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Cooperative
Information
Report 1
Section 16

Cooperatives In the Dairy Industry

Contents

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Cooperatives In the Dairy Industry

Introduction

Farmer-owned dairy cooperatives in the United States engage in a variety of activities to provide members an assured market for their milk. They may negotiate prices and assemble, haul, manufacture, process, or market milk and dairy products to wholesalers, retailers, or in their own stores.

Dairy cooperatives range widely in size and function-some solely arrange for the sale of members' milk and provide few services, while others manufacture a wide range of products and may market their own branded products directly to consumers. Additionally, many offer supporting services for their members, such as providing field services, verifying weights and tests of milk, selling milk production equipment and supplies, and providing health insurance.

A dairy cooperative business is owned, operated, and controlled by the dairy farmers who benefit from its services. Members finance the cooperative and share in profits it earns in proportion to the volume of milk they market through the cooperative.

Most dairy cooperatives are organized on a centralized basis--farmers are direct members. Only a few dairy cooperatives are organized on a federated basis--members of the cooperative are other cooperatives or a combination of direct members and cooperative members. Many are organized to serve farmers in a local area or single State, while others serve members in multiple States, regionally or nationally. Some dairy cooperatives have made additional business arrangements to increase outlets for members' milk through subsidiaries, partnerships, federations, marketing agencies-in-common with other cooperatives, and joint ventures with other cooperatives or investor-owned firms.

Status Quo

Dairy cooperative numbers in the United States peaked in the 1940s at close to 2,300 in 42 States (fig. 1, table 1). By 2002 (the most recent year dairy cooperatives were comprehensively surveyed by USDA), the Nation had only 196 dairy cooperatives headquartered in 26 States.

Dairy cooperatives represented 13 percent of all agricultural marketing cooperatives in the United States in 2002, markedly down from 30 percent in the mid-1940s. This decline has been faster than for other agricultural commodities. Likewise, the number of milk producers belonging to a dairy marketing cooperative shrunk to 61,390 in 2002 from a peak in the 1950s of around 777,000. However, this trend mirrors the national decline in total number of dairy farms and increase in dairy farm size.

In sharp contrast, the volume of milk handled by cooperatives was 144 billion pounds in 2002, having expanded steadily over the years from 31 billion pounds in the mid-1930s. On a per-cooperative basis, cooperatives handled an average of 736 million pounds of milk each in 2002, compared to 14 million pounds in the mid-1930s. Thus, despite their declining numbers, dairy cooperatives' role in the marketplace has continued to grow. The share of all milk delivered to plants and dealers in the United States by cooperatives was 86 percent in 2002, up from 48 percent in the mid-1930s. Almost all of the milk received by dairy cooperatives (96 percent in 2002) came directly from member-producers. The rest came from nonmembers or investor-owned firms.

The share of milk represented by cooperatives varies between the regions of the United States. More than 90 percent of the milk sold to plants and dealers in the East North Central, West North Central, and South Atlantic regions was handled by cooperatives in 2002 (table 2). In contrast, cooperatives had the lowest share in the North Atlantic region (72 percent) followed by the Western region (75 percent). (Ironically, 44 percent of all cooperatives are headquartered in the North Atlantic region.) The cooperative share was 87 percent in the South Central region.

In 2002, the majority (56 percent) of U.S. dairy cooperatives were categorized as small cooperatives, handling less than 50 million pounds of milk annually. Thirty-one percent of the Nation's dairy cooperatives were medium-sized—meaning they handled

50 to 99 million pounds of milk annually, while large cooperatives, those handling at least 1 billion pounds of milk per year, accounted for 13 percent.

Cooperatives sold 62 percent of the milk they marketed raw and processed or manufactured 38 percent in their own plants in 2002. Dairy cooperatives have marketed a majority of the cheddar cheese, butter, and dry milk products produced in the United States for about the past 60 years (fig. 2, table 3). Cooperatives' share of dry milk products peaked in 1987 at 91 percent and in 2002 held an 85-percent share. Cooperative share of U.S. butter production has fluctuated between 61 and 71 percent since the 1960s and accounted for 71 percent in 2002. Shares of all natural cheese production have fallen to 40 percent in 2002 from a high of 47 percent in 1980. Minor shares of the Nation's packaged fluid milk, cottage cheese, and ice cream were distributed by cooperatives over the years.

The estimated net business volume of the Nation's dairy cooperatives has expanded 40-fold, from $520 million in the mid-1930s to $23 billion in 2002 (table 4).That volume represents one-third of the total net business volume of all agricultural marketing cooperatives in the United States in 2002 and has fluctuated from 27 percent (1943-44) to 38 percent (1987).

Cooperatives in the Dairy Industry

Milk is unique among farm commodities. It is highly perishable, produced, and "harvested" on a daily basis, and moved from farm to market every other day, if not every day. The volume of milk produced varies seasonally and daily for biological reasons. This variation is not coordinated with changes in demand, which also vary from day to day and from season to season. The task of balancing, or coordinating, the amount of milk supplied with the volume of milk demanded is thus problematical.

Storage to balance supplies with demand is feasible only after processing, except in the very short term. As technology developed, conversion of milk from raw product to various intermediate and final products with longer shelf-lives became possible, but required increasingly capital-intensive facilities and technologies that are subject to significant economies of scale.

