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# Expanding Outlets for Farm Products: Opportunities in the Domestic Field Illustrated by Dairy Products

By Roland W. Bartlett

## THE PRESENT SITUATION

In 1953 the federal government purchased 355 million pounds of butter, 289 million pounds of cheese, and 586 million pounds of nonfat solids. The milk equivalent of the butter and cheese purchased was 10.3 billion pounds, or 8.5 percent of total milk production (121.5 billion pounds). Hence, the amount of milk consumed through regular commercial channels last year totaled 111.2 billion pounds, or 91.5 percent of total production.

Between January and June 1954 the government purchased less butter, but more cheese and nonfat solids, than in the same period a year ago:

Product	1953	1954	1954 as Percent of 1953
	<i>Millions of Pounds</i>		
Butter . . . . .	257	168	65
Cheese . . . . .	175	217	124
Nonfat solids . . . . .	363	416	115

On a milk equivalent basis, government purchases of butter and cheese from January to June 1954 averaged 78 percent of those in the same months a year earlier. With lower prices, butter sales for April 1954 were reported to be 7 percent higher than those in an earlier base period.<sup>1</sup>

On July 1, 1954, the government had the following quantities of dairy products in storage:

Product	Millions of Pounds
Butter . . . . .	440
Cheese . . . . .	412
Nonfat solids . . . . .	301

With these facts in mind, it seems clear that one of the major problems of the dairy industry is either to increase the commercial sales

<sup>1</sup>Data from U. S. Department of Agriculture. It is assumed that 21 pounds of milk are required to produce 1 pound of butter and 10 pounds of milk to produce 1 pound of cheese. Nonfat solids come from skim milk.

of milk or to cut down production. This article discusses ways of increasing the sales of milk.

**Less Than the Recommended Amount of Milk Is Consumed**

Scientific studies show that both adults and children in the United States consume much less milk than nutritionists recommend for an adequate diet. Nutritionists in the United States Department of Agriculture recommend that children drink 3.5 to 4 glasses of milk daily, and adults 2.5 to 3 glasses daily.<sup>2</sup> Studies in South Dakota, Missouri, and 59 cities in various parts of the United States indicate that children in these areas receive less than half of the recommended amounts. Another study (Nebraska) showed the following average consumption by different members of the family:

Member of Family	Glasses Daily
Fathers . . . . .	1.25
Mothers . . . . .	.50
Boys over 16 . . . . .	2.50
Girls over 16 . . . . .	1.25
Boys, 13 to 15 . . . . .	1.25
Girls, 13 to 15 . . . . .	.75
Boys and girls, 1 to 12 . . . . .	1.50

Assuming that there was one member of the family in each of these groups, average consumption is only a little over one-third of the recommended amount.

**New Markets for Milk Arise With Increases in Population**

Increased markets for milk and its products can come about both by an increase in population and by an increase in per capita sales. In 1950 the population in the United States was 151 million or about double that of 1900. On January 1, 1954, the estimated population was 161 million or 10 million more than in 1950, an increase of 2.5 million per year. These additional people have been helpful in expanding the market for both farm and industrial products. However, population has not increased fast enough to absorb our surpluses of dairy products. Hence, this analysis will be concerned primarily with opportunities for increasing per capita sales of milk and its products not only to bring consumption more in line with recommended amounts, but also to help absorb milk surpluses.

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<sup>2</sup> "Helping Families Plan Food Budgets," Bureau of Human Nutrition and Home Economics, Agricultural Research Administration, U. S. Department of Agriculture, Washington, D. C., Misc. Pub. No. 662, October 1952, p. 4.

## **Per Capita Disposable Income Remains High**

Various studies have shown that consumer income has an important effect on the consumption of whole milk. Hence, as we consider the present problem of dairy surpluses, a logical question is: To what extent, if any, is this surplus the result of low income? A review of the facts shows three important things:

1. Disposable income in the United States in 1950 averaged \$1,304 per person, or about double that of 1929 (\$659).

2. Disposable income per person in the first quarter of 1954 was as high as the average for 1953, even though both industrial production and factory payrolls were lower (the difference was offset by lower income taxes).

3. Average income per person was 19 percent higher in 1953 and in the first quarter of 1954 than for 1950.

Hence, it is clear that present milk surpluses have not resulted from a decline in disposable income. Rather, the increased income has probably kept the surpluses lower than they would otherwise have been.

### **METHODS FOR INCREASING PER CAPITA CONSUMPTION OF MILK**

#### **Lower Distribution Costs**

Of the total amount of 4.4 billion dollars American consumers spent for milk and cream in 1952, 2 billion dollars represents processing, packaging, and distribution costs. If all milk distributors adopted the practices now used only by the most efficient, the cost of these products could be reduced 25 percent, or around 500 million dollars a year. Such a reduction, if passed on to consumers in lower prices, would increase per capita sales of milk and also help to solve the surplus problem now confronting producers.

