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A STUDY OF DAIRY MARKETING
THREE COOPERATIVE ASSOCIATIONS

Northeastern Minnesota

Northwestern Wisconsin

Survey made and report prepared jointly by the Agricultural Extension Services of
Minnesota and Wisconsin

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The County Agricultural Agents in the counties affected.

The "Committee of Nine"

The "Technical Committee"

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Reasons for Consolidation

Too many assumptions would have to be made to express the advantages of consolidation statistically. The advantages to be gained will to a large extent depend on the degree and type of consolidation. However, there is every indication from the study that procurement, processing and distribution efficiency for milk and dairy products could be materially increased. A consideration of the economic factors involved suggests that the advantages far outweigh the disadvantages. There are non-economic factors to consider, and to overcome, such as the inherent desire to conduct cooperative affairs locally, a suspicion that cooperative associations can be too big, suspicion and even enmity of "the other group" who has been a competitor, and a fear that "we might lose control". The members will eventually have the vote as to whether a consolidation will be effected. The economic advantages of consolidation should therefore be clearly outlined and presented to the members. Of special significance is the development of a pattern for the "consolidated" association which assures members in the various local areas of local participation and control.

Advantages of Consolidation. A number of ways of gaining advantage from consolidation can be outlined. There is further indication of a cumulative gain. The more closely the goal of complete consolidation is attained the greater will be the gain to the membership. The gain will not be alike for all three of the associations. One will gain more in one way and the others more in other ways. The following advantages could be gained:

1. Volume of operation. Processing equipment for milk and dairy products is expensive. To the extent that such equipment is used to capacity, the per unit processing cost will be less. All three associations would benefit from volume operation and lower operating costs if consolidation is achieved.
2. Lower capital requirements. This advantage from consolidation is closely related to volume of operation. The associations as a group have excess facilities but if consolidation is not effected one or two associations may soon have to make still further investments in machinery and equipment.
3. Flexibility in operation. This advantage from consolidation is closely related to volume of operation and lower capital requirements. Volume in individual associations does not justify obtaining equipment for processing a large variety of dairy products. With the combined volume, a maximum of flexibility could be attained. One association now has equipment for filling half gallons with milk. This equipment is sufficient to meet the needs of the now existing three associations. Consolidation would permit all producers in the area to share in this flexibility without additional investment in equipment.
4. More efficient use of necessary equipment. If all facilities and equipment were owned by one association and all milk supplies now handled by the three associations were pooled, the total operations could be much more effectively coordinated, and operating costs could be reduced. Time is now devoted to operating machines and cleaning up after operation of machines which could be saved if the necessary equipment were operated at or nearer to capacity. The information on available and needed equipment indicates that much of the machinery and equipment now regularly used at much below capacity would be needed only as stand-by equipment or would not be needed at all. There would be further value of operat-

ing machinery and equipment at capacity. More rapid depreciation would result in a faster turnover of equipment in the necessary plants. This would make it possible to use, and to be more up to date, with modern, labor-saving machinery and equipment,

5. Merchandising efforts more effectively applied. There is much duplication in merchandising efforts at the present time. It is logical to assume that the cost of this effort could be reduced to nearly one-half through coordination. The costs of the present distribution system, of actual competition for handlers in the Duluth-Superior and Cloquet area and an overlapping in distribution to different handlers, but in the same town, could be materially reduced.
6. Administrative and Management Costs Reduced. Member representation and control could be democratically arranged through local advisory committees. Advisory committee members would constitute the "representing members" for the association. These people would function on a voluntary, non-pay basis. With such an arrangement and consolidation of the three associations only one board of directors would be required. Only one general manager would be required with additional management personnel under his direction to keep the whole consolidated business and program closely coordinated. Such an arrangement should permit substantial reduction in administration and management cost even though the employed personnel would receive as good or better remuneration for their services.
7. Larger net return to producers. The margins between what the consumers pay for milk and other dairy products and what producers get always looms large. All of the items to which reference has been made under the preceding six points influence the marketing margins for dairy products in this area. If consolidation is effected and an opportunity is thereby provided to reduce the costs of these items a substantial reduction should be possible in the marketing margins, leaving a larger net return to producers.

Reasons for Study and Historical Background

The request for this study and the funds necessary for its completion came from the Boards of Directors of three cooperative dairy marketing associations that have nearly 3000 producer members.

The purpose of this study was to analyze and appraise the trends in production and marketing of fluid milk and dairy products in Northeastern Minnesota and Northwestern Wisconsin. Dairying is the major farm enterprise in this area. Cash farm income from the sale of dairy products accounts for 70 to 85 percent of the total cash farm income. The information obtained should aid producers in pursuing a course of action which will maintain and strengthen the economic position of the dairy enterprise in the area.

The study deals primarily with three cooperative dairy associations that supply most of the fluid milk and manufactured dairy products for Northeastern Minnesota and Northwestern Wisconsin. They also move a substantial volume of dairy products to more distant markets. These associations have fairly long histories. The first one was formed in 1916 and the last one of the three in 1931. Each one started as a small association with limited capital, and grew steadily. Growth was also achieved by earlier consolidation with neighboring cooperative associations.

The services performed since organization have changed. One association started as a bargaining association. Wholesaling and retailing of milk and dairy products soon became part of the business. At times farm products other than dairy products have been marketed for producers but the volume of business for these has been exceedingly small. Miscellaneous services have been performed such as livestock breeding, trucking, frozen food locker services and the handling of a limited line of dairy supplies.

Special consideration was given to the possible savings to producers and consumers by adopting more efficient marketing practices. The proposed consolidation of the three associations is one way of reducing marketing costs. Consideration was also given to the potential market for dairy products in this overall area. The population in the three largest cities, Duluth, Superior and Cloquet has remained quite stable for the last thirty years. There has been a slight decline in the rural population of the area.

The area of Northeastern Minnesota-Northwestern Wisconsin here referred to includes the Minnesota counties of Aitkin, Carlton, Cook, Itasca, Lake, Pine and St. Louis and the Wisconsin counties of Ashland, Bayfield, Burnett and Douglas. A few scattered patrons from other counties are included. The number of milk cows in this area increased up through 1945 and decreased since that time. In 1953 there were 5.2 percent less milk cows than in 1930.

From 1930 to 1945 the number of milk cows increased 25.5 percent but total milk production increased only 21.6 percent, so there was a decrease in production per cow. From 1946 to 1953 the production per cow increased 15.4 percent in northern Wisconsin. The largest increase of 27.8 percent was in Douglas county, Wisconsin, which includes the city of Superior. Similar increases in milk production per cow may have occurred in the Minnesota counties.

Milk production is very seasonal in this area. June is the flush production month and November is the month of low production. In 1951 the "Louisville Plan" was adopted under the Federal Milk Marketing Order as an attempt to level out production.

During the past twenty years most of the roads in the area have been graded, surfaced and are now in comparatively good condition throughout the year. Better roads facilitated the shift from weekly cream pickups to daily milk pickups, and also resulted in extension of the supply area. Some of the milk is now assembled at the outlying plants and trucked in bulk tanks to the bottling plants.

Organizational Structure

A comparison was made of the organizational structure of the three associations. Even though one is organized under Wisconsin law and two under Minnesota law, there is much similarity in the procedures followed. The major provisions of the Articles of Incorporation and By-laws of the three associations are set forth in Table 1. There would be few if any organizational barriers in consolidating the three associations. They are all of the centralized type and member patrons hold a direct membership even though two of the associations have several local processing plants. If consolidation were effected and a new association organized it would merely require transfers of (1) all assets, (2) all liabilities, (3) all stock and other ownership claims from the three associations to the "consolidated" association. No cash transactions would be required. Ownership claims which have arisen out of net margins should retain the same priority, by years, in the "consolidated" association which they now have in the individual three associations.

A par value of \$5.00 for stock in the "consolidated" association would be a common denominator for all stock which the three associations now have outstanding. Stock certificates from all three associations would have to be called in. Members (stockholders) in association B would merely have to turn in their certificates and receive similar new certificates from the "consolidated" association. For each certificate of one share at \$10.00 turned in by members of association A, the new association would issue a certificate for 2 shares at \$5.00 each. For a common stock certificate of one share at \$25.00 turned in by a member of association C the new association would issue a certificate for 5 shares at \$5.00 each, and for each certificate of 1 share of preferred stock at \$10.00 the new association would issue a certificate for 2 shares at \$5.00 each.

Only minor adjustments would be required. Association A now has eleven directors, B has six and association C has seven. The method of electing directors also varies somewhat. A elects association directors by districts. The directors in B establish districts and the people in each district elect local directors. C, a smaller association, does not have districts. In the "consolidated" association which would cover a large area, a clear cut pattern of local representation should be developed. Local representation could be on a county basis, or some other basis which would be equitable to all member patrons. In providing local representation, and in keeping a cooperative association democratic, it is necessary to keep in mind that the system must also be expedient. Local areas (county or otherwise) could elect "representing members" probably five or seven or nine, who would have voting rights at annual or special membership meetings. Representing members could in turn elect directors, probably in the individual local areas. If this would result in a board of directors too large for expediency, they in turn could elect an executive committee of probably seven members which should include the officers. The purpose of the executive committee would be expediency. The executive committee should carry out and determine matters of a more routine nature and take final action only on matters specifically delegated to them by the entire board of directors. Some of the largest cooperative associations in the Midwest, including associations which operate in a number of states, have found such a pattern of organization democratic and at the same time expedient. Further, it has given member patrons assurance that they had a voice as well as responsibility in their cooperative on an equitable basis with member patrons from any and all other local areas of the association.

Table 1

Provisions of the Articles of Incorporation and By-laws

	<u>A</u>	<u>B</u>	<u>C</u>
1. Cooperative Law - Chapter	Minn. 308.05 - 308.18	Wisconsin Chap. 185	Minn. 308.05 - 308.18
2. Duration	50 years from April 1950	Not indicated	50 years from March 1947
3. Art. of Inc. & By-laws - last revision	April 1950	Not indicated	March 1947
4. Purpose of Association	All inclusive	Processing and Marketing Dairy Products	Quite inclusive
5. Capital Stock Authorized	Common = 100,000 Preferred = 650,000	Common = 500,000 Preferred = 500,000	Common = 100,000 Preferred = 400,000
6. Capital Stock Outstanding Feb. 28, 1954	Common = \$9,120 Preferred = \$478,170	Common = \$289,035 Preferred = \$30,265	Common = \$25,385 Preferred = \$231,302
7. Capital Stock - Par Value	Common = 10.00 Preferred = 10.00	Common = 5.00 Preferred = 5.00	Common = 25.00 Preferred = 10.00
8. Common Stock Ownership	Must be held by producers. No limit on amount per member.	Must be held by producers. Limited to \$1000 per member.	Must be held by producers. Limited to one share per member.
9. Preferred Stock Ownership	May be held by any person, natural or corporate, approved by the directors.	Not indicated - mostly arises for patrons from net margins.	Not indicated - mostly arises for patrons from net margins.
10. Preferred Stock Issues	Sold for cash Issued in lieu of Common Issued for reserve credits	Issued in lieu of Common. Issued for reserve credits	Issued in lieu of Common. Issued for reserve credits
11. Stock Dividends - Maximum	Common = 3% N. C. Preferred = 3% N. C.	Common = 3.5% N. C. Preferred = 3.5% N. C.	Common = 4% N. C. Preferred = 4% N. C.
12. Fiscal Year	Jan. 1 - Dec. 31	Sept. 1 to Aug. 31 of the following year	Jan. 1 - Dec. 31

13. Annual Meeting	2nd Sat. in April	October - exact date decided by directors.	Annual - 3rd. Tues. in March Semi-annual - 2nd Tues. in September
14. Notice of Meetings	Written notice 15 days before meeting.	Written notice 7 to 20 days before meeting	Written notice 15 days before meeting.
15. Quorum	10% if under 500 members, 50 if over 500.	50 members. If regular or special meeting is legally called not less than twice the number of the board of directors may constitute a quorum, but not to amend Art. of Inc. and By-laws.	20% if under 200 members, 50 if over 200.
16. Number of Directors	11 - must be members. The number of districts determines the number of directors.	6 - must be members and patrons.	7 - must be members and patrons.
17. Requirements for Electing Directors	Shall be elected from districts. Directors submit plan for districts and majority of stockholders must approve the plan at the annual meeting.	3 must be from Wisconsin and 3 from Minnesota. <u>Local Directors</u> shall be elected for one year and shall constitute a nominating committee They shall nominate two for each director and alternate director to be elected.	No special requirements
18. Term of Directors	3 years	3 years	2 years
19. Directors Meetings	On or about the 4th Tues. of each month	Shall hold a regular meeting at least once every month.	Shall meet at least once every month.

20. Directors Quorum

A
Majority. Majority vote of members present shall decide all questions.

B
Majority - but a lesser number may adjourn to another time by giving notice to the absent members of the time and place of the adjourned meeting.

C
5 Directors. Majority vote of members present shall decide.

21. Districts

The board of directors shall set up a plan for districts, and suggest the number of directors from each district and the number of directors at large if any. This plan shall be submitted to and be approved by a majority of the stockholder present at the annual meeting.

The board of directors may establish local districts and designate the number of local directors to be elected from each district. Members living in each district shall hold an annual meeting within 60 days before the association's annual meeting and elect one or more directors from the members in the district, as designated by the board of directors.

None

The local directors shall also act in an advisory capacity at special meetings with the directors, if requested:

- (a) By the president
- (b) By 2 directors
- (c) By 5 members of the local board of directors.

22. Reserves (Net Margins)

A
Must all be allocated on the basis of patronage. Reserve credits may be left as patron's equity reserves. Or, certificates of common stock, preferred stock or certificates of indebtedness may be issued for such reserve credits. Follow the practice of revolving oldest credits regardless of how issued.

B
Must all be allocated on the basis of patronage. Reserve credits may be left as patron's equity reserves. Or, preferred stock, revolving fund certificates or certificates of indebtedness may be issued for such reserve credits. They may also be paid in cash. Follow the practice of revolving the oldest credits regardless of how issued.

C
Must all be allocated on the basis of patronage. Reserve credits may be left as patron's equity reserves. Or, certificates of common stock, certificates of indebtedness, or certificates of interest may be issued for such reserve credits. They may also be paid in cash. Follow the practice of revolving oldest credits regardless of how issued.

23. Dissolution - Payments

- (a) Debts and other liabilities
- (b) Preferred stock - par value
- (c) Common stock - par value
- (d) Balance to patrons in proportion to patron's credits then recorded on the books of the association.

- (a) Debts and other liabilities
- (b) Stock - par value
- (c) Balance to patrons in accordance with their interest in the reserves and surplus as shown by the records of the association.

- (a) Debts and other liabilities
- (b) Preferred stock - par value
- (c) Common stock - par value
- (d) Balance to patrons in accordance with their interest in reserves and surplus as shown by the records of the association.

Financing

A comparative balance sheet is provided in the appendix for each of the three associations for the closing date of the fiscal years ending in 1950 through 1953, and for February 28, 1954. A "consolidated" balance sheet for the same dates is also provided. (See Appendix Tables A 1 through A 4.) A review of the financial status of these associations indicates, that although there are some differences, the differences are not of sufficient significance to hinder consolidation.

Current Assets to Current Liabilities. Like many other cooperatives, all three of the associations under study had a somewhat lower working capital ratio than is considered desirable. The ratios of current assets to current liabilities for the individual associations and the group were as follows:

<u>Year</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
1950	1.1	1.0	1.7	1.0
1951	1.0	1.1	1.6	1.1
1952	1.5	1.0	1.2	1.1
1953	1.6	1.1	1.5	1.3
Feb. 28, 1954	1.8	1.1	1.4	1.3

It will be noted that association A has improved its working capital position, for B it is about the same, and for C it is less favorable in comparison with earlier years.

Member and Patron Equities to Total Assets. In a study of 1321 Minnesota cooperative associations in 1950, it was found that members and patrons furnished 68 percent of the required capital. In two of the three associations studied the members and patrons furnished a larger share but in the third they furnished considerably less. For the group of three cooperatives slightly over 60 percent of the capital was furnished by members and patrons. The percentages of total capital furnished by members and patrons in each of the associations and for the group of three associations were as follows:

<u>Year</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
1950	64.5	44.0	78.9	57.3
1951	60.4	45.1	69.5	55.5
1952	63.0	39.6	67.1	53.2
1953	68.1	45.1	75.9	59.2
Feb. 28, 1954	71.6	44.9	76.6	60.4

The amount of capital required by this group of cooperatives is only slightly under 3 million dollars. Even though 55 to 60 percent of this is supplied by members and patrons a substantial additional amount has to be borrowed from outside sources. As indicated in the "consolidated" balance sheet funds were obtained from a variety of sources including the Bank for Cooperatives, insurance companies, through notes from local banks, and from members and employees.

Fixed Assets to Total Assets. There is considerable difference between the associations in the percent of the total capital tied up in fixed assets. The percentages were as follows:

11.

<u>Year</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
1950	56.9	41.3	70.7	52.0
1951	57.0	38.8	61.4	50.1
1952	57.7	33.5	59.6	47.2
1953	53.7	37.5	66.7	48.6
Feb. 28, 1954	54.9	37.2	68.2	48.9

The percentages are comparatively low in association B. This is an older association which constructed some of its facilities when building costs were lower. They have also had a longer period of depreciation. They are also handling more milk in bulk compared to association A. Association A already has more than half of its funds tied up in fixed assets. They have indicated a need for more physical facilities if consolidation is not effected. If more physical facilities are constructed, the fixed assets would constitute an abnormally high percentage of total assets in association A. Fixed assets constitute more than two out of three dollars of total assets in association C. This is a comparatively high percentage. Within the last several years the association has found it necessary to enter the retail milk business and to obtain the necessary facilities. Liquid assets were converted to fixed assets. Reference was made earlier to the depletion of working capital in this association.

Member and Patron Equities to Fixed Assets. Members and patrons should at least own the fixed assets of their cooperative association, and usually it is desirable to own a considerably larger share of total assets. For every dollar of fixed assets in the group of three associations, members and patrons have somewhat more than a dollar of their own money invested in the association as indicated in the following:

<u>Year</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
1950	\$1.13	\$1.06	\$1.12	\$1.10
1951	1.06	1.16	1.13	1.11
1952	1.09	1.18	1.13	1.13
1953	1.27	1.20	1.14	1.22
Feb. 28, 1954	1.31	1.21	1.12	1.24

In association A and C where fixed assets constitute a comparatively high percentage of total assets the member and patron equities are also quite high. For this reason there are only minor differences in the three associations in the ratio of member and patron equities to fixed assets.

Operations

A comparative operating statement is provided in the appendix for each of the three associations for the fiscal years ending in 1950 through 1953. A consolidated operating statement for the same fiscal years is also provided. (See Appendix Tables A- 5 through A- 8.)

Volume of Sales. All three associations gained in volume of sales from 1950 to 1953 as indicated by the following:

	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
1950	\$2,285,330	\$3,703,347	\$ 987,763	\$6,967,441
1951	3,182,515	3,744,856	1,094,610	8,021,981
1952	3,759,221	4,260,086	1,150,608	9,169,915
1953	3,719,334	4,875,395	1,151,263	9,745,992

	<u>Index - 1950 Sales = 100</u>			
1950	100	100	100	100
1951	139	101	112	115
1952	165	115	118	132
1953	163	132	118	140

The pattern of gain in sales has been somewhat different in the three associations. A had a substantial gain between 1950 and 1951, a smaller gain between 1951 and 1952 and a slight decrease from 1952 and 1953. In total the gain for A during this period was substantially larger than for B or C. B had only a very slight gain from 1950 to 1951 and about the same percentage gain from 1951 to 1952 and 1952 to 1953. The largest gain for C was from 1950 to 1951. More significant than the gain for individual associations is the gain in sales for the group. This was fairly steady during the period but tapered off to an 8 percent gain from 1952 to 1953.

Sales to Fixed Assets. Physical facilities are necessary in operating dairy marketing associations. Once the facilities have been constructed it is desirable to use them at maximum capacity. It is the only way that maximum efficiency can be obtained. The dollars of sales per dollar of fixed assets provide a measure of how effectively physical facilities are being used. For the three associations and for the group the situation was as follows:

	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
1950	\$4.52	\$7.92	\$3.44	\$5.54
1951	5.09	8.46	3.85	5.93
1952	5.77	9.77	4.07	6.69
1953	5.71	10.29	4.05	6.91

The type of business, size of business, and price level when facilities were constructed, and the extent to which facilities are depreciated, all have a bearing on the ratio of sales to fixed assets. A is selling a larger share of its supply of milk at retail for which more facilities are required. C is considerably smaller than the other two associations. Most of the facilities of B were constructed at a time when a lower price level prevailed. Thus they are somewhat further depreciated so that the net book value is comparatively lower. This gives B a considerable more favorable ratio.

Sales to Total Assets. Another measure of efficiency is the ratio of dollars of sales per dollar of total funds required in the business. For the three assoc-

iations and for the group the situation was as follows:

	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
1950	\$2.57	\$3.27	\$2.44	\$2.88
1951	2.91	3.28	2.36	2.97
1952	3.33	3.28	2.43	3.16
1953	3.07	3.86	2.79	3.41

Although this ratio of dollars of sales per dollar of total assets is more favorable for B than for either A or C, association B does not have the advantage that it had in the ratio of dollars of sales per dollar of fixed assets. It is significant that the situation was considerably more favorable for the group in 1953 than in 1950. In the future, only such facilities should be constructed and maintained, which are absolutely required, and which will keep operating efficiency at a high level. Indications are that through consolidation of the three associations the ratios of sales to fixed assets and sales to total assets could be materially improved.

Net Margins. Net margins as such do not provide a complete picture of the health and soundness of a cooperative association. Net margins indicate that the returns from sales more than covered the operating, administrative and other general expenses of the association and the cash advances to the patrons. The reported net margins for the associations studied were as follows:

	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
1950	47,529	71,621	18,443	137,598
1951	111,907	55,340	24,295	191,542
1952	79,850	35,327	10,800	125,977
1953	144,798	10,794	12,637	168,229
Average				
1950-53	96,021	43,271	16,545	155,837

To make the net margins comparable the hauling subsidies and variations in prices paid for milk were taken into consideration. All of the three associations subsidized the haulers, but there was considerable variation in the amount of the subsidy. If milk prices are quoted at the same figure by two associations, but one association deducts the full amount of the hauling costs from the producers milk check, while another subsidizes part of it and includes the subsidy in general operating expenses the net margins will not be comparable at the end of the year. To make the figures comparable the amount of the hauling subsidy has to be added to that association's net margin.

There was some variation in the prices paid to producers. Producer prices for Grade A milk were quoted above the minimum required under the order during different months of some of the years. There was a similar variation in the prices quoted for Grade B milk.

In order to make the net margins of these associations comparable allowances were made for hauling subsidies and for variations in the prices quoted to producers. The comparable net margins were as follows:

See next page.

	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
<u>1950</u>				
Reported Net Margin	47,529	71,621	18,448	137,598
Hauling Subsidy	3,290	1,995	8,097	13,382
Grade A Differential (1)	18,412	18,260	-	36,672
Grade B Differential (2)	<u>22,557</u>	<u>19,750</u>	<u>-</u>	<u>42,307</u>
Comparable Net Margin	91,788	111,626	26,545	229,959
<u>1951</u>				
Reported Net Margin	111,907	55,340	24,295	191,542
Hauling Subsidy	13,623	1,739	4,506	19,868
Grade A Differential (1)	12,722	21,730	-	34,452
Grade B Differential (2)	<u>38,108</u>	<u>50,184</u>	<u>-</u>	<u>88,292</u>
Comparable Net Margin	177,360	128,993	28,801	334,154
<u>1952</u>				
Reported Net Margin	79,850	35,327	10,800	125,977
Hauling Subsidy	26,075	32,182	14,418	72,675
Grade A Differential (1)	-	-	-	-
Grade B Differential (2)	<u>49,270</u>	<u>96,683</u>	<u>-</u>	<u>145,953</u>
Comparable Net Margin	155,195	164,192	25,218	344,605
<u>1953</u>				
Reported Net Margin	144,798	10,794	12,637	168,229
Hauling Subsidy	16,629	7,062	15,066	38,757
Grade A Differential (1)	-	-	-	-
Grade B Differential (2)	<u>62,248</u>	<u>76,318</u>	<u>-</u>	<u>138,566</u>
Comparable Net Margin	223,675	94,174	27,703	345,552

- (1) This amount was calculated from the price quoted above the Grade A order price for the different months and the volume of Grade A milk purchased.
- (2) This amount was calculated from the price quoted above the lowest price paid for Grade B milk by any one of the three associations and the volume of Grade B milk purchased.