These fundamental characteristics of milk production, in concert with adverse marketing conditions and the economies available from jointly owned milk handling facilities and manufacturing plants, led dairy farmers to pioneer the application of cooperative principles to marketing U.S. farm products.

Initial organization—In the early days of the Nation, dairy farms were relatively small and remotely located. Cooperatives sprang up spontaneously, formed by groups of farmers seeking solutions to common problems. These groups drew upon cooperative traditions that immigrant dairy farmers had brought with them from Northern Europe. Milk from several farms was pooled in one location (either by hauling milk or cream in cans or by taking cows to the factory to be milked) and made into cheese or butter.

Part of the net proceeds was returned to patrons in proportion to the amount of milk each furnished. Cooperative creameries were generally organized in areas where a large portion of the milk produced could best be marketed for butter production, thereby avoiding the high cost of transporting whole milk to distant city markets.

The first reported cooperative cheese factories were established in the mid-1800s. The number of creameries grew slowly until mechanical cream separators were introduced around 1890. By 1900, there were around 6,000 creameries and almost 3,000 cheese factories. About one-third were organized as cooperatives. Milk evaporating and drying facilities emerged in the 1920s and subsequently some creameries installed milk drying facilities to provide a market for buttermilk and skim milk.

Concurrently, the organized marketing of raw milk for fluid consumption began during the latter part of the 18th century in cities where families were unable to obtain milk from nearby producers. A system of “middle-men” between producers and consumers began to emerge in the 1800s. Fewer and fewer producers carried out all marketing functions. Milk price was determined by negotiation; both buyers and sellers were small and numerous.

During the mid-1800s, the rapid construction of railroads permitted increased movement of "fresh country" milk to the cities. Expanding urbanization made it necessary for families to obtain milk from distant dairy farms in the country. Dairy farmers formed associations to arrange these early shipments of “pure” country milk to the cities.

By the late 1800s, the milk marketing system was steadily moving toward a structure where hundreds or thousands of dairy farmers sold to only a handful of large fluid milk dealers. Consequently, cooperative associations developed around the major cities in the eastern part of the United States and in Chicago to negotiate milk prices with milk dealers and distributors.

One tactic the early cooperatives employed to compel reluctant milk dealers to negotiate with them was the “milk strike.” Farmers would withhold milk from the market which would tighten supplies. This had short-term success in enforcing cooperative demands. Even so, the dealers began to develop a bargaining edge over farmers, primarily due to better market information through their powerful organizations. In addition, the rural isolation and the generally independent nature of most dairy farmers combined to restrain cooperative growth at that time. Nonetheless, early cooperative associations laid the foundation upon which later ones were built.

In the early 20th century, unfavorable economic conditions, chaotic pricing of fluid milk, and dealers who balanced fluctuating supply needs by refusing to accept some producers' milk spurred the successful formation of large-scale cooperative bargaining organizations for raw whole milk. Another important stimulus to cooperative development was government policy for food control during World War I.

The Federal Food Administration, operating from 1917 to 1919, preferred to deal with groups rather than individuals. Cooperative associations were the only representatives of milk producers and the government advised milk distributors to accommodate producers' price demands. They complied rather than oppose the Federal Government.

Furthermore, in a number of instances at that time, the right of producers to join in negotiating price and terms of sale with distributors in a particular market was questioned. On several occasions, leaders of an association were criminally prosecuted for violating antitrust laws—attempting to increase and fix the price of milk. Even though they were found not guilty, the prosecutions were a disturbing element in the advancement of dairy cooperative associations.

Enactment of the Capper-Volstead Act of 1922 granted cooperatives limited exemption from Federal antitrust acts and such prosecutions abated. By 1925, cooperative dairy associations were reported in all but 6 of the 48 States. In many cases, government action had helped to give producer cooperatives a foothold strong enough to ensure their lasting establishment. Dairy cooperatives were thus positioned to provide an effective solution for dairy producers' marketing problems.

Adapting to changing markets—Early bargaining associations quickly found that increases in milk prices led to problems in disposing of milk not needed for fluid use. In response, numerous markets adopted classified pricing plans in the 1920s and early 1930s. In every case, a cooperative negotiated its adoption with the larger dealers. These plans recognized the difference in the value of milk, depending upon how it was used. Thus, raw milk prices were based on end-use. Audit procedures were also established to ensure correct payment by handlers. Consequently, dairy cooperatives developed milk pooling systems to more equitably distribute returns for milk used in different products to members and also implemented plans for dealing with the seasonality of milk deliveries.

• Government dairy programs—However, despite these efforts by cooperatives to standardize milk pricing, there was continued instability in fluid milk marketing during the 1930s. This led many States to adopt milk marketing orders. Federal Milk Marketing Orders (FMMO) were first authorized under the Agricultural Marketing Agreement Act of 1937. By institutionalizing and enforcing classified pricing, these orders stabilized market conditions and assured adequate consumer supplies of pure and wholesome milk at all times. They benefited both producers and consumers by establishing and maintaining orderly marketing conditions.