The greatest opportunity for lowering distribution costs and retail prices and for increasing per capita sales is to begin mass distribution and allow a store differential of 2 to 6 cents a quart in all the markets that now have a 1 cent or no differential. About three-fourths of all cities and villages in the United States now have either a 1 cent or no store differential. In addition, we must keep cutting away at gross distribution margins in markets where store sales are already large.

For more than twenty years food stores have been the pace-setters in getting milk to consumers at lower prices and, thus, helping to increase per capita consumption. In 1930 stores handled less than 10 percent of the milk sold to consumers. By 1952 store sales had increased

to 45 percent of total sales. During the next decade this proportion is expected to increase to around 60 percent.

Many retail food stores have already demonstrated their ability to merchandise dairy products efficiently. The dairy industry should capitalize on this know-how in expanding milk markets in all food stores throughout the United States.

### **Increased Store Sales**

High store sales are associated with higher per capita sales of milk. Increasing store sales involves some or all of these six steps:

1. **IMPROVE QUALITY.** One of the larger food chains in the United States buys only milk that has a low bacteria count, a good flavor, and a minimum fat content of 3.8 percent. Dairymen who produce the highest quality milk are paid a premium of 10 cents per 100 pounds above the usual price. Milk sales in all stores owned by this chain average 400 quarts per store per day.

2. **ENCOURAGE STORE DIFFERENTIALS AND QUANTITY DISCOUNTS.** Quantity discounts for both store sales and home deliveries increase per capita sales of milk. Keen store competition in Chicago has resulted in widespread use of quantity discounts for home deliveries. In May 1954, one medium-sized distributor sold gallon jugs of milk to homes at 75 cents a gallon, or only 6 cents a gallon above the reported gallon price in stores.

In January 1954, 49 out of 132 markets reporting (37 percent) sold store milk in half gallons or gallons at prices lower than for single quarts. In the Chicago market, 67 percent of all milk is sold to consumers in half gallons or gallons. The number of markets using quantity discounts in January 1954 was three times that of January 1951.

Studies also show that the wider the store differential, the higher the milk sales per store.

3. **LOWER UNIT COSTS BY LARGE-VOLUME OPERATIONS.** Some of the most efficient milk distributors bottle 50,000 quarts of milk daily in one plant, deliver 6,000 quarts daily per man per route, and sell over 400 quarts daily per store. Streamlined milk plants no longer store large volumes of bottled milk. Rather, they keep it in holding tanks, bottle it, and convey it directly to large trailer trucks.

4. **KEEP STORE MARGIN LOW, NOT MORE THAN 2 CENTS A QUART.** A low store margin makes possible a lower price to consumers and a higher volume per store. Milk, meat, and bread are traffic builders. Unit costs of handling milk are low because the invested capital turns

over 25 times a month. Hence, it is possible to make money on milk and still keep gross margins low.

5. CARRY ONLY ONE BRAND OF MILK; LIMIT THE NUMBER OF ITEMS HANDLED. Stores handling the largest volume carry only one brand of milk and not more than ten items of milk products.

6. ADVERTISE IN NEWSPAPERS AND ON RADIO AND TELEVISION. Food chains with the highest sales per store advertise dairy products frequently along with other food items. They have good products and let the public know about them.

### **Keeping Wages in Line**

In areas where the union wage scale for milk distribution is in line with the prevailing wage rate, there will be little incentive to have vendors (subdealers). In other areas, where the union wage scale is materially above the prevailing wage rate, it may be expected that more and more milk will be sold at the platform of bottling plants and less by union employees.

In a Southern market, one dealer handling over 60,000 quarts daily now operates a milk plant exclusively for vendors. Part of them distribute milk to homes, while others serve wholesale stops.

In another market, union employees hauling milk from a bottling plant to stores were recently displaced by vendors. Picketing of the plant was immediately prohibited by a court order that was later upheld by the Court of Appeals and by the Supreme Court of the state. The case is now before the United States Supreme Court.

### **Eliminating State Control of Consumer Prices**

Thirteen states, Alabama, California, Florida, Georgia, Montana, New Hampshire, New Jersey, Maine, Oregon, Pennsylvania, Rhode Island, Vermont, and Virginia, have laws establishing minimum prices at which milk can be sold to consumers. These states combined include 29 percent of the total population of the United States.

Is state control of consumer prices of milk in the public interest, or is its primary purpose to protect the vested interests of milk distributors?

In an attempt to answer this question, a study was made of changes in consumer milk prices from 1929 to 1953 in 50 cities.<sup>3</sup> The results were reported as follows:

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<sup>3</sup> *Illinois Farm Economics*, March 1954, pp. 1509-12.

