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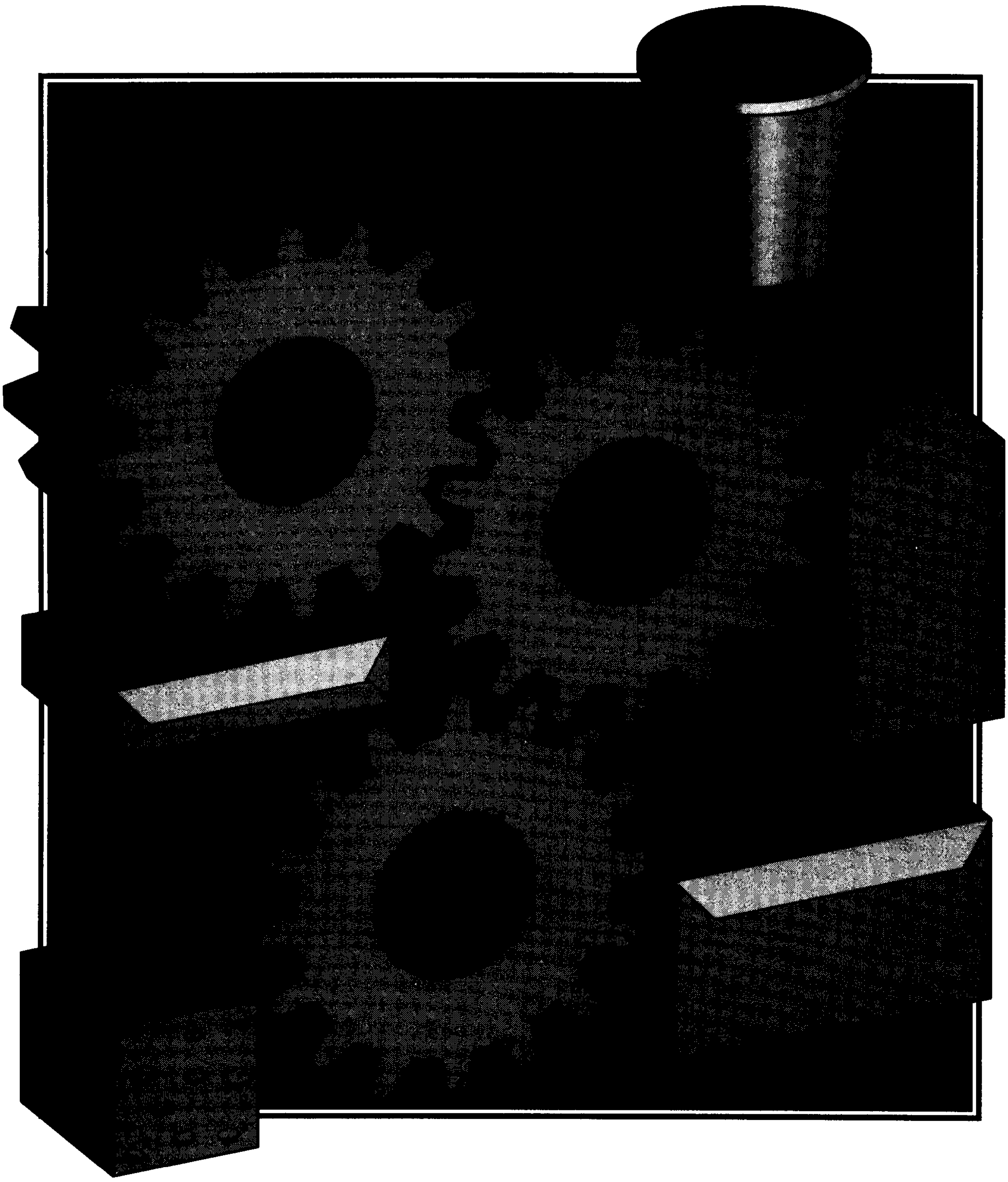
Marketing Operations of Dairy Cooperatives



Abstract

Marketing Operation of Dairy Cooperatives

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The Nation's 265 dairy cooperatives marketed 122.6 billion pounds of milk, or 82 percent of all milk sold to plants and dealers in 1992. These cooperatives were owned by 110,440 member-producers. Eighty-six cooperatives operated 299 dairy processing and manufacturing plants, 44 cooperatives had milk-receiving stations only, and 135 had no milk-handling facilities. Cooperatives sold 16 percent of the Nation's packaged fluid products, 10 percent of the ice cream and ice milk, 65 percent of the butter, 81 percent of the dry milk products, 43 percent of the natural cheese, 48 percent of the dry whey products, and 13 percent of the cottage cheese made in the United States. The prevailing method of paying for member milk by the reporting cooperatives was to adjust the milk price for both butterfat and other component(s). Milk quality was the primary driving factor in the overwhelming majority of price incentive programs offered by cooperatives.

Key Words: Cooperatives, dairy, marketing, pricing, structure.

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Preface

Information for this report came primarily from a survey of all U.S. dairy cooperatives. In some cases, data were estimated for nonrespondents based on their financial statements or other sources.

Data for this report came from cooperatives' fiscal year ending in calendar 1992. Fiscal years of cooperatives vary within the calendar year, so their data reflect some differences in time periods. However, the effects of time differences are reduced by using annual data. Previous surveys covered the fiscal years ended April 1, 1981 and 1988. Data prior to 1981 is covered in ACS Research Report 88.

In this report, a number of comparisons are made of regional cooperative operations based on where cooperatives are headquartered. Because many of the larger cooperatives may have significant operations in regions other than where headquartered, there are a few cases where data may not accurately reflect the level of cooperative activity in a particular region. Also, care should be taken when making regional comparisons because different regional alignments were used for the various analyses presented in the report.

The authors acknowledge assistance from other agencies and individuals for this study, most particularly the Estimates Division of USDA's National Agricultural Statistics Service and the Statistics and Technical Services staff of ACS.

Contents

Highlights

Dairy products accounted for 35 percent of the value of all agricultural cooperative marketings during 1992. Dairy cooperatives received or bargained for 82 percent of all milk sold by farmers to the Nation's plants and dealers.

The number of dairy cooperatives decreased 10 percent, from 296 to 265, between 1987 and 1992. In 1992, 86 cooperatives processed and manufactured dairy products, down from 121 in 1987. Also, the number of cooperatives selling raw whole milk fell from 251 in 1987 to 230 in 1992.

Cooperatives' share of total volume sold by farmers to plants and dealers increased from 76 percent to 82 percent. The volume of milk marketed by coop eratives increased in all regions. Members' grade A milk marketings in 1992 accounted for 81 percent of the Nation's grade A milk, up 5 points from 1987. While marketing of manufacturing grade milk decreased, the share increased to 62 percent of the national manufacturing grade milk production. About 62 percent of total cooperative volume, including inter-cooperative sales, was sold as raw whole milk, up from 55 percent in 1987.

There were 110,440 member-producers delivering milk to 256 dairy cooperatives with direct members. Three regions-East North Central, West North Central, and Middle Atlantic-together accounted for 82 percent of all member-producers and 56 percent of cooperative milk volume.

Dairy cooperatives owned 381 plants in 1992, 81 of them for receiving and shipping milk only. They operated 80 American cheese plants and 46 Italian cheese plants; 75 fluid product packaging plants; 52 for manufacturing dry products; and 48 plants churning butter.

While net sales of butter and cheese increased from 1987 to 1992, those of dry milk products decreased. However, cooperatives' share of national butter production decreased from 71 to 65 percent during this period.

Cooperatives' share of dry milk products (nonfat dry milk, dry buttermilk, and dry whole milk) also decreased to 81 percent of the Nation's output from 91 percent reported in 1987.

Cooperatives' sales of cheese surged 16 percent from 2.4 billion pounds to 2.8 billion pounds. At the same time, however, national cheese production increased 21 percent. As a result, cooperatives' share of the natural cheese market declined from 45 percent to 43 percent by 1992.

Sales of packaged fluid milk products increased both in volume and in share of market. The 8.9 billion pounds marketed was 16 percent of the Nation's production, up from 14 percent in 1987. Cooperatives' sales of cottage cheese as a percentage of national production remained constant at 13 percent, while share of ice cream (including ice milk) increased from 8 percent to 10 percent. In 1992, cooperatives marketed 13 percent of the Nation's ice cream mix and ice milk mix, 3 percent of the yogurt, 27 percent of the bulk condensed milk, and 48 percent of the dry whey products.

Most dairy cooperatives continue to be relatively small business organizations. However, through consolidation and growth, an increasing amount of dairy products was sold by larger cooperatives. The 20 largest dairy cooperatives received 72 percent of all grade A milk marketed through cooperatives.

Highlights

About 84 percent of cooperative milk processing and manufacturing was carried out by the 20 largest cooperatives with plant operations.

Findings based on responses by 153 cooperatives indicate that the traditional method of paying for milk adjusted for butterfat, with or without adjusting for other components, was the most prevalent way cooperatives paid for member milk. Out of the 153 cooperatives, 122 offered incentive programs to induce members to produce high-quality milk and at the time and volume desirable to cooperatives, Quality incentives-the backbone of all other incentive programs-were offered by 116 of the 122 cooperatives.

Marketing Operations of Dairy Cooperatives

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Farmer *owned* and operated dairy cooperatives continue to provide the most significant channel for marketing milk from the Nation's dairy farms.

In line with industry and dairy farm trends, these cooperatives are becoming fewer but are handling larger volumes. In addition, cooperatives process, manufacture, and market a large or dominant proportion of some of the Nation's dairy products.

This report, sixth in a series of periodic appraisals of the scope and performance of dairy cooperatives, describes their continuing adaptation to an ever-changing marketing environment.

