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Financial Performance of Specialized Dairy Farms

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Specialized dairy farms—those with at least 50 percent of their production from dairy products and with at least $40,000 in total production—fared somewhat better in 1985 than did other U.S. farms. Midsized dairy farms with sales of $100,000 to $499,999 were especially sound in that they had the highest net returns on gross revenue and the lowest overall cost ratio. U.S. dairy production is concentrated in the East North Central and the North Atlantic regions, with other sizable concentrations in the West North Central and Pacific regions. Specialized dairy farms in the North Atlantic region were the most prosperous by several measures: they had the highest returns on gross revenue, the lowest overall cost ratio, and the region had the largest share of farms with positive net returns.

Dairy product sales, $18.1 billion in 1985, are the second largest source of cash receipts for the U.S. agricultural sector at about 13 percent of the total. Because cattle and calves are an important byproduct of milk production, dairy farms also account for about 5 percent of the U.S. sales of cattle and calves. Nearly 200,000 of the Nation's 2.2 million farms sold some dairy products in 1982.

This report focuses on specialized dairy farms, those with at least 50 percent of their production from dairy products and with at least $40,000 in total production. The data on these dairy farms are from the 1985 Farm Costs and Returns Survey. This report also presents general information on all farms producing dairy products and on farms which have at least 50 percent of their sales from dairy products, regardless of the value of the farm's sales. The general information on the dairy industry is from the 1982 Census of Agriculture, the 1985 Farm Costs and Returns Survey, and the Economic Indicators of the Farm Sector, 1985.

Specialized dairy farms sold 92 percent of the milk and over 86 percent of the dairy cows in the United States in 1985. Milk and dairy cow sales accounted for 90 percent of the value of their production. About 44,000 farms nationwide get most of their sales from dairy, but their total agricultural production averaged less than $40,000. Most of these farms were near the Great Lakes and depended heavily on off-farm sources of income.

About 83 percent of the farms producing dairy products, regardless of the value of total sales, had 50 percent of their sales from dairy products. They produced 94 percent of all U.S. dairy products. Their average net cash income in 1985 of $24,129 was above the average of all other farms combined specializing in other types of commodities (table 1). The average net cash income of farms which had 50 percent or more of their sales from dairying was also higher than all other livestock farms, except poultry producers who accounted for less than 4 percent of all livestock farms. Dairy farms also averaged higher incomes than the three largest crop groups: cash grain, tobacco, and general crop farms. The relatively strong income position of dairy farms is partly due to Government price support programs for milk.

Table 1--Average income and expenses of U.S. farms specializing in various commodities, 1985 1/

Commodity	Share of all farms producing commodity 2/	Share of U.S. production of commodity 2/	Gross cash income	Cash receipts
	Percent		Dollars	
Cash grain	61	80	75,161	65,835
Cotton	55	74	181,862	149,276
Tobacco	74	80	32,013	31,675
Vegetables	45	82	228,073	222,538
Fruit and nuts	94	94	116,732	114,169
Nursery and greenhouse	82	98	168,177	164,635
Beef, hogs, and sheep	54	84	43,680	37,633
Dairy	83	94	91,206	87,364
Poultry	37	98	213,076	211,200

Commodity	Direct Government payments	Other farm-related income	Cash expenses	Net cash income
	Dollars			
Cash grain	8,122	1,204	57,721	17,441
Cotton	27,376	5,210	113,377	68,483
Tobacco	220	119	17,944	14,069
Vegetables	2,762	2,772	88,950	139,123
Fruit and nuts	199	2,364	61,086	55,646
Nursery and greenhouse	22	3,520	83,346	84,831
Beef, hogs, and sheep	1,213	4,835	37,261	6,419
Dairy	2,830	1,012	67,077	24,129
Poultry	208	1,668	110,679	102,397

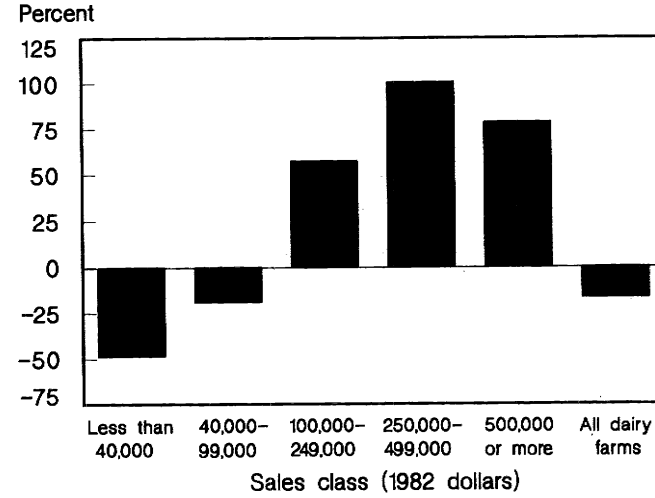
1/ Farms are classified into specialties based on their primary production activity. These data include information on both commercial farms ($40,000 or more in production) and noncommercial farms (less than $40,000 in production).
2/ Data from the 1982 Census of Agriculture.