Earlier studies have shown that: (1) present per capita sales of milk are far below those recommended by nutritionists for an adequate diet; and (2) people, particularly those in the medium- and low-income groups, drink more milk when prices are low than when they are high. When these facts are added to the results of this study, it is evident that . . . state control of consumer prices constitutes a legalized monopoly which is definitely against the public interest.

1. In November 1953, the lowest reported store price in 17 *competitive* markets averaged 20.1 cents per quart, or 3.1 cents less than the single-quart, home-delivered price (23.2 cents). In 10 of the 17 markets, the store price was 3 cents a quart or more below the home-delivered price.

2. In sharp contrast, in November 1953, the lowest store price in 18 *state-controlled* markets averaged 23.6 cents per quart, or only .5 of a cent per quart less than the single-quart, home-delivered price (24.1 cents). Ten of the 18 markets had no store differential.

3. The difference between home-delivered prices and store prices in the 17 competitive markets has been increasing in the past 24 years. In 1929, the difference between these two prices averaged only 1 cent per quart. By November 1953, this difference had increased to 3.1 cents per quart.

4. In sharp contrast, in the 18 state-controlled markets, the average difference between the single-quart, home-delivered price and the lowest store price was the same in 1929 as in November 1953—only .5 of a cent per quart.

This study showed two important facts: (1) that from November 1952 to November 1953, store prices in Cleveland and Columbus (Ohio), and Detroit (Michigan) were reduced more than in any of the other cities, and (2) that milk sales in these markets increased faster in 1953 than in any of the other cities of comparable size for which sales data were available. In November 1953, consumers in both Cleveland and Columbus could buy milk for 16 cents a quart when purchased in quantity lots. These prices were 5 cents a quart less than the home-delivered prices in single quarts (21 cents). Detroit had a store price of 17.5 cents a quart in November 1953, or 4.5 cents less than the home-delivered price (22 cents).

Increases in milk sales help farmers as well as consumers. Higher sales in Cleveland in 1953 gave dairy farmers \$550,000 more income than they would have received had this milk been sold for manufacturing uses. Increases in dairymen's income have also resulted from higher sales in Columbus, Detroit, and other federal-order markets.

There are two ways to attack this problem, and both should be used.

1. **ELIMINATE MONOPOLIES.** The first is a direct attack on the monopolies by the Antitrust Division of the United States Department of

Justice, by milk companies, or by farmer groups. On October 1, 1953, the government discontinued consumer price fixing in the Vancouver, British Columbia, area, and the store price to consumers was reduced 2 cents a quart. This approach should be used whenever and wherever possible.

2. **SELL MORE CONCENTRATED MILK.** The second way, which may take a little longer, is to develop interstate shipments of a concentrated milk that can be held for several months and that, when reconstituted, cannot be distinguished from fresh milk. Such a product, if available at not more than 1 cent a quart above the price of evaporated milk, would make possible a larger expansion in the sale of milk.

Technological studies show that real progress has been made in manufacturing a sterile milk without loss of palatability. The results of research and actual commercial sales of fresh concentrated milk indicate that within the next five years the sale of this product will assume national importance and that it is likely to be a major factor in breaking down any state and distributor monopolies that still exist.

### **More Milk in Schools**

If average consumption in all schools could be increased to a half pint of milk daily per student for 180 school days (45 quarts), the increase would total 1,115,000,000 quarts of milk annually, or the equivalent of 106,400,000 pounds of butter and 216,200,000 pounds of dry nonfat solids. This would be equal to about one-third of the butter and one-half of the dry nonfat solids now in government storage.

Nutritionists agree that the present consumption of milk by both adults and children is far below that essential for an adequate diet. Hence, expansion of the school milk program is in line with the public interest both in improving the health of our school children and in helping to absorb present surpluses. In view of this, it is recommended that the school milk program in the United States be expanded with the objective of providing a minimum of a half pint daily for each of the 34,100,000 students in the elementary and high schools of the country.

To effectuate this program it is recommended:

1. That a survey be made in each county in the United States to determine the average daily milk consumption for each school during a recent month and that this information be made available to everyone who is interested.



2. That only high-quality milk be sold to schools and that this milk be ice cold when it is made available to students.

3. That the sponsoring group in each county work with all interested groups, including school administrators, PTA, farm and home bureaus, local newspapers, and radio stations, in expanding the consumption of milk to a minimum of a half pint daily, or 45 quarts annually, per student.

A recent study of the school milk program in Champaign County, Illinois, showed that:

1. In January 1954, there were 61 schools in Champaign County. Of these 39, with 11,261 pupils, had milk under the federal-state school milk program, while 22 schools, with 3,807 pupils, were not under this program.