COOPERATIVE INDUSTRY PROFILE

Between 1987 and 1992, the number of dairy cooperatives decreased 10 percent, from 296 to 265. This was a slower decline than the 32-percent drop recorded from 1980 to 1987. In 1992, 81 percent of all dairy cooperatives were in the Middle Atlantic, East North Central, and West North Central regions (table 1 and fig. 1). The greatest reduction by 1992 was in the East North Central region, where the number dropped 29 percent, from 75 to 53. In the West North Central region, the reduction was from 77 to 72. The Middle Atlantic region by 1992 had the most dairy cooperatives (90).

In 1992, 86 cooperatives processed and manufactured dairy products that amounted to 32 percent of all dairy cooperatives. This was less than the 41 percent recorded in 1987 when 121 cooperatives were processing and manufacturing. Seventy-one percent of the decline in the number of cooperatives that processed and manufactured dairy products occurred in the East North Central and West North Central regions.

The number of cooperatives operating only milk-receiving stations was unchanged at 44. They represented 17 percent of all dairy cooperatives. Thirty-six of these cooperatives, or 82 percent, were in the West North Central region.

Cooperatives that did not physically handle milk and other dairy products increased from 44 percent to 51 percent of all U.S. dairy cooperatives. More than half were in the Middle Atlantic region.

Nationally, the number of cooperatives marketing selected major dairy products continued to decline (table 2). More cooperatives continued to sell raw whole milk in bulk than any other product. While the number declined from 251 to 230, the proportion of dairy cooperatives performing this activity increased from 85 percent to 87 percent.

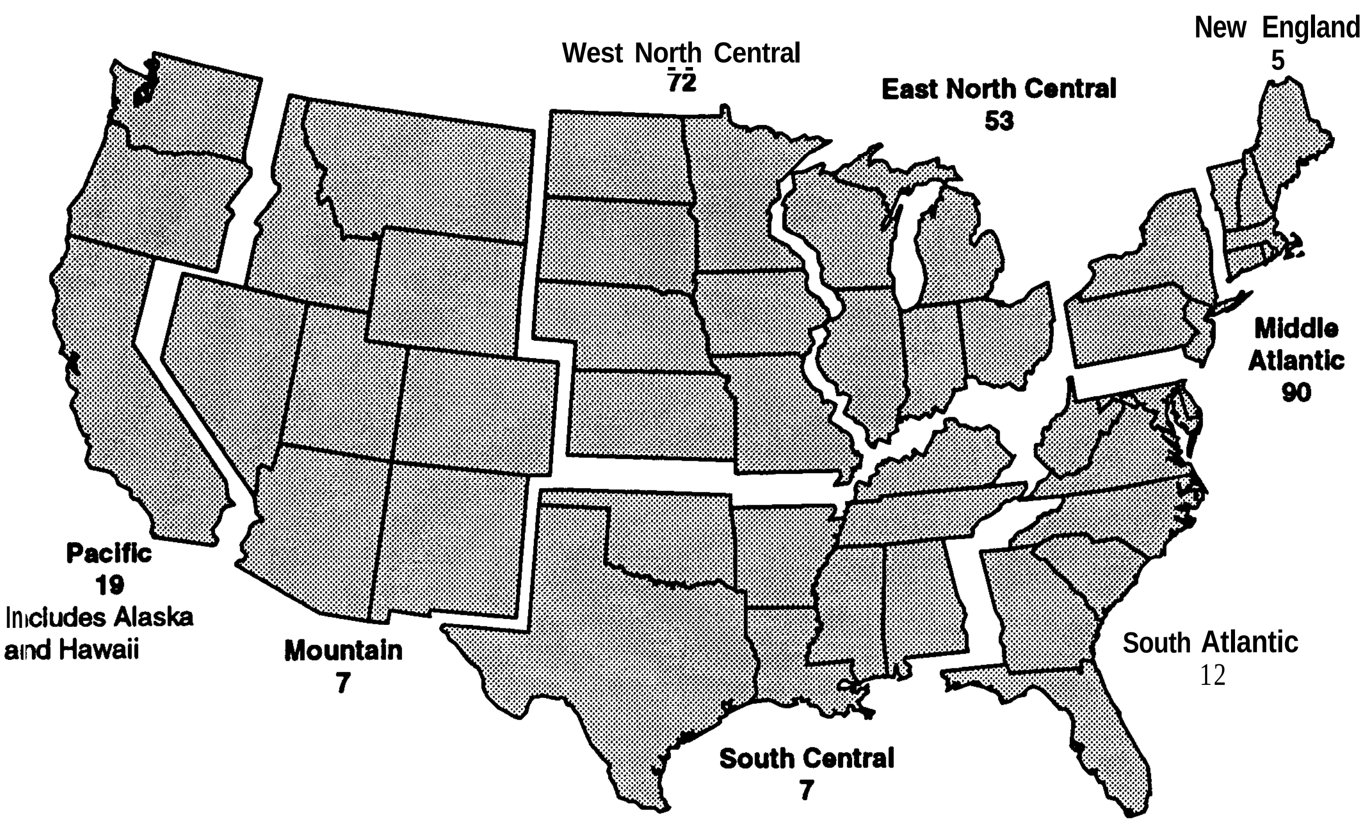
Based on the percentage decrease in the number of cooperatives marketing various dairy products included in the survey, the numbers distributing bulk cream, cheese, butter and nonfat dry milk declined the most between 1987 and 1992. The number of cooperatives distributing bulk cream decreased by 43 percent, while those distributing cheese decreased by 20 percent to 75 cooperatives in 1992.

Butter was distributed by 68 cooperatives, down 17 percent from 1987. Similarly, cooperatives selling nonfat dry milk dropped 16 percent, to 26 cooperatives.

The smallest decline in the number of cooperatives occurred in those distributing cottage cheese and ice cream. In 1992, 22 cooperatives distributed cottage cheese, while 20 distributed ice cream.

The percent of dairy cooperatives distributing packaged fluid milk products remained unchanged

Figure 1- Number of Dairy Cooperatives by Headquarters Region, 1992



from 1987 at 11 percent, although actual cooperative numbers declined 15 percent, from 34 to 29 cooperatives.

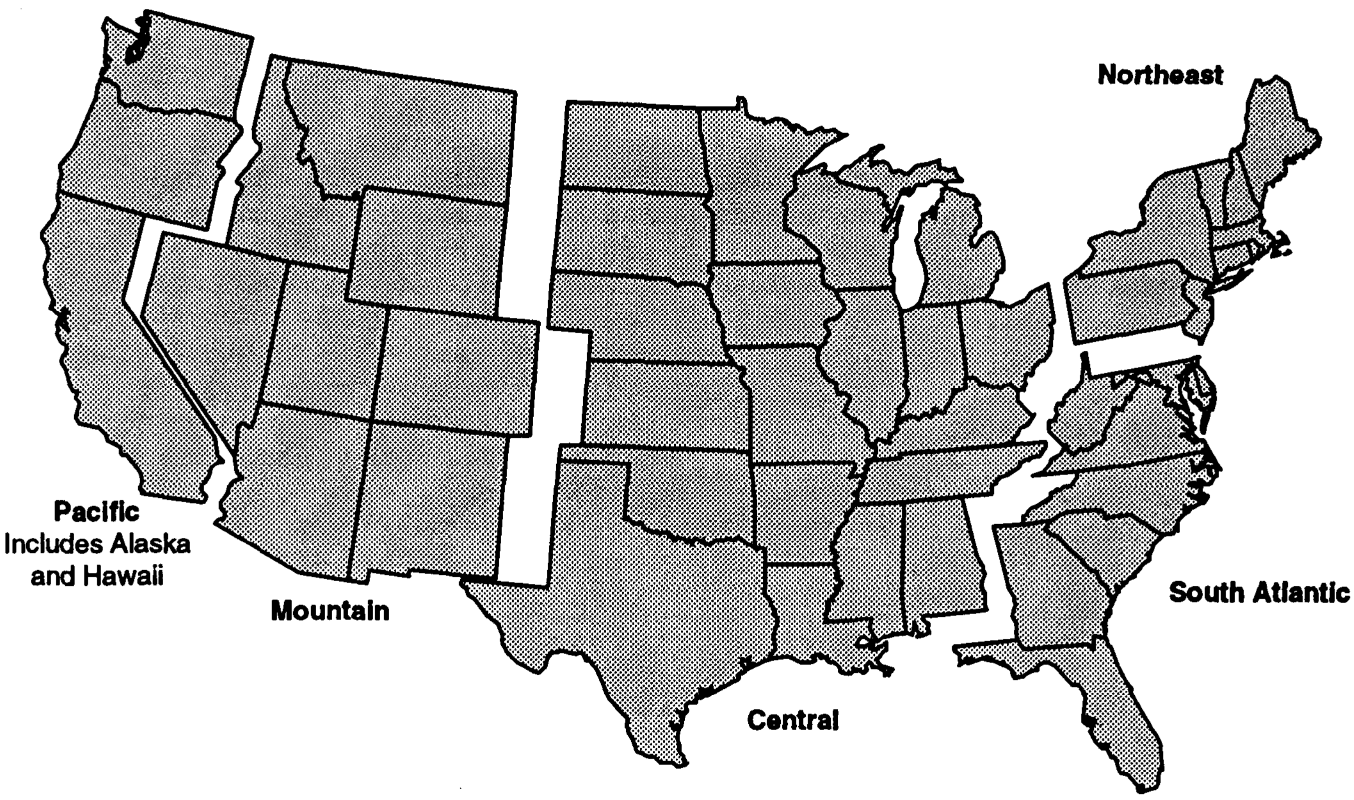
The number of dairy cooperatives marketing various types of cheese was counted for the first time in the 1992 survey: 59 distributing Cheddar cheese; 38, other American cheese; 27, Mozzarella cheese; 12, other Italian cheese; and 23, other cheese. Most of these cooperatives were in the East and West North Central regions. Seventeen cooperatives sold dry whey products while 19 had yogurt sales.