Producer approval was required before an order could be implemented. Cooperatives were permitted to bloc-vote for their membership. This led to the organization of many new cooperatives, some formed as a first step in obtaining a milk marketing order and others to represent producer views different from those of the members of existing cooperatives.

In addition, FMMOs exempt cooperatives from a marketing service deduction if they perform certain marketing services (such as providing market information, verification of weights, sampling, and testing of milk). Many small, bargaining-only dairy cooperatives unable to perform these marketing services have affiliated with larger cooperatives to qualify for this exemption.

Up through the early 20th century, many dairy farmers had been separating their milk at the farm—using the skim on the farm and shipping the cream to a butter plant (hence the name "creamery"). Advancements in milk condensing and drying facilities made the nonfat portion of milk marketable and prompted these farmers to switch from shipping farm-separated cream to whole milk. World War II brought an increased need for manufactured dairy products, particularly dry milk products. Through lend-lease funds, the Federal Government financed the construction of several cooperative milk drying plants.

The Federal Milk Price Support Program was also started during World War II and became permanent in 1949. The program supports the farm milk price through government purchases of butter, American cheese, and nonfat dry milk that cannot be sold commercially for at least the announced prices. Prices for these manufactured products are set at levels intended to enable manufacturers to pay farmers the announced support price for milk. Cooperatives performing balancing services by manufacturing milk not needed for the fluid market into butter, powder, or cheese were thus assured of a market for these products at federally set minimum prices. Around this time, many country plant operations changed from private ownership into cooperatives.

• Specialization and economies of scale—With improvements in the road system, milk transportation shifted from rail to truck. As significant economies of scale in assembling milk became apparent, there was substantial consolidation of milk receiving stations and milk plants grew in size and shrunk in numbers. While cooperative numbers contracted, mostly due to consolidation and merger, the volume of milk marketed by those remaining expanded.

The development of the interstate highway system, refrigerated transport methods, and innovation in dairy product packaging greatly increased the distance milk and dairy products could travel to market while maintaining quality and shelf life. During the 1960s, widespread use of bulk tanks on the farm drastically changed the marketing of raw milk. Larger volumes of milk could be picked up from each farm and hauled directly (or transferred at a pump-over station to a larger tank truck) to the city from substantial distances. Cooperatives took on much of the milk hauling and routing of milk supplies, which cut costs and led to substantial economies of scale.

Some cooperatives with large raw milk volumes began to unite in federated regional bargaining associations, thus pioneering regional pricing of milk. Facilitating these efforts were the changes in the FMMO regulations that, in effect, removed barriers to inter-order milk movement and more closely linked the separate orders. When milk supplies tightened in the late 1960s, these federations were able to establish price premiums over minimum prices for fluid milk (over-order prices) in FMMOs extending from the Great Lakes to the Gulf of Mexico and Mexican border.

Conversion to bulk handling and processing of milk at plants was completed by the 1970s. This required not only substantial capital investment, but also additional milk volume for low-cost operations. The increased efficiency in production, manufacturing, processing, and transporting milk led to fewer, but larger, farms and processing/manufacturing plants. Dairy cooperatives adapted similarly with a wave of mergers and consolidations in the mid-1960s that markedly reduced cooperative numbers. The larger organizations remaining, however, put farmers in a better position to negotiate with large, concentrated food companies and milk handlers.

Many of these large, highly specialized investor-owned fluid processing plants grew interested in avoiding the cumbersome job of obtaining, managing, and coordinating milk supplies so they could focus their resources on processing and marketing. They increasingly looked to cooperatives to provide the exact amount of milk they needed. Large-scale, multi-plant cooperatives negotiated "full-supply" contracts with these fluid processors (and in some cases, manufacturers). Under a full-supply contract, a cooperative provides just the milk volume the plants need and manufactures whatever volume of milk is in excess of processor demand into other products, such as butter and powder.

This task of balancing the volume of milk supplied with the volume demanded is complicated because of the nature of milk production—a fluctuating flow product that is harvested on a daily basis. Further, dairy cooperatives agree to market all of the milk their members produce. The larger the volume under one organization's control, the more the random variations of supply and demand tends to offset one another (both within supply and demand and between the two). As a result, the balancing services that cooperatives are well-positioned to perform benefit the broader market, as well as their members.

Thus, dairy cooperatives came to dominate the functions of supplying fluid milk markets, routing the movement of milk, and balancing supply with demand. In addition, their role in verifying weights and tests assures members of proper payment for their milk. In this way, they have increased efficiency in milk marketing and strengthened their position in the marketplace. Their guarantee to market all of their members' milk distinctly sets dairy cooperatives apart from proprietary milk handlers.

Meanwhile, continued development of dairy technology allowed dairy product lines to be expanded and diversified. Consumers received these developments with open arms in many cases, particularly in the case of cheese. Subsequently, the large manufacturing plants that cooperatives developed to manage milk supplies began to evolve into important profit centers in their own right.

• Facing the 21st century—In 2000, Federal milk marketing orders were consolidated from 31 to 11 orders, reflecting the increased geographical boundaries of milk markets. Moreover, the Federal minimum support price for milk (at the national average milkfat test) had been stepped down from a high of $13.49 in the early 1980s to $9.90 at the end of the 20th century, where it remains today. The lowered floor under the milk price allowed market forces increasing influence. Dramatic price swings in raw milk prices, previously unseen since the inception of the support program, resulted.