Dairy production is less concentrated on large farms than production of most other agricultural commodities, even though a slightly greater share of dairy farms are in the largest size category (with sales of $500,000 or more) than for U.S. farms as a whole. The largest dairy farms accounted for about 20 percent of the dairy production in 1982, while 30 percent is the national average for most commodities produced on the the largest farms. Dairy farms with sales of $100,000--$499,999 accounted for over 50 percent of all dairy production. The farms in the $40,000--$99,999 range accounted for less than 25 percent of dairy sales; dairy products accounted for over 20 percent of their total sales, the largest share of any other size group. Farms with total sales of less than $40,000 accounted for about 5 percent of total dairy sales, according to the 1982 Census of Agriculture.

Dairy production, however, is becoming more concentrated on the larger farms. The number of dairy farms decreased at over three times the rate of the general decline in U.S. farms

between 1974 and 1982. The greatest decline was among those farms with gross sales (in constant 1982 dollars) of less than $100,000 (fig. 1). Dairy farms with sales below $2,500 increased from about 500 in 1974 to 1,300 in 1982, the only small size class to increase. More important, however, the number of farms in the three largest size groups increased significantly during 1974–82.

Figure 1
Percentage change in dairy farms, by sales, 1974-82



Source: Census of Agriculture data.

GROSS REVENUE AND NET RETURNS

Gross revenue for specialized dairy farms varied substantially by farm size in 1985 from about $72,000 to $1.1 million, with milk sales accounting for an average of 80 percent of all gross revenues (table 2).

Milk was a smaller component of gross revenue for the largest farms, 74 percent, than for the small and midsized classes, 80 percent, because of greater livestock sales, primarily of dairy or beef cows.

Direct Government payments were a relatively steady, but small, proportion of gross revenue by farm size ranging from 1.7 percent for the largest farms to 2 percent for the small farms. Over 59 percent of direct Government payments went to midsized farms. These payments were not associated with the Federal milk marketing order system but were for participation in other commodity programs, mainly deficiency payments for grain production.

The principal shortrun measure of farm financial health is net returns, gross revenue less expenses. The average net returns for all specialized dairy farms was $25,610 in 1985. Almost 20 percent of all dairy farms had negative net returns. Because net returns increase as farm size increases, net returns are often compared with one of two indicators of relative profitability, either gross revenue (the returns margin) or assets (the returns/assets ratio).

Table 2--Average net returns, gross revenue, and components of gross revenue for specialized dairy farms, by size class, 1985

Size class	Average net returns	Average gross revenue	Average share of gross revenue per farm: Milk sales	Livestock sales	Crop sales	Government payments	Other farm-related income
	Dollars		Percent				
$40,000-$99,999	10,616	71,926	80.7	11.3	4.6	2.1	1.3
$100,000-$499,999	23,954	188,555	80.0	10.5	5.7	2.0	1.7
Over $500,000	253,473	1,133,496	73.8	17.0	4.9	1.7	2.7
All	25,610	157,322	80.2	11.1	5.1	2.0	1.6

Source: 1985 Farm Costs and Returns Survey.

Definitions

Commercial farms produce $40,000 or more in agricultural commodities in 1 year.

Specialized dairy farms are commercial farms whose sales of milk and dairy animals account for 50 percent or more of the farms' livestock commodity sales plus value of crop production.

Net returns equal gross revenue less total expenses (or costs) for the farm business. This measure does not include farm operator household income and expenses or expenditures for capital items and depreciation. Thus, net returns equal residual returns to owned inputs and own labor and management before capital replacement. Net returns differ from the standard U.S. Department of Agriculture definition of net cash income (as reported in table 1) because it includes the value of the change in crop inventories and the estimated rental value of hired laborers' dwellings.

Gross revenue equals the sum of livestock commodity sales, the value of crop production (less that fed to livestock), direct Government payments, income from rental of farmland, the rental value of hired laborers' dwellings, and other cash farm-related income.

Total expenses are all cash variable and fixed business expenses except for capital consumption, but including costs of purchased livestock, plus share rental expenses, plus inkind payments to hired workers.

Capital expenditures are for purchases of farm machinery, office machines, and construction costs.

Returns margin equals net returns divided by gross revenue. This measure of performance indicates how effectively farmers are able to turn their gross revenues into net returns.

Returns to assets equal the sum of net returns and interest expenses divided by the value of assets. This measure of performance represents the returns to assets, labor, and management before capital replacement.

Size classes are based on the sum of gross sales of livestock commodities and the value of crop production (less that fed to livestock). The categories are set at:

$40,000–$99,999 (small commercial farms),
$100,000–$499,999 (midsized commercial farms), and
$500,000 or more (the largest farms).

The average returns margin for all specialized dairy farms was 16 percent, well above average for all specialized farms, and the average returns/assets ratio was 9.7 percent, slightly below average.