MILK RECEIPTS AND UTILIZATION

In 1992, cooperatives received or bargained for 122.6 billion pounds of milk (net of inter-cooperative transfers), or 82 percent of total volume sold by farmers to the Nation's plants and dealers (table 3). Cooperatives' share of this volume was up from 76 percent in 1987. The volume marketed by cooperatives increased 16 percent in the period, while the Nation's milk sold to plants and dealers rose 7 percent.

Cooperatives' share of the market varied considerably by region, based on their headquarter locations (fig. 2). The Central region, with the largest number of dairy cooperatives, had 58 percent of total U.S. cooperative milk volume in 1992, down from 63 percent. The volume of milk marketed by cooperatives headquartered in the region increased from 66.5 billion pounds to 71.6 billion pounds. Cooperatives' share of all milk sold to

Figure 2—Milk Sold to Plants and Dealers Reported by NASS, and Cooperative Share of Total by Geographic Region, 1992



	Pacific	Mountain	Central	Northeast	South Atlantic	United States
			Billion pounds			
Region total	28.2	10.3	74.3	26.1	9.8	148.8
Cooperative volume	23.2	5.3	71.6	15.6	6.9	122.6
			Percent			
Cooperative share	82	51	96	60	70	82

plants and dealers in this region continued to increase, from 90 percent to 96 percent.

In the Pacific region, the Nation's fastest growing milk production region, milk sold to plants and dealers increased 24 percent. Simultaneously, cooperative volume rose 61 percent. As a result, cooperatives' share of milk in the region increased from 63 to 82 percent.

Cooperatives' share of all milk marketed also increased in the Northeast and the South Atlantic regions, but significantly declined from 64 to 51 percent in the Mountain region. However, milk volume marketed by cooperatives increased in all regions.

Supply, Location, and Grade

There were 110,440 member-producers delivering milk to 256 dairy cooperatives with direct members (table 4). Most (49,015) were found in the East North Central region, followed by the West North Central region (27,376) and the Middle Atlantic region (14,577). Together the three regions had 82 percent of total member-producers, but only 56 percent of milk delivered to dairy cooperatives. Milk delivery per member-producer in the Pacific region was 6.7 million pounds, the highest among all regions. It was 10 times the milk delivery per member-producer in the West North Central region and 9 times the delivery in the East North Central region.

Twenty-nine percent of the total milk received directly from member-producers and marketed by cooperatives came from farms in the East North Central region (table 4 and fig. 3), down from 30 percent in 1987. Farms in the West North Central and Middle Atlantic regions supplied 16 and 11 percent, respectively, of the total U.S. cooperative member volume, each a decline from the previous survey. Milk from cooperative members in the Pacific region increased from 14 percent to 19 percent of total U.S. cooperative member milk.

Ninety-one percent of the supply of cooperatives' manufacturing grade milk came from farms in the two North Central regions47 percent from the West North Central region and 43 percent from the East North Central region. Marketings of manufacturing grade milk declined 42 percent or 1.9 billion pounds in the West North Central region.

Reflecting the continuing conversion from manufacturing grade milk to grade A and the generally increased production of grade A milk, cooperatives marketed 20 percent more grade A milk for their member-producers and 38 percent less manufacturing grade milk.

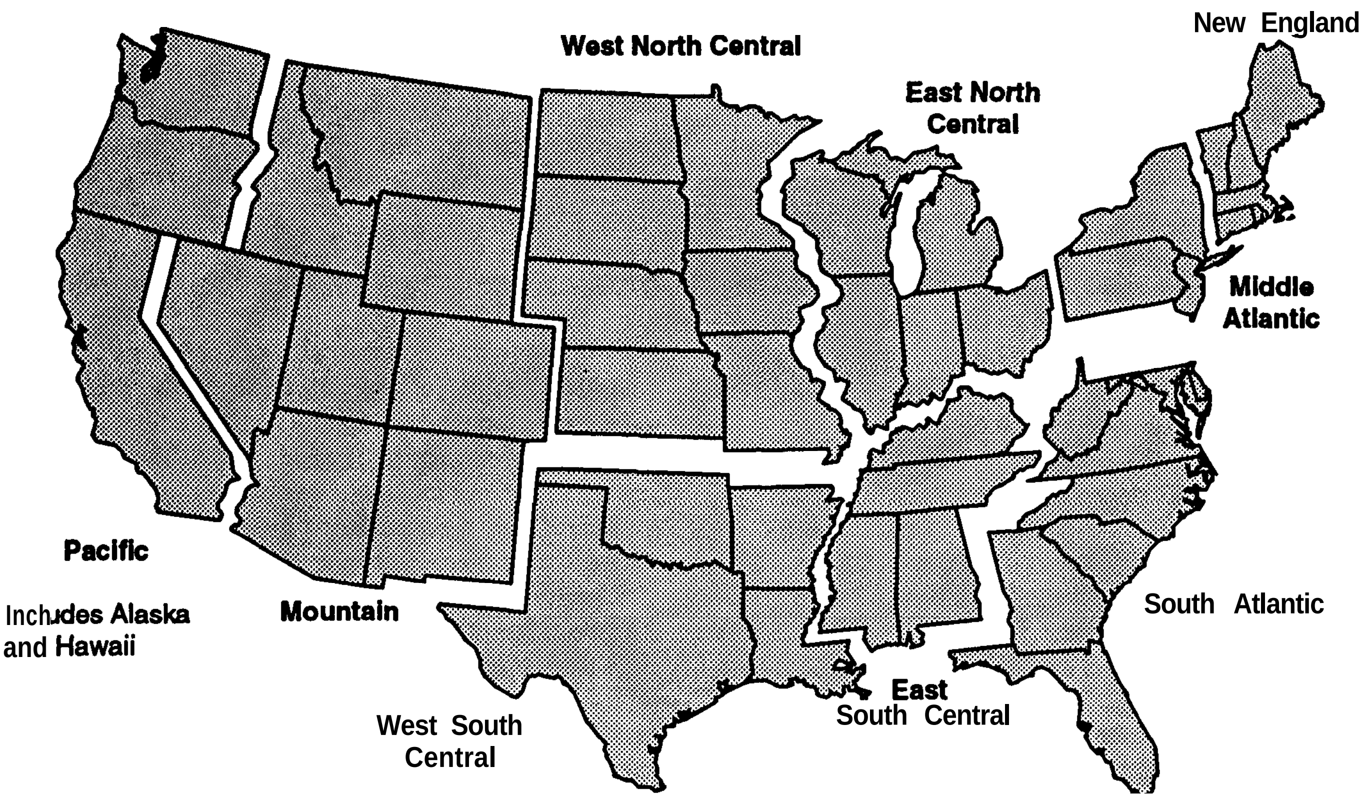
Two hundred thirty four cooperatives marketed grade A milk for farmer-members and 135 marketed manufacturing grade. In 1992, cooperative marketings of grade A milk for member-producers totaled 113.3 billion pounds or a market share of 81 percent of all grade A milk, up from 76 percent in 1987. In the current survey year, cooperatives marketed 5.6 billion pounds of manufacturing grade milk that represented a 62 percent market share, up from 57 percent.

The proportion of grade A milk marketed by cooperatives varied from 47 percent in the East South Central region to 92 percent in the East North Central and South Atlantic regions. A significant increase in quantities marketed and in cooperatives' share of grade A marketings was found in the Pacific region, showing 61 percent more grade A milk and an increase of market share from 63 to 81 percent. The other increase in market share was in the South Atlantic region, expanding from 82 to 92 percent. The East South Central region lost 20 market share points, from 67 percent to 47 percent. All other regions either held their own or declined in grade A milk market shares.

Supply by Source

In 1992, 92 percent of the 131.9 billion pounds of milk received by dairy cooperatives came directly from farmers, up from 91 percent in 1987 (table 5). Most of the remainder came from other cooperatives. Western region cooperatives received 98 percent of their milk directly from producers. By contrast, Eastern region cooperatives received only 84 percent of their milk directly from producers. In 1992,235 cooperatives received 125.6 billion pounds of grade A milk from all sources, up 21.2 billion pounds (20 percent) from 1987. Receipts of manufacturing grade milk by 123 cooperatives

Figure 3—Milk Sold to Plants and Dealers and Share of Cooperative Members, by Grade and Production Region, 1992



	Pacific	Mountain	West North Central	West South Central	East North Central	East South Central	New England	Middle Atlantic	South Atlantic	United States
					Billion pounds					
Grade A Milk (region total)	27.7	9.5	17.8	0.4	35.2	5.2	4.4	21.6	9.7	139.8
Cooperative volume	22.5	7.9	15.8	6.8	32.4	2.5	3.1	13.3	9.0	113.3
					Percent					
Cooperative Share	81	83	89	80	92	47	71	61	92	81
					Billion pounds					
Manufacturing Grade Milk (region total)	.5	.8	4.0	.04	3.4	.2	—	.1	.06	9.0
Cooperative Volume	.2	.1	2.7	•	2.4	•	—	.1	.01	5.6
					Percent					
Cooperative Share	43	15	67	*	71	•	—	91	16	62

• Not shown to avoid disclosing proprietory information

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All numbers an rounded.

were 6.3 billion pounds of manufacturing grade milk, down 3.9 billion pounds (38 percent).

Utilization of Milk Supply

In 1992,128 billion pounds of raw milk was received from all sources by the 256 cooperatives reporting milk receipts (table 6). Sixty-two percent of the total cooperative volume, including that received from other cooperatives, was sold as raw whole milk, up from 55 percent.

Across all regions, cooperatives sold proportionately more milk raw than they processed or manufactured in their own plants. In the Western region, the proportion of cooperative milk sold raw jumped from 39 percent to 53 percent. Cooperatives in the Western region processed or manufactured 47 percent of their milk in 1992, down from 61 percent in 1987. The ratio of milk sold raw to milk processed or manufactured was about 60 to 40 in the Central region in 1992, but 50 to 50 in 1987. The Eastern region followed the same trend-73 percent sold raw in 1992 versus 68 percent in 1987.