	<u>Percent of Sales</u>			
	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
1950	4.0	3.0	2.7	3.3
1951	5.6	3.4	2.6	4.2
1952	4.1	3.9	2.2	3.7
1953	6.0	1.9	2.4	3.5

Because all of the three associations have continuously had net margins and are in a fairly favorable financial position, consolidation could be effected that much more easily. From information obtained and observations made, it also seems quite clear that the net margins for this group of patrons could be increased through consolidation of the three associations and through a closer and more effective coordination of plants and processing facilities.

Location of Supplies

The milk and cream patrons of the three associations in 1953 were located according to their mailing address. Half of the patrons were within a 40 mile radius from the center of Duluth-Superior. Nearly 90 percent were within a 60 mile radius,

The distances of patrons from the center of Duluth-Superior were as follows:

<u>Miles from Duluth-Superior</u>	<u>Percent</u>
Less than 20	23.9
Less than 30	39.1
Less than 40	50.0
Less than 50	82.7
Less than 60	87.4
Less than 70	95.5
Less than 90	100.0

Only 126 patrons out of 2768 were over 70 miles from Duluth-Superior.

There was considerable variation between associations in the average number of pounds of butterfat marketed per patron, which was as follows:

<u>Association</u>	<u>Average number of pounds of butterfat delivered per patron</u>
A	2196
B	2630
C	1554
ABC	2253

There was also considerable variation in the number of pounds of butterfat delivered by Grade A milk producers, Grade B milk producers and producers who delivered cream. The variations were as follows:

<u>Type of producer</u>	<u>Average number of pounds of butterfat delivered per patron</u>
Grade A producers	3433
Grade B producers	1662
Producers delivering cream	789

Several other factors are important in determining how supplies and processing equipment can be most effectively integrated:

1. In 1953 Association B received slightly over 4 percent of its butterfat in cream, but has since discontinued the receiving of cream,
2. In 1953 Association A received slightly under 4 percent of its butterfat in cream. Receipts of butterfat in the form of cream are still declining.

3. In 1953 Association C received about 20 percent of its total butterfat in cream.

The supply of milk and cream available in 1953 in the area closest to the individual plants owned by the three associations is indicated in Figure 1.

The information presented in Figure 1 was also tabulated and expressed in percent of total receipts as given in Table 2. Several significant items can be observed.

1. A significant proportion of the total butterfat was available in a 20-mile radius from Duluth-Superior.
2. Over 1/3 of the total supply of butterfat was available in the Duluth-Superior area. Although a small volume of the supply is a considerable distance from Duluth-Superior, it is closer to these plants than to other plants owned by the three associations.
3. The Wright plant is "hemmed in" by some of the other plants. A comparatively small proportion of total supplies are available to it within a 20 mile radius and no supplies are available beyond because of the proximity of other plants owned by these associations. The Wright plant has only 7.6 percent of total supplies within its area of proximity.
4. Benoit has substantial supplies of both Grade A and Grade B milk within a 20 and 30 mile radius of the plant. This suggests that if consolidation is effected a milk receiving operation would be justified at this point for some time to come.
5. Floodwood is the major cream receiving plant, and has substantial supplies of cream and Grade B milk within a 20 to 30 mile radius. This justifies continuation of the operations at Floodwood. However in another section on "Physical Facilities and Equipment" attention is called to the need for better coordination and integration of these facilities through consolidation. This suggests that the Floodwood operations might eventually be limited to the receiving of milk and cream. The supplies of Grade B milk and cream could easily be transported in bulk to other plants owned by the "consolidated" association.

Source of Milk and Cream of the Three Associations in Relation to the Nearest Receiving Plant by Pounds of Butterfat - 1953

Grade B 16,000
Cream 288

Grade A 12,000
Grade B 95,000
Cream 23,000

Grade A 237,000
Grade B 496,000
Cream 139,000

* FLOODWOOD

Grade A 163,000
Grade B 294,000
Cream 8,000
*WRIGHT

* KETTLE RIVER

Grade A 518,000
Grade B 512,000
Cream 8,000

Grade A 24,000
Grade B 6,000

Grade B 583

Cream 548

Cream 33,000

DULUTH

SUPERIOR

Grade A 1,059,000
Grade B 428,000

Grade A 625,000
Grade B 143,000

Grade A 47,000
Grade B 30,000

* BENOIT

Grade A 561,000
Grade B 336,000

Grade A 237,000
Grade B 97,000

Grade A 7,000 Grade B 7,000

Table II

Location of Milk and Cream Supplies in 1953 - by Plant Areas

	Duluth- Superior	Kettle River	Wright	Floodwood	Benoit	All plant areas	Duluth- Superior	Kettle River	Wright	Floodwood	Benoit	All plant areas
	Pounds of Butterfat						Percent of Total Receipts					
Within 20 mile radius:												
In Grade A Milk	1,058,842	512,607	163,135	237,068	560,728	2,532,330	41.8	20.2	6.4	9.4	22.2	100.0
In Grade B Milk	427,612	511,699	293,967	496,271	335,877	2,065,426	20.7	24.8	14.2	24.0	16.3	100.0
In Cream	33,230	8,393	8,126	138,952	-	138,701	17.6	4.4	4.3	73.7	-	100.0
20 - 29 mile radius:												
In Grade A Milk	624,567	24,386	-	11,720	236,742	897,415	69.6	2.7	-	1.3	26.4	100.0
In Grade B Milk	143,288	6,001	-	94,617	97,076	340,922	42.0	1.8	-	27.8	28.4	100.0
In Cream	-	-	-	23,262	-	23,262	-	-	-	100.0	-	100.0
30 mile and over:												
In Grade A Milk	46,586	-	-	-	7,364	53,950	86.4	-	-	-	13.6	100.0
In Grade B Milk	29,863	583	-	16,085	6,992	53,523	55.8	1.1	-	30.0	13.1	100.0
In Cream	548	-	-	288	-	836	65.6	-	-	34.4	-	100.0
Total in each area:												
In Grade A Milk	1,729,995	536,993	163,135	248,788	804,834	3,483,745	49.7	15.4	4.7	7.1	23.1	100.0
In Grade B Milk	600,703	518,283	293,967	606,973	439,945	2,459,871	24.4	21.1	11.9	24.7	17.9	100.0
In Cream	33,778	8,393	8,126	162,502	-	212,799	15.9	3.9	3.8	76.4	-	100.0
Total - all forms	2,364,476	1,063,669	465,228	1,018,263	1,244,779	6,156,415	38.4	17.3	7.6	16.5	20.2	100.0

Milk and Cream Hauling

Marketing costs include the costs of getting milk from producers to market, processing it into a variety of dairy products and getting them to the ultimate consumers. Costs of hauling milk from producer to the plant constitute an important part of total cost.

The comparatively high cost of procurement for the cooperative associations under study is indicated by the long routes. A distance of 92 miles was travelled per load of milk and cream. The average distance between patrons was 2.9 miles. The average load varied in size from 6428 pounds in August to 8019 pounds in the flush production season in June. An average of 70 pounds of milk was hauled per mile travelled in August and 87 pounds per mile travelled in June.

The variation in procurement efficiency is indicated by the wide range in volume hauled and in miles travelled. Variations were about as large between routes within one association as they were between routes of the different associations.

	<u>High</u> Individual Plants*	<u>Low</u> Individual Plants*	<u>Average</u>
Length of Routes:			
Total Distance - miles	109	63	92
First pick-up to last pick-up- miles	58	36	53
Ratio- total to pick-up miles	1.9	1.8	1.8
Miles travelled per patron:			
Total distance - miles	3.7	2.2	2.9
First pick-up to last pick-up - miles	2.0	1.2	1.7
Ratio- Total to pick-up miles	1.9	1.8	1.7
Size of Loads:			
June - pounds per load	9635	6738	8019
August - pounds per load	7564	5555	6419
Ratio - June to August	1.3	1.2	1.2
Pounds of Milk per Mile of Travel:			
June - pounds per mile	152	64	87
August - pounds per mile	119	56	70
Ratio - June to August	1.3	1.1	1.2

* This is the average of all routes serving one plant.

November and not August is the lowest milk production month in this area. The reason for making the June and August comparison is to show the rapid change in size of load and pounds of milk hauled per mile of travel in a period of two months. The difference in the procurement situation from June to November is that much greater. The milk receipts by the three associations for June and November were as follows:

Monthly Receipts

	<u>June</u> (000 pounds)	<u>November</u> (000 pounds)	<u>Index</u> (November = 100)
Grade A Milk	11,243	6,684	168
Grade B Milk	<u>7,043</u>	<u>3,085</u>	<u>228</u>
Total	18,286	9,769	187

The available information indicates that a substantial saving could be made in procurement costs if these associations consolidated. It is reasonable to assume that trucks could be re-routed and routes could be organized so that there would be less miles travelled. Over 1 3/4 miles were driven for every mile required for actual milk and cream pick-up. The extra mileage was required because some haulers live a considerable distance from the first patron (first pickup), or the load is gathered in an area considerably removed from the plant. It should be emphasized that the total number of miles travelled, namely from the trucker's home to the first pickup, to the last pickup, to the plant, and back to the trucker's home must all be considered in determining hauling costs. A hauler must cover his operating costs for all miles travelled and not only those incurred in driving from the first patron to the last and to the processing plant, if he expects to stay in the milk and cream hauling business.

A carefully planned and controlled milk and cream procurement system would require less trucks to handle the volume in the low milk production season than are now being used. The volume of milk hauled per load in June was 20 to 30 percent larger than in August. This is also reflected in the pounds of milk hauled per mile of travel which was from 10 to 30 percent more in June than in August.

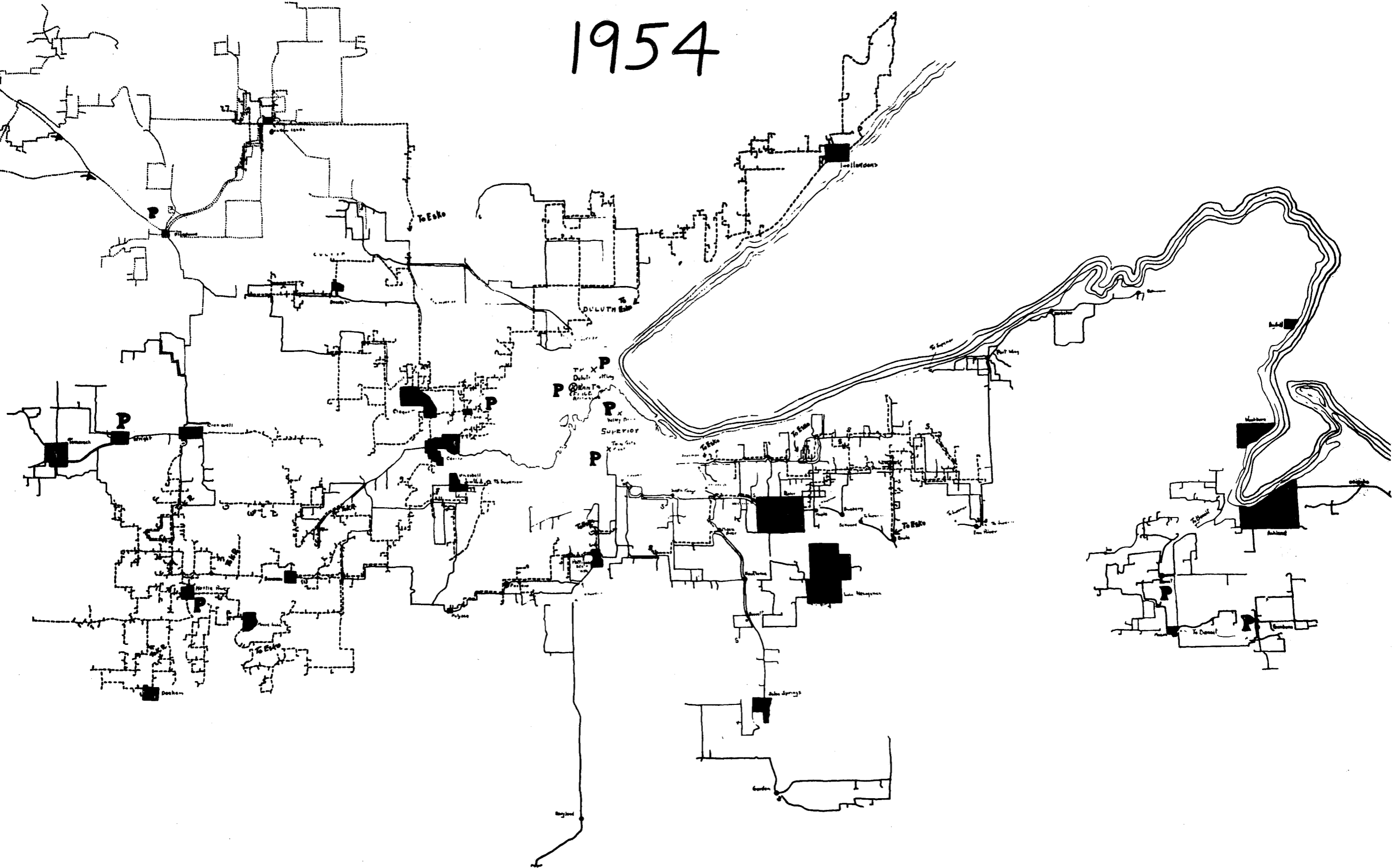
The degree of concentration of milk producers, size of herds and road conditions all have a bearing on the efficiency in procurement of milk and cream. Even though some allowance is made for these factors the difference between miles travelled per patron on routes for one plant compared with routes for another plant is unnecessarily large. An average of 3.7 miles per patron was travelled on the routes to haul the milk and cream to one plant compared with an average of only 2.2 miles per patron on the routes for another plant.

For the area as a whole, most of the saving in procurement costs could be made by re-routing trucks and shifting milk and cream from one route to another. Much closer coordination could be effected if these associations were consolidated. Additional savings could be effected by discontinuing the present overlapping of routes especially in the areas of Meadowlands and east of Superior in Wisconsin. The location and degree of overlapping is shown in Figure 2.

In the past few years, pickups of milk from bulk tanks on the farm have become popular in a number of milk production areas. This method no doubt should be considered as a means of lowering procurement costs in the area under study. It permits every other day pickup of milk from farm throughout the year. Favorable developments are underway in the manufacture of farm milk tanks and refrigeration equipment, and indications are that the system of bulk tank pickup may soon be practical for farmers with dairy herds of 10 or even less cows.

Figure II

MILK PROCUREMENT SYSTEM 1954



Milk and Cream Purchases and Utilization

When the volume handled by the three cooperative associations in 1950 is related to the volume of milk that was available as reported in the U. S. Federal Census, it indicates that they handled about 45 percent of all the milk and 90 percent of all the cream in the area including Carlton, Cook, Lake and St. Louis Counties in Minnesota and Ashland, Bayfield and Douglas Counties in Wisconsin. The milk received by the three associations is processed in nine different plants. One other plant is used only for receiving milk.

The amount of butterfat handled in milk and cream by the three cooperative associations increased 15.9 percent from 1950 through 1953. Grade A milk increased 29.6 percent and Grade B milk increased 8.6 percent. The amount of cream handled decreased 26.5 percent.

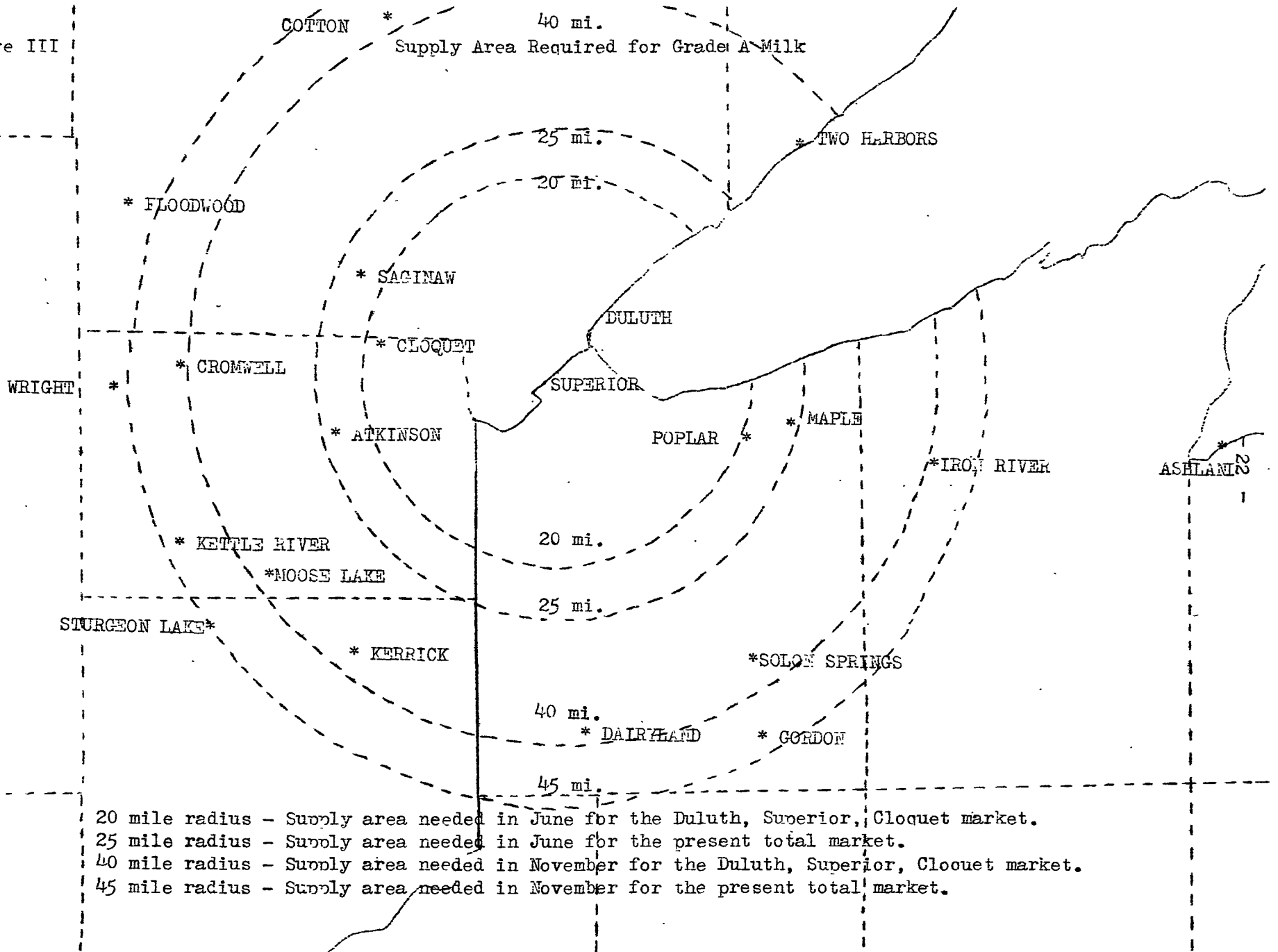
The available supply of Grade A milk for the entire Duluth-Superior market increased 14.9 percent from 1951 to 1953. The amount going into Class I use increased only 2.2 percent during the same period. In 1951, 58 percent of the Grade A milk was utilized in Class I and in 1953 only 51 percent.

The production area required for Grade A milk for Class I utilization is indicated in Figure 3. During the month of June 1953 a production area with a radius of 20 miles from Duluth-Superior was sufficient to supply Class I milk for the federal order market. A production area with a radius of 25 miles was sufficient to supply all Class I milk sold by the three associations. In November an area with a radius of 40 miles was required to supply the federal order market and an area with a radius of 45 miles was required to supply all Class I milk sold by the three associations.

Purchases by individual associations. The purchases of milk and cream by the two larger of the three associations increased from 1950 to 1953 and purchases made by the smallest association decreased. The volume of butterfat purchased in milk and cream and the percent purchased by each association was as follows:

	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
Pounds of butterfat purchased in milk and cream				
1950	1,865,801	2,889,897	935,790	5,691,488
1951	2,002,920	2,730,126	886,268	5,619,314
1952	2,295,835	2,993,717	910,805	6,199,357
1953	2,304,208	3,432,432	860,957	6,597,597
Percent purchased by each association				
1950	32.8	50.8	16.4	100.0
1951	35.6	48.6	15.8	100.0
1952	37.0	48.3	14.7	100.0
1953	35.0	52.0	13.0	100.0

Figure III



Butterfat purchased in various forms. The volume of butterfat purchased in Grade A milk varied with individual associations but for the group it increased during the period of 1950-1953. The percentage of the total butterfat purchased in Grade A milk increased steadily from 51 percent in 1950 to over 57 percent in 1953. In 1953 it was as follows:

Pounds of butterfat purchased in each form

Grade A milk	1,438,522	2,211,123	133,851	3,783,496
Grade B and other milk	783,521	1,059,915	557,381	2,400,817
Cream	<u>82,165</u>	<u>161,394</u>	<u>169,725</u>	<u>413,284</u>
Total	2,304,208	3,432,432	860,957	6,597,597

Percent of total butterfat purchased in each form

Grade A	62.4	64.4	15.5	57.3
Grade B and other	34.0	30.9	64.8	36.4
Cream	<u>3.6</u>	<u>4.7</u>	<u>19.7</u>	<u>6.3</u>
Total	100.0	100.0	100.0	100.0

Grade A receipts and Class I utilization. The volume and percent of Grade A milk purchased in 1953 by these associations and other handlers, and the volume and percent of the total milk furnished for Class I and Class II utilization was as follows:

<u>Handlers</u>	<u>Grade A Milk Receipts Pounds of Butterfat</u>	<u>Percent</u>
A	1,434,005	28.0
B	2,314,006	45.3
C	133,019	2.6
A-B-C	3,881,030	75.9
Other Handlers	<u>1,234,709</u>	<u>24.1</u>
All Handlers	5,115,739	100.0
<u>Class I Utilization</u>		
A	740,392	28.1
B	884,275	33.6
C	62,816	2.4
A-B-C	1,688,483	64.1
Other Handlers	<u>943,957</u>	<u>35.9</u>
All Handlers	2,632,440	100.0
<u>Class II Utilization</u>		
A	693,613	27.8
B	1,429,732	57.4
C	70,204	2.8
A-B-C	2,193,549	88.0
Other Handlers	<u>298,369</u>	<u>12.0</u>
All Handlers	2,491,918	100.0

Grade A milk is produced and purchased with the hope that a comparatively high proportion of it may go to Class I utilization for packaging. If a larger proportion of the total Grade A supply is used in Class I the "blended" price to producers is higher.

For associations A and C, the percent of the total Grade A milk supplied for Class I use was about equal to the percent that their Grade A receipts were of total market receipts. For B it was considerably less and for "other handlers" considerably more. Stated differently "other handlers" who operated in the Duluth-Superior-Cloquet market moved a much higher proportion of the total Grade A milk receipts into Class I utilization in 1953 than the three associations, and very substantially more than association B. This is more clearly indicated in the following table:

<u>Handler</u>	<u>Grade A Receipts</u>	<u>Class I Utilization</u>	
		<u>Pounds</u>	<u>Percent of Grade A Receipts</u>
A	1,434,005	740,392	51.6
B	2,314,006	884,275	38.2
C	133,019	62,816	47.2
A-B-C	3,881,030	1,688,483	43.5
Other Handlers	<u>1,234,709</u>	<u>943,957</u>	<u>76.5</u>
All Handlers	5,115,739	2,632,440	51.5

Only slightly over half of the available supply of Grade A milk was used in Class I during 1953 by the handlers subject to the federal order. Any market requires a surplus of Grade A milk for the year in order to supply the requirements for Class I utilization during seasons of low milk production. However, the percent of Grade A milk used in Class I by all handlers operating in the Duluth-Superior-Cloquet market was only slightly in excess of 61 percent in January, 1953. In June it was at the low point of 37 percent, so that nearly two out of three pounds of Grade A milk were then utilized in manufactured dairy products.