In addition to these regulatory changes, there was another wave of consolidation in the dairy sector among investor-owned dairy firms and grocery retailers as the 20th century drew to a close. At the same time, the capital cost of keeping processing capabilities up-to-date continued to grow. In response, the pace of mergers and consolidation among dairy cooperatives picked up again. Some of this activity was to satisfy the needs of large, integrated food companies that increasingly looked for milk suppliers with national reach, the ability to provide entire lines of dairy products, or the ability to meet particular product specifications.

Other dairy cooperatives merged to address regional needs and to consolidate complementary or duplicate operations. For example, in 1997, the top 5 dairy cooperatives handled 41 percent of the net milk handled by all cooperatives. Subsequently, three of these merged into a single entity, meaning the three largest dairy cooperatives handled 46 percent of all cooperative milk in 2002.

Five cooperatives accounted for more than one-half (54 percent) of the milk handled by cooperatives. Furthermore, two of these large dairy cooperatives have national reach in both marketing and membership, while the territories of many others span multiple States.

Cooperatives also continued to look for ways to enhance the value of their members' milk and to market it more efficiently. Some formed joint ventures with proprietary handlers or with other cooperatives to perform manufacturing and marketing functions, expand their market outlets, and share the financial risk of the manufacturing and marketing activities. A few producer groups in the Northeast and Upper Midwest formed small marketing cooperatives to try to enhance the value of their farm milk by capturing "middle-man margins," by reducing marketing overhead or by pursuing "niche" markets that capitalize on consumers' interest in quality and local source of their food. Some consumers are willing to pay premium prices for food with various attributes such as "organic," "natural," "hormone-free," pasture-based (grazing), locally produced and "fresh." Some of these niche-marketing cooperatives have been quite successful.

Dairy Cooperative Operations

Dairy cooperatives today run the gamut in size and extent of services they provide. They differ markedly because they have taken a variety of avenues to address the needs and preferences of their members and specific market situation.

Most dairy cooperatives employ a general manager or CEO and a staff of field representatives to build membership and provide assistance in improving milk production and quality. Other employees include: laboratory technicians who verify the weight and quality of farm milk delivered; personnel to prepare and distribute market information and represent the association in legislative and regulatory affairs (such as Federal and State milk market order hearings); and office staff who prepare and distribute milk checks and perform other administrative duties. Cooperatives that manufacture or process milk also have employees who operate the cooperative's plants and develop and market its products. Some cooperatives also provide other services such as selling dairy equipment, supplies, and feed (even to the extent of having their own system of feed mills, in some cases), providing health insurance, retirement plans, and, beginning in the 1990s, forward milk price contracts and assistance in using futures markets to manage milk price risks.

Alternatively, many small cooperatives, predominately in the Northeast, limit their activities to arranging milk sales and issuing milk checks. These are often affiliated with larger cooperatives and usually have no hired staff.

A board of directors oversees every dairy cooperative. The board consists of elected producer-members who set the cooperative's policy for the manager to carry out.

Individual cooperatives have tailored their operations to their specific market situation to assure members a market for their milk. Their divergent operations can be broadly grouped into two operating types: “bargaining only” and “manufacturing/processing.” Furthermore, within the manufacturing/processing group, there is a wide range in the type and scale of manufacturing operations.

Bargaining-only cooperatives—Many cooperatives focus their operations on negotiating milk prices and terms of trade for members' raw milk, but do not engage in further manufacturing or processing. These “bargaining-only” dairy cooperatives are the most numerous (74 percent of all dairy cooperatives in 2002), but represent just one-quarter of U.S. cooperative milk volume (fig. 3). Some of the larger bargaining-only cooperatives once had manufacturing capabilities, but ceased their plant operations to focus only on milk marketing. A number of them have joined in pricing federations. A small number are “check-off” organizations that represent member concerns in the policy arena and provide limited marketing services.

Bargaining-only cooperatives have relatively few assets. Most are small (64 percent handle less than 50 million pounds of milk annually). At the same time, however, about 10 bargaining-only cooperatives were quite large, handling over 1 billion pounds of milk in 2002.

Members of bargaining-only cooperatives potentially face the greatest marketing risk when the milk supply exceeds market needs. In times of “surplus,” bargaining-only cooperatives may have to sell some of their supply at reduced (“distressed”) prices and/or incur increased costs in moving members' milk long distances to find a market. Lack of manufacturing facilities to manufacture or process milk into storable products may weaken their negotiating power with milk buyers. Also, they forgo potential margins that may be captured by further processing members' milk. Alternatively, as long as there are buyers of milk, business risk for bargaining cooperatives is low because members are not burdened by the expense of owning and operating under-used manufacturing facilities.

Manufacturing/processing cooperatives—Just 50 of the Nation's dairy cooperatives operated one or more plants for manufacturing some or all of their members' milk into dairy products in 2002. However, these cooperatives account for three-fourths of all milk handled by dairy cooperatives. Owning manufacturing facilities improves a cooperative's ability to balance member milk supply with customer demand, strengthening its negotiating position. These cooperatives can provide their customers a full supply of raw milk and remove the burden of disposing of unneeded milk. Manufacturing operations also offer cooperatives the opportunity to add value to their members' milk. The extent and character of these cooperatives' operations vary widely.