Midsized specialized dairy farms were the soundest in 1985 in several respects. They had the highest returns margin, 18 percent, and they were the least likely to have negative returns (fig. 2). About 16 percent of midsized commercial farms had negative net returns, compared with 22 percent of the small farms (nearly 60 percent of all dairy farms with negative net returns) and 22 percent of the largest farms (less than 4 percent of all dairy farms with negative net returns). The largest farms, however, had the highest average return on assets at 12.4 percent.

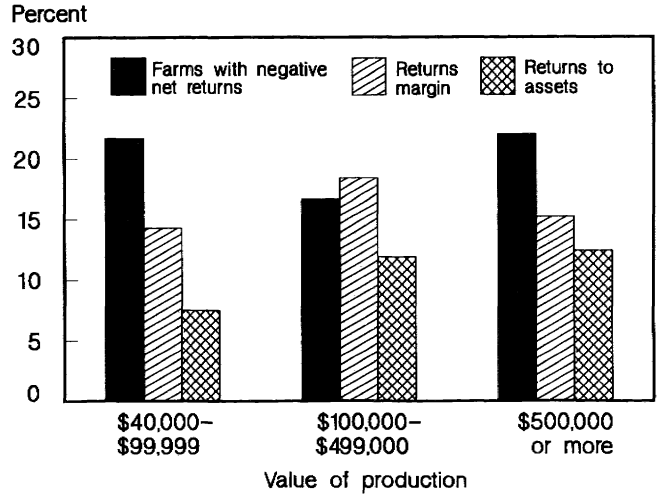
COST CONTAINMENT IS CRITICAL

Prices farmers pay for some inputs have leveled off in recent years after the increasing trends of the 1970's. Farm operators must carefully evaluate their use of inputs in terms of the price variability of different inputs. For example, with declines in both feed prices and crop input prices, dairy farmers who previously produced the bulk of their own feed must decide whether purchasing more feed is more efficient than producing it themselves.

Comparing ratios of individual and total costs to the value of total commodity production demonstrates how the cost structure of dairy farms varies by size of operation (table 3). Average cost/returns ratios vary because of differences in relative prices, enterprise mix, production practices, and efficiency levels. Because the cost/returns ratios are in terms of the total value of production, they should not be interpreted as costs per physical unit of milk produced.

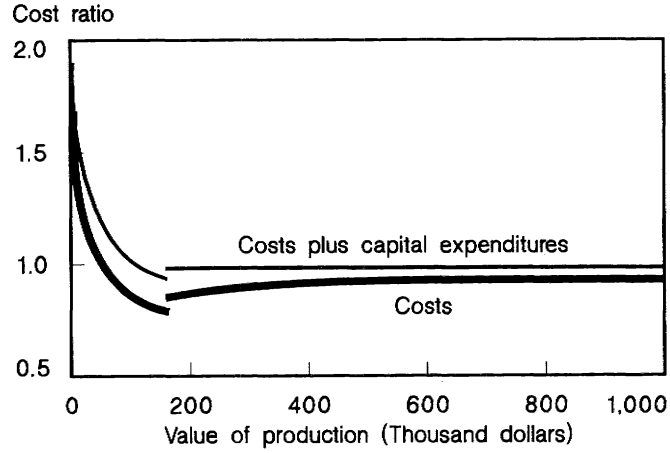
Midsized specialized dairy farms had the lowest overall total cost/returns ratio (excluding capital expenditures) in 1985 at 85 cents per $1 of production, but the largest farms' cost was only slightly higher when capital expenditures are included. Midsized dairy farms gained their cost advantage by spending about 33 percent less for purchased feed and livestock. Cash cost savings for the largest class came from lower capital replacement, interest, rent, and cropping costs. The spread between the two larger size groups is essentially equivalent when direct Government payments are included in the value of production. The average cost/returns ratio (including capital expenditures) for the small commercial farms is significantly higher than the two larger size groups. Figure 3 highlights these cost-size relationships by drawing separate curves above and below the $100,000 level. Ratios decline with size in the smallest size group and, thereafter, are relatively constant.

Figure 2
Returns of specialized dairy farms, by sales, 1985



Source: Farm Costs and Returns Survey.

Figure 3
Cost/returns ratios: With and without capital expenditures, 1985[1]



1/ Average ratio of costs to value of production.

