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NEW YORK DAIRY INDUSTRY OVERVIEW

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NEW YORK DAIRY INDUSTRY OVERVIEW[a]

Dairying is the major agricultural industry of New York State. Cash receipts from the sale of dairy products total approximately $1.6 billion or almost 60 percent of the State's total market value of agricultural products sold. One-third of the counties in New York State have cash receipts from the sale of dairy products in excess of $30 million.

New York Situation and Trends

The number of New York farms with milk cows has been steadily declining. Since 1970, the number of dairy farms has declined by over one-third, losing 10,500 farms in 14 years (Table 1). The number of milk cows on farms were also on a downward trend during the 1970's; however, a reverse in the trend occurred during the early 1980's. Cow numbers decreased from 950,000 in 1970 to a low during the period of 903,000 in 1973. Cow numbers are currently 931,000, having decreased 9,000 head from 1983 primarily as a result of the Dairy Diversion Program.

Milk production per cow and the value of milk produced follow a pattern of steady increase from 1970 through 1981 with small declines in 1982 and 1984. Total milk production has remained relatively constant until 1983 when there was a five percent increase over the previous year. Total milk production decreased two percent from 1983 to 1984 resulting primarily from the Dairy Diversion Program's impact on cow numbers and milk production per cow.

Table 1. New York Milk Production and Income, 1970-1984.

Year	No. of farms	Milk Cows[a]	Milk Prod. Per Cow	Total Milk Production[b]	Value of Milk Produced[b]
		thous.	pounds	million lbs.	million $
1970	28,000	950	10,885	10,341	627
1971	26,000	935	11,156	10,431	646
1972	24,500	920	11,202	10,306	661
1973	23,000	903	10,773	9,728	719
1974	22,000	905	10,853	9,822	831
1975	21,500	917	10,866	9,964	880
1976	21,000	912	11,182	10,198	1,011
1977	20,500	914	11,186	10,224	1,004
1978	20,000	906	11,488	10,408	1,101
1979	19,500	905	11,746	10,630	1,272
1980	19,000	911	12,046	10,974	1,433
1981	18,500	912	12,137	11,069	1,535
1982	18,000	919	12,075	11,097	1,527
1983	18,000	940	12,393	11,649	1,602
1984	17,500	931	12,250	11,405	1,546

[a] Average number on farms during the year excluding heifers not yet fresh.
[b] Includes milk fed to calves and for home consumption.

SOURCE: NYCRS, New York Agricultural Statistics.

The New York dairy herd is concentrated in a band of counties from Delaware to St. Lawrence, in the Western Plateau region and in the counties east of the Hudson River, most notably Washington County (Figure 1).