- Commodity manufacturing cooperatives—Some cooperatives (10 in 2002) operate large-scale commodity manufacturing plants making undifferentiated or generic “hard products” in bulk, such as butter, nonfat dry milk powder, and cheese. They run a high volume of member milk through their plants to make the commodity products. They handled about 9 percent of all the milk handled by dairy cooperatives in 2002. These “commodity manufacturing” cooperatives aim to operate their plants at maximum capacity in order to achieve low per-unit costs. They all sell some raw milk to other handlers, but for a few it's a major portion of their member milk.

Many of these cooperatives began manufacturing dairy products to ensure a market for all the milk their members produced—making the commodity products when they had surplus milk. Most now operate modern, large-scale plants that require a continuous flow of milk near plant capacity to be cost-effective.

The commodity manufacturing cooperatives have limited flexibility to adjust their product mix to changes in the market because they are committed to operating their plants at maximum capacity to make a limited line of commodity products. Volatile milk prices leave them subject to inventory losses arising from unexpected price movements. However, the advent of a futures market for milk products has afforded hedging opportunities to help manage this risk.

• Niche marketing cooperatives—Quite distinct from the cooperatives making undifferentiated products, a number of small- and medium-sized cooperatives (18 in 2002) manufacture and market specialty dairy products for niche markets. These "niche marketing" cooperatives aim to capture some marketing margins in addition to processor margins, thus taking their operations closer to the consumer. Most commonly, these niche marketing cooperatives make specialty or branded cheese. Some are long-established cooperatives while others formed more recently in an attempt to capture a market based on various attributes of the members' milk or production methods.

While somewhat sheltered from the volatility and low margins of the commodity markets, these cooperatives must be able to produce and market a unique, high-quality product. They lack the size and scale to compete on price with the large commodity manufacturers. Thus, their viability depends upon an ability to find and develop a niche for their specialty product. For those unable to do so, the market is unforgiving. However, a number of niche marketing cooperatives are capitalizing on the increasing consumer interest in "organic" and "farm-based" or local production, and specialty cheeses.

While most of the niche marketing cooperatives use all of their members' milk in their own plants, a few belong to established or traditional cooperatives and simply "buy back," or pay, the larger cooperatives for the portion of their members' milk they use to make their niche products. The larger cooperatives can more economically market the milk they do not need for their niche products. In some cases, they contract with other processors to make their specialty products and do not own the processing facilities. The milk handled by these cooperatives amounts to less than 0.5 percent of all cooperative milk.

• Fluid processing cooperatives—In a similar vein, a small number of dairy cooperatives have been successful in marketing bottled milk. They typically make other products in addition to fluid milk, such as ice cream and soft dairy products (yogurt, sour cream, dips). These fluid processing or "bottling" cooperatives also capture processor margins and at least some marketing margins through their operations. Most of the bottling cooperatives have been long established and use most, if not all, of the milk they handle in their own plants. This sector is extremely competitive and requires ample financial resources and top-notch management to survive. Over time, many have merged into larger, more diversified cooperatives, leaving just seven operating in 2002. Fluid processing cooperatives accounted for less than 1 percent of all milk handled by dairy cooperatives in 2002.

• Diversified cooperatives—Finally, some cooperatives operate a system of plants to manufacture a variety of dairy products—both commodity and differentiated—including bottled milk. At the same time, they sell a substantial portion of their milk supply to other handlers. Some are sophisticated marketers of branded, consumer products. The diversified operations better position these cooperatives to direct milk to its most profitable use. Thus, they are well positioned to capture processor and marketing margins from their many enterprises.

Many of these "diversified" cooperatives are the result of mergers and consolidation between cooperatives that previously had a more narrow operating focus. Several perform some of their manufacturing/processing through joint ventures or partnerships with investor-owned companies or other cooperatives. The 15 diversified cooperatives in 2002 represent almost two-thirds (66 percent) of all milk handled by dairy cooperatives. A majority of these handled upwards of 1 billion pounds of milk in 2002 while none handled less than 50 million pounds.

Cooperative cooperation—Dairy cooperatives work together in assorted ways to serve their members. As mentioned earlier, dairy cooperatives have formed joint ventures and federations or marketing agencies-in-common (MAC) with other dairy cooperatives to enhance their ability to market members' milk.

These organizational structures allow the participating cooperatives to maintain their individual identities while strengthening their collective position in various pursuits. The least formal arrangement may be where membership areas overlap and cooperatives "swap" milk—pick up and/or receive each other's members' milk, allowing them to more efficiently move milk from farm to plant--a cost savings.

Some marketing agencies coordinate activities of their member cooperatives in establishing a scale of regional and interregional service charges for milk above Federal order minimums. They negotiate price premiums for fluid milk, provide a forum for adjusting sales policies, and coordinate more efficient raw milk shipments. One marketing agency acts as the sales agent for the group of dairy cooperatives' nonfat dry milk, capturing savings from a centralized marketing effort and disseminating proprietary market information among members.