Processing and Marketing Functions. There is considerable similarity in the processing and marketing functions of these associations, and especially in the functions of the two larger ones. There are also some significant differences. The similarities and differences in marketing functions in 1953 can be observed from the following:

	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
Sales in Class I Milk:		Pounds of Butterfat Marketed		
In small packages	497,812	359,287	62,815	922,914
Bulk to other handlers	<u>242,586</u>	<u>530,347</u>	-	<u>773,435</u>
Total Class I	740,398	890,136	62,815	1,693,349
Sales in Other Forms:				
Butter	1,459,795	1,676,690	782,077	3,918,562
Cheese	-	449,668	-	449,668
Ice Cream	60,665	-	9,789	70,454
Bulk to other handlers	24,841	385,278	-	410,119
Cottage cheese and powder	<u>8,483</u>	<u>3,627</u>	<u>1,462</u>	<u>39,740</u>
Total Class II	1,553,784	2,541,432	793,328	4,888,544
Total Milk	2,294,182	3,431,568	856,143	6,581,893

	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
Sales in Class I Milk:		Percent of total marketed in each form		
In small packages	21.7	10.5	7.3	14.0
Bulk to other handlers	<u>10.6</u>	<u>15.4</u>	<u>-</u>	<u>11.7</u>
Total Class I	32.3	25.9	7.3	25.7
Sales in Other Forms:				
Butter	63.7	48.9	91.4	59.6
Cheese	-	13.1	-	6.8
Ice Cream	2.6	-	1.1	1.1
Bulk to other handlers	1.1	11.2	-	6.2
Cottage cheese and powder	<u>.3</u>	<u>.9</u>	<u>.2</u>	<u>.6</u>
Total Class II	67.7	74.1	92.7	74.3
Total Milk	100.0	100.0	100.0	100.0

The handling of Class II milk and the processing of dairy products constitutes a major part of the operations in all of these associations. Only about 7 percent of the total supply of butterfat handled by association C had a Class I outlet. Nearly 1/3 of the supply handled by association A is marketed in this way. Several other items are of special significance:

1. Association A has the highest percentage of Grade A milk marketed in retail packages, such as gallons, quarts and pints.
2. Association B sells a substantial volume of both Class I and Class II milk in bulk to other handlers.
3. Butter is by far the most significant outlet for butterfat in all associations and to the extent of over 91 percent of total butterfat handled by association C. The buttermaking enterprise is supplemented by a skimmilk drying enterprise in each of the associations. The significance of the butter enterprise indicates the significance of the milk drying enterprise because only about 6 percent of the total butterfat purchased by the associations was purchased in the form of cream.
4. Cheese making constitutes a significant outlet for milk in association B. Milk from association A is utilized in cheese but the cheese is processed by a small cooperative on a contract basis.
5. Only a small volume of milk is utilized in making ice cream.

The importance of each of the three associations in performing various marketing functions is indicated by the percent of the total butterfat for the group handled by each, which was as follows:

	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
Sales in Class I Milk	Percent	Percent	Percent	Percent
Small packages	53.9	38.9	6.8	100.0
Bulk to other handlers	<u>31.4</u>	<u>68.6</u>	<u>-</u>	<u>100.0</u>
Total Class I	43.7	52.6	3.7	100.0
Sales in Other Forms:				
Butter	37.3	42.8	19.9	100.0
Cheese	-	100.0	-	100.0
Ice Cream	86.1	-	13.9	100.0
Bulk to other handlers	<u>6.1</u>	<u>93.9</u>	<u>-</u>	<u>100.0</u>
Total Class II	31.8	52.0	16.2	100.0
Total Milk	34.9	52.1	13.0	100.0

Sales in small packages. It was indicated earlier in this section that 14 percent of the total butterfat handled by these associations in 1953 was sold in the form of Class I milk and cream in small packages and another 11.7 percent in the form of Class I bulk milk and cream. A comparison was made between the three associations in the volume of butterfat sold in milk and cream in the various small packages. The volume sold by each and the percent of the total volume sold in each package was as follows:

Small Packages

Class I Milk:	<u>A</u>		<u>B</u>		<u>C</u>		<u>A-B-C</u>	
	Pounds	% of Total	Pounds	% of Total	Pounds	% of Total	Pounds	% of Total
Gals.*	749,026	5.9	183,389	2.1	122,017	7.3	1,053,432	4.5
1/2 Gals.	2,248,341	17.6	145,181	1.7	-	-	2,393,522	10.3
Qts.	9,008,605	70.3	7,974,827	91.6	1,513,428	91.0	18,496,860	79.9
1/3 Qts.	48,336	.4	-	-	-	-	48,336	.2
Pints	301,967	2.4	93,811	1.1	-	-	395,778	1.7
1/2 Pints	<u>439,180</u>	<u>3.4</u>	<u>307,850</u>	<u>3.5</u>	<u>28,512</u>	<u>1.7</u>	<u>775,542</u>	<u>3.4</u>
Total Milk	12,795,455	100.0	8,704,058	100.0	1,663,957	100.0	23,163,470	100.0
<u>Class I Cream:</u>								
Gals.*	17,389	5.4	10,535	3.7	52	.1	27,976	4.3
Qts.	43,370	13.5	14,768	5.2	75	.2	58,213	9.0
Pints	185,098	57.6	197,493	69.7	27,906	70.5	410,497	63.8
1/2 Pints	<u>75,661</u>	<u>23.5</u>	<u>60,601</u>	<u>21.4</u>	<u>11,565</u>	<u>29.2</u>	<u>147,827</u>	<u>22.9</u>
Total Cream	321,518	100.0	283,397	100.0	39,598	100.0	644,513	100.0
<u>Class I Milk and Cream:</u>								
Gals.*	766,415	5.8	192,924	2.1	122,069	7.2	1,081,408	4.5
1/2 Gals.	2,248,341	17.2	145,181	1.6	-	-	2,393,522	10.1
Qts.	9,051,975	69.0	7,989,595	89.0	1,513,503	88.8	18,555,073	77.9
1/3 Qts.	48,336	.4	-	-	-	-	48,336	.2
Pints	487,065	3.7	291,304	3.2	27,906	1.6	770,275	3.4
1/2 Pints	<u>514,841</u>	<u>3.9</u>	<u>368,451</u>	<u>4.1</u>	<u>40,077</u>	<u>2.4</u>	<u>923,369</u>	<u>3.9</u>
Total Milk & Cream	13,116,973	100.0	8,987,455	100.0	1,703,555	100.0	23,807,938	100.0

* Includes milk sold in larger cans for milk dispensers, etc.

The sale of milk and cream in small packages not only depends on the available supply of Class I milk but also on the availability of the equipment required for packaging the products for which there is market demand. The test of efficiency in packaging equipment is not necessarily in the volume of milk packaged but just as much in the number of packages turned out. The number of packages of milk and cream sold by each of the associations and the percent of total packages were as follows:

See next page.

Small Packages

	<u>A</u>		<u>B</u>		<u>C</u>		<u>A-B-C</u>	
	<u>Packages</u>	<u>% of Total</u>	<u>Packages</u>	<u>% of Total</u>	<u>Packages</u>	<u>% of Total</u>	<u>Packages</u>	<u>% of Total</u>
Gals.*	87,096	1.5	21,208	.5	14,188	1.8	122,492	1.1
1/2 Gals.	522,870	8.8	33,763	.8	-	-	556,633	5.0
Qts.	4,190,049	70.2	3,709,222	83.8	703,920	91.3	8,603,191	77.1
1/3 Qts.	67,442	1.1	-	-	-	-	67,442	.6
Pints	280,901	4.7	87,266	2.0	-	-	367,967	3.3
1/2 Pints	<u>817,079</u>	<u>13.7</u>	<u>572,745</u>	<u>12.9</u>	<u>53,046</u>	<u>6.9</u>	<u>1,442,870</u>	<u>12.9</u>
Total Milk	5,965,437	100.0	4,424,204	100.0	771,154	100.0	11,160,795	100.0

Class I Cream:

Gals.*	2,022	.6	1,225	.4	6	-	3,253	.5
Qts.	20,172	6.0	6,869	2.3	35	.1	27,076	3.9
Pints	172,184	51.4	183,714	60.3	25,959	54.6	381,857	55.6
1/2 Pints	<u>140,765</u>	<u>42.0</u>	<u>112,746</u>	<u>37.0</u>	<u>21,516</u>	<u>45.3</u>	<u>275,027</u>	<u>40.0</u>
Total Cream	335,143	100.0	304,554	100.0	47,516	100.0	687,213	100.0

Class I Milk and Cream:

Gals.*	89,118	1.4	22,433	.5	14,194	1.7	125,745	1.1
1/2 Gals.	522,870	8.3	33,763	.7	-	-	556,633	4.7
Qts.	4,210,221	66.8	3,716,091	78.6	703,955	86.0	8,630,267	72.8
1/3 Qts.	67,442	1.1	-	-	-	-	67,442	.6
Pints	453,085	7.2	270,980	5.7	25,959	3.2	749,824	6.3
1/2 Pints	<u>957,844</u>	<u>15.2</u>	<u>685,491</u>	<u>14.5</u>	<u>74,562</u>	<u>9.1</u>	<u>1,717,897</u>	<u>14.5</u>
Total Milk & Cream	6,300,580	100.0	4,728,758	100.0	818,670	100.0	11,848,008	100.0

* A five gallon can was considered to be five packages.

Quarts made up over 3/4 of all the packages of milk distributed. The second most important package was the half pint, however distribution in half pints was largely limited to the school year and dropped off sharply during the summer months. There is indication from the records that the sale of milk in half gallons is increasing. There also seems to be an increase in the sale of milk in 1/3 quarts through vending machines. Sales of cream are largely made in pint and half pint packages.

The percent of the total number of each of the units supplied by the three associations was as follows:

See next page.

Small Packages

Class I Milk:	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
		Percent		
Gals.	71.1	17.3	11.6	100.0
1/2 Gals	93.9	6.1	-	100.0
Qts.	48.7	43.1	8.2	100.0
1/3 Qt.	100.0	-	-	100.0
Pints	76.3	23.7	-	100.0
1/2 Pints	<u>56.6</u>	<u>39.7</u>	<u>3.7</u>	<u>100.0</u>
All Milk	53.5	39.6	6.9	100.0
Class I Cream:				
Gals.	62.1	37.7	.2	100.0
Qts.	74.5	25.4	.1	100.0
Pints	45.1	48.1	6.8	100.0
1/2 Pints	<u>51.2</u>	<u>41.0</u>	<u>7.8</u>	<u>100.0</u>
All Cream	48.8	44.3	6.9	100.0
Class I Milk & Cream				
Gals.	70.9	17.8	11.3	100.0
1/2 Gals.	93.9	6.1	-	100.0
Qts.	48.8	43.1	8.1	100.0
1/3 Qts.	100.0	-	-	100.0
Pints	60.4	36.1	3.5	100.0
1/2 Pints	<u>55.8</u>	<u>39.9</u>	<u>4.3</u>	<u>100.0</u>
All packages milk and cream	53.2	39.9	6.9	100.0

A variety of packages are required to satisfy present day consumer demand for milk. More packages in turn require more, as well as a greater variety of processing equipment. Sufficient information is available to indicate that the investment in such equipment could be considerably reduced if these associations consolidated. Only one association now has a half gallon packaging machine which is being used considerably below capacity. The two other associations have not invested in similar equipment. The future for the sale of half gallon packages appears very favorable. Through consolidation it would be possible to use the half gallon packaging machine more intensively. The per unit cost of packaging would be materially lowered.

Physical Facilities and Equipment

Consolidation of the three associations involves (1) arranging an overall organizational structure, (2) integrating the existing plants and facilities into the best possible combination for efficient operation and (3) considering a longer time plan for changes in location and remodeling of plants, in the interest of over-all processing and marketing efficiency.

Types and Location of Dairy Plants. The ten plants owned and operated by the three dairy marketing associations vary in size, age and type. They are scattered in an irregular shaped area of Minnesota and Wisconsin which is approximately 130 miles long and 75 miles wide.

Most of the outlying plants were once individual units owned by individual associations that decided to merge with a larger association in order to improve their processing and marketing situation. Consolidation of dairy plants, therefore, is not a new undertaking to many communities included in the Duluth-Superior-Cloquet area.

The location of the 10 plants, the kind of milk and cream received, and the processing and marketing functions are given in Figure 4. The four circles in Figure 4 indicate the areas which appear to have natural boundaries for appraising the available facilities

Seven out of the ten plants receive milk. Area 3 has one milk receiving plant. The two receiving plants in area 4 are owned by the same association. Two of the three associations have receiving plants in both area 1 and area 2.

In each area except 2 there is a plant that receives either Grade A or B milk or both. While there is no plant in area 2 that receives Grade A milk, some of the Grade A producers in the area are served by haulers who deliver Grade A milk to plants in area 1 during part of the year.

Cream is accepted at the plant in area 3 and a small amount is handled at the plants in areas 1 and 2, as a convenience to producers. No cream is received in area 4.

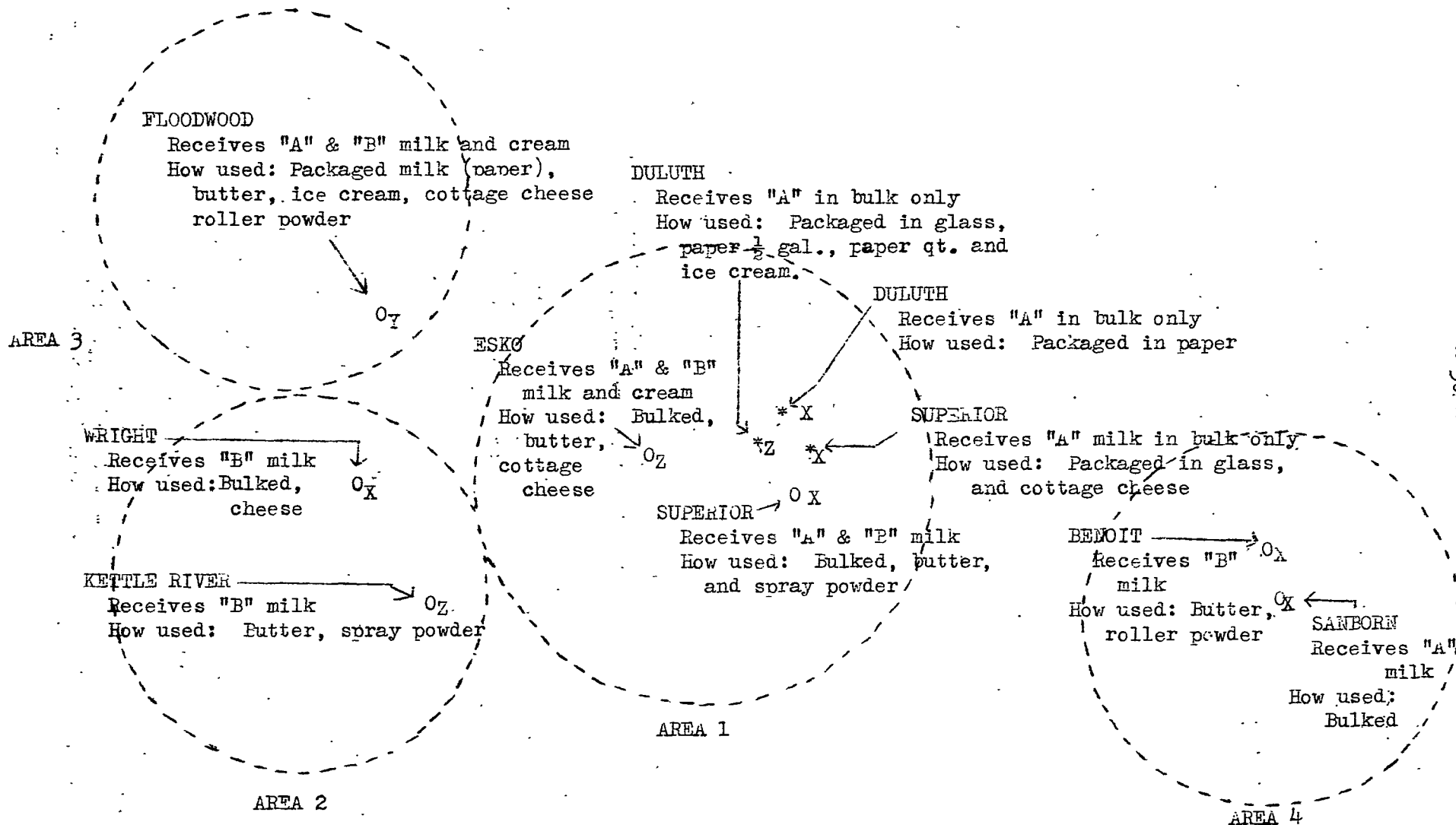
Facilities for packaging milk are limited to areas 1 and 3. Equipment for processing of milk products is available in all areas. Area 1 has facilities for processing butter, spray powder, ice cream and cottage cheese. Area 2 has facilities for processing cheese, spray powder and butter. Area 3 has facilities for processing butter, roller powder, ice cream, and cottage cheese. Area 4 has facilities for processing butter and roller powder.

The duplication of facilities offers excellent opportunity for savings through consolidation. The extent to which savings can be made will be largely determined by the kind and degree of integration. The following changes are suggested:

1. Consolidate milk and cream receiving operations.
2. Eliminate duplication of milk packaging equipment so as:
 - a. to save labor and plant space by having fewer lines.
 - b. to save plant space through consolidation and elimination of packaging plants.
 - c. to save on royalties paid on packaging machines.
3. Close some processing plants entirely, close others seasonally, and operate each plant at or as near capacity as possible. Using plants and facilities at or near capacity makes it possible to depreciate facilities more rapidly. This would enable the association to use more modern equipment and newer and more modern processing facilities.

Figure IV

Ten Locations for Receiving, Packaging and Processing Milk and Milk Products, Duluth-Superior Area, 1953



* - Plants that are packaging, processing and selling milk only.

O - Plants that are receiving milk and/or cream from producers.

An analysis follows to show more specifically how these changes may be made, and costs may be reduced through consolidation.

Fewer Intakes Proposed. There are now a total of 4 intake operations for Grade A milk and 6 for Grade B milk, in seven of the ten plants. These intakes are more than adequate for the milk received. If some can washers and other equipment were shifted two of the present intakes would provide adequate receiving capacity for Grade A milk. Two Grade A intakes could be eliminated.

If receiving equipment were shifted four of the present intakes would provide adequate receiving capacity for receiving Grade B milk. Two Grade B intakes could be eliminated.

The changes possible in receiving room operations would reduce costs.

Fewer Milk Packaging Machines Needed. Six machines were used to package milk in glass and paper containers at four plants. Two associations packaged milk in both glass and paper containers while one packaged only in paper. One plant in Duluth is equipped for 1/2 gallon paper containers. Costs could be reduced by using less packaging equipment at or near capacity.

The extent to which milk packaging facilities were used in 1953 is shown below. The volume packaged in paper and glass was estimated by management.

<u>Association</u>	<u>Milk Packaging Machines Type and Size</u>	<u>Capacity Used per Week (percent)</u>
C	Midget - paper - qt.	24
A	Jr. G. - paper - qt.	49
B	Jr. G. - paper - qt.	51
A	Jr. D - paper - 1/2 gal.	13 (1)
A	Glass - all sizes	10
B	Glass - all sizes	<u>17</u>
Total		24

(1) Includes contract operations.

All calculations were made on the basis of an eighty hour week at 90 percent of rated capacity. Milk packaging operations could quite easily be adapted to an eighty hour week by using two work shifts, when and where necessary. This practice would greatly reduce the amount of milk packaging equipment needed.

On the basis of an 80 hour week milk packaging equipment of the three associations was used to only 24 percent of capacity in 1953. Time was allowed in the calculations for cleaning and change-over.

The two Jr. packaging machines of quart size were used at 49 percent and 51 percent of their respective capacities. The Midget machine of quart size was used at 24 percent of capacity and the 1/2 gallon machine was used at only 13 percent capacity.

Sales of packaged milk and cream in 1953 varied from a daily average of 63,000 pounds in November and December to 68,000 pounds in September. The daily output of packaged milk for the first six months of 1954 averaged slightly over 71,000 pounds.

To more clearly indicate the need for packaging and processing equipment the daily receipts and utilization of fluid milk are indicated in Table 3 and 4. Because there is only a slight variation in packaged milk utilization from month to month, only a minimum of milk packaging equipment would have to be maintained which could be used near capacity, if consolidation of these associations were effected. At least two machines would be in surplus. A third could possibly be eliminated by using one of the remaining machines 16 hours a day, if necessary, or by converting a Jr. to a Sr. model. Indications are that one glass bottling machine, one paper quart machine and one 1/2 gallon machine could take care of all the packaging needs for the "consolidated" group.

More Efficient Use of Manufacturing and Processing Equipment Is Possible

Each association manufactures and processes its supply of milk which is not sold in fluid form. As a result each association has fairly complete facilities for processing different dairy products. Some of these facilities are duplicated in plants operated by the same association. Four plants have milk driers. The two largest associations each have a spray drier and one also has a roller drier. The smallest association has a roller drier. Butter is churned at four plants and there is an idle churn at another.

One association has facilities for manufacturing cheddar cheese. These facilities were used during four months of heavy milk production in 1953. One other association has at times delivered surplus milk to a nearby plant for cheesemaking on a contract basis.

Two associations make ice cream and all three make cottage cheese. These are minor operations in relation to total operations and consequently do not figure heavily in any arrangement for consolidation.

The major manufacturing and processing operations include butter, non-fat powder and cheese. Each one will be dealt with separately.

Buttermaking. Churning facilities were used at about 25 percent of capacity during the peak month of June in 1954, based on 16 hours per day and 7 days per week. The churning facilities of the three associations located in 5 different plants were as follows:

<u>Association Plants</u>	<u>No. Churns</u>	<u>Churning capacity used during high and low months</u>	
		<u>June 1954</u>	<u>November 1953</u>
		(percent)	
X - 1	2	31	13
X - 2	1	34	18
Y - 1	2	17	7
Z - 1	1	0	0
Z - 2	2	34	15
X-Y-Z	8	25	11

Note: Ratings based on 7 churnings each 16 hours for 7 days per week.

Table 3

Average Daily Receipts and Utilization
of Milk for Three Dairy Marketing Associations, by Months, 1953

	Jan	Feb	Mar	Apr	May	June ^{/1} ..(000 pounds)	July	Aug	Sept	Oct	Nov	Dec
Receipts, All Sources												
A Milk from producers	214	229	268	301	324	363	303	255	243	222	223	239
B Milk from producers	95	103	131	156	188	233	209	183	168	130	103	104
Milk from others / <u>2</u>	<u>15</u>	<u>16</u>	<u>20</u>	<u>17</u>	<u>46</u>	<u>80</u>	<u>52</u>	<u>41</u>	<u>24</u>	<u>14</u>	<u>10</u>	<u>12</u>
Total	324	347	419	474	559	676	564	478	435	365	335	355
Utilization, All Forms												
Bottled milk and cream	65	66	65	65	65	64	67	67	68	66	63	63
Class I bulk	52	52	51	51	50	47	49	53	53	58	58	56
Class II bulk	22	27	24	18	19	35	18	13	12	19	27	16
Used in ice cream	1	1	1	1	1	2	2	2	1	1	1	1
Used in cottage cheese	0	0	1	1	1	1	1	0	0	1	0	0
Butter made	10	9	10	14	17	21	17	16	15	12	10	11
Other uses / <u>3</u>	<u>174</u>	<u>192</u>	<u>267</u>	<u>324</u>	<u>406</u>	<u>506</u>	<u>410</u>	<u>327</u>	<u>286</u>	<u>208</u>	<u>176</u>	<u>208</u>
Total	324	347	419	474	559	676	564	478	435	365	335	355

/1 Peak month

/2 From other handlers and/or sources including milk, skimmilk and cream

/3 Available for drying or cheese manufacturing

Table 4

Average Daily Receipts and Utilization
of Milk for Three Dairy Marketing Associations, by Months, 1954

	Jan	Feb	Mar	Apr	May	June /1 (000 pounds)	July	Aug	Sept	Oct	Nov	Dec
Receipts, All Sources												
A Milk producers	245	259	295	328	339	386						
B Milk producers	105	115	136	156	181	236						
Milk from others /1	<u>15</u>	<u>19</u>	<u>36</u>	<u>53</u>	<u>61</u>	<u>104</u>						
Total	365	393	467	537	581	726						
Utilization, All Forms												
Bottled milk and cream	71	71	73	72	71	70						
Class I bulk	48	49	49	47	47	46						
Class II bulk	11	13	14	9	10	19						
Used in ice cream	1	1	1	1	1	2						
Used in cottage cheese	1	1	1	1	1	1						
Butter	10	11	14	16	18	22						
Other uses	<u>223</u>	<u>247</u>	<u>315</u>	<u>391</u>	<u>433</u>	<u>566</u>						
Total	365	393	467	537	581	726						

/1 Peak month

/2 From other handlers and/or sources including milk, skim milk and cream

/3 Available for drying or cheese manufacturing

Plant Z has more churning capacity than would be needed for the entire group during the peak production months of the year if operated on the basis of 16 hours per day. It is quite clear that consolidation of the three associations and integration of churning facilities would greatly reduce the cost of facilities and labor from what is presently required at the five different plants.