Table 3--Average ratios of costs to value of production for dairy farms by size class, 1985

Cost components	Value of total production			All farms
	$40,000-$99,999	$100,000-$499,999	$500,000 or more	
	Cents per dollar of production			
Variable livestock inputs	0.32	0.29	0.46	0.32
Purchased feed	.23	.22	.32	.23
Purchased livestock	.05	.04	.11	.05
Other livestock inputs	.04	.04	.03	.05
Variable crop inputs	.07	.09	.05	.07
Crops for livestock feed	.06	.07	.04	.06
Crops for sale or stored	.01	.02	.01	.01
Labor:				
Excluding unpaid labor	.07	.10	.14	.08
Including estimated value of unpaid labor 1/	.40	.25	.16	.33
Marketing	.05	.04	.04	.05
Interest	.10	.11	.07	.10
Capital-related (purchases, leasing, fuel, repairs)	.21	.19	.11	.20
Rent	.07	.04	.02	.06
Taxes and other business costs	.10	.07	.05	.08
All costs, excluding capital expenditures	.90	.85	.90	.88
All costs, including capital expenditures:				
Excluding unpaid labor	.99	.93	.94	.96
Including estimated value of unpaid labor 1/	1.33	1.08	.95	1.21
All costs/production plus payments 2/	.97	.91	.92	.94

Note: Totals may not add due to rounding.
1/ Based on the average wage rate for farm laborers.
2/ All costs, including capital expenditures and excluding labor imputation, to value of production plus direct Government payments.
Source: 1985 Farm Costs and Returns Survey.

Feed purchased for livestock consumption is the major cash expense for dairy farms regardless of farm size. Most dairy farms produce some of their own feed crops. A farm's advantages in producing its own feed are that the variable costs may be minimal, costs are more certain if yields are assured, and direct Government payments for program commodities, such as corn and oats, are usually available through participation in feed grain programs.

Purchasing may be more economical than producing feed during times of low grain prices. The largest farms produce a smaller proportion of their total feed requirements than the other size groups. For example, only about 50 percent of the largest dairy operations produced any hay, compared with over 90 percent of the operations in the two smaller size groups in 1985. Out of all possible combinations of agricultural enterprise mixes, the most common mix for the large farms (25 percent of them) was to produce only milk and cattle. In contrast, about 33 percent of the small commercial farms had a common enterprise mix of milk, cattle, corn, hay, and oats. The most common (24 percent) enterprise mix for the midsized commercial dairy farms was milk, cattle, corn, and hay.

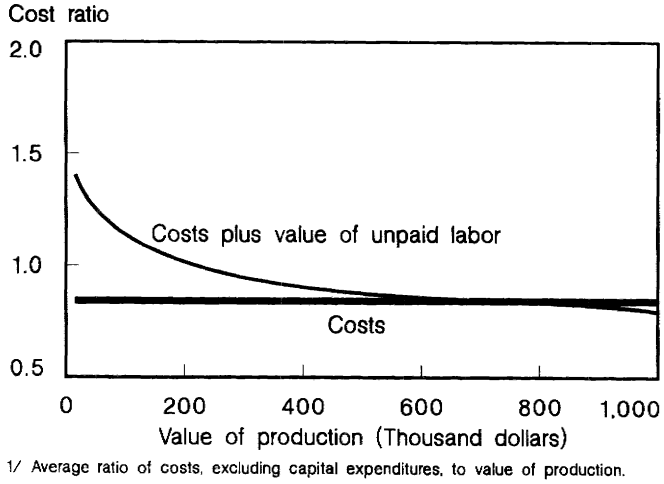
When crop variable input (seed, chemicals, fertilizer, and irrigation) costs associated with operations producing their own feed are added to the costs of purchasing feed, the midsized and small farms had lower total feed cost/returns ratios of 29 cents per $1 compared with 36 cents for the largest dairy farms. However, this ratio does not include a cost for the capital required to produce feed. The midsized and small farms had higher capital cost ratios, partly because of their feed production, and somewhat lower cost ratios for the other livestock inputs, such as livestock purchases and veterinarian fees.

Hired labor costs are a significant share of the total costs of dairy farms. Most dairy farms also have unpaid laborers (usually family members) who generally share in the residual profit or loss of the operation. The proportion of paid and unpaid labor hours differs greatly by the size of the dairy operation. Small and midsized farms tend to have more unpaid than paid labor hours, while the reverse is true for the largest farms.

When only paid labor hours were considered, the cost of labor per dollar of total production increased as farm size increased. However, when we estimated costs for unpaid labor hours, based on the average hourly labor wage rate, the cost of labor per dollar of total production decreased as farm size increases. The largest farms' cost ratio for all labor was 16 cents per $1 of production, compared with 40 cents and 25 cents for small and midsized farms (table 3). These labor cost relationships will change if the unpaid laborers on dairy farms could earn significantly less than the average farm wage rate at their next-best opportunity. Other factors that are difficult to measure, such as income tax advantages, are very important for sole proprietor farmers and may partially offset the higher imputed labor costs of small and midsized farms compared with large dairy farms.

When only paid labor expenses were included in computing the average ratio of costs (excluding capital expenditures) to the value of production, the ratio varied little by farm size. However, when the cost of unpaid labor was included at the average hired farm labor wage rate, the average cost/returns ratio declined as farm size increased to about $100,000 in total production (fig. 4). After that size, the added value of unpaid labor had little effect on cost structure. The remainder of the costs of dairy production--marketing, rent, capital, interest, and business--generally decreased per dollar of production as the size of the operation increased.