PLANT OPERATIONS

Cooperatives owned 381 plants that performed a variety of marketing functions in 1992 (table 7). Seventy-one percent of these plants were in the East and West North Central regions. The Middle Atlantic region had 25 plants.

Twenty-one percent (81 plants) served only as milk receiving stations. Most manufacturing operations were devoted to cheesemaking- making American, 46 Italian, and 10 process cheese. Most cooperative cheese plants were in the two North Central regions.

Butter manufacturing, another important milk manufacturing function, was carried out by 48 plants, down from 69 in 1987. Fifty-two plants manufactured dry milk products. Cooperative butter plants were concentrated in the East and West North Central and Pacific regions. Drying operations showed the same regional concentration. Dry whey products were made in 40 cooperative plants, mostly in the two North Central regions.

Seventy-five cooperative plants packaged fluid milk products. Unlike the milk manufacturing plants, fluid plants were scattered more uniformly throughout all regions. West North Central region had the most with 18, followed by 13 each in the South Atlantic and East North Central regions.

Thirty-seven cooperatives plants made ice cream and 25 made cottage cheese throughout the Nation in a pattern similar to the fluid milk packaging plants.

DAIRY PRODUCTS MARKETED

This section and the tables that follow describe the net volumes of major dairy products marketed by cooperatives by region after subtracting transactions among cooperatives. The regions are based on the locations of cooperatives' headquarters. Also, comparisons are made between the net volumes marketed by cooperatives and total U.S. production. Other tables show the number of cooperatives marketing dairy products and the volume marketed by selected size groupings. The tables by size groupings show both the pounds marketed and the percentage of total cooperative sales without adjustments for inter-cooperative transactions.

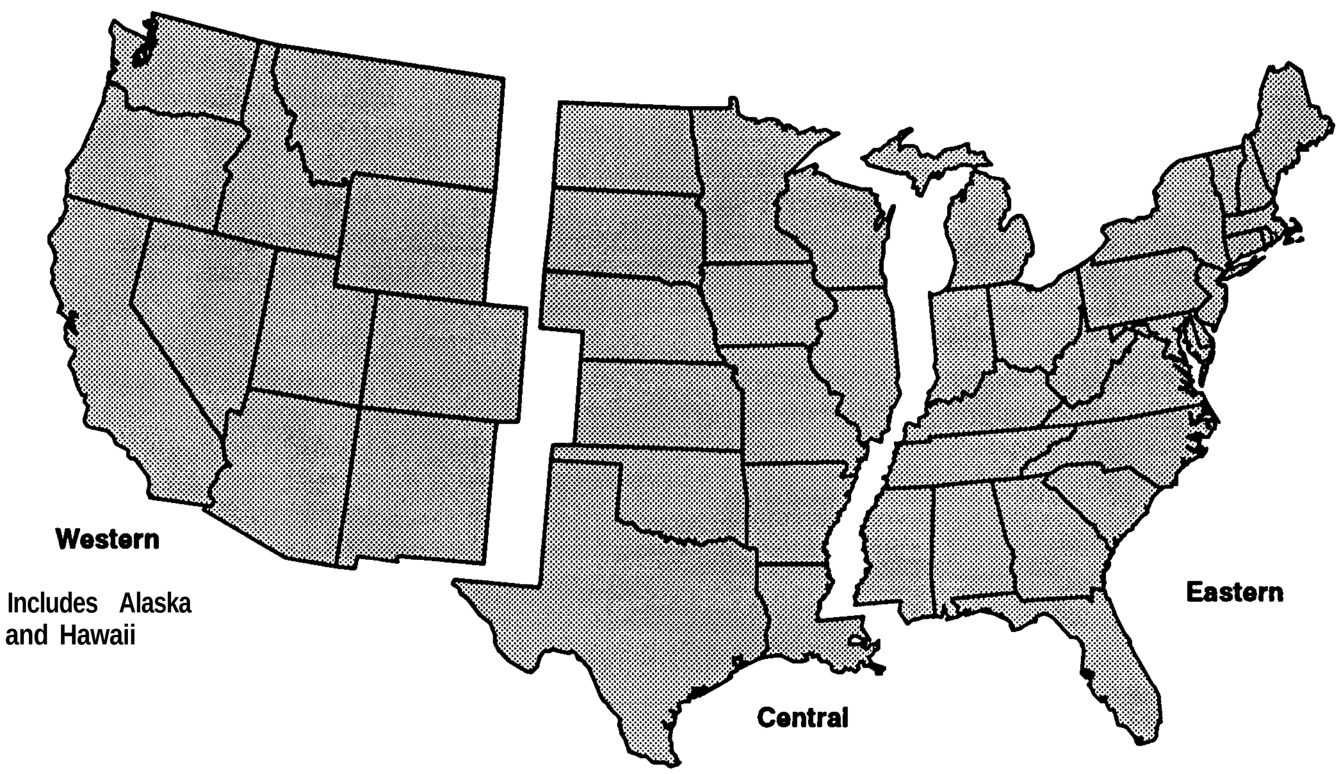
Raw Whole Milk

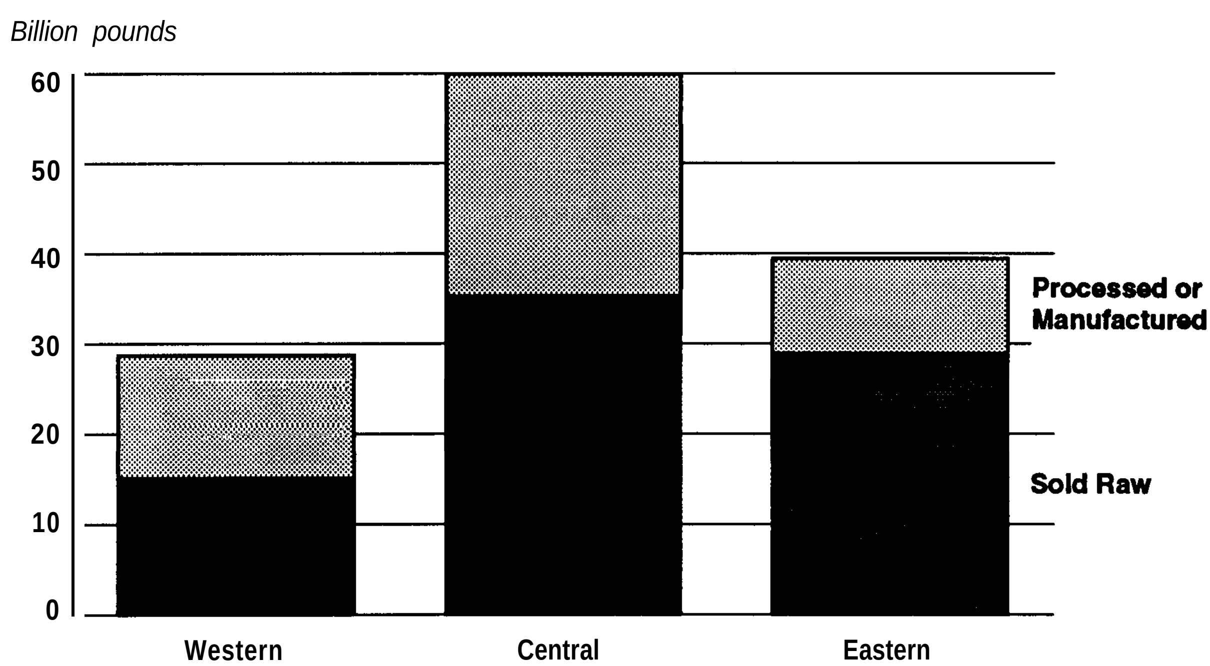
Raw whole milk is the commodity most often sold by dairy cooperatives. In 1992, net raw milk sales by 230 cooperatives amounted to 70 billion pounds or 57 percent of net total volume received (table 8). This represented an increase in volume marketed over 1987, and also an increase in the raw milk sales as a percentage of total receipts. During the past 5 years, the volume of raw milk sold increased substantially in all regions.

Butter

Excluding inter-cooperative transfers, cooperatives distributed a net volume of 885 million pounds of butter in 1992, up 13 percent (table 9). This represents 65 percent of total U.S. production, down from 71 percent.

Figure 4— Utilization of Cooperatively Marketed Milk, by Region, 1992





Pacific region dairy cooperatives accounted for 43 percent of cooperative butter sales and surpassed the volume handled by cooperatives in the Central region. Eastern region cooperatives increased butter sales in 5 years by 78 percent, while the Pacific region was up 32 percent. Elsewhere, butter sales declined.

While the volume of butter distributed increased, the number of cooperatives distributing it continued to decline-82 in 1987 to 68 in 1992 (table 10). Fifteen cooperatives, each handled more than 20 million pounds, marketed 92 percent of the volume distributed by cooperatives. The 8 cooperatives distributing more than 40 million pounds of butter each, accounted for 69 percent of cooperative butter sales. Volume of those distributing less than 20 million pounds dropped 53 percent from 1987 to 1992 and accounted for only 8 percent of volume distributed by cooperatives in 1992 versus 18 percent in 1987.

Dty Milk Products

Excluding inter-cooperative transfers, cooperatives distributed 904 million pounds of dry milk products, 81 percent of the nation's 1992 production (table 11). This volume included nonfat dry milk, dry buttermilk, and dry whole milk. It represents a decrease in cooperatives' share of total production, down from 91 percent in 1987.

Cooperatives in the Western region surpassed the Central region in dry milk product sales-61 percent total cooperative volume in 1992. Dry milk product volume declined 61 percent in the Central region but increased in the Eastern (6 percent) and Western (25 percent) regions. Share of U.S. production distributed by cooperatives increased in all but the Central region.