Milk Drying Facilities. Buttermaking and milk drying have usually provided the best outlet for milk which could not be utilized in packaged or other higher return outlets. However, because there are wide monthly fluctuations in receipts of milk, a number of drying units are in excess during most of the year. The situation could be improved if "standby" equipment were pooled, through consolidation of the associations.

The two spray driers now in operation have a calculated daily drying capacity of about 462,000 pounds of milk. This capacity would have been adequate for all three associations in 1953 and 1954, except for the month of June.

The following table shows the number of plants equipped with driers, the type, and the extent to which their capacity was used.

<u>Driers</u>	<u>Type</u>	<u>Capacity Used</u>	
		<u>High Month</u> June 1954	<u>Low Month</u> November 1953
		(percent)	
A	Spray	88	31
B - 1	Spray	91	23
B - 2	Roller	98	0
C	Roller	89	32
All Driers		91	24

Note: Based upon a 21 hour day - 7 day week.

The capacity of the four driers is calculated at 575 thousand pounds per 21 hour day of which 462 thousand pounds is spray drying capacity and 113 thousand pounds is roller drying capacity. One spray drier has twice the capacity of the other. If consolidation is achieved, it will always be possible to use the unit which is most efficient for the volume to be dried. This will materially reduce the drying costs.

The following table shows the extent to which the capacity of the spray driers would have been used during the 18 months if all of the milk available to the three associations had been dried.

<u>Month</u>	<u>1953</u> Percent	<u>1954</u> Percent	<u>Month</u>	<u>1953</u> Percent	<u>1954</u> Percent
January	41.3	51.2	July	96.4	
February	45.4	56.7	August	77.0	
March	62.4	72.0	September	67.0	
April	76.0	89.3	October	49.5	
May	96.1	98.7	November	41.3	
June	122.1	131.4	December	48.1	

"Standby" equipment would have been required in the month of June in both years, to supplement the capacity of the two spray driers. There is considerable excess of standby equipment during most of the year in the roller driers and the cheese-

making facilities. Through consolidation less of these "standby" units would have to be used at the same time. If cheesemaking facilities and roller driers are retained, so that the highest return products can be manufactured, there would be advantages in having such facilities located in the same plant.

Some liquid skimmilk was sold by one of the three associations in 1953 and 1954. There is also a continuation in the shift from the sale of cream to the sale of wholmilk from farms in this area. To get an idea of the required processing capacity, a special calculation was made to determine the potential supply of milk for cheesemaking or drying if the skimmilk sold in fluid form in 1953 has been processed, and if the butterfat purchased in cream had been received in wholemilk. The supply which would then have been available as related to the supply which actually was available in 1953 and 1954 would have been as follows.

	Actual Daily Volume Available for drying or cheesemaking in 1953-54.		Volume which would have been available for drying of cheesemaking if the skimmilk sold in fluid form would have been dried and if butterfat purchased in cream would have been purchased <u>in</u> whole milk	
	<u>1953</u>	<u>1954</u> (Thousand Pounds)	<u>1953</u>	<u>1954</u>
January	174	223	191	237
February	192	247	210	262
March	262	316	288	333
April	324	393	351	413
May	404	433	444	456
June	506	567	564	607
July	410		446	
August	327		356	
September	286		310	
October	208		329	
November	176		191	
December	208		222	

A consideration of the needs for drying facilities under a "consolidated" plan should include the possibility of a further leveling out of milk production from what has been achieved to date. It should also include the possibility of shifting from drying to cheesemaking because market prices sometimes favor cheese over the butter -powder combination.

Cheesemaking. Cheesemaking facilities add diversity in handling the milk from this area. One association now has facilities for manufacturing cheddar cheese, an operation carried on during four months in 1953. This cheese plant was built in 1947 and is in excellent condition. If consolidation is achieved this plant could

serve as a useful standby plant for surplus milk, or the cheesemaking facilities could quite easily be moved to another plant.

Summary

A review of the plants and equipment owned and used by the three dairy marketing associations shows that consolidation and integration of physical facilities could result in substantial savings for the following reasons:

1. There is now an excess of receiving, packaging and processing facilities in the three associations, when viewed in terms of the need for the group.
2. Fewer, well-equipped plants with facilities operated at or near capacity would result in lower "fixed" costs and lower costs of fuel power and labor, per unit of product manufactured.

Overlapping in Wholesale Distribution

For the purposes of this analysis, all milk deliveries to stores, restaurants, hotels, camps, etc. were included in wholesale distribution, and only the door to door home deliveries were excluded. There is no indication of significant overlapping in retail door to door home deliveries between the associations.

The location and distribution of wholesale milk outlets were as follows:

	<u>Number</u>	<u>Percent</u>
Total	1018	100.0
Minnesota	777	76.3
Wisconsin	241	23.7
Duluth and Proctor	480	47.2
<u>Superior</u>	<u>168</u>	<u>16.5</u>
Duluth-Proctor and Superior	648	63.7
Cloquet	18	1.8
Other	352	34.6

About 3/4 of the wholesale outlets were in Minnesota and 1/4 in Wisconsin. Nearly 1/2 were in Duluth (and Proctor), Minnesota and nearly 2/3 were in the Twin Ports cities of Duluth-Superior. Only about 1/3 of the wholesale outlets were in the outlying towns of Minnesota and Wisconsin.

The reasons for studying wholesale outlets was to determine the degree of overlapping in the service provided. The complexity of a milk and dairy products marketing system is exemplified by these three associations who are making wholesale distribution at 1018 points. They are delivering milk in 117 outlying towns of northeastern Minnesota and northwestern Wisconsin in addition to deliveries in the major city outlets of Duluth-Proctor and Superior.

The exact amount of overlapping in wholesale distribution is indicated in Table 5.

The overlapping in service to wholesale outlets is limited almost entirely to the Duluth-Superior cities area. Out of a total of 648 outlets in Duluth-Superior only 11 were serviced by all three of the associations. Another group of 90 retail handlers were serviced by two of the three associations. The triplication and duplication in Duluth-Superior resulted in a total overlapping of slightly over 17 percent. The overlapping in Duluth is about 20 percent compared to only 10 percent in Superior.

Less total time would be required if one person delivered the milk to retail handlers which is now being delivered by two or three men from different associations. It is logical to assume that a saving could be made in labor and mileage costs for wholesale distribution close to 20 percent in Duluth and 10 percent in Superior if the three associations were consolidated and the overlapping were discontinued. The saving in mileage costs might even exceed these figures because routes and loads for delivery could be more effectively coordinated. A "load" of milk could be delivered at less stops and in fewer miles.

There is no triplication and practically no duplication in servicing individual retail handlers in the outlying areas. Only one handler in Cloquet and three

Table 5

Towns	Total Number of Wholesale Outlets Served	Served by all three A-B-C	Served by two			Served by one			Total Outlets Served by Each			Total Stops
			AB	BC	AC	A	B	C	A	B	C	
Total	1018	11	34	32	28	381	339	193	454	416	264	1134
Minnesota	777	8	27	28	28	372	123	191	435	186	255	876
Wisconsin	241	3	7	4	-	9	216	2	19	230	9	258
Duluth & Proctor	480	8	26	28	26	229	88	75	289	150	137	576
Superior	168	3	6	4	-	8	145	2	17	158	9	184
Duluth & Proctor and Superior	648	11	32	32	26	237	233	77	306	308	146	760
Cloquet	18	-	-	-	1	10	-	7	11	-	8	19
Other	352	-	2	-	1	134	106	109	137	108	110	355
<u>Percent of Overlapping in Servicing Wholesale Outlets</u>												
Total	100.0	1.1	3.3	3.1	2.8	37.4	33.4	19.0	44.6	40.9	25.9	111.4
Minnesota	100.0	1.0	3.5	3.6	3.6	47.9	15.8	24.6	56.0	23.9	32.8	112.7
Wisconsin	100.0	1.2	3.0	1.7	-	3.8	89.6	.8	7.9	95.5	3.7	107.1
Duluth & Proctor	100.0	1.7	5.4	5.8	5.4	47.7	18.3	15.6	60.2	31.2	28.5	120.0
Superior	100.0	1.8	3.5	2.4	-	4.8	86.3	1.2	10.1	94.0	5.4	109.5
Duluth & Proctor and Superior	100.0	1.7	4.9	4.9	4.0	36.6	36.0	11.9	47.2	47.5	22.5	117.3
Cloquet	100.0	-	-	-	5.6	55.5	-	38.9	61.1	-	44.4	105.5
Other	100.0	-	.6	-	.3	38.1	30.1	30.9	38.9	30.7	31.3	100.9

at other outlying points were serviced by two of the three associations. From this, one might conclude that there is no overlapping in the outlying area; however, such a conclusion would overlook the major problem. In outlying areas the real problem in wholesale distribution costs arise when two wholesale handlers serve the same small town, even though they are servicing different retail handlers. In view of the comparatively small volume of milk consumed in a rural town or village there is a real saving in having only one wholesale handler serve the village instead of two, as is now the case in a number of instances. Here is then another saving which could be affected by consolidation of the association under study. The overlapping in wholesale distribution of milk to outlying towns, not including Duluth-Proctor and Superior, was as follows:

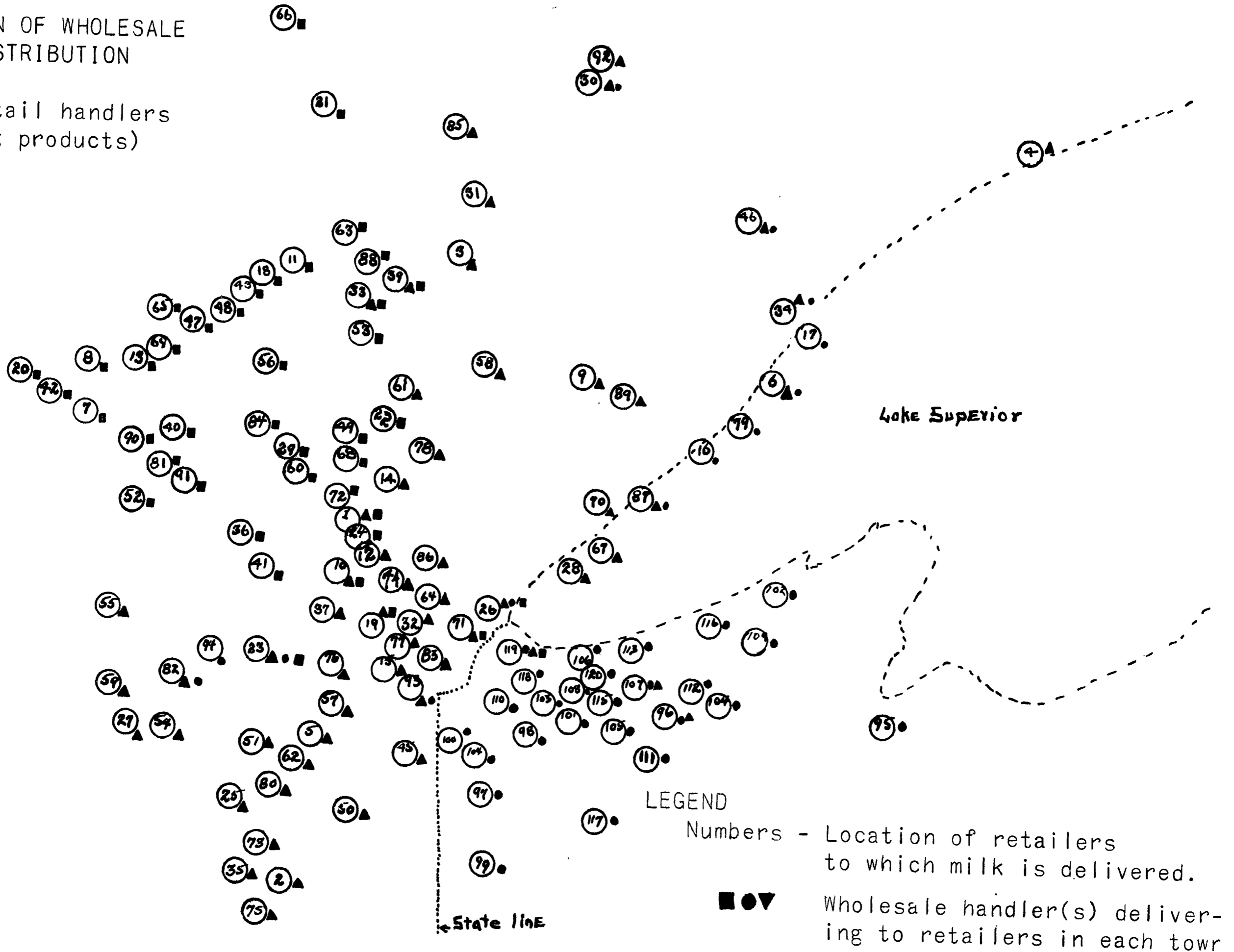
	<u>Minnesota</u>	<u>Wisconsin</u>	<u>Total</u>
Towns serviced	92	25	117
Serviced by two associations	13	2	15
Percent of overlapping	14.1	8.0	12.8

The overlapping in servicing rural towns and villages is more serious in Minnesota than in Wisconsin. In Wisconsin distribution is very largely made by one of the three associations. It is difficult to measure the exact saving in time and transportation through discontinuance of this type of overlapping. However, consolidation of the three associations should make it possible to coordinate wholesale distribution routes and distribution trips in such a way that the savings effected would considerably exceed the percent of overlapping.

The location of the towns where milk was sold and the degree of overlapping in service rendered by the associations is given in Figure 5.

Figure V
 PATTERN OF WHOLESAL
 DISTRIBUTION

(to retail handlers
 of milk products)



The General Market Situation

It is important to consider the over-all market situation in the areas. To do so requires consideration of the Federal Milk Marketing Order covering Duluth-Superior and Cloquet, and the effect it has on the total market. Further, it is necessary to compare market conditions and prices within the Federal Order area with those prevailing in the surrounding consuming centers and areas of north-eastern Minnesota and northwestern Wisconsin.

There are two reasons for the establishment of a Federal Milk Marketing Order: (1) to provide the framework for more orderly marketing of milk and other dairy products, and (2) to provide a more stable market. In order to provide an adequate supply of Class I milk for consumers, a premium price is permitted for Grade A quality milk. The price margin for Grade A milk over Grade B milk is intended to cover the extra production costs involved in producing the higher quality. Surplus Grade A milk which can not be utilized in Class I is utilized as Class II milk. Most of it is used in manufacturing butter, powder and cheese.

The price for milk utilized in Class II as established by formula under the order should be only slightly higher, if any, than the price paid for Grade B milk. The only reason for a price differential is the higher net return obtained in selling the product from such milk. When the Class II price is out of line with the price paid for Grade B milk and substantial proportion of the Grade A milk is used in Class II, the handlers, who are subject to the order are forced into a difficult competitive position.

Producers are frequently confused because they think in terms of prices established for Class I milk under the Order, when in effect the producers price for Grade A milk is a "blended price". The blended price is determined by the proportion of total monthly milk supplies utilized in Class I and Class II. The ideal market situation would exist for producers when the supply of Grade A milk is exactly equal to the Class I needs. However, if such a situation prevailed during the short supply months, the "blended price" to farmers for Grade A milk would still be substantially below the price for Class I milk in the months of "flush" production, because a substantial share of the Grade A milk would then be used for manufactured products. There was a substantial surplus of Grade A milk throughout the year in this area. Even in the season of short supply a substantial proportion of Grade A milk had to be utilized in manufactured dairy products. For this reason the blended price to farmers for Grade A milk was considerably below the price established under order for milk utilized in Class I, throughout the year.

Differences existed in the proportion of Grade A milk used in Class I by the three associations. More significant, was the much lower proportion of Grade A milk used in Class I by the three associations as a group, compared with other handlers in the area. Because the Duluth-Superior-Cloquet Federal Order is a market order and not a handler order the same minimum price must be paid to producers by all handlers. Differential payments must be made into the market pool if a comparatively large proportion of the Grade A supply received by a handler is utilized as Class I milk. However, if a handler is able to move a larger proportion of his Grade A supply into Class I use compared with other handlers, and thereby is able to obtain a more favorable margin, a significant difference may result in the amount of gross return per hundred weight of milk purchased. Such a handler could pay producers a higher price above the minimum required under the order or he would have a higher net margin at the end of the year.

A realistic view must be taken of Federal Orders to determine whether the milk prices established thereunder are out of line. If the price differential for Class I milk over Grade B milk is too large, the tendency over the longer period is an enlargement of the supply area and an encouragement in the production of Grade A milk in excess of needs. This expansion will come in four different ways, namely: (1) by producers who are already certified for Grade A milk, (2) by the shift of Grade B producers to the production of Grade A milk, and (3) by the shift of producers from the sale of cream to the sale of Grade A milk, and (4) by the shift of people in other farm enterprises to the production of Grade A milk. Unless demand for Class I milk is increased simultaneously with the increase in production of Grade A milk, the net effect is that a smaller and smaller percentage of the total supply of Grade A milk is utilized in Class I and hence the blended price for Grade A milk to farmers must be constantly decreased toward the price of Grade B milk. A further result is that a supply of Grade A milk from other areas not under Federal Order is invited to move into surrounding consuming centers which are not under the Federal Order, even though it may require long distance hauling and higher hauling costs. This is possible because the price paid to producers in outlying and distant areas is lower than the price paid to producers by handlers who are subject to the Order. This then further reduces the percentage of the total Grade A milk produced within the area which can be utilized in Class I. Even though the milk from outlying areas cannot be sold in the Duluth-Superior-Cloquet market, which is under order, it finds a ready market in other towns in the area that otherwise could be supplied by nearby producers. An attractive market in this general area which is not under the Order is the "Range". Some of the milk now marketed in the range towns is delivered from distant production areas. One of the three associations under study has made a serious attempt to compete for the "Range" market. It is required to pay the Federal Order Market price to its producers because it also sells milk and cream in the Duluth-Superior and Cloquet market. The competition from "outside" supplies has resulted in a retail price for packaged milk in some of the range towns that is a cent per quart lower than in Duluth-Superior and Cloquet. This cooperative association is in a "squeeze". It is required to pay its producers a price equivalent to that received by all producers selling to handlers who are under the Federal Order, but it receives a cent per quart less for packaged milk in the range towns than is received for milk in Duluth-Superior and Cloquet.

A study of the prevailing situation raises the question whether it is practical to limit a Federal Order to the cities of Duluth-Superior and Cloquet or whether the Federal Order should be extended to a wider area of Minnesota and Wisconsin. Producers in the range town area have been agitating for a separate Federal Milk Order. The small volume of milk in the immediate range area and a limited market area make this impractical. The administrative cost of such an order would be excessive. The question that follows is whether the range area and some of the heavily populated consuming centers of northwestern Wisconsin should be included in the Federal Order which is now limited to Duluth-Superior and Cloquet?

Regardless of the area that should logically be included under a Federal Market Order, it is all important that such a Market Order be established and adjusted in line with the real purposes of bringing about more orderly marketing, and a more stable market situation. Inclusion of monopolistic features as a protection for a limited number of producers in a limited area, to the disadvantage of other producers, will ultimately defeat the desirable effects of a Federal Milk Order.

Procedures in Consolidation

Reference has been made in several sections of this report to the degree of consolidation and the probable resulting benefits. The initial step in consolidation should be to get an overall organizational structure arranged, so that ownership and the physical facilities of the three associations can be pooled. This step is absolutely essential but by itself could not result in any substantial savings. Savings would result from each of the steps that followed, of which some might be delayed until the benefits are more obvious, and until members and patrons begin to think more definitely in terms of being a part of a larger cooperative and a larger community. This focuses attention to what is practical and desirable for the more immediate future and what is practical and desirable over the longer period, and what should be the final goal. The following need careful thought and consideration.

1. Organizational structure. The fundamental principles of a cooperative association provide that those who use the association shall be the owners, or stated differently that members (owners) and patrons are one and the same group. The directors who are member-patrons are elected to carry out the program as fully as possible according to the wishes of the member-patrons. The directors function in the interim between membership meetings. As directors, they have no vested interests and no vested rights. However, the member patrons have assigned the responsible job of policy making to them. The directors respect different viewpoints and think in terms of the best interests of all the member patrons. They hire a manager. The manager follows through on the policies laid down by the directors, and plans and carries out the details, again, in terms of the greatest amount of good to all member patrons. A clear cut distinction should be made between management policies, which are determined by directors, and for which the responsibility rests with them, and actual management of an association which is the responsibility of the manager. For team work and efficient operation it is necessary to clearly understand these areas of responsibility.

To fulfill the basic purpose and carry out the fundamental principle of a cooperative association, namely the greatest amount of good to all member patrons, a pattern of equitable local participation should be carefully arranged. Direct representation of nearly 3000 members is neither expedient nor necessarily democratic. Members living near association headquarters have a continuous advantage. They can attend meetings with less effort than those farther away. Direct individual representation by as large a group as the membership in the proposed association also lends itself more readily to special agitation and group representation rather than representation "in terms of the greatest amount of good to all member patrons." Well-informed member patrons (part of the responsibility of good directorship and good management) will know what is best for them. So that all areas and all groups are properly represented and so that the association is controlled by member patrons in their best interest and in terms of what they want, the following organizational pattern is recommended:

- (a) Decide on a pattern of local units and define it in the By-laws of the new association. Members of such local units would have legal powers to elect an advisory committee of five or seven or nine members who would serve for a period of three years. Election should be staggered so that as nearly as possible an equal number are elected each year. An annual meeting should be held in each of the local units to elect members to the advisory committee, to hear reports from directors and the management of the association, and if so desired to present resolutions and suggestions

to the association for consideration by its "representing members" and its directors. Counties might serve best as local units. If local units are established in any other way they should not be subject to change at will by the Board of Directors. If counties as such do not provide an equitable distribution, provision could be made in the By-laws for adjusting the number of local advisory committee members according to the number of patrons, or the pounds of butterfat sold by patrons in that county during the previous fiscal year. Such a provision would require a careful check on the number of patrons or the butterfat sold by patrons at the close of the fiscal year and sufficiently in advance of the annual meeting of the association. Also, as number of patrons change or as volume changed in a county from one year to another, the number of advisory committee members to be elected would also change. A minimum requirement should be established for local representation for counties that have only a small number of patrons or a small volume of butterfat. An advisory committee should be elected when they have reached the minimum requirement.

- (b) "Representing members". The advisory committees should constitute the representing members of the association and all members of all advisory committees should have one vote at annual and special meetings of the association. For example, if the association had a total of nine local units, county or other local units, and each unit had nine members on the local advisory committee, a total of 81 representing members would have power to vote at all meetings of the association.
- (c) Directors. A director from each local unit should be elected from and by the advisory committee (representing members) of that unit. Allowances could be made for the number of patrons or volume of butterfat handled from that unit. For example, if a county had five or less "representing members" they would be entitled to one director, if they had between 5 to 10 they would be entitled to two directors, etc. If a pattern were established for a comparatively large Board of Directors, provision might be made for an executive committee and in turn for less frequent meetings of the Board of Directors. The power of the executive committee should be limited in the By-laws.
- (d) Executive Committee. If the organizational pattern provides for an executive committee, it should be elected by the directors with a provision that the executive committee represent all geographical areas and all members as nearly as possible. Important policy decisions should rest with the entire Board of Directors, and not with the executive committee.