In 2003, dairy farmers developed a national program under the umbrella of a membership organization for America's dairy cooperatives (the National Milk Producers Federation) to address the supply and demand imbalances that can depress milk prices. This effort is unique because it is aimed at supply-reduction (through a combination of herd retirement programs, reduced production marketings programs, and export subsidy programs) and because participation is also open to independent dairy farmers not affiliated with a cooperative.

Summary—The Nation's dairy cooperatives have shown their ability to successfully adapt to changes in the marketing environment and offer a wide variety of avenues for dairy farmers to market their milk. Their success has allowed milk producers to maintain the independence of their farm firms. Thus, in contrast to some other livestock sectors, dairy farmers have been able to maintain their autonomy while gaining some “muscle in the marketplace” through their cooperatives.

Developments on various fronts raise new issues for U.S. dairy cooperatives to address as the future unfolds. World trade issues, such as subsidy levels and import quotas, are under scrutiny by world bodies. The recent upsurge in domestic use of imported milk protein concentrates has raised concern among dairy producers that it is displacing nonfat dry milk produced domestically and depressing prices. New technology and procedures for making dairy products (such as cheese from dry dairy ingredients rather than fresh milk) may require cooperatives to assess and adjust their operations. In sum, the dynamics of the 21st century dairy industry present a broad array of issues for dairy cooperatives as they plan and direct their operations to market members' milk to its best advantage.

Associations Serving the Dairy Industry

Dairy cooperatives, as well as individual dairy producers, often belong to specialized organizations concerned with furthering the varied interests of the dairy industry through legislation, advertising, sales promotion, merchandising, marketing, public relations, and product research.

The National Milk Producers Federation (NMPF) was founded in 1916 to provide dairy cooperatives and their dairy farmer members a voice in the formulation of policy concerning national issues affecting milk production and marketing.

The Dairy Production Stabilization Act of 1983 (Dairy Act) authorized a national producer program for dairy product promotion, research and nutrition education to increase human consumption of milk and dairy products. This program is funded by a mandatory assessment of 15 cents per hundredweight (cwt) of milk produced and is administered by the National Dairy Promotion and Research Board (NDB). The Dairy Act also provides that dairy farmers can direct up to 10 cents per cwt of this assessment to qualified regional, State, or local dairy product promotion, research, or nutrition education programs. Many of these fall under the umbrella of the United Dairy Industry Association (UDIA), a federation of State and regional generic producer promotion organizations.

In 1995, the NDB and UDIA jointly formed Dairy Management Inc. (DMI) to streamline and coordinate national, regional, and local promotion efforts. DMI is a domestic and international planning and management organization that endeavors to build demand for dairy products on behalf of the Nation's dairy farmers. DMI, along with international, State, and regional organizations, manages the American Dairy Association, the National Dairy Council, and the U.S. Dairy Export Council.

A number of State dairy associations exist to build up their respective dairy industries. These associations of dairy farmers engage in diverse activities to support and enhance the viability of a particular State's milk producers. Activities range from representing dairy farmers' interests in regulatory and policy matters to providing educational programs, or running a central milk-testing lab.

Other associations and cooperatives assist farmers with milk production. Many artificial insemination (AI) organizations are organized as cooperatives. They provide dairy producers access to a wide variety of bulls, enabling them to capitalize on the most recent genetic advances. Many Dairy Herd Improvement Associations (DHIA) are organized as cooperatives and provide individual dairy producers an economical method of obtaining information useful for improving breeding and management of dairy herds in order to improve productivity.

As the DHIA program moved away from its government roots in the 1990s, new business arrangements emerged, providing a broad range of information services for dairy farmers. Some AI and DHIA organizations consolidated into single entities. In another case, a dairy cooperative joined forces with a DHIA to create an information technology cooperative which provides farm management tools.

The National Mastitis Council (NMC) is a nonprofit organization devoted to reducing mastitis and enhancing milk quality by promoting research and providing information to the dairy industry regarding udder health, milking management and milk quality. Many dairy producers also belong to farm production supply cooperatives to secure supplies for their dairy farming operations.

For More Information

RBS publications:

- RR 206 Dairy Cooperative Growth Challenges
- RR 203 Financial Profile of Dairy Cooperatives, 2002
- RR 201 Marketing Operations of Dairy Cooperatives, 2002
- RR 188 Cost of Balancing Milk Supplies: Northeast Regional Market
- RR 187 Structural Change in the Dairy Cooperative Sector, 1992-2000
- RR 166 A New Approach to Measuring Dairy Co-op Performance
- RR 164 Financial Statistics of the Largest Dairy Coopera tives, 1980-1995
- RR 152 Dairy Cooperatives' Role in Managing Price Risks

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Cooperative Services Web Site:
www.rurdev.usda.gov/rbs/coops/csdir.htm

Figure 1—**Trends in number, volume, and membership of dairy cooperatives, 1925-2002**

