

THE TYPICAL NORTHEAST DAIRY FARM -- ITS  
STAYING POWER AND ALTERNATIVES

By

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The Northeast (New England, New York, Pennsylvania and New Jersey) has approximately 2 million dairy cows, 18% of the U. S. total. Of the two million, 900,000 are in N. Y., 700,000 in Pennsylvania and 400,000 in New England. Half the cows in New England live in Vermont.

For comparison, the Lake States of Minnesota, Wisconsin and Michigan have 3.1 million cows, 28% of the U. S. total.

My assignment is to discuss the typical Northeast dairy farm. After a bit of thinking, I decided that there is no such thing as a typical dairy farm. If you came to New York and asked to see a typical dairy farm, I would likely show you one of our larger and better dairy farms. You would probably do the same if I were in Michigan.

After a little more thought, I decided to present some data on a New York dairy farm of average size, about 50 cows. The data presented is based on records submitted to the Department of Agricultural Economics at Cornell. The farmers submitting these records are, as a group, somewhat above average in items such as milk production per cow and crop yields. Their incomes are also probably somewhat above average. The data are based on 1973 and 1974 records, but updated to approximately represent the 1975 situation. The average farm for the Northeast would not differ greatly from the New York farm.

The average investment in a 50-cow New York dairy farm is approximately \$170,000 or \$3500 per cow. Of this, livestock and equipment each account for about \$35,000, real estate for \$90,000 and feed and supplies \$10,000 (Table 1). If you would prefer to think in terms of larger herd sizes, these investments could approximately be multiplied by two for a 100-cow farm or four for a 200-cow farm. The larger farms would tend to have somewhat smaller investments in equipment and real estate on a per cow basis, but greater mechanization and more likelihood of new barns and silos on the larger farms tempers this to some extent.

The 50-cow farm would sell about 600,000 lbs. of milk per year, or slightly over 12,000 lbs. per cow (Table 2). With a man equivalent of 1.6, consisting of the operator, some family help and a little hired labor, the cows per man is about 30 and milk sold per man is about 375,000 lbs. Of course, many farmers have higher production levels and more output per man.

The average 50-cow farm has about 150 acres of cropland. Some of this is very productive but some of it is not. About 100 acres is devoted to the production of hay and hay crop silage, ranging from very high quality alfalfa to late cut grass. Approximately 35 acres is used for corn silage.

The average New York (or Northeast) dairy farm does not produce much grain. These 50-cow farms grow about 8 acres of corn for grain and 7 acres of oats. Grain production is about 35-40 tons while use (including protein supplement) is in the range of 125 to 150 tons per year. Much of the grain needs are purchased, as shown by the \$300 in purchased feed per cow, or 30% of milk receipts.

At 1974 prices, the 50-cow farm would have milk receipts of \$50,000 (Table 3). Total cash receipts would be about \$57,000. Increase in live-stock and feed and supply inventories, the result of an increase in herd size of one or two cows and more feed production, makes total farm receipts about \$60,000.

On the expense side, about \$15,000 is paid for purchased feed and \$27,000 for all other cash expenses for a total of \$42,000. Depreciation of buildings and equipment is around \$5,000. Interest on the operator's equity of about \$100,000 results in a charge of \$7,000, bringing total expenses to \$54,000.

Labor and Management Income (see definition) for a 50-cow farm, with somewhat above average production, would be about \$6,000. Net Cash Farm Income, the difference between cash receipts and cash expenses, is about \$15,000. This is the amount available for family living, purchases of new capital items and payments on debt principal (interest paid is included in cash expenses).

The above income data is based on a composite of 1973 and 1974. In 1973, increased dairy cow values made labor and management incomes substantially higher but the decrease in cow values in 1974 made incomes lower than the \$6,000 shown in Table 3. Net cash incomes were about the same in both years. In 1975, with milk prices likely to be no higher than in 1974 and increasing costs for most items except possibly feed, it is difficult to project either labor and management incomes or net cash incomes as high as in 1974.

How do dairy farmers with labor and management incomes of \$6,000 stay in business? One answer is that they also have the interest charge on equity capital (\$7000 in this example) as part of their incomes. In addition, they have appreciation in real estate values, which in recent years has been substantial.

In assessing the staying power and alternatives of typical Northeast dairy farmers, I believe we need to consider two groups, at least if we think about the last couple of years. These two groups have had quite different competitive positions in the recent past. One group is the farmers with the soil, topography and climate suitable for growing corn for grain. The second group includes those who purchase all or most of their grain needs. Actually, the second group includes some who have the land and climate suitable for grain production but have chosen a herd large enough that their land must be used primarily for forage rather than grain production. Until 1972, this choice usually was the best for a New York dairyman who was interested in maximizing his net income.