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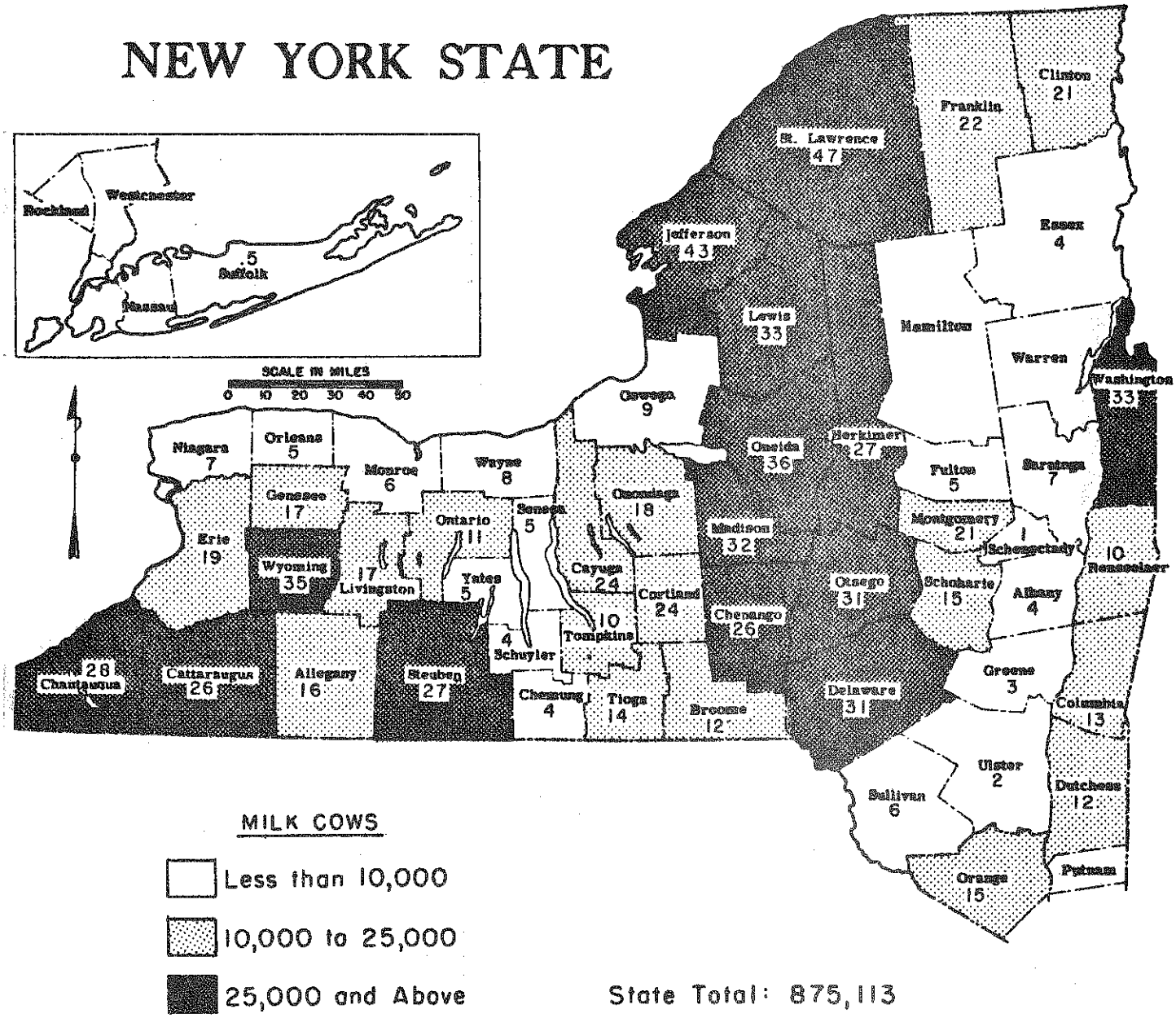
a Prepared as a background statement for formulation of 1988-91 Cooperative Extension Dairy Program Plan of Work.

FIGURE 1. NUMBER OF MILK COWS, THOUSANDS, 1982



SOURCE: 1982 Census of Agriculture.

New York Compared to United States

The number of dairy farms and number of milk cows have decreased substantially both in New York and the United States. The rate of decline in number of farms has not been nearly as rapid in New York, however, as it has been on the national level (Figure 2). In fact, the number of New York dairy farms as a percentage of the number of U.S. farms has consistently increased since 1965. In 1965, 3.5 percent of U.S. dairy farms were in New York compared to 6.1 percent in 1984. While the number of dairy farms in New York as a percent of the U.S. total has increased, dairy cow numbers as a percent of the U.S. total has remained relatively constant. The number of milk cows has varied little from 8.2 percent average of the U.S. total over the last 20 years.