Figure 4
Cost/returns ratio:
With and without value of unpaid labor, 1985[1]



1/ Average ratio of costs, excluding capital expenditures, to value of production.

SPECIALIZED DAIRY FARMS WERE LESS LIKELY TO BE FINANCIALLY STRESSED THAN THE AVERAGE U.S. FARM

Declining commodity prices combined with increasing farm expenses in the late 1970's and early 1980's have caused high levels of financial stress among many commercial farmers. The higher a farmer's debts in relation to assets, the more difficulty that farmer may have in repaying those debts. Analysis of the financial condition of operators is based on the severity of the debt burden and on whether available cash-flow could support full or partial repayment, if any, of the debt.

Fourteen percent of specialized dairy farms were financially stressed as of January 1, 1986, according to the debt service stress conditions used in this report (table 4). This figure was lower than the U.S. total of about 16 percent. While dairy farms tend to receive a regular and stable monthly income, most other types of farms receive most of their income during a few brief periods in the annual production cycle and have greater uncertainty surrounding their annual returns. Thus, dairy farms may be able to service more debt than most other enterprises of equal size.

The 18,000 stressed dairy farms carried $5 billion in debt in 1985. On the other hand, 112,000 financially strong dairy farms had only about $11 billion debt. Only 23 percent of the stressed dairy operations were technically insolvent, with debts greater than assets. The overall level for the United States was 43 percent of commercial farms having debts larger than assets. Lenders probably had some losses on the $1.5 billion debt of the 4,200 technically insolvent dairies.

What Is Stress?

We considered farmers to be financially stressed if their debt burden and debt service met one of the following conditions: they were technically insolvent and in danger of financial failure; they had very high debts and could not fully service their interest and principal payments; or they had high debts and could not service any of their debt payment obligations.

Debt burden is the ratio of debt to assets. It is categorized as no debt, low debt (0–0.4), high debt (0.4–0.7), very high debt (0.7–1.0), and technically insolvent (more than 1.0).

Debt service is the ability of farmers to meet their cash-flow requirements, including interest, principal payments, and family living expenses. It equals cash-flow plus interest expenses divided by interest expenses plus estimated principal payments due on outstanding loans.

Cash-flow is gross cash farm income plus off-farm income less cash farm expenses, capital expenditures, and a family living allowance.

Interest/sales ratio is measured as total interest expenses divided by total commodity sales. This measure is similar to the debt/asset ratio in that it provides an indicator of the debt burden of an operation while controlling the comparison for size. It also indicates the capability of operators to cover their interest expenses from the current year's sales of commodities.

Table 4--Financially strong and stressed specialized dairy operations, January 1, 1986

Debt service category	Debt/asset ratio: No debt (0)	Low debt (0–0.4)	High debt (0.4–0.7)	Very high debt (0.7–1.0)	Insolvent (more than 1)	All
Fully able to service debt	Financial strength: 111,698 farms (86 percent of all farms) $11,361 million debt (69 percent of all farm debt)					66,792 farms $6,476 million debt
Partly able to service debt				Financial stress: 18,114 farms (14 percent of all farms) $5,014 million debt (31 percent of all farm debt)		32,133 farms $7,375 million debt
Not able to service debt						30,887 farms $2,615 million debt
All	25,237 0	63,007 $5,854	24,674 $5,292	12,653 $3,848	4,241 $1,472	129,812 farms $16,466 million debt

Source: 1985 Farm Costs and Returns Survey.

The following economic factors also contributed to the picture of dairy farms' indebtedness in 1985:

- The farm cash-flow of the financially strong dairy farms was $3 billion, compared with -$260 million for the stressed dairy farms, illustrating the extreme cash-flow difficulties of the stressed farms.
- Only half of all dairy farms could fully service all debt and interest obligations, without using savings or reducing family living expenses.
- Of the 31,000 dairy farms with no debt but negative cash-flows or with some level of debt but no debt service, more than 70 percent were financially strong because of their low debt burdens (debt/asset ratio less than 0.4).

The 90,000 financially strong farms able to fully or partially service debt in 1985 (including those with positive cash-flows and no debt) had average net worths of nearly $400,000, and a total net worth of more than $35 billion, providing a financial position capable of additional investment (table 5). About 22,000 financially strong dairy operations were unable to make any principal and interest payments, but had more than $375,000 net worth and average debt of only about $40,000.

Only about half of the stressed dairy farms were able to make any payment toward their debt. Debt/asset ratios averaged 0.96 for those with at least some debt service and 0.71 for those with no debt service. The extremely high debt of the former group made them particularly vulnerable to unstable asset values, especially land and dairy cow prices. The heavy dependence of both stressed groups on credit underwritten by the Farmers Home Administration, the lender of last resort, underscores the high credit risk associated with the stressed farms.