The number of cooperatives distributing dry milk products declined from 31 to 29 (table 12). Two-thirds of cooperatives' dry milk products was distributed by 6 cooperatives in the more than 40-million-pound size group. The 11 cooperatives that distributed more than 20 million pounds had an 81 percent share of cooperative volume. The volume distributed by cooperatives in all size groups declined.

Cheese

In 1992, cooperatives distributed 2.8 billion pounds of cheese, excluding cottage cheese, up 16 percent (table 13). During this period, the volume of total cheese made by all U.S. firms increased 21 percent. As a result, cooperatives' share of the national cheese market decreased from 45 percent to 43 percent.

Central region cooperatives continued to distribute the largest share of cheese-88 percent of cooperatives' net sales. Major decreases in both the volume distributed and the share of the total manufactured occurred in the Mountain region. Pacific region cooperatives reported a 53-percent volume increase.

The number of cooperatives distributing cheese declined from 94 to 75, reflecting consolidation of cheesemaking into fewer cooperatives (table 14). Cooperatives distributing less than 10 million pounds annually declined from 64 to 51, while those distributing more than 10 million pounds dropped from 30 to 24. Only 11 large cooperative cheese distributors accounted for 88 percent of all cooperative cheese sales in 1992. The 5 largest cooperatives accounted for 70 percent.

Among the 2.8 billion pounds of natural cheese distributed by cooperatives, the vast majority (1.8 billion pounds or 64 percent) was Cheddar cheese (table 15). Cheddar cheese sales were 75 percent of total U.S. production. Cooperatives marketed 569 million pounds of Mozzarella cheese or 29 percent of U.S. production of that type in 1992. Other American cheese, at 290 million pounds, was the third major cheese category of cooperatives' sales, accounting for 54 percent of U.S. production.

Swiss cheese sales by cooperatives was 50 million pounds or 21 percent of U.S. Swiss cheese production. Ten million pounds of cream cheese, or 2 percent of national production, was marketed by cooperatives. Cooperatives also marketed 7.5 million pounds of Muenster cheese and 11.5 million pounds of Brick, Feta, Gouda/Edam, and others.

Packaged Fluid Milk Products

Cooperatives distributed 8.9 billion pounds of packaged fluid milk products in 1992, reversing the 1980-87 decline, both in volume and share of total sales of all U.S. firms (table 16). The cooperative volume of packaged fluid milk products increased 21 percent, while the cooperative market share was 16 percent, up from 14 percent. Simultaneously, U.S. sales increased by 4 percent.

In this report, pounds of packaged fluid milk distributed by cooperatives are converted from quart equivalents of products sold. Total industry sales are based on total pounds of milk sold to plants and dealers less the whole milk equivalent used in manufacturing.

Both volume distributed and share of all sales grew in all regions except the Western. The Central region volume was up 36 percent and South Atlantic region up 73 percent. Western region recorded a 42 percent loss in volume.

The number of cooperatives distributing packaged fluid milk products decreased from 34 to 29 (table 17). The 10 large-scale cooperative distributors (each sold more than 100 million quart-equivalents) held 90 percent of all cooperative sales.

Cottage Cheese

In 1992, cooperatives distributed 166 million pounds of cottage cheese, down 15 percent or 29 million pounds (table 18). Cooperatives' share of total U.S. production remained at 13 percent, reflecting the same national volume decline.

Twenty-two cooperatives distributed cottage cheese, down from 23 in 1987 (table 19). Four cooperatives, each distributing more than 10 million pounds a year, accounted for 72 percent of all cooperatives' sales in 1992.

Ice Cream and Ice Milk

While cooperatives were still a minor player in the ice cream and ice milk business, their share of the Nation's production of these frozen products increased from 8 to 10 percent (table 18). Ice cream and ice milk sales by cooperatives increased 25 percent while U.S. production decreased 4 percent.

The number of cooperatives distributing these products was unchanged at 21 (table 20). Only 5 cooperatives, each with sales of more than 10 million gallons, distributed 93 percent of total cooperative volume.

Ice Cream Mix and Ice Milk Mix

In 1992, 21 cooperatives reported sales of 81 million gallons of ice cream mix and ice milk mix or 13 percent of U.S. production (table 18). This does not include mixes used by cooperatives to make ice cream or ice milk.

Bulk Condensed Milk Products

In 1992, U.S. firms produced 1,624 million pounds of bulk condensed milk. Simultaneously, cooperatives sold 439 million pounds or 27 percent of total U.S. production, down from 45 percent.

Dry Whey Products

The percentage of dry whey products sold by cooperatives dipped from 53 percent to 48 percent of total U.S. production. In 1992, cooperatives distributed 920 million pounds of dry whey products, net of inter-cooperative transfers. As with many other products, some large-scale cooperatives distributed most of the dry whey products.

Cooperative Concentration Ratios

The largest cooperatives' proportion of all cooperatives' receipts of grade A milk from farmers, milk processed or manufactured, and sales of selected products for 1980, 1987, 1992 are shown in table 21. It also shows the larger cooperatives' proportion of receipts, processed or manufactured volume, and sales as a percent of total U.S. production. However, it should be noted that the cooperatives included in each size group are not the same for each product. For example, the four largest cooperatives selling butter are not necessarily the four largest marketing cheese.

The 20 largest cooperatives, in terms of receipts of grade A milk, received 59 percent of the total U.S. volume of grade A milk, up from 56 percent in 1987. However, their volume represented 72 percent of grade A milk marketed by farmers through cooperatives, down from 74 percent.

The 20 largest cooperatives with processing and manufacturing operations accounted for 84 percent of all processing and manufacturing volume by cooperatives, up from 81 percent in 1987. The volume was 48 percent of the total U.S. milk volume sold to plants and dealers, up from 34 percent.

In 1992, the 20 largest cooperatives had an overwhelming share among cooperatives of these products: packaged fluid milk distribution, 100 percent (rounded); butter, 97 percent; dry milk products, 97 percent; and natural cheese, 96 percent.

However, compared with the Nation's total production, their shares were less significant. The 20 largest dairy cooperatives sold only 16 percent of the Nation's packaged fluid milk and 42 percent of cheese. They dominated only in marketing the so-called last resort products: butter and dry milk products, even though their market shares of these two products declined.

The four largest cooperatives in each product line continued to sell a significant proportion of total cooperative volume. Their shares of total U.S. production of packaged fluid milk products and cheese increased somewhat, while shares of U.S. butter and dry milk products have declined.

METHODS OF PRICING MILK TO PAY MEMBER-PRODUCERS

Dairy cooperatives were asked to describe methods of pricing members' milk. Information on pricing incentive programs was also collected.

One hundred fifty-three cooperatives reported on their pricing methods. They represented 58 percent of all dairy cooperatives and accounted for 86 percent of milk the Nation's cooperatives received directly from member-producers (table 22). Difference between the percentages indicates responding cooperatives were larger in terms of volume than those not responding.

The four basic pricing methods are:

1. Traditional method of paying for milk adjusted for butterfat.
2. Traditional method of paying for milk adjusted for butterfat, and for other components.
3. Pricing on milk components.
4. Basing price on product yields.

Forty-six cooperatives (30 percent of respondents) used the most traditional way, representing a substantial decrease (40 cooperatives) from 1987.

A variation is adjusting milk price not only for butterfat but also for other component(s). Eighty-one cooperatives (53 percent of the respondents) used this method, up 31 cooperatives from 1987. Twelve cooperatives priced members' milk on its components, up 7 cooperatives.

Two cooperatives based milk price on product yields, or having this pricing option available to members if they preferred. Several cooperatives used more than one pricing method.

PRICING INCENTIVE PROGRAMS

Among cooperatives providing the pricing information, 122 offered an incentive program to induce members to produce high-quality milk, and at the time and volume suited to cooperatives' operations (table 23). The 122 represented 46 percent of all (265) dairy cooperatives and 69 percent of all members' milk.

Quality premiums only were offered by 23 cooperatives; 2 cooperatives offered only volume premiums; protein premium, seasonal premium, and solids-not-fat premium were each offered by one cooperative. Another cooperative offered both volume and protein premiums.

Most cooperatives offered quality premiums in connection with other incentives. These cooperatives usually require farmers to meet certain quality requirements to qualify for other premiums. Thirty-one cooperatives offered quality, volume, and protein premiums; 21 offered quality and protein premiums; and 13 offered quality, volume, and solids-not-fat premiums. Incentive programs offered by 116 of the 122 cooperatives (95 percent) were related to quality.

Table 1—Dairy cooperatives by type of operation and by headquarters region, 1980, 1987 and 1992

Ftegion [1]	Processing and manufacturing dairy products			Operating milk receiving facilities only			Not physically handling dairy products			Total		
	1980	1987	1992	1980	1987	1992	1980	1987	1992	1980	1987	1992
	Number											
New England	7	6	3	1	0	0	4	2	2	12	8	5
Middle Atlantic	15	10	9	5	4	6	90	78	75	110	92	90
East North Central	93	55	35	7	3	1	18	17	17	118	75	53
West North Central	42	24	19	77	35	36	5	18	17	124	77	72
South Atlantic	9	6	4	0	1	0	7	5	8	16	12	12
South Central	3	3	3	4	1	1	6	3	3	13	7	7
Mountain	9	5	4	1	0	0	5	2	3	15	7	7
Pacific	14	12	9	2	0	0	11	6	10	27	18	19
All regions	192	121	66	97	44	44	146	131	135	435	296	265
	Percent											
Percentage of total cooperatives	44	41	32	22	15	17	34	44	51	100	100	100

[1] For states included in each region,see figure 1.