2. Average milk consumption for all students in Champaign County schools in January 1954 was .39 of a half pint daily, or 17.6 quarts annually per student. This amount was 24 percent above the 1952-53 average for Illinois (14 quarts) and 43 percent above the 1952-53 average for the United States (12.3 quarts). Although relatively high, milk consumption per student in Champaign County averaged less than two-fifths of the goal of a half pint daily, or 45 quarts annually, per student.

3. The greatest opportunity for increasing school milk consumption in Champaign County is to get milk into the 22 schools that at present are not under the federal-state school milk program. In addition, attention should be given to increasing consumption in the 39 schools having this program, and particularly in those where present consumption per student is low.

Information of this type is being obtained for each county in Illinois.

An analysis of the school milk program for the 357 schools in Chicago in 1953 showed that high milk consumption in these schools was associated with:

1. Cold milk in schools in place of milk at room temperature.
2. Availability of cold milk throughout the day.
3. Interest of the principal in the use of milk.
4. Higher enrollment of boys than girls (girls drink less milk than boys).
5. Higher levels of consumer income (in some areas).

An educational program in schools showing the importance of

milk in a balanced diet is a practical way to increase milk consumption among children. In many areas the dairy council sponsors such a program.<sup>4</sup>

### New Products and New Techniques

One of the greatest possibilities for increasing sales of milk and its products lies in expanding to a national basis the use of products and techniques that have proved successful in local or regional areas. A few of them are described below:

1. Sale of a low-fat milk (2 percent) fortified with extra nonfat solids and vitamins. Such product contains 7 percent more protein, carbohydrates, Vitamin B<sub>1</sub>, Vitamin B<sub>2</sub>, calcium, and phosphorus than whole milk, and 67 percent more Vitamin A. For the information of people who are watching their weight, it contains 44 percent less fat and 12 percent less calories. Instead of lowering milk sales, it is probable that this type of product is increasing total sales.

2. Expanded use of nonfat milk solids. The outlets for and amounts used of this product have increased rapidly in recent years:<sup>5</sup>

Use	1949	1953	Percent Increase
	<i>Millions of Pounds</i>		
Dairy products . . . . .	100	123	23
Meat processing . . . . .	34	63	85
Prepared dried mixes . . . . .	13	41	215
Packaged for home use . . . . .	6	94	1,467
Confectioners . . . . .	6	12	100

3. Sale of a low-fat frozen dairy product, with unit costs lower than for regular ice cream. Many people like a cold dessert that has fewer calories.

4. Sale of a powdered cream that can be held without refrigeration in places such as factories, service stations, and offices which have a coffee hour but lack refrigeration.

5. Use of vending machines, some dispensing half pints and third quarts, and others dispensing quarts or two quarts, in factories, offices, filling stations, and other strategic locations throughout the country.

<sup>4</sup> Additional information on methods for carrying out this program can be obtained upon request from the Department of Agriculture Economics, College of Agriculture, University of Illinois.

<sup>5</sup> Data from 1952 and 1953 censuses as obtained from American Dry Milk Institute.

6. Increased outer market distribution of milk and its products over distances of 200 miles or more. Some areas, particularly those in the Northeast and South, which have discouraged this type of competition, should realize the possibilities this type of operation has for increasing milk sales through larger volumes and lower prices.

### **Advertising Dairy Products**

The American Dairy Association conducted an aggressive advertising program from July to November 1953 in Kansas City, Missouri, and Rochester, New York, to determine what effect advertising had in increasing milk sales in these markets. Accurate answers to the usefulness of advertising in boosting milk sales are essential if funds spent for this purpose are to be used efficiently. Hence, the following information was obtained for both markets:

1. Changes in milk sales in the six months preceding the trial period compared with sales in the same months a year earlier.
2. Changes in milk sales in the trial period (July to November 1953) compared with sales a year earlier.
3. Changes in milk sales from January to June 1954 compared with sales a year and two years earlier.
4. Price changes in the two markets by specific periods, January 1952 to June 1954.
5. Relative changes in per capita disposable income in the period being studied.

A review of the results of this program in Kansas City and Rochester from January 1953 to June 1954 indicates that:

1. Advertising in both Kansas City and in Rochester from July to November 1953 increased milk sales slightly above what they would have been without this type of promotion.
2. Assuming that results in Kansas City and Rochester were typical for other cities, we can deduce that:
  - a. Sharp reductions in milk prices to consumers are several times more effective than advertising in increasing milk sales.
  - b. Advertising, however, can be helpful in a small way in increasing sales both during and after a promotional period.

The American Dairy Association is to be commended for using two cities as widely divergent in pricing operations as Kansas City and Rochester in this experiment. It is hoped that such experiments will be continued as a basis for supplying information on how advertising funds can be most effectively used in increasing sales of milk.