Table 5---Comparison of dairy farms by debt service ability and stress, 1985

Item	Financially strong		Stressed	
	Total	Per farm	Total	Per farm
	Million dollars	1,000 dollars	Million dollars	1,000 dollars
Fully or partly able to meet debt obligations:				
Net worth	35,653	397	148	16
Real estate interest	795	9	190	21
Nonreal estate interest	488	5	114	13
Debt--				
Total	10,567	118	3,284	363
Farmers Home Administration	893	10	846	94
Federal land bank and Production Credit Administration 1/	2,991	33	771	85
Not able to meet any debt obligations:				
Net worth	8,217	377	711	78
Real estate interest	60	3	106	12
Nonreal estate interest	51	2	65	7
Debt--				
Total	885	41	1,729	191
Farmers Home Administration	57	3	395	44
Federal land bank and Production Credit Administration 1/	240	29	143	16

1/ The Federal land bank and the Production Credit Administration are parts of the Farm Credit System.

Source: 1985 Farm Costs and Returns Survey.

Comparisons by financial condition on a per farm basis show that stressed dairy farms tended to have younger and better educated operators, more full-time operators that are sole proprietors, less off-farm income, and slightly higher direct Government payments compared with financially strong dairy farms (table 6).

The average farm cash-flow (not including off-farm income and family living expenses) of stressed dairy farms was -$14,000, about $40,000 less than that of financially strong dairy farms. Such negative farm cash-flows rule out further investment. Stressed dairy farms also paid more than double the interest for each dollar of sales, compared with nonstressed dairy farms. (A high interest/sales ratio is a key indicator of financial stress.) Financially stressed dairy farms had higher capital investment rates, purchased more livestock inputs, and paid more rent than financially strong dairy farms, while having a smaller share of real estate among their assets and sales with which to generate income to pay expenses.

THE FINANCIAL SITUATION OF DAIRY FARMS DIFFERED BY REGION

Dairy production is important in every region of the country because fresh fluid milk is less storable and transportable than many other agricultural commodities. Thus, local producers have a cost advantage in marketing to their own regional population centers. These conditions and others have produced a dairy sector which varies widely by region. Production is concentrated in the East North Central and North Atlantic regions, but the West North Central and Pacific regions also had sizable dairy industries. Table 7 presents a summary of key financial information about specialized dairy farms by region.

Table 6--Characteristics of financially sound and stressed operators of specialized dairy farms, 1985

Item	Financially sound	Stressed
	Percent	
Operators' characteristics:		
Full time	93	97
Sole proprietors	79	86
Age less than 35	23	37
Education, some college	23	30
	Number	
Dependents	3.7	4.0
	Dollars	
Income, sales, and finance:		
Off-farm income	9,615	5,000
Direct Government payments	3,583	3,964
Sales	152,280	123,957
Farm cash-flow	26,942	-14,461
Debt	102,533	276,746
Net worth	392,763	47,414
Interest	12,542	26,213
	Percent	
Financial ratios:		
Interest to sales	9	23
Capital investment to value of production	8	11
Purchased livestock inputs to value of production	29	43
Rent paid to value of production	5	10
Real estate's share of assets	51	41
Farmers Home Administration's share of debt	8	25

Source: 1985 Farm Costs and Returns Survey.

Table 7--Financial indicators of specialized dairy farms by region, 1985

Item	East North Central	North Atlantic	West North Central	Pacific	East South Central	West South Central	Mountain	South Atlantic	All
				Dollars per cwt. (weighted averages)					
Milk price	12.45	13.04	12.21	12.26	13.48	13.78	12.84	15.41	12.75
				Dollars (per farm averages)					
Gross revenues	120,452	137,249	118,430	505,388	156,952	166,134	342,795	387,577	157,322
Government payments	2,852	1,373	4,740	10,264	3,644	4,921	4,415	13,939	3,525
Dairy sales	95,266	108,261	80,258	419,513	123,630	135,821	298,198	340,264	124,030
Crop sales	6,055	4,055	8,477	9,200	8,566	3,241	5,794	8,700	6,182
Capital expenditures	11,441	10,955	7,167	13,753	11,382	11,350	24,661	10,086	10,926
Debt	117,876	82,732	143,582	288,801	139,930	111,162	209,335	221,778	126,844
Interest	13,397	8,627	16,271	37,791	15,033	12,652	24,868	26,009	14,450
Net returns	22,250	30,657	19,310	53,389	16,245	13,448	33,014	53,417	25,610
Equity	256,604	367,891	219,486	797,813	151,713	376,411	655,487	1,355,629	344,571
Assets	374,480	450,622	363,068	1,086,614	591,643	487,573	864,822	1,577,407	471,415
				Percent					
Returns margin	17	21	16	8	10	6	14	12	16
Returns to assets	8.3	10.5	12.5	9.8	8.3	2.9	9.7	10.8	9.7
Farms with negative revenue	21	14	16	34	16	39	25	27	19
Cost/returns ratio 1/	96	91	97	105	107	106	108	96	96
Debt/asset ratio	31	18	40	27	24	23	24	14	27
Interest/sales ratio	11	7	15	8	12	8	9	8	11
Milk's share of gross revenue	81	86	70	82	75	70	83	88	80
Stressed farms	23	8	14	8	15	14	9	NA	14

NA = not available.
1/ The average of all costs (plus capital expenditures) as a percentage of the value of production.
Source: Price data calculated from Milk--Production, Disposition, and Income, Agricultural Statistics Board, National Agricultural Statistics Service, U.S. Department of Agriculture, May 1986. All other data from the 1985 Farm Costs and Returns Survey.