Table P-Cooperatives distributing selected dairy products, by headquarters region, 1980, 1987, and 1992 [1]

Item and year	Region [2]								
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	South Central	Mountain	Pacific	Total
					Number				
Bulk whole milk									
1980	10	102	60	120	12	13	12	23	352
1987	6	88	40	76	11	7	7	16	251
1992	5	84	28	70	12	7	7	17	230
Packaged fluid milk products									
1980	5	7	9	15	9	2	5	8	60
1987	3	6	3	8	5	2	4	3	34
1992	1	4	4	9	4	2	2	3	29
Bulk cream									
1980	4	8	76	18	5	2	3		122
1987	3	4	35	15	3	2	2	8	70
1992	2	3	11	7	4	3	3	7	40
Ice cream									
1980	2	4	7	12	3	1	4	5	38
1987	1	2	1	6	3	2	4	2	21
1992	1	1	1	8	3	2	1	3	20
Cottage cheese									
1980	3	6	8	9	5	1	4	6	42
1987	2	1	3	6	4	1	4	2	23
1992	2	4	3	4	4	2	1	2	22
Natural Cheese									
1980	3	9	89	35	2	4	6	9	157
1987	2	7	50	20	1	3	4	7	94
1992	2	5	32	22	1	3	3	7	75
Cheddar	2	3	20	20	1	3	3	7	59
Other American	2	3	10	12	1	1	2	7	38
Mozzarella	0	2	7	11	1	2	1	3	27
Other Italian	1	0	7	2	0	1	0	1	12
Other Cheese	1	4	10	4	1	1	1	1	23
Butter									
1980	4	9	41	65	4	3	7	15	148
1987	4	5	16	36	4	2	4	11	82
1992	2	6	10	34	2	2	3	9	68
Nonfat dry milk									
1980	2	5	11	11	2	2	4	11	48
1987	2	3	5	5	1	2	4	9	31
1992	2	2	7	3	1	2	1	8	26
Dry whey products									
1992	0	0	4	5	0	3	2	3	17
Ycgutl									
1992	2	2	3	4	3	1	2	3	19

[1] Data were tabulated by cooperative's headquarters location. A cooperative may distribute several products.

[2] For states included in each region, see figure 1.

Table 3—Cooperative share of milk dellvered to plants and dealers, volume by reglon, 1980, 1987, and 1992 [1]

Item and year	Region [2]					
	Northeast	South Atlantic	Central	Mountain	Pacific	United States
	Million pounds					
Handled by cooperatives [3]						
1980	15,033	5,222	61,671	3,834	9,874	95,634
1987	15,047	5,121	66,469	4,790	14,371	105,798
1992	15,624	6,936	71,618	5,271	23,173	122,622
U.S. total delivered to plants and dealers						
1980	23,439	9,301	68,927	5,864	17,186	124,717
1987	25,740	9,279	73,877	7,535	22,661	139,082
1992	26,143	9,805	74,345	10,332	28,179	148,804
	Percent					
Cooperative percentage of region or U.S. total						
1980	64	56	a9	65	57	77
1987	58	55	90	64	63	76
1992	60	70	96	51	a2	a2

[1] Cooperative data were tabulated by their headquarters locations.
[2] For states included in each region, see figure 2.
[3] Handled either by physical receipt or by bargaining transactions. Volumes shown include both amounts marketed directly for farmers and small amounts purchased from other concerns. Excludes intercooperative transactions.

Table 4-Marketing share of **cooperative** members' milk, by grade, production region, and number of producers, 1987 and 1992 [1]

Year and region [2]	Grade A milk			Manufacturing grade milk			Total milk			Number of producers delivering
	Cooperatives [3]	Volume	Marketing share [4]	Cooperatives [3]	Volume	Marketing share [4]	Cooperatives [3]	Volume	Marketing share [4]	
	No.	*Mil. lb.*	*Pct.*	No.	*Mil. lb.*	*Pct.*	No	*Mil. lb.*	*Pct.*	
1987										
New England	10	3,178	72	0	0	0	10	3,178	72	3,672
Middle Atlantic	93	12,552	59	4	73	75	96	12,625	59	16,343
East North Central	69	27,842	86	63	3,571	50	82	31,413	80	47,378
West North Central	109	14,371	92	107	4,609	72	118	18,980	86	33,361
South Atlantic	19	7,516	82	(5)	(5)	(5)	19	(5)	81	4,772
East South Central	9	3,391	67	3	170	34	9	3,561	64	4,659
West South Central	7	5,820	85	(5)	(5)	(5)	7	(5)	85	4,698
Mountain	11	5,434	83	(5)	(5)	(5)	11	(5)	76	2,513
Pacific	20	13.988	63	10	247	43	20	14.235	63	3,207
All regions [6]	264	94,092	76	144	9,050	57	289	103,142	74	120,603
1992										
New England	8	3,145	71	0	0	0	8	3,145	71	2,982
Middle Atlantic	87	13,257	61	6	100	100	91	13,357	62	14,577
East North Central	48	32,390	92	38	2,423	71	57	34,813	90	49,015
West North Central	71	15,834	89	72	2,666	67	78	18,500	85	27,376
South Atlantic	19	8,985	92	3	9	16	19	8,994	92	4,124
East South Central	11	2,472	47	(5)	(5)	(5)	11	(5)	(5)	3,229
West South Central	8	6,763	80	(5)	(5)	(5)	8	(5)	(5)	3,959
Mountain	13	7,902	83	3	116	15	13	8,018	78	1,769
Pacific	22	22,529	81	10	201	43	22	22,730	81	3,409
All regions [6]	234	113,277	81	135	5,606	62	256	118,883	80	110,440

[1] Indudes milk either physically received by cooperatives or marketed by bargaining transactions. Indudes only milk from farmer members, and excludes milk received from nonmembers or from cooperative and noncooperative firms.
[2] For states included in each region, see figure 3.
[3] Cooperatives having members in the region, but not necessarily headquartered there.
[4] Cooperafve member volume as a percentage of milk sold to plants during 1987 and 1992.
[5] Regions not shown when fewer than 3 cooperatives reported or individual cooperative operations might be disclosed.
[6] Numbers of cooperatives do not add to totals because some receive milk from more than one region.

Table 5—Cooperatives' marketing and bargaining of grade A and manufacturing grade raw whole milk, by headquarters region 1987 and 1992

Product and source	Region [1]						Total	
	Eastern		Central		Western			
	Cooperatives	Volume	Cooperatives	Volume	Cooperatives	Volume	Cooperatives	Volume
	No.	*Mil. lb.*	No.	*Mil. lb.*	No.	*Mil. lb.*	No.	*Mil. lb.*
1987								
Grade A milk:								
Farmers	120	33,841	120	43,183	24	18,507	264	95,531
Noncooperatives	8	747	34	119	5	118	47	984
Other cooperatives	24	4.606	41	2,909	9	447	74	7,962
Total [2]	123	39,194	121	46,211	24	19,072	268	104,477
Manufacturing grade milk:								
Farmers	7	262	126	8,445	11	535	144	9,242
Noncooperatives	0	0	6	42	1	—	7	42
Other cooperatives	0	0	44	923	2	24	46	947
Total [2]	7	262	127	9,410	11	559	145	10,231
1992								
Grade A milk:								
Farmers	110	34,314	96	52,824	25	28,124	231	115,262
Noncooperatives	12	1,362	3	4	3	26	18	1,392
Other cooperative	20	5,153	8	3.309	8	529	36	8,991
Total [2]	113	40,829	97	56,137	25	28,679	235	125,645
Manufacturing grade milk:								
Farmers	11	316	100	5,181	11	294	122	5,791
Noncooperatives	1	3	5	174	2	—	9	177
Other cooperatives	2	36	6	289	1	5	9	330
Total [2]	11	355	100	5,644	12	299	123	6,298

[1] For states included in each region, see figure 4.
[2] Numbers of cooperatives do not add to total because some receive milk from more than one source.
— Negligible

Table 6—**Utilization** of cooperatively marketed milk, by headquarters region, 1987 and 1992 [1]

Year and Utilization	Region [2] Eastern		Central		Western		Total	
	Volume	Percent	Volume	Percent	Volume	Percent	Volume	Percent
	Mil. lb.		*Mil. lb.*		*Mil. lb.*		*Mil. lb.*	
1987								
Sold raw	26,808	67.9	28,080	50.5	7,737	39.4	62,625	54.6
Processed or manufactured	12,648	32.1	27,541	49.5	11,894	60.6	52,083	45.4
Total	39,456	100.0	55,621	100.0	19,631	100.0	114,708	100.0
1992								
Sold raw	28,902	73.3	35,281	58.9	15,112	52.7	79,295	62.0
Processed or manufactured	10,526	26.7	24,612	41.1	13,551	47.3	48,688	38.0
Total	39,428	100.0	59,893	100.0	28,663	100.0	127,983	100.0

[1] For milk received from all sources, including from other cooperatives.
[2] For states included in each region, see figure 4.

Table 7—Number of plants owned and operated by cooperatives performing various marketing functions, by plant location, 1992

Marketing Function	Region [1]									
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	Total
	Number									
Receive and ship milk	12	21	78	126	12	5	11	7	20	[2]292
Make American cheese	2	2	39	24	0	0	4	4	5	80
Make Italian cheese	0	1	18	17	0	2	3	3	2	46
Make process cheese	0	0	2	3	1	1	1	2	0	10
Churn butter	3	3	9	15	1	1	3	2	11	48
Package fluid milk	6	5	13	18	13	3	4	5	8	75
Make dry products	2	3	9	15	1	2	5	1	14	52
Make dry whey products	0	2	10	18	0	1	3	3	3	40
Make condensed products	2	4	21	28	1	4	4	2	10	76
Make cottage cheese	1	3	7	6	1	1	0	2	4	25
Make ice cream	2	3	9	13	2	1	1	2	4	37
Not operated in 1992	0	0	1	0	0	0	0	0	0	1
Other activities	1	7	16	29	0	0	1	1	1	56
Total number of plants[3]	13	25	116	153	19	9	13	11	22	381

[1] For states included in each region, see figure 3.
[2] Cut of this total, 81 were receiving and shipping stations only.
[3] Numbers of plants do not add to totals because some perform more than one function.