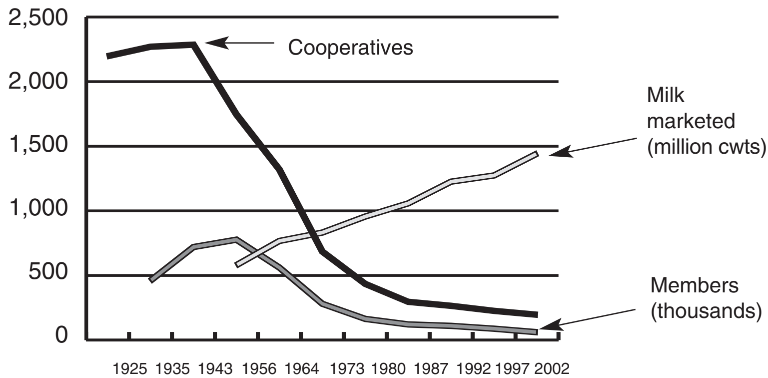

Figure 2—**Cooperatives' market share of selected dairy product production, 2002**

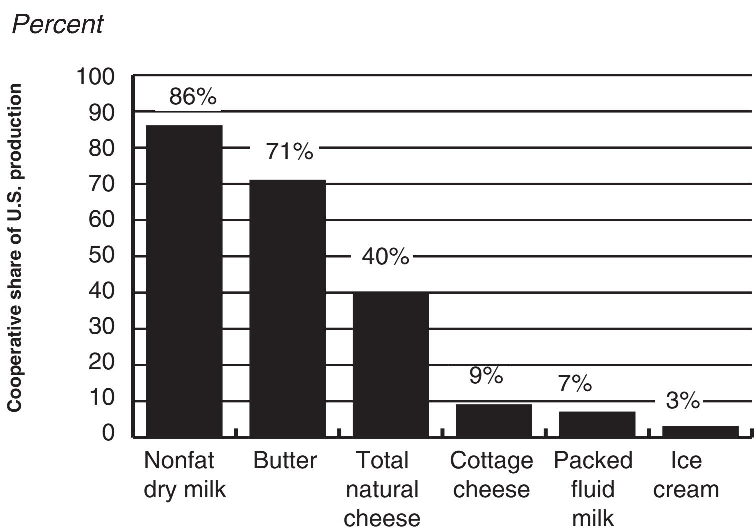

Figure 3—**U.S. dairy cooperatives, by type of operation—share of total number and milk volume, 2002**

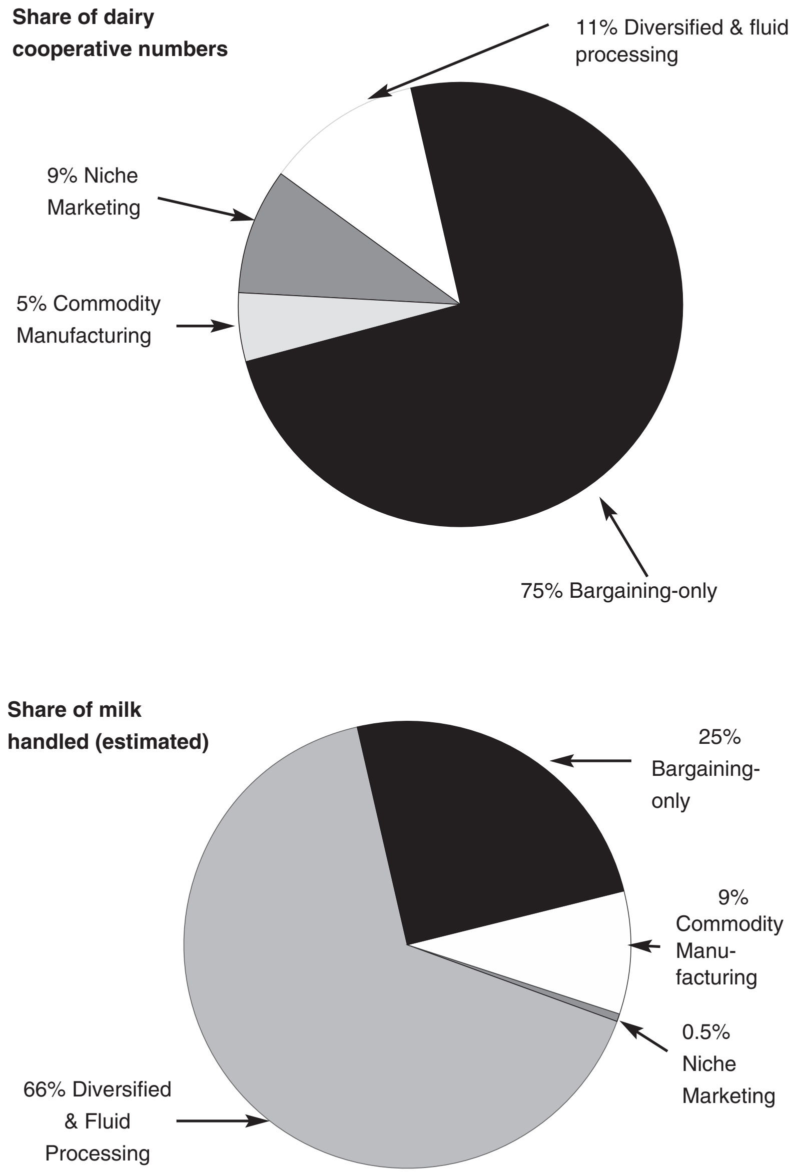

Table 1—**Cooperative numbers, volume of milk marketed and number of members, 1925-2002, selected years**