The size of New York dairy farms has been increasing steadily. In the early 1960's, 46 percent of the State's dairy herds were 29 cows or less and less than two percent were above 100 cows. In 1984, 31 percent of the State's dairy herds were 29 cows or less and 11 percent were above 100 cows (Table 2). This ranks New York first nationally by number of large herds with almost 1,900 operations in 1984 having 100 or more cows. The cow inventory distribution further demonstrates the increasing importance of the larger herds. In 1984, six percent of the cow inventory was in the low herd size category while 31 percent were in the 100 plus herd size category. This ranks New York second only to California by number of cows in large herds, with 289,000 cows in herds with 100 or more cows in 1984.

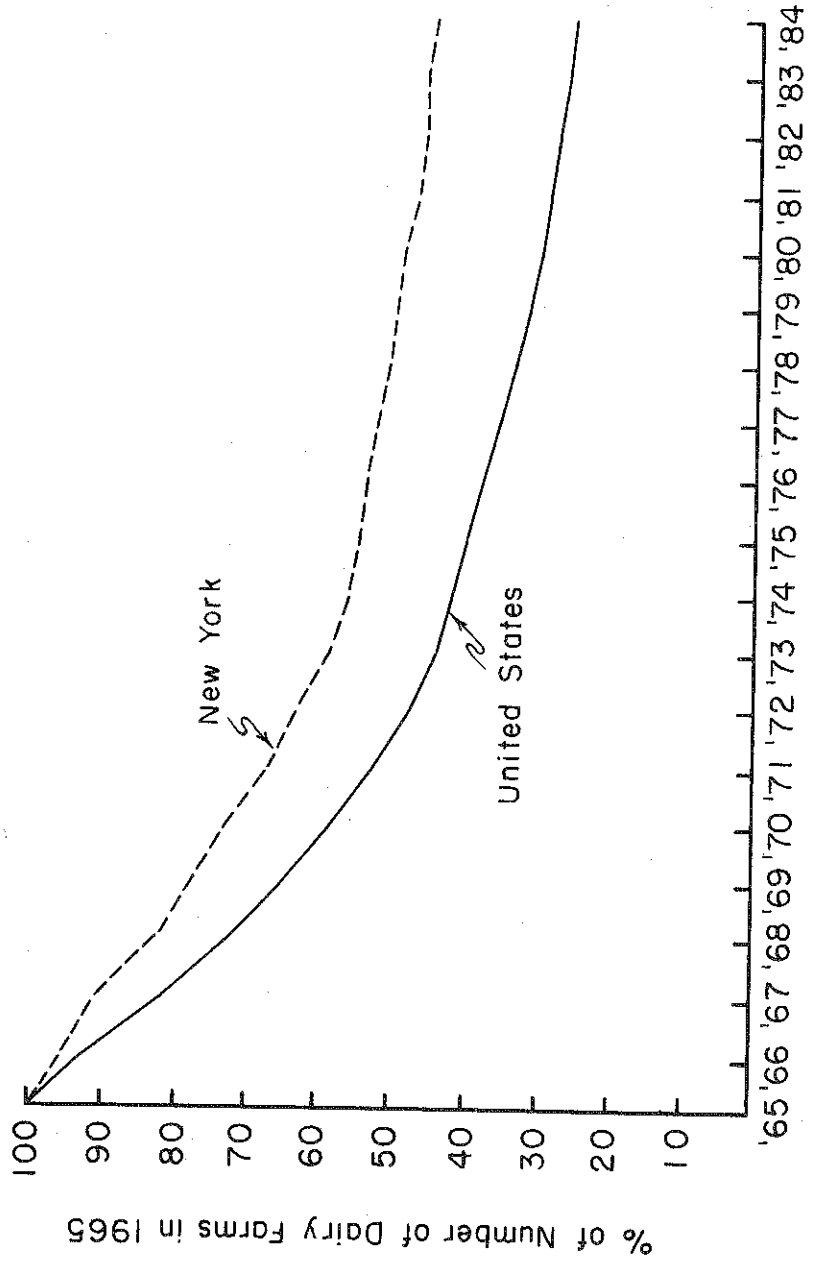
Table 2. Percent of Milk Cow Operations and Percent of Inventory by Herd Size Groups, United States and Top Five States, 1984.