Table 8—Number of cooperatives reporting and net volume of whole milk sold raw, by region, 1980, 1987, and 1992 [1]

Region [2]	Cooperatives reporting			Volume sold raw			Percentage of all milk marketed by cooperatives		
	1980	1987	1992	1980	1987	1992	1980	1987	1992
	Number			*Million pounds*			*Percent*		
Northeast	112	94	89	9,206	10,403	11,275	61	58	72
South Atlantic	12	11	12	3,485	3,297	3,984	67	64	57
Central	193	123	105	33,331	32,925	40,137	54	50	56
Mountain	12	7	7	2,025	1,561	4,014	53	33	77
Pacific	23	16	17	4,448	5,702	10,564	45	40	46
All regions	352	251	230	52,495	53,640	69,974	55	51	57

[1] Cooperative data were tabulated by their headquarters locations. Adjusted for intercooperative transactions. Includes purchases from other sources. Vdume covered by bargaining is included.
[2] For states included in each region, see figure 2.

Table 9-Volume and percentage of butter distributed by cooperatives compared with total U.S.

Table 9-Volume and percentage of butter distributed by cooperatives compared with total U.S. productlon, by reglon, 1980, 1987, and 1992 [1]

Item and year	Region [2]				
	Eastern	Central	Mountain	Pacific	United States
	1,000 pounds				
Distributed by cooperatives [3]					
1980	**96,492**	**468,267**	23,283	145,104	733,146
1987 [4]	69,775	402,757	21,556	287,766	781,738
1992	124,019	371,344	11,292	378,666	885,321
Total manufactured by all firms					
1980	161,046	710,782	33,358	240,068	1 **,145,254**
1987	128,707	631,342	34,150	309,936	**1,104,135**
1992	178,794	698,293	20,397	467,680	**1,365,164**
	Percent				
Cooperative percentage of total manufactured					
1980	60	66	70	60	64
1987 [4]	54	64	63	93	71
1992	69	53	55	al	65

[1] Cooperative data were tabulated by their headquarters location.
[2] For states included in each region, see figure 2. Note that the Eastern region in this case is the combination of the Northeast and South Atlantic regions.
[3] Adjusted for intercooperative transactions. Includes purchases from other sources.
[4] Revised.

Table 10—Size groups of dairy cooperatives distributing butter, 1980, 1987, and 1992

Item and year	Size group (1,000 pounds)					
	Less than 2,500	2,500 - 19,999	20,000 - and over [1]	20,000 - 39,999	40,000 and over	Total
			Number			
Number of cooperatives						
1980	112	24	12	—	—	148
1987	53	18	11	—	—	82
1992	44	9		7	8	68
			Percent [2]			
Percentage of cooperatives						
1980	76	16	8	—	—	100
1987	65	22	14	—	—	100
1992	65	13		10	12	100
			1,000 pounds			
Group volume [3]						
1980	27,840	241,881	643,754	—	—	913,475
1987	16,243	144,784	756,043	—	—	917,070
1992	9,087	66,469		201,774	625,446	902,776
			Percent [2]			
Group volume as percentage of total cooperative volume						
1980	3	26	70	—	—	100
1987	2	16	82	—	—	100
1992	1	7		22	69	100

[1] This size group was not further divided prior to 1992.
[2] Percentages for a particular year may not add to 100 due to rounding.
[3] Volume not adjusted for intercooperative transactions.
— Data Not available

Table 11—Volume of dry milk products distributed by cooperatives compared with total U.S. production, by region, 1980, 1987, and 1992 [1]

Item and year	Region [2] Eastern	Central	Western	United states
		1,000 *pounds*		
Distributed by cooperatives [3]				
1980	178,623	697,531	251,247	1,125,401
1987	113,405	601,985	441,968	1,157,358
1992	119,956	233,993	550,462	904,411
Total manufactured by all firms				
1980	252,129	695,498	346,595	1,294,222
1987	195,484	584,341	498,283	1,278,108
1992	198,667	298,812	613,991	1,111,470
		Percent		
Cooperative percentage of total manufactured				
1980	70	‘100	72	87
1987	58	‘103	89	91
1992	60	78	90	81

[1] Cooperative data were tabulated by their headquarters locations. Indudes nonfat dry milk, dry whole milk, and dry buttermilk.
[2] For states included in each region, see figure 2. Note that the Eastern region is the combination of the Northeast and South Atlantic regions. The Western Region is the combination of the Mountain and Pacific regions.
[3] Adjusted for intercooperative transactions. Includes purchases from other sources.
[4] Reflects slightly different reporting periods (fiscal versus calendar year) and/or inventory adjustments.
— Data not available

Table 12—Size groups of dalty cooperatives distributing dry milk products, 1980, 1987, and 1992

Item and year	Size group (1,000 pounds)					
	Less than 10,000	10,000 - 19,999	20.000 [1] and over	20,000 39,999	40.000 and over	Total
			Number			
Number of cooperatives						
1980	la	11	19	—	—	48
1987	10	10	11	—	—	31
1992	a	10		5	6	29
			Percent [2]			
Percentages of cooperatives						
1980	38	23	40	—	—	100
1987	32	32	36	—	—	100
1992	28	34		17	21	100
			1,000 pounds			
Group volume [3]						
1980	68,016	152,999	1,058,533	—	—	1,279,549
1987	52,994	152,040	964,907	—	—	1,169,941
1992	16,387	151,898		136,642	601,721	906,648
			Percent [2]			
Group volume as percentage of total cooperative volume						
1980	5	12	a2	—	—	100
1987	5	13	a2	—	—	100
1992	2	17		15	66	100

[1] This size group was not further divided prior to 1992.
[2] Percentage for a particular year may not add to 100 due to rounding.
[3] 1992 volume not adjusted for intercooperative transactions.
— Data not available

Table 13—Volume of cheese marketed by cooperatives compared with total U.S. production, by region, 1980, 1987, and 1992 [1]

Item and year	Region [2] Eastern	Central	Mountain	Pacific	United States
			1,000 pounds		
Cheese marketed by cooperatives [3]					
1980	336,302	1,347,041	106,424	83,468	1,873,235
1987		[4] 2,100,030	191,334	132,973	2,424,337
1992	36,940	2,487,799	90,649	204,085	2,819,473
Total manufactured by all firms					
1980	560,155	2,951,683	211,135	261,293	3,984,266
1987		[4] 4,492,213	270,423	581,728	5,344,364
1992	1,015,657	4,144,784	416,392	911,458	6,488,291
			Percent		
Cooperative percentage of total manufactured					
1980	60	46	50	32	47
1987		[4] 47	71	23	45
1992	4	60	22	22	43

[1] 1992 cooperative data were tabulated by their headquarters locations. Includes all types of natural cheese except cottage cheese.
[2] For states included in each region, see figure 2. Eastern region is combination of Northeast and South Atlantic regions.
[3] Indudes purchases from other sources, some of which may be manufactured in another area. Does not include purchases from other cooperatives.
[4] Combination of the Eastern and Central regions to protect confidentiality.

Table 14—Size groups of dairy cooperatives distributing cheese, 1980, 1987, and 1992

Item and year	Less than 10,000	10,000 - 19,999	20,000 39,999	40,000 99,999	100,000 and over	Total
	Size group (1,000 pounds)					
	Number					
Number of cooperatives						
1980	125	13	8	7	5	158
1987	64	10	6	10	4	94
1992	51	8	5	6	5	75
	Percent [1]					
Percent of cooperatives						
1980	79	8	5	5	3	100
1987	69	11	6	11	4	100
1992	68	11	7	8	7	100
	1,000 pounds					
Group volume [2]						
1980	243,485	202,297	237,479	342,921	986,289	2,012,471
1987	125,068	154,182	161,862	646,677	1,336,550	2,424,339
1992	72,538	115,573	160,458	506,129	1,977,245	2,831,943
	Percent [1]					
Group volume as percentage of total cooperative volume						
1980	12	10	12	17	49	100
1987	5	6	7	27	55	100
1992	3	4	6	18	70	100

[1] Percentages for some years may not add to 100 due to rounding.
[2] Volume not adjusted for intercooperative transactions.

Table 15—Volume of cheese, by type, marketed by cooperatives and comparisons with U.S. production, 1992 [1]

Cheese type	Region [2]				
	Eastern	Central	Mountain	Pacific	United States
			1,000 pounds		
Marketed by cooperative [3]					
Cheddar	29,144	1,594,907	20,825	159,465	1,804,341
Other American	1,461	222,102	(4)	66,647	290,210
Mozzarella	(4)	537,230	(4)	31,647	568,877
Other Italian	(5)	76,280	0	(5)	77,364
Other Cheese	5,272	57,282	(5)	(5)	79,183
Total, natural cheese	36,940	2,487,799	90,649	204,085	2,819,473
Manufactured by all firms					
Cheddar	145,434	1,747,632	203,742	303,892	2,400,700
Other American	1,920	338,124	(4)	195,817	535,861
Mozzarella	(4)	1,532,706	(4)	436,400	1,969,106
Other Italian	(5)	272,085	58,238	(5)	539,471
Other Cheese	247,248	674,034	(5)	(5)	1,043,153
Total, natural cheese	1,015,657	4,144,784	416,392	911,458	6,488,291
			Percent		
Cooperative percentage of total manufactured					
Cheddar	20	91	10	52	75
Other American	76	66	(4)	34	54
Mozzarella	(4)	35	(4)	7	29
Other Italian	(5)	28	0	(5)	14
Other Cheese	2	8	(4)	(5)	8
Total, natural cheese	4	60	22	22	43

[1] Cooperative data were tabulated by their headquarters locations. Includes all types of cheese except cottage cheese.
[2] For states included in each region, see figure 2. Eastern region is combination of Northeast and South Atlantic regions.
[3] Includes purchases from other sources, some of which may be manufactured in another area. Does not include purchases from other cooperatives.
[4] Induded in the next region.
[5] Induded in the United States.