In the past 2 to 3 years, the competitive position of these two groups has been quite different. The first group has been able to grow grain much more cheaply than they could buy it. Therefore, they have been in a relatively good financial position. However, another point needs to be made about these dairymen. In 1974, many of them could have made as much or more net income from growing grain for sale as from feeding crops to dairy cows. Of course, with increased costs of growing crops and declining grain prices, this may not be the case in the future.

The relatively high price of purchased feed has put many of those in the second group under extreme pressure in the last two or three years. This began with the effects of Hurricane Agnes and the related wet summer of 1972 in much of the Northeast. The effects of the resulting decrease in both forage quantity and quality were greatly magnified by the high prices for purchased grain that began in late 1972 and have continued to date. Relatively high milk prices in the early part of 1974 were very helpful, but deteriorating prices in later 1974, coupled with high grain prices and increases in other costs have put some dairymen from this group in a position where continuation in the business is doubtful.

Alternatives in terms of other farm enterprises are quite variable for Northeast dairymen. In general, they tend to coincide with the two groups discussed above. Those with good land and climate, primarily those located just south of Lake Ontario in New York or in southeastern Pennsylvania, can shift to the production of corn, wheat and other grains as well as to vegetables and even, in some cases, fruit. There are scattered areas in the rest of the Northeast where such shifts are possible. Whether such shifts are made will depend on the relative profitability of the various commodities over the longer run.

In the remainder of New York and Pennsylvania and most of New England, most dairy farms are best suited to the production of hay or hay crop silage and corn silage. The operators of most of these farms could not make acceptable incomes from grain production. They could shift to beef cow herds or sheep flocks, but these enterprises offer very limited income possibilities. Egg production, based largely on purchased grain, is a possibility for some. Non-farm employment is the best alternative for most, but this alternative is less viable in the current recession.

In conclusion, I believe that the Northeast will continue to produce milk, and at about the same proportion of the U. S. total, for the foreseeable future. Dropout of dairymen will continue, but others will expand. This conclusion assumes that adjustments in milk and feed prices will be such that most dairymen can earn reasonable incomes. Feed prices, at least in the short run, may be higher relative to milk prices than in the pre-1972 period. If this is true, there will be shifts out of milk production on the fringes of the Corn Belt as well as in parts of the Northeast. Such a shift would help strengthen milk prices for those left in production.

Most Northeast dairymen have large investments in facilities to produce milk. Much of this investment has been made in very recent years. Either free stall barns and milking parlors or stanchion barns are of little value for other enterprises. The owners of most of these facilities will continue to produce milk because it's their best alternative.

## THE "TYPICAL" NORTHEAST DAIRY FARM

Table 1. Investment on the "Average" New York Dairy Farm with 50 Cows

Item	Investment <sup>1/</sup>	
	Per Cow	Total
Livestock (cows and heifers)	\$700	\$35,000
Feed and supplies	200	10,000
Equipment	700	35,000
Land and buildings	<u>1800</u>	<u>90,000</u>
Total	\$3500	\$170,000

<sup>1/</sup> Based on records submitted to the Department of Agricultural Economics at Cornell University. As a group, these farmers are slightly above the average for the state in items such as crop yields and milk sold per cow.

Table 2. Business Factors for the "Average" New York Dairy Farm

Number of cows	50
Pounds of milk sold	610,000
Crop acres	150
Man equivalent	1.6
Milk sold per cow (lbs.)	12,200
Cows per man	31
Pounds milk sold per man	375,000
Feed purchased per cow	\$ 300
% purchased feed is of milk receipts	30
Milk price per cwt. (1974)	\$8.25
Acres of hay and hay crop silage	100
Acres of corn silage	35
Acres of corn for grain	8
Acres of oats	7

Table 3. Income, Expenses and Net Income on the "Average" New York Dairy Farm with 50 Cows

Milk sales	\$50,000	
Cattle sales	5,000	
All other cash receipts	<u>2,000</u>	
Total cash receipts	\$57,000	
Increase in livestock and feed and supply inventories	<u>3,000</u>	
Total farm receipts		\$60,000
Purchased feed	\$15,000	
All other cash expenses	<u>27,000</u>	
Total cash expenses	42,000	
Depreciation of buildings and equipment	5,000	
Interest on equity capital @ 7%	<u>7,000</u>	
Total farm expenses		\$54,000
Labor and Management Income		\$ 6,000
Net Cash Farm Income		\$15,000

Labor and Management Income is the return to the farm operator for his year's effort in operating the farm business. A 7% interest charge on the operator's equity capital has been deducted in computing labor income.

Net Cash Farm Income is a measure of the cash available from the year's operation of the business. This is the amount available from the farm business for family living, purchases of new capital items and payments on debt principal.

Table 4. Labor, Management and Ownership Income on the "Average" New York 50-Cow Dairy Farm

Labor and Management Income	\$ 6,000
Real estate appreciation (estimated)	5,000
Interest on equity capital @ 7%	<u>7,000</u>
Labor, Management and Ownership Income	\$18,000