2. Plant Facilities. Processing facilities are in excess of needs for practically all of the products handled and sold. To effect savings to producers more of the milk and cream should be concentrated at one point where processing facilities could then be used more nearly at capacity.

The longer time goal should be to package all milk and cream in Duluth and Superior. Along with the plant facilities at Duluth and Superior, the plant at Kettle River should be continued for processing surplus Grade A milk, Grade B milk and cream. The outlying plants at Benoit, Wisconsin and Floodwood would be needed as receiving stations as long as the present system of procurement for milk and cream in cans continues. If this area should find it practical to shift to bulk tank milk pickup some time in the future, similar to the shift that has already occurred in some of the more intensive milk production areas, the outlying receiving stations, and especially Floodwood, because it is closer to Duluth and Superior than Benoit, might be no longer be practical and efficient. The longer time goal should not be con-

fused with the more immediate possibilities. To try to reach the final goal too rapidly might hinder the progress which is otherwise possible in the more immediate future.

Some adjustments should be made in the near future if consolidation is effected, and if savings are to result. Operations at the Esko and Sanborn plants should be discontinued at the earliest possible date. The total supply of Grade A milk is in surplus. The Grade A milk now hauled from the Sanborn area could be easily replaced by Grade A milk from an area closer to Duluth and Superior and the supply from the Sanborn area could then be utilized for manufacturing purposes at Benoit.

The Wright plant has in the past served only as a standby plant for making cheese during months of flush production. During the rest of the year it has been used as a receiving station. In the early period of consolidation this plant could be continued on the same basis. However, coordination of facilities should begin as soon as practical including transfer of cheesemaking facilities from Wright to one of the other remaining plants. This is suggested because the supply of milk in immediate Wright area can easily be hauled to either Floodwood, Kettle River or Duluth-Superior depending on where it is needed or where it can be most efficiently processed. If consolidation is achieved, efficiency can be increased by receiving milk and cream only at Floodwood and Kettle River from this general area of Minnesota. Floodwood is the only area from which a substantial amount of cream is received. In the immediate post-consolidation period, the buttermaking at Floodwood might be continued. Milk packaging operations should be transferred to Duluth-Superior immediately. The skim milk should be hauled to one of the spray drying units for drying so that the higher price paid for spray powder compared to roller powder can be realized. As soon as arrangements can be made, the cream should also be hauled to either Kettle River or Duluth for processing, leaving only the milk and cream receiving plant operations at Floodwood. The procedure at Benoit should be much like that at Floodwood. As soon as possible the supply of milk which is now roller dried at Benoit should be shifted to a spray drier. As indicated in other sections of this report the existing spray drying equipment is sufficient to handle the total available supply during most of the year. Because the Benoit plant receives only milk it would be desirable to haul the whole milk to Duluth-Superior and thereby also eliminate buttermaking at Benoit. In the proposed shift, buttermaking equipment from Benoit and Floodwood could be disposed of because the remaining churning facilities would be more than adequate.

Over the longer period the final result would be:

- (a) Milk and cream packaging would be limited to the Duluth-Superior plants.
- (b) Processing facilities for manufactured products would be limited to Duluth-Superior and Kettle River.
- (c) Grade A and Grade B milk would be received at Duluth-Superior, Kettle River and Benoit. Grade A and Grade B milk and cream would be received at Floodwood.
- (d) Operations would be immediately discontinued at Esko and Sanborn and eventually at Wright.

3. Management. An association of this size can justify and afford the best in technically trained and experienced personnel. Complete coordination can not be achieved unless one democratically elected board of directors is responsible for governmental and management policies of the consolidated association, and a general manager is employed. An assistant general manager should also be employed so that sufficient personnel is available to carry out the overall responsibility of the association. There is everything to be gained from specialization in management if it is properly coordinated. With this in mind management might place someone in charge of each of the following areas of responsibility:

- (a) Office
- (b) Procurement
- (c) Sales
- (d) Research and quality control
- (e) Plant facilities and equipment
- (f) Publicity and public relations

Depending on the type of personnel available and employed, the assistant general manager might assume responsibility for one of the six management areas mentioned above in addition to his responsibility as assistant general manager.

Headquarters for the "consolidated" association and for management personnel should obviously be in Duluth-Superior, and probably in Duluth. A plant foreman, responsible to the central management should have full responsibility for the personnel and facilities in his plant. Aside from the necessary day to day records, and procurement data, necessary from each receiving and processing plant, all records should be kept in the central office.

4. Brand names. Concern has been expressed about a probable loss of sales when well established brand names are combined. The information obtained does not provide much reason for such concern. As indicated in the section on wholesale distribution only 11 handlers, all in Duluth-Superior, were receiving milk from all three of the associations. Only ninety-four out of the total of 1018 outlets were receiving milk from different combinations of two of the three associations.

A single brand name appears to give the best merchandising results. However in the early post-consolidation period all of the brands might be continued. As soon as the most desirable final brand name for the consolidated association has been decided on a system could then be followed whereby two brand names would be printed on the packages, namely the final one and the outgoing one. If by chance the outgoing brand name should have the largest current appeal, it could occupy the largest amount of space on the package for some time with the final brand name having a secondary position. As consumers became more familiar with the final brand name, the position of the two names could be reversed. The "outgoing" brand name could eventually be dropped. This is the system which has been followed with good success by many groups who consolidated.

A brand name is significant. For this reason it is suggested that careful thought and consideration be given to finding a final brand name which has appeal, and which is clearly distinguished from other brand names. This could be one of the already existing brand names, unless a more effective new brand name could be found.

Table A-1

Balance Sheet - A

	12-31-50	Percent	12-31-51	Percent	12-31-52	Percent	12-31-53	Percent	2-28-54	Percent
Assets										
Current Assets:										
Cash	\$ 7639.06	.9	\$ 1526.55	.1	\$ 14816.31	1.3	\$ 103766.11	8.6	\$ 16787.99	1.4
H. S. Government Bonds	—	—	—	—	—	—	—	—	—	—
Notes Receivable	879.41	.1	879.41	.1	879.41	.1	990.00	.1	990.00	.1
Accounts Receivable	128835.96	14.4	188678.09	17.2	164792.69	14.7	167867.31	13.8	171869.24	14.8
Less: Reserve for Bad Debts	(18211.50)	(2.0)	(20854.71)	(1.9)	(22885.88)	(2.0)	(19860.32)	(1.6)	(21685.49)	(1.9)
Other Receivables	1158.50	.1	—	—	—	—	—	—	—	—
Stock in St. Paul B. C.	500.00	.1	—	—	—	—	—	—	—	—
Inventory - Product	25962.27	2.9	52037.18	4.8	69243.14	6.1	59806.33	4.9	91063.85	7.8
Supplies	44115.27	5.0	55446.54	5.1	47840.49	4.2	58250.55	4.8	74760.46	6.4
Total Current Assets	190878.97	21.5	277713.06	25.4	274686.16	24.4	370819.98	30.6	333786.05	28.6
Fixed Assets:										
Land, Buildings, and Equipment	755044.18	84.9	929221.50	84.8	1028883.68	91.2	1097168.35	90.4	1078974.86	92.6
Less: Reserve for Depreciation	(249156.02)	(28.0)	(304303.58)	(27.8)	(377573.99)	(33.5)	(445244.18)	(36.7)	(439702.87)	(37.7)
Net Book Value (Total Fixed Assets)	505888.16	56.9	624917.92	57.0	651309.69	57.7	651924.17	53.7	639271.99	54.9
Other Assets:										
Stock in St. Paul B. C.	7500.00	.8	—	—	6400.00	.6	1600.00	.1	1600.00	.1
Investments in Other Cooperatives	182931.58	20.6	189028.13	17.3	192653.33	17.0	184959.02	15.3	184979.42	15.9
Prepaid Expense and Others	2135.60	.2	3280.59	.3	3078.85	.3	3468.38	.3	5951.18	.5
Total Other Assets	192567.18	21.6	192308.72	17.6	202132.18	17.9	190027.40	15.7	192530.60	16.5
Total Assets	\$ 889334.31	100.0	\$1094939.70	100.0	\$1128128.03	100.0	\$1212771.55	100.0	\$1165588.64	100.0
Liabilities and Capital Equities										
Current Liabilities:										
Bank Over Draft	\$ 24892.80	2.8	\$ 77229.39	7.1	\$ —	—	\$ —	—	\$ —	—
Accounts Payable - Patrons	98660.44	11.1	156069.35	14.3	152462.26	13.5	144323.45	11.9	123214.08	10.6
Accounts Payable - Trade	510.50	.1	11474.60	1.0	23047.89	2.0	49587.18	4.1	37357.12	3.2
Seasonal Loan - St. Paul B. C.	10500.00	1.2	—	—	—	—	—	—	—	—
Notes Payable - (A) West Nat'l Bank	20000.00	2.2	20000.00	1.8	—	—	—	—	—	—
Notes Payable - (A) Others	1400.00	.2	1400.00	.1	1400.00	.1	—	—	—	—
Notes Payable - (B) Local Bank	—	—	—	—	—	—	—	—	—	—
Notes Payable - (B) Individuals	—	—	—	—	—	—	—	—	—	—
Accrued Expenses and Others	17000.06	1.9	12197.80	1.1	10872.59	1.0	38013.13	3.1	25721.09	2.2
Total Current Liabilities	172963.80	19.4	278371.14	25.4	187782.74	16.6	231923.76	19.1	186292.29	16.0
Deferred Liabilities:										
Mortgage Payable - St. Paul B. C.	142890.50	16.1	—	—	85871.78	7.6	25199.63	2.1	17495.98	1.5
Mortgage Payable - Mut. Service Cas. Ins.	—	—	—	—	104448.92	9.3	94287.29	7.8	92552.87	7.8
Mortgage Payable - Mut. Service Life Ins.	—	—	154184.48	14.1	36588.25	3.3	33066.97	2.7	32467.30	2.9
Reserve for Old Outstanding Checks	—	—	1572.00	.1	2399.34	.2	2143.21	.2	2204.01	.2
Total Deferred Liabilities	142890.50	16.1	155756.48	14.2	229308.29	20.4	154697.10	12.8	144720.16	12.4
Total Liabilities	315854.30	35.5	434127.62	39.6	417091.03	37.0	386620.86	31.9	331012.45	28.4
Capital Equities										
Common Stock	6930.00	.8	7495.00	.7	8530.00	.8	9170.00	.8	9120.00	.8
Preferred Stock	323740.00	36.3	369392.06	33.7	440060.00	39.0	480750.00	39.7	478170.00	41.0
Stock Credits	37172.79	4.2	8598.74	.8	10631.82	.9	11887.00	1.0	11847.63	1.0
Patronage Refunds Payable	—	—	—	—	—	—	—	—	—	—
Certificates of Indebtedness	70666.36	7.9	65153.03	6.0	64115.57	5.7	61545.18	5.1	61370.08	5.3
Patronage Dividend Certificates	—	—	—	—	—	—	—	—	—	—
General and Statutory Reserve	70710.75	8.0	28903.93	2.6	25107.51	2.2	20890.61	1.7	23277.11	2.0
Patrons Equity Reserve	28903.93	3.3	80669.67	7.4	100685.31	8.9	112215.87	9.3	112215.87	9.6
Undistributed Net Margin	35356.18	4.0	100599.65	9.2	61906.79	5.5	129692.03	10.7	138575.50	11.9
Total Capital Equities	573480.01	64.5	660812.08	60.4	711037.00	63.0	826150.69	68.1	834576.19	71.6
Total Liabilities and Equities	\$ 889334.31	100.0	\$1094939.70	100.0	\$1128128.03	100.0	\$1212771.55	100.0	\$1165588.64	100.0
Net Working Capital	\$ 17915.17		\$ (658.08)		\$ 86903.42		\$ 138896.22		\$ 147493.76	

Balance Sheet - B

Assets	8-31-50	Percent	8-31-51	Percent	8-31-52	Percent	8-31-53	Percent	2-28-54	Percent
Current Assets:										
Cash	\$ 232672.61	20.6	\$ 155741.34	13.6	\$ 165509.60	12.7	\$ 170116.25	13.5	\$ 101546.26	7.9
H. S. Government Bonds	4220.00	.4	4220.00	.4	4220.00	.4	2231.54	.2	2231.54	.2
Notes Receivable	---	---	33884.05	3.0	41284.25	3.2	44485.20	3.5	45870.94	3.6
Accounts Receivable	273156.00	24.0	181236.33	15.8	286478.22	22.0	306032.53	24.2	369700.38	28.9
Less: Reserve for Bad Debts	(17100.00)	(1.5)	(17500.00)	(1.5)	(17500.00)	(1.3)	(17500.00)	(1.4)	(17500.00)	(1.4)
Other Receivables	6.90	.0	2.90	.0	---	---	---	---	---	---
Stock in St. Paul B. C.	---	---	---	---	1200.00	.1	---	---	2500.00	.2
Inventory - Product	78667.47	7.0	222426.62	19.5	256618.81	19.7	139756.88	11.1	153568.56	12.0
Supplies	39187.94	3.5	69309.52	6.1	62231.90	4.7	71402.58	5.6	76131.11	5.9
Total Current Assets	610810.92	54.0	649320.76	56.9	800042.78	61.5	716524.98	56.7	734048.79	57.3
Fixed Assets:										
Land, Buildings and Equipment	737316.55	65.1	740090.71	64.8	785016.58	60.3	856297.33	67.7	889665.14	69.5
Less: Reserve for Depreciation	(269638.37)	(23.8)	(297254.70)	(26.0)	(349004.96)	(26.8)	(382634.66)	(30.2)	(413938.87)	(32.3)
Net Bank Value	467678.18	41.3	442836.01	38.8	436011.62	33.5	473662.67	37.5	475726.27	37.2
Other Assets:										
Stock in St. Paul B. C.	800.00	.1	800.00	.1	1100.00	.1	3900.00	.3	3900.00	.3
Investments in Other Cooperatives	40508.08	3.6	39925.13	3.4	51036.99	3.9	57162.11	4.5	55497.11	4.3
Prepaid Expense and Others	11384.19	1.0	9182.80	.8	12781.68	1.0	12742.13	1.0	11445.21	.9
Total Other Assets	52692.27	4.7	49907.93	4.3	64918.67	5.0	73804.24	5.8	70842.32	5.5
Total Assets	\$1131181.37	100.0	\$1142064.70	100.0	\$1300973.07	100.0	\$1263991.89	100.0	\$1280617.38	100.0

Liabilities and Capital Equities

Current Liabilities:										
Bank Over Draft	\$ 179723.52	15.9	\$ 78378.36	6.8	\$ 128605.15	9.9	\$ 101726.83	8.0	\$ 128983.56	10.1
Accounts Payable - Patrons	190513.33	16.8	253445.85	22.2	286604.81	22.0	281463.70	22.3	230226.45	18.0
Accounts Payable - Trade	2261.23	.2	5333.16	.5	15314.40	1.2	17995.52	1.4	77870.50	6.1
Seasonal Loan - St. Paul B. C.	---	---	---	---	92222.36	7.1	---	---	36555.65	2.9
Notes Payable - (A) West Nat'l Bank	---	---	---	---	---	---	---	---	---	---
Notes Payable - (A) Others	---	---	---	---	---	---	---	---	---	---
Notes Payable - (B) Local Bank	83000.00	7.3	130500.00	11.4	80000.00	6.1	45000.00	3.6	---	---
Notes Payable - (B) Individuals	114266.93	10.1	96006.93	8.4	101416.36	7.8	101563.69	8.0	100507.08	7.8
Accrued Expenses and Others	49274.77	4.4	48915.44	4.3	61227.55	4.7	77278.69	6.1	75085.88	5.8
Total Current Liabilities	619039.78	54.7	612579.74	53.6	765390.63	58.8	625028.43	49.4	649229.12	50.7
Deferred Liabilities:										
Mortgage Payable - St. Paul B. C.	14425.50	1.3	14225.50	1.2	20400.00	1.6	68800.00	5.5	56800.00	4.4
Mortgage Payable - Mut. Service Cas. Ins.	---	---	---	---	---	---	---	---	---	---
Mortgage Payable - Mut. Service Life Ins.	---	---	---	---	---	---	---	---	---	---
Reserve for Old Outstanding Checks	---	---	---	---	---	---	---	---	---	---
Total Deferred Liabilities	14425.50	1.3	14225.50	1.2	20400.00	1.6	68800.00	5.5	56800.00	4.4
Total Liabilities	633465.28	56.0	626805.24	54.9	785790.63	60.4	693828.43	54.9	706029.12	55.1
Capital Equities										
Common Stock	271540.00	24.0	310585.00	27.2	332595.00	25.6	320305.00	25.3	289035.00	22.6
Preferred Stock	---	---	---	---	---	---	44040.00	3.5	80265.00	6.3
Stock Credits	---	---	---	---	---	---	---	---	---	---
Patronage Refunds Payable	---	---	---	---	---	---	---	---	---	---
Certificates of Indebtedness	---	---	---	---	---	---	---	---	---	---
Patronage Dividend Certificates	54335.04	4.8	48248.67	4.2	47031.15	3.6	94061.63	7.4	93508.93	7.3
General and Statutory Reserve	100219.57	8.9	101086.08	8.9	100228.98	7.7	100962.68	8.0	101042.86	7.9
Patrons Equity Reserve	---	---	---	---	---	---	---	---	---	---
Undistributed Net Margin	71621.48	6.3	55339.71	4.8	35327.31	2.7	10794.15	.9	10736.47	.8
Total Capital Equities	497716.09	44.0	515259.46	45.1	515182.44	39.6	570163.46	45.1	574588.26	44.9
Total Liabilities and Equities	\$1131181.37	100.0	\$1142064.70	100.0	\$1300973.07	100.0	\$1263991.89	100.0	\$1280617.38	100.0

\$. (8228.86)

\$ 36741.02

\$ 34652.15

\$ 91496.55

\$ 84819.67

Table A - 3

Balance Sheet - C

<u>Assets</u>	12-31-50	Percent	12-31-51	Percent	12-31-52	Percent	12-31-53	Percent	2-28-54	Percent
Current Assets:										
Cash	\$ 7047.35	1.8	\$ 4426.51	1.0	\$ 4796.16	1.0	\$ 6157.83	1.4	\$ 10247.05	2.5
H. S. Government Bonds	---	---	---	---	---	---	---	---	---	---
Notes Receivable	2567.01	.6	2000.00	.4	2000.00	.4	2000.00	.5	2000.00	.5
Accounts Receivable	26200.66	6.6	84401.96	18.2	37250.55	7.9	38185.86	9.0	30918.36	7.5
Less: Reserve for Bad Debts	(5062.28)	(1.3)	(5061.74)	(1.1)	(5046.65)	(1.1)	(5073.15)	(1.2)	(5073.15)	(1.2)
Other Receivables	---	---	---	---	---	---	---	---	203.48	.0
Stock in St. Paul B. C.	---	---	---	---	2400.00	.5	300.00	.1	---	---
Inventory - Product	22521.70	5.6	34827.99	7.5	89348.31	18.9	41852.00	9.8	33996.92	8.2
Supplies	15744.97	3.9	12086.50	2.6	16135.47	3.4	14543.89	3.4	15212.39	3.7
Total Current Assets	69019.41	17.2	132681.22	28.6	146883.84	31.0	97966.43	23.0	87505.05	21.2
Fixed Assets:										
Land, Buildings, and Equipment	384164.62	95.6	407841.29	88.0	431526.41	90.9	463474.45	108.7	462717.95	111.9
Less: Reserve for Depreciation	(99971.90)	(24.9)	(123450.61)	(26.6)	(148684.63)	(31.3)	(179118.55)	(42.0)	(180662.36)	(43.7)
Net Bank Value	284192.72	70.7	284390.68	61.4	282841.78	59.6	284355.90	66.7	282055.59	68.2
Other Assets:										
Stock in St. Paul B. C.	2700.00	.7	3500.00	.8	2100.00	.4	2100.00	.5	2400.00	.6
Investments in Other Cooperatives	38901.15	9.6	39506.88	8.4	39778.35	8.4	38233.46	9.0	38233.46	9.2
Prepaid Expense and Others	7111.79	1.8	3514.88	.8	2946.69	.6	3713.35	.8	3188.94	.8
Total Other Assets	48712.94	12.1	46521.76	10.0	44825.04	9.4	44046.81	10.3	43822.40	10.6
Total Assets	\$ 401925.07	100.0	\$ 463593.66	100.0	\$ 474550.66	100.0	\$ 426369.14	100.0	\$ 413383.04	100.0
Liabilities and Capital Equities										
Current Liabilities:										
Bank Over Draft	\$ ---	---	\$ 23342.34	5.0	\$ 12422.93	2.6	\$ 12413.43	2.9	\$ 13704.07	3.3
Accounts Payable - Patrons	27910.55	6.9	49871.38	10.8	37726.01	7.9	30911.76	7.3	29040.03	7.0
Accounts Payable - Trade	1055.96	.3	749.91	.2	9999.90	2.1	5923.13	1.4	4830.98	1.2
Seasonal Loan - St. Paul B. C.	---	---	---	---	48000.00	10.2	5376.00	1.3	---	---
Notes Payable - (A) West Nat'l Bank	---	---	---	---	---	---	---	---	---	---
Notes Payable - (A) Others	---	---	---	---	---	---	---	---	---	---
Notes Payable - (B) Local Bank	---	---	---	---	---	---	---	---	---	---
Notes Payable - (B) Individuals	---	---	---	---	---	---	---	---	---	---
Accrued Expenses and Others	12328.76	3.1	9498.68	2.0	11710.76	2.5	11691.06	2.7	14907.71	3.6
Total Current Liabilities	41295.27	10.3	83462.31	18.0	119859.60	25.3	66315.38	15.6	62482.79	5.1
Deferred Liabilities:										
Mortgage Payable - St. Paul B. C.	43329.94	10.8	57903.21	12.5	36213.91	7.6	36443.64	8.5	34284.37	8.3
Mortgage Payable - Mut. Service Cas. Ins.	---	---	---	---	---	---	---	---	---	---
Mortgage Payable - Mut. Service Life Ins.	---	---	---	---	---	---	---	---	---	---
Reserve for Old Outstanding Checks	---	---	---	---	---	---	---	---	---	---
Total Deferred Liabilities	43329.94	10.8	57903.21	12.5	36213.91	7.6	36443.64	8.5	34284.37	8.3
Total Liabilities	84625.21	21.1	141365.52	30.5	156073.51	32.9	102759.02	24.1	96767.16	23.4
Capital Equities										
Common Stock	41950.00	10.4	33875.00	7.3	30105.00	6.3	26610.00	6.2	25385.00	6.1
Preferred Stock	213980.00	53.2	220422.00	47.6	232420.00	49.0	232162.00	54.5	231302.00	56.0
Stock Credits	12505.59	3.1	13208.24	2.8	13687.17	2.9	16516.87	3.9	23902.47	5.8
Patronage Refunds Payable	8886.10	2.2	14148.09	3.0	1831.33	.4	7450.72	1.7	---	---
Certificates of Indebtedness	---	---	---	---	---	---	---	---	---	---
Patronage Dividend Certificates	---	---	---	---	---	---	---	---	---	---
General and Statutory Reserve	39978.17	10.0	40574.81	8.8	40433.65	8.5	40870.53	9.6	40870.53	9.9
Patrons Equity Reserve	---	---	---	---	---	---	---	---	---	---
Undistributed Net Margin	---	---	---	---	---	---	---	---	(4844.12)	(1.2)
Total Capital Equities	317299.86	78.9	322228.14	69.5	318477.15	67.1	323610.12	75.9	316615.88	76.6
Total Liabilities and Equities	\$ 401925.07	100.0	\$ 463593.66	100.0	\$ 474550.66	100.0	\$ 426369.14	100.0	\$ 413383.04	100.0
Net Working Capital	\$ 27724.14		\$ 49218.91		\$ 27024.24		\$ 31651.05		\$ 25022.26	