State/U.S.	Average No. Cows/Farm	Number of Head of Milk Cows 1-29	30-49	50-99	100+
		------ percent of milk cow operations[a] -------			
United States	38	52.4	21.5	19.2	6.9
Wisconsin	43	29.5	40.2	26.3	4.0
California	182	58.5	2.8	6.6	32.1
New York	53	30.8	28.0	30.6	10.6
Minnesota	37	39.2	38.3	20.0	2.5
Pennsylvania	35	38.6	30.5	25.7	5.2
		------- percent of milk cow inventory --------			
United States		10.5	21.7	32.7	35.1
Wisconsin		12.3	36.2	39.7	11.8
California		0.4	0.6	2.8	96.2
New York		6.2	22.3	40.5	31.0
Minnesota		17.3	40.1	33.9	8.7
Pennsylvania		11.3	31.6	38.9	18.2

[a] A milk cow operation is any place having one or more milk cows on hand during the year. Percents reflect average distributions of various probability surveys conducted during the year but are based primarily on end-of-year surveys.

SOURCE: USDA, Milk Production.

FIGURE 2. NUMBER OF DAIRY FARMS AS A PERCENT OF 1965, NEW YORK AND UNITED STATES, 1965-1984



SOURCE: USDA, MILK PRODUCTION

Milk production per cow in New York has consistently exceeded the average for the United States until 1981 (Figure 3). From 1981 to 1984 the United States milk production per cow has averaged about 200 pounds per cow higher than the New York average. This raises questions as to the possibility of one aspect of the comparative advantage of New York dairy production being placed in jeopardy.

New York's milk production as a percent of the United States' production has remained relatively constant, averaging 8.6 percent over the last 20 years (Figure 4). New York has consistently ranked third in the nation in annual milk production (Table 3). Wisconsin and California produced over one-fourth of the national milk production and are increasing their share. Washington has been the tenth ranked state since 1979 and has been increasing its share since that time. The remaining states in the top 10 have kept a relatively constant share of national milk production.

Table 3. Percent of Total United States Milk Production in the Top 10 Dairy States, Selected Years.

Top 10 States	1950	1970	1980	1981	1982	1983	1984
				(percent)			
1. Wisconsin	12.7	15.7	17.4	17.1	17.1	17.0	17.4
2. California	5.1	8.1	10.6	10.7	10.7	10.6	11.3
3. New York	7.6	8.8	8.5	8.4	8.2	8.3	8.4
4. Minnesota	6.9	8.2	7.4	7.6	7.6	7.8	7.6
5. Pennsylvania	4.8	6.1	6.6	6.8	6.8	6.8	7.0
6. Michigan	4.6	3.9	3.9	3.8	3.9	4.0	3.9
7. Ohio	4.5	3.8	3.4	3.3	3.4	3.4	3.4
8. Iowa/Texas[a]	5.3	4.0	3.2	3.2	3.2	2.9	2.8
9. Texas/Iowa[b]	3.0	2.6	2.8	2.8	2.8	2.9	2.8
10. Missouri/Washington[c]	3.5	2.6	2.3	2.3	2.4	2.5	2.6

[a] Texas replaced Iowa as the eighth ranked state in 1984.

[b] Iowa replaced Texas as the ninth ranked state in 1984.