East North Central

The East North Central region, with 28 percent of U.S. dairy production, was the largest producer of dairy products and had the most farms producing dairy products of all regions. Wisconsin was the leading State in the country for receipts from dairy products. Although the East North Central and the West North Central regions were both major dairy producers, very little of their production came from the largest farms. Ten percent of the production in the East North Central region was on farms which were not commercial specialized dairy farms. About half of that production was on farms which specialized in the production of another agricultural commodity, and the other half was on very small dairy farms with production of less than $40,000. The following facts pertain to the specialized dairy farms in the East North Central region:

- Specialized dairy farms accounted for 90 percent of the region's dairy production.

- Almost 30 percent of the direct Government payments to all specialized dairy farms went to farms in this region. Nonetheless, direct payments were less than 2 percent of gross revenues.

- Midsized farms had the lowest overall cost/returns ratio of the region.

- The region's specialized farms had the lowest cost ratio for purchased feed at 16 cents per $1 of production compared with the U.S. average of 23 cents.

- Financially strong specialized dairy farms had an interest/sales ratio of 9 percent, compared with 21 percent among the region's financially stressed farms.

North Atlantic

The North Atlantic region accounted for about 20 percent of U.S. dairy production, more than 50 percent of it on midsized farms. Dairy production accounted for more than 65 percent of the total production of all agricultural commodities of small commercial dairy farms. However, more than any region, dairy production in the North Atlantic region was an important enterprise at every level of farm size, even at the very largest farm size. The following facts pertain to the specialized dairy farms in the North Atlantic region:

- Specialized dairy farms accounted for 92 percent of the region's dairy production.

- Specialized dairy farms in the North Atlantic region were the most prosperous by two shortrun measures: the highest returns margin of 21 percent and the highest percentage of farms with positive returns, 86 percent.

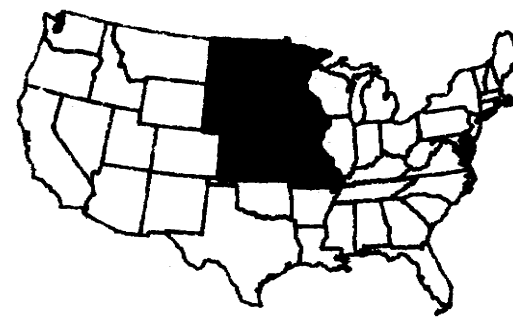
- The North Atlantic earned 23 percent of the gross revenues but received only 10 percent of all direct Government payments to specialized dairy farms.

- The North Atlantic had the lowest cost/returns ratio of any region, whether capital expenditures are included or not. This situation was true for every level of farm size, including the very largest farms which averaged 80 cents of costs (including capital expenditures) per $1 of production compared with the U.S. average of 94 cents for the largest specialized dairy farms.

- More than 90 percent of the region's dairy farms were financially strong.

- The interest/sales ratio of strong dairy farms was only 6 percent.

West North Central



The West North Central was the third largest milk-producing region in terms of dairy products and dairy farms. Only 1 percent of its sales came from the largest farms, and most of those specialized in another agricultural commodity. The West North Central and the East North Central regions had over 10,000 noncommercial farms (with total sales under $40,000) each which specialized in dairy production. Although dairy structure was similar between the two regions, overall, dairy production was much less

important in the West North Central region. The following facts pertain to the specialized dairy farms in the West North Central region:

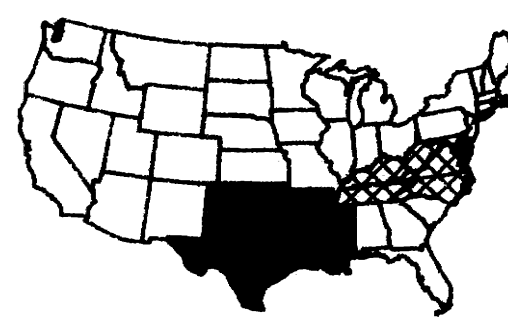
- Specialized dairy farms accounted for almost 80 percent of the region's dairy production.
- Milk sales in this region made up the smallest proportion of gross revenues of any region, 70 percent.
- The West North Central region's specialized dairy farms received over 27 percent of the direct Government payments to all specialized dairy farms. Even so, Government payments averaged less than 4 percent of their gross revenues.
- This region's specialized dairy farms had the greatest proportion of unpaid labor hours, giving it the lowest cost ratio for hired labor of any region.
- This region also had the highest debt/asset ratio, 30 percent, among financially strong farms of any region.