Balance Sheet - Consolidated

	Consolidated		Consolidated		Consolidated		Consolidated		Consolidated	
	Balance Sheet	Percent	Statement	Percent	Statement	Percent	Statement	Percent	Statement	Percent
	1950		1951		1952		1953		2-28-54	
Assets										
Current Assets:										
Cash	\$ 247359.02	10.2	\$ 161694.40	6.0	\$ 185122.07	6.4	\$ 280040.19	9.6	\$ 128581.30	4.5
U. S. Government Bonds	4220.00	.2	4220.00	.2	4220.00	.1	2231.54	.1	2231.54	.1
Notes Receivable	3446.42	.1	36763.46	1.2	44163.66	1.5	47475.20	1.6	48860.94	1.7
Accounts Receivable	428192.62	17.7	454316.38	16.8	488521.46	16.9	512085.70	17.7	572487.98	20.0
Less: Reserve for Bad Debts	(40373.78)	(1.7)	(43416.45)	(1.6)	(45432.53)	(1.6)	(42433.47)	(1.5)	(44258.64)	(1.5)
Other Receivables	1165.40	.0	2.90	.0	—	—	—	—	203.48	.0
Stock in St. Paul B. C.	500.00	.0	—	—	3600.00	.1	300.00	.0	2500.00	.1
Inventory - Product	127151.44	5.3	309291.79	11.5	415210.26	14.3	241415.21	8.3	278629.33	9.7
Supplies	99048.18	4.1	136842.56	5.1	126207.86	4.4	144197.02	5.0	166103.96	5.8
Total Current Assets	870709.30	35.9	1059715.04	39.2	1221612.78	42.1	1185311.39	40.8	1155339.89	40.4
Fixed Assets:										
Land, Buildings, and Equipment	1876525.35	77.5	2077153.50	76.9	2245426.67	77.3	2416940.13	83.2	2431357.95	85.0
Less: Reserve for Depreciation	(618766.29)	(25.5)	(725008.89)	(26.8)	(875263.58)	(30.1)	(1006997.39)	(34.6)	(1034304.10)	(36.1)
Net Bank Value	1257759.06	52.0	1352144.61	50.1	1370163.09	47.2	1409942.74	48.6	1397053.85	48.9
Other Assets:										
Stock in St. Paul B. C.	11000.00	.5	4300.00	.2	9600.00	.3	7600.00	.3	7900.00	.3
Investments in Other Cooperatives	262340.81	10.8	268460.14	9.9	283468.67	9.8	280354.59	9.7	278709.99	9.7
Prepaid Expense and Others	20631.58	.8	15978.27	.6	18807.22	.6	19923.86	.6	20585.33	.7
Total Other Assets	293972.39	12.1	288738.41	10.7	311875.89	10.7	307878.45	10.6	307195.32	10.7
Total Assets	\$2422440.75	100.0	\$2700598.06	100.0	\$2903651.76	100.0	\$2903132.58	100.0	\$2859589.06	100.0
Liabilities and Capital Equities										
Current Liabilities:										
Bank Over Draft	\$ 204616.32	8.5	\$ 178950.09	6.6	\$ 141028.08	4.9	\$ 114140.26	3.9	\$ 142687.63	5.0
Accounts Payable - Patrons	317084.32	13.1	459386.58	17.0	476793.08	16.4	456698.91	15.7	382480.56	13.4
Accounts Payable - Trade	3827.69	.2	17557.67	.7	48362.19	1.7	73505.83	2.5	120058.60	4.2
Seasonal Loan - St. Paul B. C.	10500.00	.4	—	—	140222.36	4.8	5376.00	.2	36555.65	1.3
Notes Payable - (A) West Nat'l Bank	20000.00	.8	20000.00	.7	—	—	—	—	—	—
Notes Payable - (A) Others	1400.00	.1	1400.00	.1	1400.00	.0	—	—	—	—
Notes Payable - (B) Local Bank	83000.00	3.4	130500.00	4.8	80000.00	2.8	45000.00	1.6	—	—
Notes Payable - (B) Individuals	114266.93	4.7	96006.93	3.6	101416.36	3.5	101563.69	3.5	100507.08	3.5
Accrued Expenses and Others	78603.59	3.2	70611.92	2.6	83810.90	2.9	126982.88	4.4	115714.68	4.0
Total Current Liabilities	833298.85	34.4	974413.19	36.1	1073032.97	37.0	923267.57	31.8	898004.20	31.4
Deferred Liabilities:										
Mortgage Payable - St. Paul B. C.	200645.94	8.3	72128.71	2.7	142485.69	4.8	130443.27	4.6	108580.35	3.8
Mortgage Payable - Mut. Service Cas. Ins.	—	—	—	—	104448.92	3.6	94287.29	3.2	92552.87	3.2
Mortgage Payable - Mut. Service Life Ins.	—	—	154184.48	5.6	36588.25	1.3	33066.97	1.1	32467.30	1.1
Reserve for Old Outstanding Checks	—	—	1572.00	.1	2399.34	.1	2143.21	.1	2204.01	.1
Total Deferred Liabilities	200645.94	8.3	227885.19	8.4	285922.20	9.8	259940.74	9.0	235804.53	8.2
Total Liabilities	1033944.79	42.7	1202298.38	44.5	1358955.17	46.8	1183208.31	40.8	1133808.73	39.6
Capital Equities										
Common Stock	320420.00	13.2	351955.00	13.0	371230.00	12.8	356085.00	12.3	323540.00	11.3
Preferred Stock	537720.00	22.2	589814.06	21.9	672480.00	23.2	756952.00	26.0	789737.00	27.6
Stock Credits	49678.38	2.1	21806.98	.8	24318.99	.8	28403.87	1.0	35750.10	1.3
Patronage Refunds Payable	8886.10	.4	14148.09	.5	1831.33	.1	7450.72	.3	—	—
Certificates of Indebtedness	70666.36	2.9	65153.03	2.4	64115.57	2.2	61545.18	2.1	61370.08	2.1
Patronage Dividend Certificates	54335.04	2.2	48248.67	1.8	47031.15	1.6	94061.63	3.2	93508.93	3.3
General and Statutory Reserve	210908.49	8.7	170564.82	6.3	165770.14	5.7	162723.82	5.6	165190.50	5.8
Patrons Equity Reserve	28903.93	1.2	80669.67	3.0	100685.31	3.5	112215.87	3.9	112215.87	3.9
Undistributed Net Margin	106977.66	4.4	155939.36	5.8	97234.10	3.3	140486.18	4.8	144467.85	5.1
Total Capital Equities	1388495.96	57.3	1498299.68	55.5	1544696.59	53.2	1719924.27	59.2	1725780.33	60.4
Total Liabilities and Equities	\$2422440.75	100.0	\$2700598.06	100.0	\$2903651.76	100.0	\$2903132.58	100.0	\$2859589.06	100.0
Net Working Capital	\$ 37410.45		\$ 85301.85		\$ 148579.81		\$ 262043.82		\$ 257335.69	

Table A - 5

Comparative Operating Statement - A

	(Year Ended) 1950	Percent	1951	Percent	1952	Percent	1953	Percent
Sales	\$2285330.41	100.0	\$3182515.00	100.0	\$3759221.05	100.0	\$3719333.77	100.0
Less: Payments to Patrons	1644934.25	72.0	2243261.59	70.5	2694673.56	71.7	2476659.93	66.6
Gross Margins on Sales	640396.16	28.0	939253.41	29.5	1064547.49	28.3	1242673.84	33.4
Less: Operating Expenses								
General Operating Expenses	534868.90	23.4	777335.17	24.4	924350.24	24.6	1032749.23	27.7
Depreciation Charged	57000.00	2.5	57935.52	1.8	75123.59	2.0	76715.04	2.1
Total Expense	591868.90	25.9	835270.69	26.2	999473.83	26.6	1109464.27	29.8
Net Operating Margins	48527.26	2.1	103982.72	3.3	65073.66	1.7	133209.57	3.6
Add: Other Revenue	9002.17	.4	15462.32	.4	26563.38	.7	21289.69	.6
Less: Other Expenses	(10000.00)	(.4)	(7538.09)	(.2)	(11786.87)	(.3)	(9700.94)	(.3)
Net Margins for Period	\$ 47529.43	2.1	\$ 111906.95	3.5	\$ 79850.17	2.1	\$ 144798.32	3.9
	<u>Pounds</u>		<u>Pounds</u>		<u>Pounds</u>		<u>Pounds</u>	
Whole Milk Received	46,334,800		47,909,353		53,955,256		55,137,543	
Skimmilk Received	---		---		---		1,991,550	
Butterfat Received In:								
Whole Milk "A" Inspected	943,810	50.6	1,157,107	57.8	1,463,745	63.8	1,438,522	62.4
Whole Milk "B" Uninspected and Other Cream	836,964	44.9	759,267	37.9	743,025	32.4	783,521	34.0
Cream	85,027	4.5	86,546	4.3	88,065	3.8	82,165	3.6
Total	1,865,801	100.0	2,002,920	100.0	2,294,835	100.0	2,304,208	100.0
Butterfat Disposition:								
Manufactured into Butter	1,265,163	67.8	1,306,505	65.2	1,437,426	62.6	1,458,567	63.3
Milk to Class I* (Fluid Milk and Cream)	544,664	29.2	636,327	31.8	790,091	34.4	761,416	33.0
Milk to Class II (Manufactured)	55,974	3.0	60,088	3.0	67,318	3.0	84,225	3.7
Surplus (Excluding Butter)	---	---	---	---	---	---	---	---
Total	1,865,801	100.0	2,002,920	100.0	2,294,835	100.0	2,304,208	100.0
Increase or Decrease in Volume (B.F.) Compared with 1950	100%		107.3%		123.0%		123.5%	
Butter Manufactured	1,556,150		1,607,002		1,775,412		1,802,317	
Skimmilk Powder Made	** 2,749,806		2,904,361		2,774,326		2,831,907	
Ice Cream Made (gallons)					128,740		114,183	

* On January 1, 1951, milk used for fluid cream was placed in Class I, and Class II again became the manufactured used class.

** Estimated (Started Powder Operation in 1951)

Table A - 6

Comparative Operating Statement - B

	(Year Ended)	Percent	1951	Percent	1952	Percent	1953	Percent
	1950							
Sales	\$3703347.17	100.0	\$3744855.77	100.0	\$4260085.53	100.0	\$4875395.43	100.0
Less: Payments to Patrons	2922571.26	78.9	2978253.01	79.5	3449042.20	81.0	3920638.13	80.4
Gross Margins on Sales	780775.91	21.1	766602.76	20.5	811043.33	19.0	954757.30	19.6
Less: Operating Expenses								
General Operating Expenses	648341.58	17.5	653934.73	17.5	720124.81	16.9	884402.72	18.2
Depreciation Charged	55096.28	1.5	54140.84	1.4	51750.26	1.2	59652.48	1.2
Total Expense	703437.86	19.0	708075.57	18.9	771875.07	18.1	944055.20	19.4
Net Operating Margins	77338.05	2.1	58527.19	1.6	39168.26	.9	10702.10	.2
Add: Other Revenue	2283.43	.1	5768.49	.2	7968.04	.2	11815.61	.2
Less: Other Expenses	(8000.00)	(.2)	(8955.97)	(.3)	(11808.99)	(.3)	(11723.56)	(.2)
Net Margins for Period	\$ 71621.48	2.0	\$ 55339.71	1.5	\$ 35327.31	.8	\$ 10794.15	.2
	<u>Pounds</u>		<u>Pounds</u>		<u>Pounds</u>		<u>Pounds</u>	
Whole Milk Received	65,790,506		64,470,930		69,578,602		81,167,194	
Skim milk Received	--		--		--		9,513,131	
Butterfat Received In:								
Whole Milk "A" Inspected	1,965,168	68.0	1,909,793	69.9	1,845,770	61.7	2,211,123	64.4
Whole Milk "B" Uninspected and Other Cream	738,821	25.6	662,598	24.3	999,995	33.4	1,059,915	30.9
Cream	185,908	6.4	157,735	5.8	147,952	4.9	161,394	4.7
Total	2,889,897	100.0	2,730,126	100.0	2,993,717	100.0	3,432,432	100.0
Butterfat Disposition:								
Manufactured into Butter	1,263,929	43.7	1,072,693	39.3	1,176,295	39.3	1,257,777	36.6
Milk to Class I* (Fluid Milk and Cream)	1,125,858	39.0	993,765	36.4	950,520	31.7	892,429	26.0
Milk to Class II (Manufactured)	129,504	4.5	121,594	4.5	124,854	4.2	177,892	5.2
Surplus (Excluding Butter)	370,606	12.8	542,074	19.8	742,048	24.8	1,104,334	32.2
Total	2,889,897	100.0	2,730,126	100.0	2,993,717	100.0	3,432,432	100.0
Increase or Decrease in Volume (B.F.) Compared with 1950	100%		94.5%		103.6%		118.8%	
Butter Manufactured	1,556,150		1,325,593		1,454,182		1,554,883	
Skim milk Powder Made	3,135,326		2,611,590		2,659,750		3,955,368	
Ice Cream Made (gallons)	--		--		--		--	

* On January 1, 1951, milk used for fluid cream was placed in Class I, and Class II again became the manufactured used class.

Table A - 7

Comparative Operating Statement - C

	(Year Ended)							
	1950	Percent	1951	Percent	1952	Percent	1953	Percent
Sales	\$ 978763.37	100.0	\$1094610.19	100.0	\$1150608.49	100.0	\$1151262.63	100.0
Less: Payments to Patrons	753406.09	77.0	847424.48	77.4	914669.46	79.5	933127.89	81.1
Gross Margins on Sales	225357.28	23.0	247185.71	22.6	235939.03	20.5	218134.74	18.9
Less: Operating Expenses								
General Operating Expenses	186546.12	19.0	202815.12	18.5	206457.39	17.9	187429.23	16.2
Depreciation Charged	18213.60	1.9	20957.16	1.9	21408.50	1.9	20378.39	1.8
Total Expense	204759.72	20.9	223772.28	20.4	227865.89	19.8	207807.62	18.0
Net Operating Margins	20597.56	2.1	23413.43	2.2	8073.14	.7	10327.12	.9
Add: Other Revenue	3850.00	.4	4642.00	.4	5534.20	.5	4371.42	.4
Less: Other Expenses	(6000.00)	(.6)	(3760.53)	(.4)	(2806.86)	(.3)	(2061.36)	(.2)
Net Margins for Period	\$ 18447.56	1.9	\$ 24294.90	2.2	\$ 10800.48	.9	\$ 12637.18	1.1
	<u>Pounds</u>		<u>Pounds</u>		<u>Pounds</u>		<u>Pounds</u>	
Whole Milk Received	15,863,641		15,881,276		16,527,899		17,173,323	
Skim milk Received	--		--		--		--	
Butterfat Received In:								
Whole Milk "A" Inspected	9,535	1.0	62,638	7.1	105,896	11.6	133,851	15.5
Whole Milk "B" Uninspected and Other	634,803	67.8	592,142	66.8	582,578	64.0	557,381	64.8
Cream	291,452	31.2	231,488	26.1	222,331	24.4	169,725	19.7
Total	935,790	100.0	886,268	100.0	910,805	100.0	860,957	100.0
Butterfat Disposition:								
Manufactured into Butter	867,208	92.7	837,435	94.4	868,363	95.3	786,323	91.3
Milk to Class I* (Fluid Milk and Cream)	59,375	6.3	32,577	3.7	40,639	4.5	62,435	7.3
Milk to Class II (Manufactured)	9,207	1.0	590	.1	1,803	.2	12,199	1.4
Surplus (Excluding Butter)	--	--	15,666	1.8	--	--	--	--
Total	935,790	100.0	886,268	100.0	910,805	100.0	860,957	100.0
Increase or Decrease in Volume (B.F.) Compared with 1950	100%		94.7%		97.3%		92.0%	
Butter Manufactured	1,069,141		1,042,547		1,081,986		976,845	
Skim milk Powder Made	1,262,767		1,282,827		1,230,162		858,704	
Ice Cream Made (gallons)	--		--		--		--	

* On January 1, 1951, milk used for fluid cream was placed in Class I, and Class II again became the manufactured used class.

Table A - 8

Comparative Operating Statement - Consolidated

	1950	Percent	1951	Percent	1952	Percent	1953	Percent
Sales	\$6967440.95	100.0	\$8021980.96	100.0	\$9169915.07	100.0	\$9745991.83	100.0
Less: Payments to Patrons	5320911.60	76.4	6068939.08	75.7	7058385.22	77.0	7330425.95	75.2
Gross Margins on Sales	1646529.35	23.6	1953041.88	24.3	2111529.85	23.0	2415565.88	24.8
Less: Operating Expenses								
General Operating Expenses	1369756.60	19.6	1634085.02	20.4	1850932.44	20.2	2104581.18	21.6
Depreciation Charged	130309.88	1.9	133033.52	1.6	148282.35	1.6	156745.91	1.6
Total Expense	1500066.48	21.5	1767118.54	22.0	1999214.79	21.8	2261327.09	23.2
Net Operating Margins	146462.87	2.1	185923.34	2.3	112315.06	1.2	154238.79	1.6
Add: Other Revenue	15135.60	.2	25872.81	.3	40065.62	.4	37476.72	.4
Less: Other Expenses	(24000.00)	(.3)	(20254.59)	(.2)	(26402.72)	(.3)	(23485.86)	(.3)
Net Margins for Period	\$ 137598.47	2.0	\$ 191541.56	2.4	\$ 125977.96	1.3	\$ 168229.65	1.7

	Pounds		Pounds		Pounds		Pounds	
Whole Milk Received	127,988,947		128,261,559		140,061,757		153,478,060	
Skimmilk Received	--		--		--		11,504,681	
Butterfat Received In:								
Whole Milk "A" Inspected	2,918,513	51.3	3,129,538	55.7	3,415,411	55.1	3,783,496	57.3
Whole Milk "B" Uninspected and Other Cream	2,210,588	38.8	2,014,007	35.8	2,325,598	37.5	2,400,817	36.4
	562,387	9.9	475,769	8.5	458,348	7.4	413,284	6.3
Total	5,691,488	100.0	5,619,314	100.0	6,199,357	100.0	6,597,597	100.0
Butterfat Disposition:								
Manufactured into Butter	3,396,300	59.7	3,216,633	57.3	3,482,084	56.2	3,502,667	53.1
Milk to Class I* (Fluid Milk and Cream)	1,729,897	30.4	1,662,669	29.6	1,781,250	28.7	1,716,280	26.0
Milk to Class II (Manufactured)	194,685	3.4	182,272	3.2	193,975	3.1	274,316	4.2
Surplus (Excluding Butter)	370,606	6.5	557,740	9.9	742,048	12.0	1,104,334	16.7
Total	5,691,488	100.0	5,619,314	100.0	6,199,357	100.0	6,597,597	100.0

Increase or Decrease in Volume (B.F.) Compared with 1950

Butter Manufactured

Skimmilk Powder Made

Ice Cream Made (gallons)

100%	98.7%	108.9%	115.9%
4,181,441	3,975,142	4,311,580	4,334,045
7,147,899	6,798,778	6,664,238	7,645,979
--	--	128,740	114,183

* On January 1, 1951, milk used for fluid cream was placed in Class I, and Class II again became the manufactured used class.

- Notes:
1. Arrowhead started its powder operation at Kettle River in 1951; however, for purposes of comparison the powder production for 1950 and 1951 were estimated on the basis of butterfat manufactured into butter less amounts of butterfat received in cream.
 2. Data from Superior was not available for the two month period ended February 28, 1954. Rough graph shows data for Arrowhead and Floodwood for the period.
 3. Approximately all of "Other Expenses" is composed of interest expense on borrowed funds.
 4. For a more detailed breakdown of the statements, it can be obtained for only 1952 and 1953 in the bank's files.

Table A - 9

Grade A Producers Selling in the Duluth-Superior Market

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
	<u>Number</u>												
To Handler A													
1953	435	431	433	432	430	425	431	425	420	409	406	403	423
1954	399	402	399	399	402	401							400
To Handler B													
1953	539	603	605	610	609	618	618	613	623	631	640	649	617
1954	643	637	650	658	659	657							651
To Handler C													
1953	31	31	31	33	33	33	33	33	33	32	36	38	33
1954	38	40	42	41	41	41							41

Total A-B-C													
1953	1055	1065	1069	1075	1072	1076	1082	1071	1076	1072	1082	1090	1074
1954	1080	1079	1091	1098	1102	1099							1092

To Other Handlers													
1953	292	309	311	291	274	308	308	312	311	328	334	337	310
1954	350	410	412	415	413	409							402
To All Handlers													
1953	1347	1374	1380	1366	1346	1384	1390	1383	1387	1400	1416	1427	1383
1954	1430	1489	1503	1513	1515	1508							1493

Note: The number of Grade A producers increased from 1347 to 1508 during the 18-month period, an increase of 161 producers. Association B had an increase of 68, C had 10, and A had a decrease of 34. The net change for the three cooperatives was a gain of 44. Therefore, "other handlers" gained 117 Grade A producers, which constitutes by far the largest percentage gain.

Table A - 10

Percent of All Grade A Producers Selling to Each Handler

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Handler A													
1953	32.3	31.4	31.4	31.6	31.5	30.7	31.0	30.7	30.3	29.2	28.7	28.2	30.6
1954	27.9	27.0	26.5	26.4	26.5	26.6							26.8
Handler B													
1953	43.7	43.8	43.8	44.7	44.5	44.7	44.5	44.3	44.9	45.1	45.2	45.5	44.6
1954	45.0	42.8	43.3	43.5	43.5	43.6							43.6
Handler C													
1953	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.5	2.7	2.4
1954	2.7	2.7	2.8	2.7	2.7	2.7							2.7
Handlers A-B-C													
1953	78.3	77.5	77.5	78.7	78.6	77.8	77.9	77.4	77.6	76.6	76.4	76.4	77.6
1954	75.6	72.5	72.6	72.6	72.7	72.9							73.1
Other Handlers													
1953	21.7	22.5	22.5	21.3	21.4	22.2	22.1	22.6	22.4	23.4	23.6	23.6	22.3
1954	24.4	27.5	27.4	27.4	27.3	27.1							26.9

Note: 1. The three associations had 73.8 percent of the Grade A producers in January, 1953, compared with 72.9 percent in June, 1954.