Year	Dairy Co-ops	Percent of all U.S marketing cooperatives	Milk market by dairy cooperatives[1]	Cooperative share of U.S. Total[2]	Members of dairy cooperatives
	(Number)	*(%)*	*(Million pounds)*	*(%)*	*(Number)*
1925	2,197	-		-	460,000
1935/36	2,270	27	31,058	48	720,000
1943/44	2,286	30	n/a	-	702,000
1956/57	1,746	28	58,038	59	777,400
1964	1,244	24	76,743	67	561,085
1973	592	14	83,227	76	281,065
1980	435	12	95,634	77	163,549
1987	296	10	105,798	76	120,603
1992	265	12	122,622	82	110,440
1997	226	12	127,418	83	87,938
2002	196	13	144,349	86	61,390

[1] Net of intercooperative transfers.
[2] Dairy marketing cooperatives' share of all milk delivered to plants and dealers.

Source: *Marketing Operations of Dairy Cooperatives*, selected years.
Statistics of Farmer Cooperatives, selected years.

Table 2—**Dairy cooperative numbers, marketing share and number of producers, by region, 2002**

Region	Marketing share[1]	Number of cooperatives[2]	Members delivering	Regional share of members
	Percent	*Number*	*Number*	*Percent*
North Atlantic	72	87	12,866	21
East North Central	93	53	24,314	40
West North Central	93	53	14,199	23
South Atlantic	95	8	2,770	4
South Central	87	8	3,617	6
Western	75	24	3,604	6
All regions[3]	83	194	61,390	100

[1] Cooperative member volume as a percentage of milk sold to plants and dealers in region.

[2] Cooperatives having members in the region, but not necessarily headquartered there.

[3] Number of cooperatives do not add to totals because some receive milk from more than one region. States in each region: North Atlantic (CT, MA, ME, NH, NJ, NY, PA, RI, VT); East North Central (IL, IN, MI, OH, WI); West North Central (KS, IA, MN, MO, ND, NE, SD); South Atlantic (DE, FL, GA, MD, NC, SC, VA, WV); South Central (AL, AR, KY, LA, MS, OK, TN, TX); Western (AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY).

Table 3—Cooperatives distributing selected dairy products, number and market share[1], selected years

Year	Bulk whole milk[2]	Packaged fluid milk		Ice cream		Cottage cheese	
	No.	*No.*	*%*	*No.*	*%*	*No.*	*%*
1936	408	-	-	57	1	14	1
1944	-	-	-	-	-	-	-
1957	735	-	-	130	4	108	7
1964	730	215	9	143	5	126	15
1973	548	85	12	60	5	64	13
1980	352	60	16	38	11	42	22
1987	251	34	14	21	8	23	13
1992	230	29	16	20	10	22	13
1997	204	21	14	13	6	13	10
2002	174	16	7	7	3	9	9

Year	Cheddar cheese		All natural cheese		Butter		Dry milk products[3]	
	No.	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
1936	n/a	n/a	562	25	1,444	39	139	17
1944	n/a	n/a	501	16	1,164	55	-	56
1957	n/a	n/a	323	18	888	58	191	57
1964	n/a	n/a	294	21	740	65	212	72
1973	n/a	n/a	187	35	207	66	57	85
1980	n/a	n/a	157	47	148	64	48	87
1987	n/a	n/a	94	45	82	71	31	91
1992	59	75	75	43	68	65	26	81
1997	33	70	42	40	36	61	24	76
2002	24	n/a	32	40	19	71	17	85

Source: *Marketing Operations of Dairy Cooperatives*, selected years.

[1] Percent of total processed or manufactured in the U.S. distributed by cooperatives.

[2] Bulk whole milk includes "market milk" and milk sold as market cream and butter is "creamery butter."

[3] Includes nonfat dry milk, dry buttermilk, and dry whole milk.

Table 4—Estimated business volume of U.S. agricultural marketing cooperatives, selected years[1]

Year	Dairy Cooperatives	Percent of all marketing cooperatives
	(Million dollars)	*(%)*
1935/36	520	33
1943/44	1,203	27
1956/57	2,764	35
1963/64	3,524	31
1972/73	6,102	31
1980	13,666	28
1987	16,548	38
1992	20,239	35
1997	23,374	30
2002	23,038	33

[1] Includes gross business volume in 1935/36 and 1943/44. The remaining years include net business volume where business between cooperatives was excluded. Source: *Cooperative Historical Statistics* and *Farmer Cooperative Statistics*, selected years.

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Rural Business–Cooperative Service (RBS) provides research, management, and educational assistance to cooperatives to strengthen the economic position of farmers and other rural residents. It works directly with cooperative leaders and Federal and State agencies to improve organization, leadership, and operation of cooperatives and to give guidance to further development.

The cooperative segment of RBS (1) helps farmers and other rural residents develop cooperatives to obtain supplies and services at lower cost and to get better prices for products they sell; (2) advises rural residents on developing existing resources through cooperative action to enhance rural living; (3) helps cooperatives improve services and operating efficiency; (4) informs members, directors, employees, and the public on how cooperatives work and benefit their members and their communities; and (5) encourages international cooperative programs. RBS also publishes research and educational materials and issues *Rural Cooperatives* magazine.