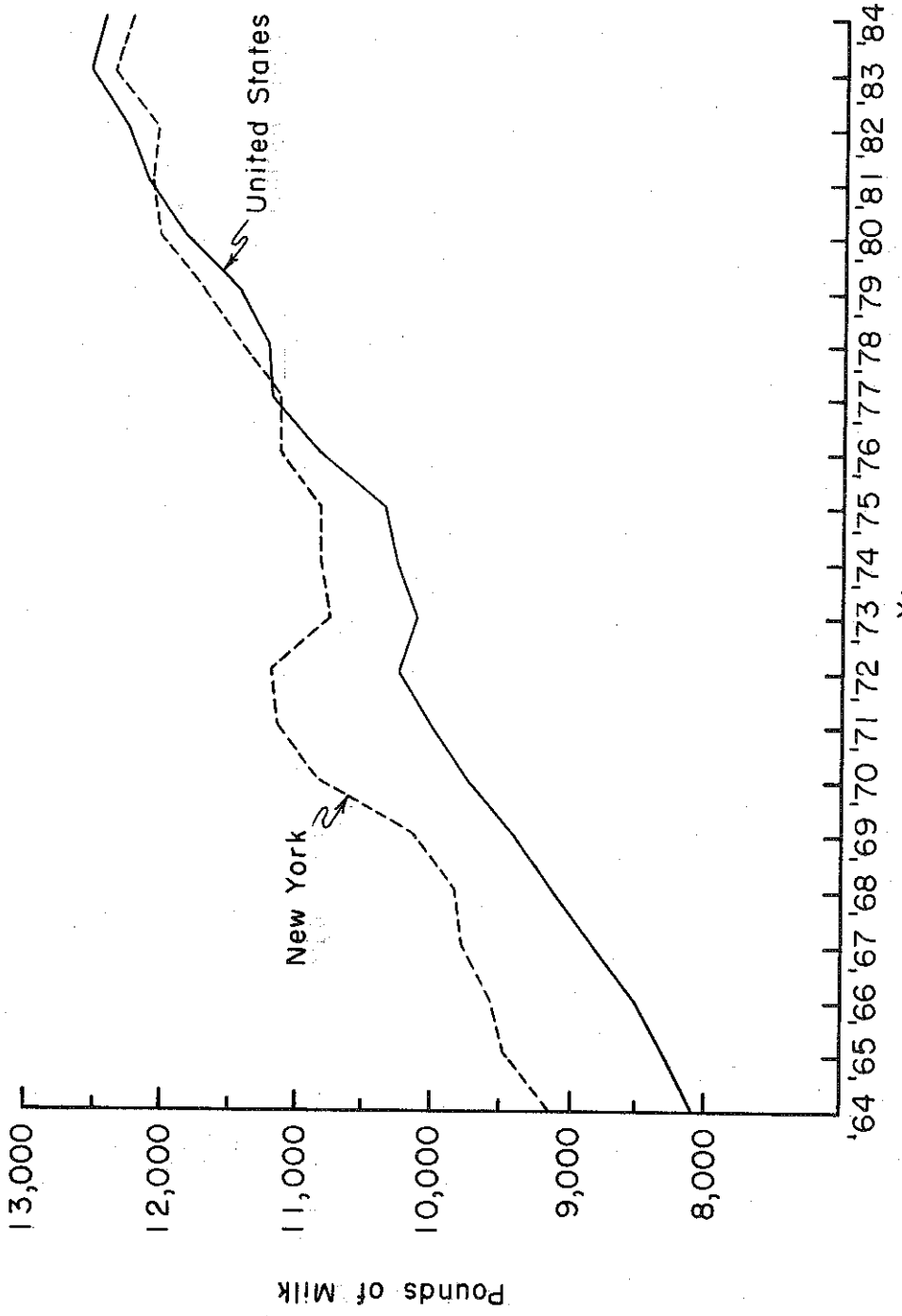
[c] Washington replaced Missouri as the tenth ranked state for 1979-1984.

SOURCE: USDA, Milk Production, Disposition, and Income.

Although seven of the top 10 dairy states are still in the northeastern quarter of the nation, several states outside this area are moving up in the rankings. A growing proportion of U.S. milk production is shifting to the west and southwest from some of the more traditional dairy states. The dairy industry seems to be pursuing population and profits with huge, high-tech dairies that get more milk per cow at a lower investment cost.[1] Will New York be able to meet the challenge of this new competition?