2. The percent of total Grade A producers selling to B remained about the same, increased for C and decreased for A.

Table A - 11

Location of Patrons in 1953 - By Counties

County	Number				Percent			
	Grade A Patrons	Grade B Patrons	Cream Patrons	Total Patrons	Grade A Patrons	Grade B Patrons	Cream Patrons	Total Patrons
Minnesota								
Carlton	280	540	48	868	27.5	36.4	17.8	31.3
St. Louis	110	322	158	590	10.8	21.7	58.8	21.3
Aitkin	25	106	23	154	2.5	7.1	8.6	5.6
Pine	29	59	7	95	2.9	4.0	2.6	3.4
Itasca	3	59	31	93	0.3	4.0	11.5	3.4
Lake	<u>4</u>	<u>12</u>	<u>2</u>	<u>18</u>	<u>0.4</u>	<u>0.8</u>	<u>0.7</u>	<u>.7</u>
Minnesota Total	451	1098	269	1818	44.4	74.0	100.0	65.7
Wisconsin								
Douglas	373	191		564	36.7	12.9		20.4
Bayfield	143	115		258	14.1	7.8		9.3
Ashland	47	75		122	4.6	5.1		4.4
Iron	2	2		4	.2	0.1		0.1
Burnett	<u>-</u>	<u>2</u>	<u>-</u>	<u>2</u>	<u>-</u>	<u>0.1</u>	<u>-</u>	<u>0.1</u>
Wisconsin Total	565	385		950	55.6	26.0		34.3
Minnesota-Wisconsin Total	1016	1483	269	2768	100.0	100.0	100.0	100.0

Table A - 12

Location of Supplies of Butterfat in 1953 - By Counties

County	Grade A	Grade B	<u>Cream</u>	<u>Total</u>	Grade A	Grade B	<u>Cream</u>	<u>Total</u>
	<u>Milk</u>	<u>Milk</u>			<u>Milk</u>	<u>Milk</u>		
Minnesota								
Carlton	975	853	42	1,871	28.0	34.7	19.8	30.3
St. Louis	333	501	131	965	9.6	20.4	61.5	15.7
Aitkin	111	213	14	337	3.2	8.6	6.5	5.5
Pine	105	90	5	201	3.0	3.7	2.6	3.3
Itasca	14	104	20	139	0.4	4.2	9.3	2.2
Lake	5	12	1	18	0.1	0.5	0.3	0.3
Minnesota - Total	1,544	1,774	213	3,530	44.3	72.1	100.0	57.3
Wisconsin								
Douglas	1,269	311		1,580	36.5	12.7		25.7
Bayfield	492	207		699	14.1	8.4		11.4
Ashland	172	162		334	4.9	6.6		5.4
Iron	7	5		12	0.2	0.2		0.2
Burnett		1		1		0.0		0.0
Wisconsin - Total	1,940	686		2,626	55.7	27.9		42.7
Minnesota-Wisconsin Total	3,484	2,460	213	6,156	100.0	100.0	100.0	100.0

Table A - 13

Distances of Patrons from Duluth-Superior in 1953

Distances from
Duluth-Superior

<u>Miles</u>	<u>Grade A Patrons</u>	<u>Grade B Patrons</u>	<u>Cream Patrons</u>	<u>Total Patrons</u>	<u>Grade A Patrons</u>	<u>Grade B Patrons</u>	<u>Cream Patrons</u>	<u>Total Patrons</u>
		number					percent	
Under 20	320	298	43	661	31.5	20.1	16.0	23.9
20 - 29	218	182	22	422	21.5	12.3	8.2	15.2
30 - 39	104	179	18	301	10.2	12.1	6.7	10.9
40 - 49	254	517	130	901	25.0	34.8	48.3	32.5
50 - 59	22	106	3	131	2.2	7.1	1.1	4.7
60 - 69	49	124	53	226	4.8	8.4	19.7	8.2
70 and over	<u>49</u>	<u>77</u>	—	<u>126</u>	<u>4.8</u>	<u>5.2</u>	<u>0.0</u>	<u>4.6</u>
Total	1016	1483	269	2768	100.0	100.0	100.0	100.0

Table A - 14

Distances of Supplies of Butterfat from Duluth-Superior in 1953

Distance from
Duluth-Superior

<u>Miles</u>	<u>Grade A</u>	<u>Grade B</u>	<u>Cream</u>	<u>Total</u>	<u>Grade A</u>	<u>Grade B</u>	<u>Cream</u>	<u>Total</u>
	<u>Milk</u>	<u>Milk</u>			<u>Milk</u>	<u>Milk</u>		
		<u>Pounds of Butterfat</u>				<u>Percent</u>		
Under 20	1,058,842	427,612	33,230	1,519,684	30.5	17.4	15.6	24.7
20 - 29	757,294	285,222	17,423	1,059,939	21.7	11.6	8.2	17.2
30 - 39	303,501	277,376	11,070	591,947	8.7	11.3	5.2	9.6
40 - 49	891,220	873,542	117,145	1,881,907	25.6	35.5	55.0	30.6
50 - 59	101,716	193,001	562	295,279	2.9	7.8	0.3	4.8
60 - 69	192,237	236,107	33,369	461,713	5.5	9.6	15.7	7.5
70 and over	178,935	167,011	-	345,946	5.1	6.8	-	5.6
Total	3,483,745	2,459,871	212,799	6,156,415	100.0	100.0	100.0	100.0

Table A - 15

Distances of Supplies of Butterfat in Grade A Milk and All Patrons
from Duluth-Superior in 1953 (Cumulative)

Distances from Duluth-Superior			Distances from Duluth-Superior		
<u>Miles</u>	<u>Pounds of Butterfat</u>	<u>Percent</u>	<u>Miles</u>	<u>Number</u>	<u>Percent</u>
Under 20	1,058,842	30.5	Under 20	661	23.9
Under 30	1,816,136	52.2	Under 30	1083	39.1
Under 40	2,119,637	60.9	Under 40	1384	50.0
Under 50	3,010,857	86.5	Under 50	2285	82.7
Under 60	3,112,573	89.4	Under 60	2416	87.4
Under 70	3,304,810	94.9	Under 70	2642	95.5
Under 90	3,483,745	100.0	Under 90	2768	100.0

Table A - 16

Milk and Cream Procurement

(Average mileage per route for each plant and all three associations, August 1954)

<u>Association</u>	<u>Plant</u>	<u>Average mileage</u>					<u>Miles per patron</u>		
		<u>Starting point to 1st patron</u>	<u>First to last patron</u>	<u>Last patron to plant</u>	<u>Plant to starting point</u>	<u>Total mileage per route</u>	<u>Average number of patrons per route</u>	<u>First to last patron</u>	<u>Round trip</u>
X	1	1.1	64.0	4.3	7.7	77.1	30	2.1	2.5
	2	5.9	42.4	7.3	9.4	64.9	26	1.6	2.5
	3*	13.4	57.9	18.2	19.3	108.9	30	2.0	3.7
Y		10.0	60.4	11.3	11.6	93.3	40	1.5	2.3
Z	1	7.1	57.4	16.7	24.2	105.4	34	1.7	3.1
	2	7.6	36.0	8.5	11.3	63.4	29	1.2	2.2
X-Y-Z	Average	9.3	53.0	13.5	16.3	92.1	31	1.7	2.9

* The four smallest loads not included because of joint hauling with another handler.

Table A - 17

Milk and Cream Procurement

(Variation in size of load for each plant and all three associations - June and August, 1954)

<u>Association</u>	<u>Plant</u>	<u>Total Mileage per route</u>	<u>June</u>			<u>Pounds of milk per miles travelled</u>	<u>August</u>			<u>Pounds of milk per miles travelled</u>
			<u>Size of Load</u>				<u>Size of Load</u>			
			<u>Largest</u>	<u>Smallest</u>	<u>Average</u>		<u>Largest</u>	<u>Smallest</u>	<u>Average</u>	
X	1	77.1	9,386	7,600	8,614	112	7,854	6,484	7,179	93
	2	64.9	9,486	6,341	8,135	125	7,665	5,411	6,492	100
	3*	108.9	10,781	5,240	7,694	74	10,134	3,668	6,063	56
Y		93.3	8,844	3,893	6,738	64	7,751	3,233	5,555	60
Z	1	105.4	10,500	2,903	8,237	78	8,200	1,556	6,427	61
	2	63.4	11,741	5,782	9,635	152	9,000	4,843	7,564	119
X-Y-Z	Average	92.1			8,019	88			6,428	70

* The four smallest loads not included because of joint hauling with another handler.

Table A - 18

Butterfat Purchased in Milk and Cream -- By Each Association

	1950	1951	1952	1953	1950	1951	1952	1953
Wholemilk "A"			(Pounds)				(Percent)	
A	943,810	1,157,107	1,463,745	1,438,522	32.3	37.0	42.9	38.0
B	1,965,168	1,909,793	1,845,770	2,211,123	67.4	61.0	54.0	58.5
C	9,535	62,638	105,896	133,851	.3	2.0	3.1	3.5
A-B-C	2,918,513	3,129,538	3,415,411	3,783,496	100.0	100.0	100.0	100.0
Wholemilk "B" & Other								
A	836,964	759,267	743,025	783,521	37.9	37.7	31.9	32.6
B	738,821	662,598	999,995	1,059,915	33.4	32.9	43.0	44.2
C	634,803	592,142	582,578	557,381	28.7	29.4	25.1	23.2
A-B-C	2,210,588	2,014,007	2,325,598	2,400,817	100.0	100.0	100.0	100.0
Cream								
A	85,027	86,546	88,065	82,165	15.1	18.2	19.2	19.9
B	185,908	157,735	147,952	161,394	33.1	33.2	32.2	39.1
C	291,452	231,488	222,331	169,725	51.8	48.6	48.5	41.0
A-B-C	562,387	475,769	458,348	413,284	100.0	100.0	100.0	100.0
Total Milk & Cream								
A	1,865,801	2,002,920	2,295,835	2,304,208	32.8	35.6	37.0	35.0
B	2,889,897	2,730,126	2,993,717	3,432,432	50.8	48.6	48.3	52.0
C	935,790	886,268	910,805	860,957	16.4	15.8	14.7	13.0
A-B-C	5,691,488	5,619,314	6,199,357	6,597,597	100.0	100.0	100.0	100.0

Note: 1. A and B each purchased a slightly higher proportion of the total butterfat purchased by the three associations in 1953 compared with 1950. The proportion purchased by C decreased.

2. A and C had an increase in the proportion of the total Grade A milk purchased by the three associations, and B had a decrease, from 1950 to 1953.

Table A - 19

Butterfat Purchased in Milk and Cream - By Grade and Commodity

	1950	1951	1952	1953	1950	1951	1952	1953
<u>Ass'n. A</u>			(Pounds)			(Percent)		
Wholemilk A	943,810	1,157,107	1,463,745	1,438,522	50.6	57.8	63.8	62.4
Wholemilk B & other	836,964	759,267	743,025	783,521	44.9	37.9	32.4	34.0
Cream	85,027	86,546	88,065	82,165	4.5	4.3	3.8	3.6
Total	1,865,801	2,002,920	2,295,835	2,304,208	100.0	100.0	100.0	100.0
<u>Ass'n. B</u>								
Wholemilk A	1,965,168	1,909,793	1,845,770	2,211,123	68.0	69.9	61.7	64.4
Wholemilk B & other	738,821	662,598	999,995	1,059,915	25.6	24.3	33.4	30.9
Cream	185,908	157,735	147,952	161,394	6.4	5.8	4.9	4.7
Total	2,889,897	2,730,126	2,993,717	3,432,432	100.0	100.0	100.0	100.0
<u>Ass'n. C</u>								
Wholemilk A	9,535	62,638	105,896	133,851	1.0	7.1	11.6	15.5
Wholemilk B & other	634,803	592,142	582,578	557,381	67.8	66.8	64.0	64.8
Cream	291,452	231,488	222,331	169,725	31.2	26.1	24.4	19.7
Total	935,790	886,268	910,805	860,957	100.0	100.0	100.0	100.0
<u>A, B-C</u>								
Wholemilk A	2,918,513	3,129,538	3,415,411	3,783,496	51.3	55.7	55.1	57.3
Wholemilk B & other	2,210,588	2,014,007	2,325,598	2,400,817	38.8	35.8	37.5	36.4
Cream	562,387	475,769	458,348	413,284	9.9	8.5	7.4	6.3
Total	5,691,488	5,619,314	6,199,357	6,597,597	100.0	100.0	100.0	100.0

Note: Butterfat purchases in Grade A milk by the three associations increased consistently during the period, and purchases of butterfat in cream decreased consistently.

Table A - 20

Grade A Milk Received and Proportion Used as Class I
(Butterfat Basis)

	<u>Pounds of Grade A</u>			
	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
1950	943,810	1,965,168	9,535	2,918,513
1951	1,157,107	1,909,793	62,638	3,129,538
1952	1,463,745	1,845,770	105,896	3,415,411
1953	1,438,522	2,211,123	133,851	3,783,496
	<u>Pounds of Class I</u>			
1950	544,664	1,125,858	59,375	1,729,897
1951	636,327	993,765	32,577	1,662,669
1952	790,091	950,520	40,639	1,781,250
1953	761,416	892,429	62,435	1,716,280
	<u>Percent Used as Class I</u>			
1950	57.7	57.3	*	59.3
1951	55.0	52.0	52.0	53.1
1952	54.0	51.5	38.4	52.2
1953	51.5	40.3	46.9	44.8

* Over 100 percent because Grade B milk was sold for fluid uses in towns not under the Federal Order.

Note: The percent of the total supply of Grade A milk used in Class I decreased consistently for associations A and B and for the three associations as a group. The volume handled by C is small in relation to the total handled by the three associations.

Table A - 21

Use of Grade A Milk in Duluth-Superior Market - 1953
Pounds of Butterfat

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<u>Class I</u>												
Handler A	63,230	57,013	62,542	59,848	61,928	57,192	62,753	63,209	61,606	64,063	62,390	64,618
Handler B	75,163	67,949	72,863	71,795	73,102	68,207	73,682	77,806	74,027	78,658	74,885	76,138
Handler C	4,565	4,377	4,844	4,773	4,934	4,971	5,489	5,360	5,630	6,030	5,920	5,923
Handlers A-B-C	142,958	129,339	140,249	136,416	139,964	130,370	141,924	146,375	141,263	148,751	143,195	146,679
Other Handlers	71,985	66,762	76,209	81,961	78,719	79,974	86,251	85,837	79,820	81,844	77,335	78,260
All Handlers	<u>214,943</u>	<u>196,101</u>	<u>216,458</u>	<u>218,377</u>	<u>218,683</u>	<u>210,344</u>	<u>228,175</u>	<u>232,212</u>	<u>221,083</u>	<u>230,595</u>	<u>220,530</u>	<u>224,939</u>
<u>Class II</u>												
Handler A	38,306	37,519	60,298	71,978	88,340	105,180	80,134	57,267	49,329	39,506	31,342	34,414
Handler B	82,198	81,453	117,169	131,033	159,889	189,866	145,429	109,900	104,209	96,061	97,987	114,538
Handler C	4,571	4,369	6,195	7,567	8,941	9,743	6,587	4,677	4,445	3,963	4,331	4,815
Handler A-B-C	125,075	123,341	183,662	210,578	257,170	304,789	232,150	171,844	157,983	139,530	133,660	153,767
Other Handlers	11,277	10,748	25,297	27,016	43,155	53,391	34,561	19,501	18,686	17,113	16,594	21,030
All Handlers	<u>136,352</u>	<u>134,089</u>	<u>208,959</u>	<u>237,594</u>	<u>300,325</u>	<u>358,180</u>	<u>266,711</u>	<u>191,345</u>	<u>176,669</u>	<u>156,643</u>	<u>150,254</u>	<u>174,797</u>
<u>Total Grade A *</u>												
Handler A	101,536	94,532	122,840	131,826	150,268	162,372	142,887	120,476	110,935	103,569	93,732	99,032
Handler B	157,361	149,402	190,032	202,827	232,991	258,073	219,111	187,706	178,236	174,719	172,872	190,676
Handler C	9,136	8,746	11,039	12,340	13,875	14,714	12,075	10,037	10,075	9,993	10,251	10,738
Handler A-B-C	268,033	252,680	323,911	346,993	397,134	435,159	374,073	318,219	299,246	238,281	276,855	300,446
Other Handlers	83,216	77,507	101,506	108,967	121,855	133,331	118,343	102,402	96,465	97,899	93,928	99,290
All Handlers	<u>351,249</u>	<u>330,187</u>	<u>425,417</u>	<u>455,960</u>	<u>518,989</u>	<u>568,490</u>	<u>492,416</u>	<u>420,621</u>	<u>395,711</u>	<u>386,180</u>	<u>370,783</u>	<u>399,736</u>

* Not identical with Grade A receipts because of overrun or shrinkage for some months.

Table A - 22

Use of Grade A Milk in Duluth-Superior Market - 1954
Pounds of Butterfat

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
						<u>Class I</u>						
Handler A	65,667	58,637	66,345	63,573	65,781	61,404						
Handler B	71,929	66,297	74,116	70,750	71,558	67,776						
Handler C	5,924	5,725	6,687	6,653	6,811	6,445						
Handlers A-B-C	143,520	130,659	147,148	140,976	144,150	135,625						
Other Handlers	<u>75,530</u>	<u>70,970</u>	<u>78,035</u>	<u>76,912</u>	<u>77,907</u>	<u>77,814</u>						
All Handlers	219,050	201,629	225,183	217,888	222,057	213,439						
						<u>Class II</u>						
Handler A	33,704	35,331	51,185	63,775	75,094	96,597						
Handler B	122,007	111,362	146,927	162,799	179,944	211,550						
Handler C	4,786	4,754	7,787	8,790	10,237	13,620						
Handlers A-B-C	160,497	151,447	205,899	235,364	265,275	321,767						
Other Handlers	<u>28,336</u>	<u>43,393</u>	<u>61,444</u>	<u>70,870</u>	<u>83,070</u>	<u>101,619</u>						
All Handlers	188,833	194,840	267,343	306,243	348,345	423,386						
						<u>Total Grade A*</u>						
Handler A	99,371	93,968	117,529	127,348	140,875	158,001						
Handler B	193,936	177,658	221,043	233,594	251,502	279,326						
Handler C	10,711	10,479	14,474	15,443	17,048	20,065						
Handlers A-B-C	304,018	282,105	353,046	376,385	409,425	457,392						
Other Handlers	<u>103,525</u>	<u>114,051</u>	<u>139,480</u>	<u>147,746</u>	<u>160,582</u>	<u>179,433</u>						
All Handlers	407,543	396,156	492,526	524,131	570,007	636,825						

* Not identical with Grade A receipts because of overrun or shrinkage for some months.

Table A - 25

Grade A Milk of Various Handlers Going to Class I

		(Butterfat Basis)											
		Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Handler A							(Percent)						
1953		62.3	60.3	50.9	45.4	41.2	35.2	43.9	42.5	55.5	61.9	66.6	65.2
1954		66.1	62.4	56.4	49.9	46.7	38.9						
Handler B													
1953		47.8	45.5	38.3	35.4	31.4	26.4	33.6	41.2	41.5	45.0	43.3	39.9
1954		37.1	37.3	33.5	30.3	28.5	24.3						
Handler C													
1953		50.0	50.0	43.9	38.7	35.6	33.8	45.4	53.4	55.9	60.3	57.8	55.2
1954		55.3	54.6	46.2	43.1	40.0	32.1						

Handlers A-B-C													
1953		53.3	51.2	43.3	39.3	35.2	30.0	37.9	46.0	47.2	51.6	51.7	48.8
1954		47.2	46.3	41.7	37.5	35.2	29.7						

Other Handlers													
1953		86.5	86.1	75.1	75.2	64.6	60.0	71.4	81.5	81.0	82.7	82.3	78.8
1954		72.7	62.0	55.9	52.1	48.4	43.4						
All Handlers													
1953		61.2	59.4	50.9	47.9	42.1	37.0	46.1	54.8	55.6	59.5	59.5	56.3
1954		53.7	50.9	45.7	41.6	38.9	33.5						

- Note: 1. There was a wide variation in the percent of total Grade A milk utilized in Class I by the three associations from the flush to the low milk production months. The range was from the high of 66.6 percent for association A in November 1953 to the low of 24.3 for association B in June 1954.
2. "Other handlers" consistently utilized a higher percentage of their Grade A milk in Class I compared with the three cooperative associations.
3. The Grade A supply was consistently far above Class I utilization during the 18 months period. In the short supply months less than 2/3 of the supply was utilized in Class I and in the flush production months it was only slightly over 1/3.

Table A - 26

Utilization of Butterfat
1953

	Association				Percent of Total Butterfat Utilized in each Class and Product	Association				Percent of Total Butterfat in each Class and Product Handled by the Different Associations		
	A	B	C	A-B-C		A	B	C	A-B-C			
	Pounds of Butterfat											
Class I												
Small Packages	497,812	359,287	62,815	922,914	21.7	10.5	7.3	14.0	53.9	38.9	6.8	100.0
Bulk to Handler	242,586	530,849	-	773,435	10.6	15.4	-	11.7	31.4	68.6	-	100.0
Total Class I	740,398	890,136	62,815	1,693,349	32.3	25.9	7.3	25.7	43.7	52.6	3.7	100.0
Class II, Grade B Milk and Cream												
Cheese	-	449,668	-	449,668	-	13.1	-	6.8	-	100.0	-	100.0
Cottage Cheese	5,600	3,627	1,362	10,588	0.2	0.1	0.2	0.2	52.9	34.3	12.8	100.0
Butter	1,459,795	1,676,690	782,077	3,918,562	63.7	48.9	91.4	59.6	37.3	42.8	19.9	100.0
Ice Cream	60,665	-	9,789	70,454	2.6	-	1.1	1.1	86.1	-	13.9	100.0
Powder	2,883	26,169	100	29,152	0.1	0.8	0.0	0.4	9.9	89.8	0.3	100.0
Bulk to Handler	24,841	385,278	-	410,119	1.1	11.2	-	6.2	6.1	93.9	-	100.0
Total Class II	1,553,784	2,541,432	793,328	4,888,544	67.7	74.1	92.7	74.3	31.8	52.0	16.2	100.0
Total Milk	2,294,182	3,431,568	856,143	6,581,893	100.0	100.0	100.0	100.0	34.9	52.1	13.0	100.0

- Note: 1. Association A utilized a larger percentage of its Grade A milk in Class I than either B or C.
2. Bulk sales of Grade A milk for Class I use by association B considerably exceeded the sales by association A, in pounds and in percent of total Grade A sales.
3. Butter constitutes the major outlet for butterfat for all three associations.
4. In percent of the total supply utilized in each Class or product the following can be observed:
- A is ahead in small packages
 - B is ahead in bulk sales for both Class I and Class II utilization
 - B handles about half of the total butterfat handled by the three associations.

Table A - 27

Utilization of Butterfat

Jan. - June, 1954

	Association				Association				Association			
	A	B	C	A-B-C	A	B	C	A-B-C	A	B	C	A-B-C
	Pounds of Butterfat				Percent of Total Butterfat Utilized in each Class and Product				Percent of Total Butterfat in each Class and Product Handled by the Different Associations			
Class I												
Small Packages	259,513	195,586	38,246	493,345	21.9	10.5	9.3	14.3	52.6	39.6	7.8	100.0
Bulk to Handler	121,884	230,066	-	351,950	10.3	12.4	-	10.2	34.6	65.4	-	100.0
Total Class I	381,397	425,652	38,246	845,295	32.2	22.9	9.3	24.5	45.1	50.4	4.5	100.0
Class II, Grade B Milk and Cream												
Cheese	30,106	62,124	-	92,230	2.5	3.3	-	2.7	32.6	67.4	-	100.0
Cottage Cheese	3,634	2,047	768	6,449	0.3	0.1	0.2	0.2	56.4	31.7	11.9	100.0
Butter	718,651	1,158,254	365,382	2,242,287	60.6	62.4	89.0	64.9	32.0	51.7	16.3	100.0
Ice Cream	31,775	-	5,797	37,572	2.7	-	1.4	1.1	84.6	-	15.4	100.0
Powder	1,634	20,582	177	22,393	0.1	1.1	0.1	0.6	7.3	91.9	0.8	100.0
Bulk to Handler	18,657	188,862	-	207,519	1.6	10.2	-	6.0	9.0	91.0	-	100.0
Total Class II	804,457	1,431,869	372,124	2,608,450	67.8	77.1	90.7	75.5	30.8	54.9	14.3	100.0
Total Milk	1,185,854	1,857,521	410,370	3,453,745	100.0	100.0	100.0	100.0	34.3	53.8	11.9	100.0

Table A - 28

Utilization of Butterfat - Jan. - June, 1954 Compared to Jan. - June, 1953

Index (Jan-June 1953 = 100)

	<u>A</u>	<u>B</u>	<u>C</u>	<u>A-B-C</u>
<u>Class I</u>				
Small Units	104.9	110.3	134.4	108.9
Fulk to Handlers	106.6	90.5	-	95.5
Total Class I	105.4	98.6	134.4	102.8
<u>Class II, Grade B Milk and Cream</u>				
Cheese	*	17.0	-	25.3
Cottage Cheese	141.5	101.8	106.6	121.7
Butter	91.8	151.9	92.2	115.5
Ice Cream	116.7	-	152.8	121.1
Powder	106.3	130.1	*	172.7
Bulk to Handlers	235.7	116.1	-	121.6
Total Class II	97.9	109.9	92.8	103.3
Total Butterfat	100.2	107.1	95.6	103.1

* Some cheese and powder was produced in 1954 but not in 1953.

- Note: 1. Association B gained volume during this period. A's volume remained about the same and C had a decrease.
2. Class I utilization gained slightly during this period but less than the gain in total butterfat handled.