Table 16—Volume of packaged fluid milk products distributed by cooperatives compared with all processors, by region, 1980, 1987, and 1992 [1]

Region [2]	Distributed by cooperatives [3]			Total distributed by all processors [4]			Cooperative percentage of total		
	1980	1987	1992	1980	1987	1992	1980	1987	1992
	Million pounds						*Percent*		
Northeast	1,945	1,737	1,749	13,377	13.821	13,877	15	13	13
South Atlantic	1,149	722	1,246	6,660	6,766	7,362	17	11	17
Central	4,097	3,930	5,358	20,332	21,931	20,767	20	18	26
Western	1,010	972	564	10,263	11,799	14,590	10	8	4
All regions	8,201	7,361	8,917	50,632	54,317	56,596	16	14	16

[1] Cooperative data were tabulated by their headquarters locations. Based on gallon-equivalent of products sold.
[2] For states included in each region, see figure 2. Western region is the combination of Mountain and Pacific regions.
[3] Adjusted for intercooperative transactions.
[4] Estimated, based on total pounds of milk sold to all plants and dealers less whole milk equivalent used in manufactured products,

Table 17—Size group of dairy cooperatives distributing packaged fluid milk product, 1980, 1987, and 1992

Size group (1,000 quarts)	Number of cooperatives			Percentage of cooperatives			Group volume [1]			Percentage of total cooperative volume		
	1980	1987	1992	1980	1987	1992	1980	1987	1992	1980	1987	1992
	Number			Percent			1,000 quart equivalent			Percent		
Less than 1,000	10	4	6	17	12	21	1,512	402	138	(2)	(2)	(2)
1,000-19,999	22	12	4	30	35	14	159,894	99,928	17.252	4	3	(2)
20,000-49,999	6	3	6	10	9	21	199,526	129,749	173,036	5	4	4
50,000-99,999	6	6	3	10	18	10	423,304	443,546	203,983	11	13	5
100,000 and over	15	9	10	25	26	34	3,039,357	2,672,126	3,754,550	79	80	90
Total	59	34	29	100	100	100	3,823,593	3,345,751	4,148,959	100	100	100

[1] Volume not adjusted for intercooperative transfers.
[2] Less than 0.5 percent.

Table W-Volume of selected products distributed by cooperatives compared with total U.S. productlon, 1980, 1987, and 1992

Product	Distributed by cooperatives [1]			Total U.S. manufactured			Cooperative percentage of total		
	1990	1997	1992	1990	1987	1992	1980	1987	1992
					Million pounds				
Bulk condensed milk	139	622	439	952	1,383	1,624	15	45	27
Cottage cheese	220	195	166	1,004	1,519	1,289	22	13	13
Dry whey products	560	913	920	690	[2]1,739	1,900	81	[2]53	48
Yogurt [3]	—	—	56	—	—	1,823	—	—	3
					Million gallons				
Ice cream mix and ice milk mix	41	73	81	605	693	644	7	11	13
Ice cream and ice milk	118	98	123	1,123	1,256	1,204	11	8	10

[1] Adjusted for intercooperative transactions. Includes purchases from sources other than cooperatives.
[2] Revised.
[3] Includes plain and fruit-flawed yogurt and frozen yogurt.
— Data not available

Table 19—Size groups of dairy cooperatives distributing cottage cheese, 1980, 1987, and 1992

Size group (1,000 pounds)	Number of cooperatives			Percentage of cooperatives			Group volume [1]			Percentage of total cooperative volume		
	1980	1987	1992	1980	1987	1992	1980	1987	1992	1980	1987	1992
	-- Number ---			--- Percent ---			--- 1,000 quart equivalent ------			---- Percent ----		
Less than 500	16	5	10	36	21	46	1,716	493	1,456	1	(2)	1
500 - 999	3	3	0	7	13	0	2,611	2,229	0	1	1	0
1,000-2,499	7	2	0	16	9	0	10,202	(3)	0	4	(3)	0
2,500-4,999	4	2	4	9	9	16	15,748	[4]11,411	15,449	7	[4]6	9
5,000-9,999	7	5	4	16	22	16	56,616	31,048	29,234	24	15	18
10,000 and over	7	6	4	16	26	16	145,063	160,390	119,583	63	78	72
Total	44	23	22	100	100	100	232,156	205,571	165,722	100	100	100

[1] Volume not adjusted for intercooperative transactions.
[2] Less than 0.5 percent.
[3] Included in the next size group.
[4] Includes the previous size group.

Table 20—Size groups of dairy cooperatives distributing ice cream and ice milk, 1980, 1987, and 1992

Size group (1,000 gallons)	Number of cooperatives			Percentage of cooperatives			Group volume [1]			Percentage of total cooperative volume		
	1990	1997	1992	1980	1987	1992	1980	1987	1992	1990	1987	1992
	Number			Percent [2]			1,000 gallons			Percent [2]		
Less than 100	14	8	7	37	38	33	466	184	135	(3)	(3)	(3)
100 - 999	6	4	6	16	19	29	1,580	1,216	3,249	1	1	3
1,000-I ,999	3	2	2	8	10	10	4,037	(4)	(4)	3	(4)	(4)
2,000-3,999	6	2	1	16	10	5	17,186	‘8,047	‘5,788	15	[5] 8	[5] 5
4,000-9,999	5	2	0	13	10	0	31,702	(4)	0	27	(4)	0
10,000 and over	4	3	5	10	14	24	63,362	[5] 88,336	113,925	54	[5] 91	93
Total	38	21	21	100	100	100	118,333	97,763	123,097	100	100	100

[1] Volume not adjusted for intercooperative transactions.
[2] Size group percentages do not add up to 100 due to rounding.
[3] Less than 0.5 percent.
[4] Included in the next size group.
[5] Includes the previous size group.

Table 21-Percentage of grads A milk received from farmers, milk processed or manufactured, and selected product sales for largest dairy cooperatlves, 1980, 1987, and 1992 [1]

Item	Receipts of grade A milk [2]			Milk processed or manufactured			Sales: Packaged fluid milk			Sales: Butter			Sales: Dry milk products			Sales: Natural cheese		
	1980	1987	1992	1980	1987	1992	1980	1987	1992	1980	1987	1992	1980	1987	1992	1980	1987	1992
	Percentage of all cooperative sales																	
share of total cooperative volume:																		
4 largest cooperatives	32	32	30	32	37	35	39	58	81	4%	47	48	41	50	53	53	55	68
8 largest cooperatives	45	48	44	47	55	56	58	77	85	81	89	89	58	73	73	73	88	80
20 largest cooperatives	86	74	72	88	81	84	89	98	100	84	94	97	84	94	97	78	88	96
	Percentage of total U.S. production																	
Share of total U.S. volume:																		
4 largest cooperatives	26	25	25	19	15	20	8	8	10	26	33	30	38	46	43	19	25	29
8 largest cooperatives	36	35	36	27	23	32	9	10	13	36	49	45	50	88	59	26	31	35
20 largest cooperatives	52	56	59	40	34	48	14	13	18	53	88	83	74	88	79	36	40	42

[1] Groups of cooperatives may change from function to function. Volume adjusted for intercooperative transactions.
[2] Grade A milk received from farmers.
[3] Revised.

Table 22—Pricing methods used by dairy cooperatives to pay for member milk, 1987 and 1992

Method of pricing member milk	Number of cooperatives reporting		Milk volume	
	1987	1992	1987	1992
	Number		Million pounds	
1. Traditional method of paying for milk adjusted for butterfat	86	46	37,082	7,165
2. Traditional method of paying for milk adjusted for butterfat, and for other component(s)	50	81	33,292	54,283
3. Pricing on milk components	7	12	10,159	17,813
4. Basing priie on product yields	3	2	409	(1)
5. Using both methods 1 and 2	3	0	1,724	0
6. Using both methods 1 and 3	0	2	0	(1)
7. Using both methods 1 and 4	1	0	(1)	0
8. Using both methods 2 and 3	1	3	(1)	5,032
9. Using both methods 2 and 4	2	3	(1)	1,753
10. Using both methods 3 and 4	0	2	0	(1)
11. Using methods 1, 2 and 3	2	0	(1)	0
12. Using all methods: 1 through 4	0	2	0	(1)
Total responding	155	153	89,457	102,215
			Percent	
Percentage of total cooperatives	52	58	87	86

[1] Not reported to avoid revealing proprietary information.

Table 23—Pricing incentives offered by dairy cooperatives, 1992

Incentive	Number of cooperatives reporting	Milk volume
	Number	*Million lbs.*
Quality only	23	5,309
Volume only	2	(1)
Protein only	1	(1)
Seasonal only	1	(1)
Solids-not-fat only	1	(1)
Volume and protein	1	(1)
Quality and volume	5	584
Quality and protein	21	8,367
Quality and seasonal	1	(1)
Quality and solids-not-fat	4	8,689
Quality, volume, and protein	31	30,313
Quality, volume, and seasonal	1	(1)
Quality, volume, and solids-not-fat	13	351
Quality, protein, and seasonal	2	(1)
Quality, protein, and shipping quota	1	(1)
Quality, protein, and solids-not-fat	2	(1)
Quality, volume, protein, and seasonal	6	9,589
Quality, volume, protein, and solids-not-fat	4	7,870
Quality, protein, seasonal, and shipping quota	1	(1)
Quality, volume, protein, seasonal, and solids-not-fat	1	(1)
	122	81,788
	Percent	
Percentage of all dairy cooperatives	46	69

[1] Not reported to avoid revealing proprietary information.

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