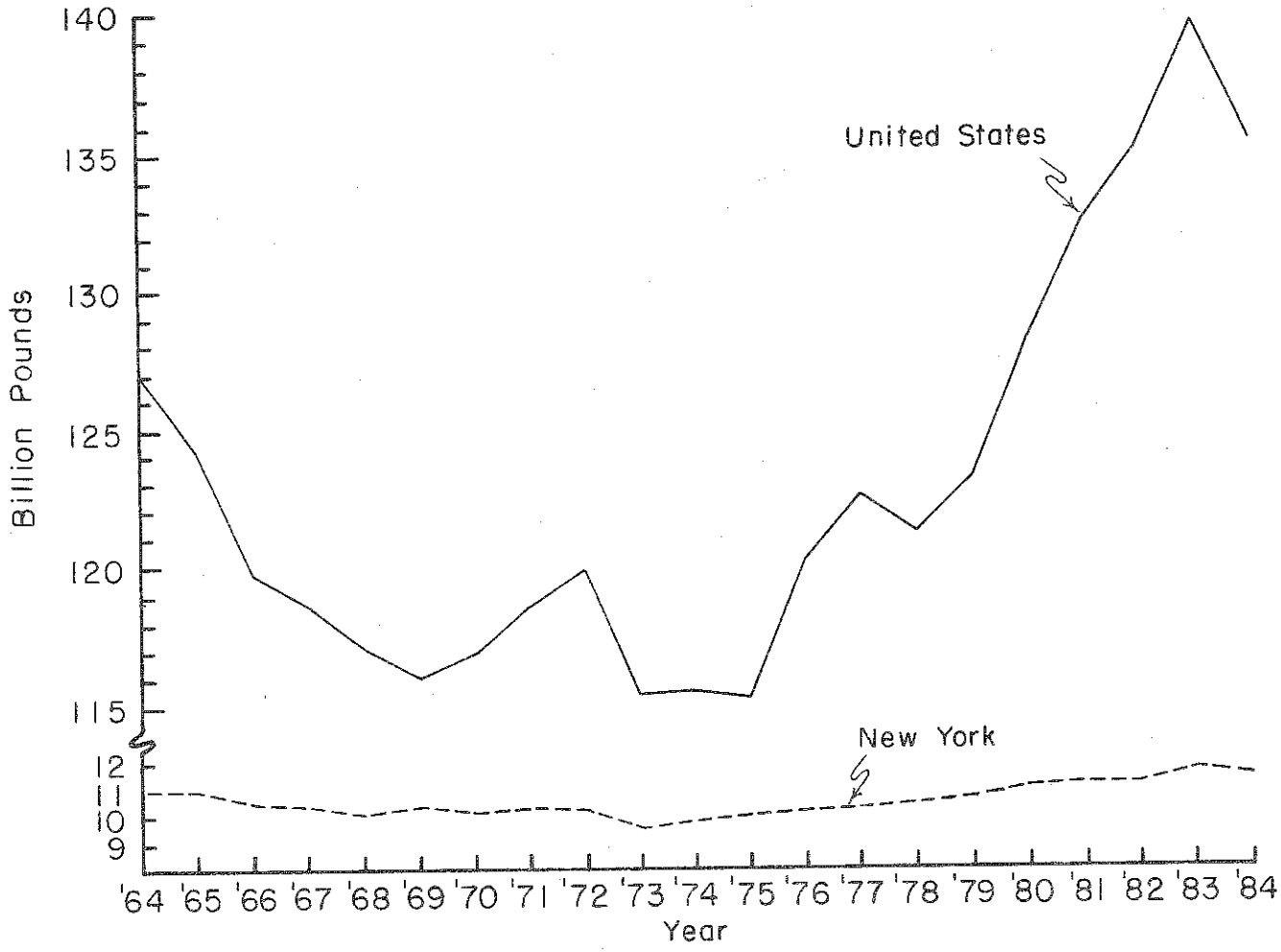
1 USDA, Farmline, Vol. VI, No. 5, May 1985.

