the receipts and expenditures of that particular creamery but it makes comparisons difficult, and comparisons which are made may lead to incorrect conclusions.

Even with the reports included in this study, there is no assurance that the comparisons made are correct. One creamery may omit entirely certain items which another creamery includes, or it may place in a given classification items placed under a different heading by other creameries. The particular classification of costs is not presented as the one best suited to the needs of cooperative creameries. It represents one which a considerable number of cooperative creameries give in their annual reports and is offered as an example of what could be done if reports were standardized.

The annual reports of cooperative creameries undoubtedly have served well the purpose of informing creamery patrons as to the receipts, expenditures and progress of their particular creamery. If the reports were uniform, they could serve this purpose better and well might serve additional purposes. Comparisons with other creameries could then be made with assurance, and these comparisons might indicate profitable changes in methods of operation. Uniformity in creamery accounting and in annual reports might eliminate possible misunderstandings and develop the cooperation that should exist between cooperative creameries.

MINNESOTA FARM PRICES FOR OCTOBER 1930
Prepared by D.D. Kittredge and A.E. Erickson

The index number of Minnesota farm prices for the month of October 1930 was 80.6. When the average of farm prices of the three Octobers of 1924-25-26 is represented by 100, the indexes for October of each year from 1924 to date are as follows:

October 1924	-	93.0
"	1925	- 103.6
"	1926	- 103.5
"	1927	- 98.1
"	1928	95.0
"	1929	- 109.4*
"	1930	- 80.6*

*Preliminary

The price index of 80.6 for the past month is the net result of increases and decreases in the prices of farm products in October 1930 over the average of October 1924-25-26 weighted according to their relative importance. These increases ranged from approximately 27 per cent to 2, and the decreases from 63 per cent to 7. The products ranked according to the size of their percentage increases or decreases in this comparison are shown in the following list:

Principal Farm Products which Showed Price Increases and Decreases
in October 1930 when Compared with Average Prices in
October 1924-25-26
(arranged in descending order of percentage change)

<u>Increases</u>	<u>Decreases</u>	
Potatoes	Rye	Flax
Cattle	Wheat	Hogs
Calves	Lambs-Sheep	Chickens
	Barley	Corn
	Eggs	Hay
	Oats	Milk
		Butterfat

Although the Minnesota index for October 1930, does not measure price changes from September 1930, a comparison of month to month changes in price has been made. The increase is 3 per cent and the decreases range from 18 per cent to 1. The products ranked according to the size of their percentage increase or decrease in October 1930 over September 1930, are shown in the following list:

Principal Farm Products which Showed Price Increases and Decreases
in October 1930 when Compared with September 1930
(arranged in descending order of percentage change)

<u>Increases</u>	<u>Decreases</u>	<u>No Change</u>
Butterfat	Rye	Hogs
	Corn	Wheat
	Barley	Oats
	Chickens	Lambs-Sheep
	Potatoes	Hay
	Flax	Milk
	Cattle	Calves
		Eggs