Pacific

The Pacific region, largely California, produced 15 percent of U.S. dairy products, and had relatively many very large dairy operations. Almost 50 percent of all dairy farms with sales of $500,000 or more were in the Pacific region. The following facts pertain to the specialized dairy farms in the Pacific region:

- Specialized dairy farms accounted for almost 100 percent of the region's dairy production.
- Specialized dairy farms' average proportion of gross revenue from crop sales was the smallest at 0.4 percent, compared with other regions. But, average value of crop sales was the highest at $9,200.
- The Pacific region had the highest cost/returns ratio (excluding capital expenditures) of all regions, partly because of the high cost/returns ratios of the small commercial farms. The midsized farms had the lowest average cost/returns ratio of the region at 92 cents per $1 of production.
- This region had the highest proportion of financially strong farms of any region, about 92 percent. The financially strong and the stressed dairy farms in this region both tended to have very strong equity positions: $250,000–$300,000 for stressed farms, more than $800,000 for financially strong farms.

West and East South Central

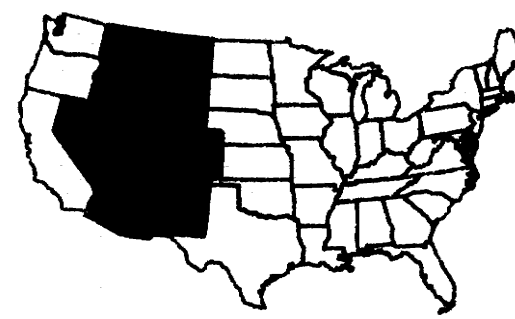


The South Central regions combined produced only about 10 percent of the dairy products in the United States. Dairy accounted for under 10 percent of each region's production. Somewhat more of the production was on larger farms in the West South Central region than in the East South Central region. However, dairy production

was typically less important as an enterprise for large farms and every size level in the West South Central region. The following facts pertain to the specialized dairy farms in the West and East South Central regions:

- Specialized dairy farms accounted for 93–95 percent of their regions' dairy production.
- Specialized dairy farms in the West South Central region had the lowest average net revenue, $13,448, and the highest share of farms with negative net revenues, almost 39 percent.
- The average total cost ratios (including capital expenditures) for these two regions exceeded 100 percent, but the highest ratios are largely in the smallest size group.
- The West South Central region's high cost ratio for purchased feed was second only to the Pacific region's.
- Only in the East South Central region did the largest specialized dairy farms have a higher cost ratio for capital expenditures than did the midsized farms.
- Stressed farms in these regions tended to purchase about 80–90 percent of the feed and services required on their farms.

Mountain



The Mountain region accounted for less than 6 percent of the sales of U.S. dairy products. Sixty percent of its dairy production was on the very largest farms compared with 20 percent nationally. Dairy sales were 20 percent of the production of all commodities of all large farms in this region. The following facts pertain to the specialized dairy farms in the Mountain region:

- Specialized dairy farms accounted for 94 percent of the Mountain region's dairy production.
- Average capital expenditures in the Mountain region were $25,000, more than double the national average and $11,000 greater than the next highest region.
- Because of high capital expenditures, the Mountain region had the highest average total cost ratio of all regions when capital expenditures are included in the measure ($1.08 for every $1 of production).
- Midsized dairy farms had the lowest cost/returns ratio of specialized dairy farms in the region when capital purchases are not included and the highest of the other size groups when they are included.
- Equity and assets both averaged $700,000–$900,000 among financially strong farms. Stressed farms had assets of about $600,000 and equity of $150,000–$175,000. Overall, only about 9 percent of specialized dairy farms were stressed in the Mountain region.

South Atlantic

Only about 4 percent of all U.S. dairy products came from the South Atlantic region. Most of the region's dairy farms were midsized in production, but the value of dairy products was basically split equally between this group and the largest size group. The following facts pertain to the specialized dairy farms in the South Atlantic region:

- Specialized farms accounted for 96 percent of the region's dairy production.
- Milk sales were almost 88 percent of the gross revenues of specialized dairy farms in the South Atlantic, the highest of any region.
- The average total cost/returns ratio (including capital expenditures) of specialized dairy farms in this region were 96 cents per $1 of production, equivalent to the national average.
- Average dairy farm equity and assets exceeded $1 million. Average debt was about $200,000, and average interest paid was $25,000–$30,000.

FOR ADDITIONAL INFORMATION...

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The financial performance of farms varies significantly by type of commodity production, and many of the important farm commodity policy programs are relevant only to farms of a commercial size. USDA's Economic Research Service is publishing a series of bulletins aimed at informing those interested in the financial performance of commercial farms which specialize in particular commodities. This bulletin on commercial dairy farms is the first in the series; others will include farms specializing in corn, wheat, and cotton. For more information, contact EMS Information (202/786-1512), Room 237, 1301 New York Avenue NW., Washington, DC 20005-4788.

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