FIGURE 3. MILK PRODUCTION PER COW, NEW YORK AND UNITED STATES, 1964 - 1984



SOURCE: USDA, MILK PRODUCTION

FIGURE 4. ANNUAL MILK PRODUCTION, NEW YORK AND UNITED STATES, 1964-1984



SOURCES: USDA, DAIRY SITUATION AND OUTLOOK
NYCRS, NEW YORK AGRICULTURAL STATISTICS

New York's Rank in Dairy Statistics

New York ranks high nationally in many aspects of the dairy industry (Table 4). New York ranks third in both total milk production and in the number of milk cows. Field crop production which supports the State's dairy herds also ranks high nationally. New York's production of corn for silage ranks second in the United States and other hay, primarily legume-grass mixtures, ranks fourth. The State's tremendous forage production ability and proximity to large metropolitan markets have greatly contributed to the State's stature in the national dairy industry.

Table 4. New York's Rank Nationally in Dairy Livestock and Related Field Crops, 1984.[a]

Item	1st	2nd	3rd	4th	5th	N.Y.'s Rank
Milk production	Wisc.	Calif.	New York	Minn.	Pa.	3
Milk cows, annual average	Wisc.	Calif.	New York	Minn.	Pa.	3
Milk per cow, annual average	Wash.	Calif.	N. Mex.	Ariz.	Nevada	21
Alfalfa hay	Wisc.	Calif.	Iowa	Minn.	S. Dak.	11
Other hay	Mo.	Texas	Kansas	New York	Kentucky	4
All hay	Wisc.	Minn.	S. Dak.	Calif.	Iowa	10
Corn for silage	Wisc.	New York	Minn.	Pa.	Iowa	2
Corn for grain	Iowa	Illinois	Neb.	Indiana	Minn.	20
Oats	S. Dak.	Minn.	Wisc.	N. Dak	Iowa	11

[a] Rank based on production unless indicated otherwise.

SOURCE: NYCRS, New York Agricultural Statistics and USDA, Milk Production.

It is interesting to note the rank of New York's counties on the national level (Table 5). St. Lawrence and Jefferson counties rank number 1 and 2 respectively in the State for number of milk cows and value of dairy products sold. When compared to other counties in other states, St. Lawrence and Jefferson counties rank 25 and 31 respectively in number of milk cows and 27 and 28 in value of dairy products sold.

Table 5. New York County Ranking Nationally For Selected Items, 1982.

Number of Milk Cows		Value of Dairy Products Sold	
County	Rank	County	Rank
St. Lawrence	25	St. Lawrence	27
Jefferson	31	Jefferson	28
Oneida	42	Wyoming	36
Wyoming	46	Washington	42
Washington	51	Oneida	47
Lewis	52	Delaware	49
Madison	53	Lewis	50
Delaware	58	Madison	51
Otsego	60	Otsego	58

SOURCE: U.S. Department of Commerce, Bureau of the Census, 1982 Census of Agriculture, Ranking of States and Counties, Vol. 2, Subject Series, Part 3.

New York ranks high nationally in the manufacture of dairy products (Table 6). New York ranks fifth or higher in the production of six different manufactured dairy products and ranks first in the production of creamed cottage cheese.

Table 6. New York's Rank Nationally in the Manufacture of Dairy Products, 1984.