Table A - 29

Index of Average Daily Volume
(Butterfat used in manufactured products)

(Average Daily Volume for 1953 = 100)

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Cheese												
1953	55.9	113.6	229.4	176.1	183.1	219.3	179.4	13.4	0.0	0.0	29.8	0.0
1954	45.2	41.8	0.0	24.2	23.2	115.2						
Butter												
1953	73.6	66.9	73.1	100.1	127.3	158.6	125.3	115.4	113.2	92.1	73.6	80.3
1954	78.6	81.3	104.1	122.0	138.2	165.3						
Ice Cream												
1953	79.6	69.0	76.8	94.9	97.7	115.4	155.3	151.9	104.2	95.8	68.0	70.9
1954	76.9	96.4	93.4	118.2	100.1	162.8						
Total												
1953	71.9	71.7	88.8	107.6	132.4	163.8	131.1	105.7	101.7	83.1	69.5	72.7
1954	75.4	77.8	93.8	112.4	126.3	163.1						

Note: 1. The high indexes for butter and cheese indicate the high degree of seasonality in these enterprises. The seasonality is increased during flush production months because of surpluses of Grade A milk above the volume which can be utilized in Class I. The pattern of seasonality in the production of non-fat powder follows the pattern for butter.

2. The irregularity in indexes of especially cheese but also butter indicates that these products are alternative outlets for butterfat in surplus Grade A milk.

Table A - 30

Utilization of Class I Milk Handled by Association A-B-C
January 1953 - June 1954

(Number of Pounds)

Packages	January		February		March		April		May		June	
	Number of Pounds	% of Total	Number of Pounds	% of Total	Number of Pounds	% of Total	Number of Pounds	% of Total	Number of Pounds	% of Total	Number of Pounds	% of Total
Gals.	82,207	4.2	76,738	4.3	87,651	4.5	94,153	4.9	94,351	4.8	76,239	4.1
1/2 Gals.	206,361	10.4	178,923	10.4	201,171	10.3	200,290	10.5	192,404	9.9	197,882	10.7
Qts.	1,576,015	79.6	1,420,656	78.7	1,534,655	78.3	1,500,623	78.6	1,543,553	79.2	1,523,370	82.2
Pints	22,886	1.2	21,139	1.2	24,577	1.2	34,429	1.8	42,697	2.2	38,635	2.1
1/3 Qts.												
1/2 Pints	92,631	4.6	97,213	5.4	111,537	5.7	80,363	4.2	76,211	3.9	16,053	.9
Total	1,980,100	100.0	1,803,669	100.0	1,959,591	100.0	1,909,858	100.0	1,949,116	100.0	1,852,179	100.0
Packages	July		August		September		October		November		December	
Gals.	92,923	4.6	83,970	4.2	92,140	4.6	113,589	5.7	77,993	4.3	82,947	4.4
1/2 Gals.	223,204	11.1	222,387	11.0	204,125	10.3	188,994	9.4	160,090	8.8	194,674	10.3
Qts.	1,628,481	82.2	1,638,595	81.2	1,583,043	79.6	1,572,807	78.6	1,477,015	81.0	1,530,981	80.9
Pints	45,870	2.3	46,536	2.3	37,481	1.9	36,664	1.8	23,834	1.3	18,505	1.0
1/3 Qts.			7,497	.4	12,167	.6	10,652	.5	8,828	.5	9,191	.5
1/2 Pints	16,101	.8	18,661	.9	59,243	3.0	80,199	4.0	75,561	4.1	56,063	2.9
Total	2,006,579	100.0	2,017,646	100.0	1,988,199	100.0	2,002,905	100.0	1,823,321	100.0	1,892,361	100.0
Packages	January		February		March		April		May		June	
Gals.	112,342	5.2	104,499	5.4	119,248	5.4	116,891	5.6	94,419	4.4	92,140	4.5
1/2 Gals.	224,258	10.4	203,222	10.5	231,258	10.4	225,604	10.7	196,763	9.2	185,140	9.1
Qts.	1,712,849	79.5	1,521,583	78.5	1,746,866	78.9	1,654,023	78.7	1,733,325	81.0	1,704,952	83.5
Pints	20,462	.9	18,735	1.0	20,381	.9	19,161	.9	26,152	1.2	23,923	1.2
1/3 Qts.	10,331	.5	9,822	.5	10,606	.5	10,396	.5	9,609	.5	11,935	.6
1/2 Pints	75,233	3.5	79,069	4.1	85,811	3.9	74,674	3.6	79,037	3.7	21,553	1.1
Total	2,155,475	100.0	1,936,930	100.0	2,214,170	100.0	2,100,749	100.0	2,139,305	100.0	2,039,643	100.0

Table A - 31

Utilization of Class I Cream Handled by Association A-B-C
January 1953- June 1954

(Number of Pounds)

Packages	<u>January</u>		<u>February</u>		<u>March</u>		<u>April</u>		<u>May</u>		<u>June</u>	
	Number of Pounds	% of Total	Number of Pounds	% of Total	Number of Pounds	% of Total	Number of Pounds	% of Total	Number of Pounds	% of Total	Number of Pounds	% of Total
Gals.	2,116	4.5	1,815	3.8	3,017	5.8	2,425	4.6	3,027	5.3	2,520	4.5
Qts.	4,347	9.3	3,885	8.2	4,603	8.9	5,392	10.2	5,519	9.7	4,924	8.8
Pints	33,218	70.7	29,834	63.0	30,173	58.5	32,297	61.0	34,173	60.3	34,591	62.1
1/2 Pints	7,292	15.5	11,837	25.0	13,813	26.8	12,859	24.2	14,030	24.7	13,735	24.6
Total	46,973	100.0	47,371	100.0	51,606	100.0	52,973	100.0	56,749	100.0	55,770	100.0
	<u>July</u>		<u>August</u>		<u>September</u>		<u>October</u>		<u>November</u>		<u>December</u>	
<u>Packages</u>												
Gals.	2,726	4.5	2,477	4.0	2,356	4.4	2,210	4.3	2,354	4.6	2,288	4.3
Qts.	4,949	8.0	5,612	9.0	5,025	9.4	5,156	10.0	4,485	8.7	4,582	8.5
Pints	39,677	64.6	41,196	65.9	34,967	65.5	33,063	63.8	32,702	63.3	34,714	64.9
1/2 Pints	14,088	22.9	13,177	21.1	11,050	20.7	11,346	21.9	12,126	23.4	11,937	22.3
Total	61,440	100.0	62,462	100.0	53,398	100.0	51,775	100.0	51,667	100.0	53,521	100.0
	<u>January</u>		<u>February</u>		<u>March</u>		<u>April</u>		<u>May</u>		<u>June</u>	
<u>Packages</u>												
Gals.	2,451	4.5	1,935	3.9	1,789	3.3	1,264	2.3	1,479	2.4	867	1.5
Qts.	4,973	9.2	4,618	9.4	5,418	9.9	5,541	10.0	6,508	10.5	6,127	10.3
Pints	34,266	63.0	30,782	62.8	35,477	64.9	34,925	63.1	38,624	62.6	38,858	65.1
1/2 Pints	12,654	23.3	11,721	23.9	11,971	21.9	13,635	24.6	15,095	24.5	13,800	23.1
Total	54,344	100.0	49,056	100.0	54,655	100.0	55,365	100.0	61,706	100.0	59,652	100.0

Table A - 32

Monthly Utilization of Class I Milk and Cream Handled by Associations A-B-C
January 1953 - June 1954

(Number of Pounds)

Packages	January		February		March		April		May		June	
	Number of Pounds	% of Total	Number of Pounds	% of Total	Number of Pounds	% of Total	Number of Pounds	% of Total	Number of Pounds	% of Total	Number of Pounds	% of Total
Bulk to H.	1,608,109	44.2	1,463,231	44.1	1,593,223	44.2	1,515,600	43.5	1,550,581	43.6	1,408,557	42.5
Gals.	84,323	2.3	78,553	2.4	90,668	2.5	96,578	2.8	97,378	2.7	78,759	2.4
1/2 Gals.	206,361	5.7	187,423	5.7	201,171	5.6	200,290	5.8	192,404	5.4	197,882	6.0
Qts.	1,580,362	43.5	1,424,541	43.0	1,539,258	42.7	1,506,015	43.3	1,548,972	43.6	1,528,294	46.0
Pints	56,104	1.5	50,973	1.5	54,750	1.5	66,726	1.9	76,870	2.2	73,226	2.2
1/3 Qts.												
1/2 Pints	99,923	2.8	109,050	3.3	125,350	3.5	93,222	2.7	90,241	2.5	29,788	.9
Total	3,635,182	100.0	3,314,271	100.0	3,604,420	100.0	3,478,431	100.0	3,556,446	100.0	3,316,506	100.0
Packages	July		August		September		October		November		December	
Bulk to H.	1,521,885	42.4	1,630,685	43.9	1,600,129	43.9	1,794,034	46.6	1,736,478	48.1	1,721,709	46.8
Gals.	95,649	2.7	86,447	2.3	94,496	2.6	115,799	3.0	80,347	2.2	85,235	2.3
1/2 Gals.	223,204	6.2	222,387	6.0	204,125	5.6	188,994	4.9	160,090	4.4	194,674	5.3
Qts.	1,633,430	45.5	1,644,207	44.3	1,588,068	43.6	1,577,963	41.0	1,481,500	41.0	1,535,563	41.9
Pints	85,547	2.4	87,732	2.4	72,448	2.0	69,727	1.8	56,536	1.6	53,219	1.5
1/3 Qts.			7,497	.2	12,167	.3	10,652	.3	8,828	.2	9,191	.3
1/2 Pints	30,189	.8	31,838	.9	70,293	1.9	91,545	2.4	87,687	2.4	68,000	1.9
Total	3,589,904	100.0	3,710,793	100.0	3,641,726	100.0	3,848,714	100.0	3,611,466	100.0	3,667,591	100.0
Packages	January		February		March		April		May		June	
Bulk to H.	1,481,067	40.1	1,377,304	41.0	1,513,375	40.0	1,424,460	39.8	1,455,874	39.8	1,369,824	39.5
Gals.	114,793	3.1	106,434	3.2	121,037	3.2	118,155	3.3	95,898	2.6	93,009	2.7
1/2 Gals.	224,258	6.1	203,222	6.0	231,258	6.1	225,604	6.3	196,763	5.4	185,140	5.3
Qts.	1,717,822	46.5	1,526,201	45.4	1,752,284	46.3	1,659,564	46.3	1,739,833	47.5	1,711,080	49.4
Pints	54,728	1.5	49,517	1.5	55,858	1.5	54,086	1.5	64,776	1.8	62,781	1.8
1/3 Qts.	10,331	.3	9,822	.3	10,606	.3	10,396	.3	9,609	.3	11,935	.3
1/2 Pints	87,887	2.4	90,790	2.6	97,782	2.6	88,309	2.5	94,132	2.6	35,354	1.0
Total	3,690,886	100.0	3,363,290	100.0	3,782,200	100.0	3,580,574	100.0	3,656,885	100.0	3,469,119	100.0

Table A - 33

Utilization of Class I Milk Handled by Associations A-B-C
January 1953 - June 1954

(Number of Packages)

Packages	January		February		March		April		May		June	
	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total
Gals.	9,559	1.0	8,923	1.0	10,192	1.0	10,948	1.2	10,971	1.1	8,865	1.1
1/2 Gals.	47,991	4.9	43,703	4.8	46,784	4.7	46,579	5.0	44,745	4.7	46,019	5.5
Qts.	733,030	74.5	660,770	72.3	713,793	71.3	697,964	74.5	717,885	75.2	708,544	85.5
Pints	21,289	2.1	19,664	2.1	22,862	2.3	32,027	3.4	39,718	4.2	35,940	4.3
1/3 Qts.												
1/2 Pints	172,337	17.5	180,862	19.8	207,511	20.7	149,513	15.9	141,788	14.8	29,866	3.6
Total	984,206	100.0	913,922	100.0	1,001,142	100.0	937,031	100.0	955,107	100.0	829,234	100.0
Packages	July		August		September		October		November		December	
Gals.	10,805	1.2	9,764	1.1	10,714	1.1	13,208	1.3	9,069	1.0	9,645	1.1
1/2 Gals.	51,908	5.8	51,718	5.7	47,471	5.0	43,952	4.5	40,490	4.4	45,273	5.0
Qts.	757,433	84.8	762,137	83.6	735,299	77.0	731,538	74.1	686,984	75.4	712,084	79.0
Pints	42,670	4.8	43,289	4.7	34,866	3.6	34,106	3.5	22,172	2.4	17,214	1.9
1/3 Qts.			10,461	1.1	16,976	1.8	14,863	1.5	12,318	1.4	12,824	1.4
1/2 Pints	29,956	3.4	34,718	3.8	110,219	11.5	149,207	15.1	140,580	15.4	104,304	11.6
Total	892,772	100.0	912,087	100.0	956,545	100.0	986,874	100.0	911,613	100.0	901,344	100.0
Packages	January		February		March		April		May		June	
Gals.	13,063	1.3	12,151	1.3	13,866	1.3	13,592	1.4	10,979	1.0	10,714	1.2
1/2 Gals.	52,153	5.0	47,261	5.0	53,781	5.0	52,466	5.2	45,759	4.4	43,056	4.7
Qts.	796,674	77.0	707,713	74.9	812,496	75.7	769,313	76.4	806,198	77.0	793,001	85.6
Pints	19,034	1.8	17,428	1.8	18,959	1.8	17,824	1.8	24,327	2.3	22,254	2.4
1/3 Qts.	14,414	1.4	13,704	1.4	14,798	1.4	14,505	1.4	13,407	1.3	16,653	1.8
1/2 Pints	139,968	13.5	147,106	15.6	159,648	14.8	138,928	13.8	147,045	14.0	40,100	4.3
Total	1,035,306	100.0	945,363	100.0	1,073,548	100.0	1,006,628	100.0	1,047,625	100.0	925,778	100.0

Table A - 34

Utilization of Class I Cream Handled by Associations A-B-C
January 1953 - June 1954

(Number of Packages)

Packages	<u>January</u>		<u>February</u>		<u>March</u>		<u>April</u>		<u>May</u>		<u>June</u>	
	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total
Gals.	246	.5	211	.4	351	.6	282	.5	352	.6	293	.5
Qts.	2,022	4.3	1,807	3.5	2,141	3.8	2,508	4.4	2,567	4.4	2,290	3.8
Pints	30,900	66.2	27,753	53.6	28,068	49.9	30,044	52.9	31,789	52.3	32,178	53.4
1/2 Pints	13,566	29.0	22,022	42.5	25,698	45.7	23,924	42.2	26,102	42.9	25,554	42.3
Total	46,734	100.0	51,793	100.0	56,258	100.0	56,758	100.0	60,810	100.0	60,315	100.0
	<u>July</u>		<u>August</u>		<u>September</u>		<u>October</u>		<u>November</u>		<u>December</u>	
Gals.	317	.5	288	.4	274	.5	257	.5	274	.5	266	.5
Qts.	2,303	3.5	2,610	4.0	2,337	4.2	2,398	4.4	2,086	3.8	2,131	3.7
Pints	36,909	56.1	38,322	58.3	32,527	58.4	30,756	56.4	30,420	55.0	32,292	56.8
1/2 Pints	26,210	39.9	24,515	37.3	20,559	36.9	21,109	38.7	22,560	40.7	22,208	39.0
Total	65,738	100.0	65,735	100.0	55,697	100.0	54,520	100.0	55,340	100.0	56,897	100.0
	<u>January</u>		<u>February</u>		<u>March</u>		<u>April</u>		<u>May</u>		<u>June</u>	
Gals.	285	.5	225	.4	208	.4	147	.2	172	.3	101	.2
Qts.	2,313	4.0	2,148	4.1	2,520	4.3	2,577	4.3	3,027	4.5	2,850	4.4
Pints	31,875	54.9	28,634	54.2	33,002	56.9	32,488	53.6	35,929	53.5	36,147	55.8
1/2 Pints	23,542	40.6	21,806	41.3	22,272	38.4	25,367	41.9	28,083	41.7	25,674	39.6
Total	58,015	100.0	52,813	100.0	58,002	100.0	60,579	100.0	67,211	100.0	64,772	100.0

Utilization of Class I Milk and Cream Handled by Associations A-B-C
January 1953 - June 1954

(Number of Packages)

Packages	January		February		March		April		May		June	
	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total	Number of Pkgs.	% of Total
Gals.	9,805	1.0	9,134	0.9	10,543	1.0	11,230	1.1	11,323	1.1	9,158	1.0
1/2 Gals.	47,991	4.7	43,703	4.5	46,784	4.4	46,579	4.7	44,745	4.4	46,019	5.2
Qts.	735,052	71.2	662,577	68.7	715,934	67.7	700,472	70.5	720,452	70.9	710,834	79.9
Pints	52,189	5.1	47,417	4.9	50,930	4.8	62,071	6.2	71,507	7.0	68,118	7.7
1/3 Qts.												
1/2 Pints	185,903	18.0	202,884	21.0	233,209	22.1	173,437	17.5	167,890	16.6	55,420	6.2
Total	1,030,940	100.0	965,715	100.0	1,057,401	100.0	993,789	100.0	1,015,137	100.0	889,549	100.0
Packages	July		August		September		October		November		December	
Gals.	11,122	1.2	10,052	1.0	10,988	1.1	13,465	1.3	9,343	1.0	9,911	1.0
1/2 Gals.	51,908	5.4	51,718	5.3	47,471	4.7	43,952	4.2	40,490	4.2	45,273	4.7
Qts.	759,735	79.3	764,747	78.2	737,636	72.9	733,936	70.5	689,070	71.2	714,215	74.6
Pints	79,579	8.3	81,611	8.3	67,393	6.7	64,862	6.2	52,592	5.4	49,506	5.2
1/3 Qts.			10,461	1.1	16,976	1.7	14,863	1.4	12,318	1.3	12,824	1.3
1/2 Pints	56,166	5.8	59,233	6.1	130,778	12.9	170,316	16.4	163,140	16.9	126,512	13.2
Total	958,510	100.0	977,822	100.0	1,012,240	100.0	1,041,394	100.0	966,953	100.0	958,241	100.0
Packages	January		February		March		April		May		June	
Gals.	13,348	1.2	12,376	1.2	14,074	1.2	13,739	1.3	11,151	1.0	10,815	1.1
1/2 Gals.	52,153	4.8	47,261	4.7	53,781	4.8	52,466	4.9	45,759	4.1	43,056	4.3
Qts.	798,987	73.1	709,861	71.2	815,016	72.0	771,890	72.3	809,225	72.6	795,851	80.4
Pints	50,909	4.7	46,062	4.6	51,961	4.6	50,312	4.7	60,256	5.4	58,401	5.9
1/3 Qts.	14,414	1.3	13,704	1.4	14,798	1.3	14,505	1.4	13,407	1.2	16,653	1.7
1/2 Pints	163,510	14.9	168,912	16.9	181,918	16.1	164,295	15.4	175,128	15.7	65,774	6.6
Total	1,093,324	100.0	998,176	100.0	1,131,548	100.0	1,067,207	100.0	1,114,926	100.0	990,550	100.0

Table A - 36

Availability and Use of Milk Bottling Equipment⁽¹⁾ 1953-54

<u>Association</u>	<u>Make</u>	<u>Model</u>	<u>Container</u>	<u>Packaging Capacity (2)</u>		<u>Packages Filled per week (000)</u>	<u>Percent of Capacity</u>
				<u>per week (000)</u>	<u>number</u>		
B	Pure Pak	Jr. G	Qt. paper	146.9		75.0	51
A	Pure Pak	Jr. G	Qt. paper	146.9		72.0	49
C	Pure Pak	Midget	Qt. paper	86.4		20.4	24
A	Pure Pak	Jr. D	1/2 Gal. paper	110.2		14.3 ⁽³⁾	13
A	CB		Glass	362.8		36.0	10
<u>B</u>	CB		Glass	<u>146.9</u>		<u>25.0</u>	<u>17</u>
<u>A-B-C</u>				<u>1000.1</u>		<u>242.7</u>	<u>24</u>

(1) Use (packages filled) was based on the average week for the largest volume month during the period of January 1, 1953 to June 30, 1954.

(2) 90 percent of rated capacity per 80 hour week.

(3) Including 2000 packages for handlers other than the three associations.

- Note: 1. The Jr. G. paper quart machines were used more nearly at capacity than any of the other equipment, but then only at one half capacity. For only one shift and a 40 hour week they would be used at about capacity.
2. Milk sold in half gallon packages has been on the increase. The machine now available could be used more nearly at capacity, and operating costs per unit of product would be lower.
3. The limited use of the glass bottling equipment is partly the result of the shift from glass to paper containers.

Table A - 37

Availability and Use of Churning Facilities - November 1953 and June 1954

<u>Plant</u>	<u>Number of Churns</u>	<u>Churning Capacity (1)</u> (000 pounds per day)	<u>Average Daily Volume Churned</u>		<u>Percent of Capacity Used</u>	
			<u>November 1953</u> (000 pounds per day)	<u>June 1954</u>	<u>November 1953</u>	<u>June 1954</u>
X - 1	2	28.0	3.6	8.6	13	31
X - 2	1	7.7	1.4	2.6	18	34
Y - 1	2	24.5	1.8	4.1	7	17
Z - 1	1	7.7	-	-	-	-
Z - 2	<u>2</u>	<u>21.0</u>	<u>3.1</u>	<u>7.1</u>	<u>15</u>	<u>34</u>
X-Y-Z	8	88.9	9.9	22.4	11	25

(1) Seven churnings per day.

Note: Churns were used at a very low percent of capacity even during the season of flush production. This was the situation even though nearly 60 percent of the butterfat was utilized in buttermaking.

Table A - 38

Availability and Use of Milk Drying Facilities - November 1953 and June 1954

<u>Plant</u>	<u>Type of Drier</u>	<u>Drying Capacity (1)</u> (000 pounds per day)	<u>Average Daily Volume Dried (2)</u>		<u>Percent of Capacity Used</u>	
			<u>November 1953</u> (000 pounds per day)	<u>June 1954</u> (000 pounds per day)	<u>November 1953</u>	<u>June 1954</u>
C - 1	Roller	63	20	56	32	89
B - 2	Roller	50	0	49	0	98
A - 1	Spray	147	46	129	31	88
<u>B - 1</u>	<u>Spray</u>	<u>315</u>	<u>73</u>	<u>288</u>	<u>23</u>	<u>91</u>
Total		575	138	522	24	91

(1) Twenty-one hour day

(2) This was calculated from the volume dried per month, with a seven day week for drying.

- Note: 1. During the peak days of the flush production season, the drying equipment was operated at near capacity. However in November the same equipment was used far below capacity.
2. Spray drying facilities constitute eighty percent of the total drying capacity.
3. Milk drying by these associations is very seasonal because extra "surplus" milk from Grade A operations must be processed during the flush production months. Because of the extreme seasonality in drying, the facilities could be much better coordinated and more efficiently used if the associations were consolidated. A larger proportion of the milk could then be spray dried, and a higher price could be obtained for the powder.

Table A - 39 Average Daily Receipts of Milk; Index Showing Variation between High and Low Months

(November 1953 = 100)

	<u>June 1953-54</u> (000 pounds)	<u>November 1953</u> (000 pounds)	<u>Index</u> <u>June over</u> <u>November</u>
Grade of Milk (not including inter-association movements)			
Grade A Milk	375	222	168
Grade B Milk	234	103	229
From other handlers and sources	92	10	943
Total Receipts	701	335	209

Table A - 40 Utilization of Milk; Index Showing Variation between Average Daily Utilization for High and Low

Months of Milk Receipts
(November 1953 = 100)

Supplies of Milk and Residual Amounts of Each (not including inter-association movements)	<u>June 1953 -54</u>		<u>November 1953</u>		<u>June over November</u>	
	<u>Available</u>	<u>Utilization</u>	<u>Available</u>	<u>Utilization</u>	<u>Available</u>	<u>Utilization</u>
	<u>Supplies</u>	<u>(000 pounds)</u>	<u>Supplies</u>	<u>(000 pounds)</u>	<u>Supplies</u>	<u>(000 pounds)</u>
Total Milk	701		335		209	
Fluid use		67		63		105
Residual - available for Class I bulk or other	634		272		233	
Class I bulk		45		57		80
Residual - available for Class II bulk or other	589		215		274	
Class II bulk		27*		27		99
Residual - available for ice cream or other	562		188		299	
Milk products used in ice cream		2		1		160
Residual - available for cottage cheese or other	560		187		300	
Cottage cheese		1		0		138
Residual - available for butter or other	559		187		300	
Butter		22		10		220
Residual - available for spray drying, roller drying or cheese	537		177		305	

* High because one association sold skim for manufacturing.

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