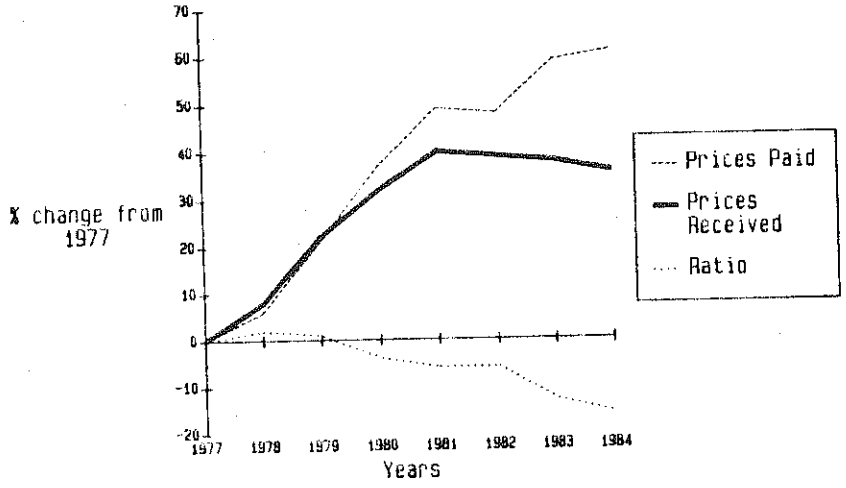
Item	1st	2nd	3rd	4th	5th	New York rank
Total American Cheese	Wisc.	Minn.	Calif.	Iowa	Idaho	7
Total Italian Cheese	Wisc.	N.Y.	Calif.	Pa.	Neb.	2
Total Cheese, excluding Cottage	Wisc.	Minn.	N.Y.	Calif.	Iowa	3
Creamed Cottage Cheese	N.Y.	Calif.	Ill.	Wisc.	Ohio	1
Lowfat Cottage Cheese	Calif.	N.Y.	Pa.	Wisc.	Mo.	2
Butter	Wisc.	Calif.	Minn.	Wash.	Pa.	7
Unsweetened Condensed Skim Milk	Calif.	Wisc.	Ind.	N.Y.	Pa.	4
Nonfat Dry Milk	Calif.	Minn.	Mich.	Wisc.	Iowa	6
Ice Cream	Calif.	Pa.	Ohio	Mass.	N.Y.	5

SOURCE: NYCRS, New York Agricultural Statistics.

Economic Environment Facing New York Dairy Farmers

The prices dairy farmers pay for a given quantity of goods and services has a major influence on farm production costs. In recent years it has become increasingly important to examine unit costs and utilize the most economical goods and services. Figure 5 shows the ratio of prices received for milk and prices paid by New York dairy farmers as a percent change from 1977. The ratio has been on a downward trend since 1978, indicating a less favorable economic environment for dairy farmers.

Figure 5. Ratio of Prices Received for Milk and Prices Paid by New York Dairy Farmers, 1977-1984.



SOURCE: NYCRS, New York Agricultural Statistics

COST AND RETURN ESTIMATES PER HUNDREDWEIGHT OF MILK
Specialized Dairy Farms by Region, United States, 1984

Region	Returns per Cwt. Milk	Returns per Cwt. Total	Costs per Cwt. Variable	Costs per Cwt. Total	Return to Operator's Labor & Mgmt.
1. Pacific (CA,WA)	$12.91	$13.74	$8.68	$11.05	$2.69
2. Southern Plains (TEXAS)	14.32	15.16	9.84	13.73	1.43
3. Northeast (NY,PA,OH,NEW ENGLAND)	13.73	14.75	8.16	13.67	1.08
4. Upper Midwest (MN,WI,MI,SD)	13.07	14.35	7.01	13.48	0.87
5. Appalachia (KY,TN,VA,NC,GA)	13.94	14.87	9.70	14.78	0.09
6. Corn Belt (IN,IL,IA,MO)	13.23	14.23	8.27	14.85	-0.62
National Average	13.37	14.44	8.02	13.49	0.95

Source: USDA, ERS, Economic Indicators of the Farm Sector, Costs of Production, 1984.

The Agriculture and Consumer Protection Act of 1973 directed the Secretary of Agriculture to make annual estimates of the costs of producing a number of major agricultural commodities. One of these is milk. The most recent set of estimates was issued in 1985 as part of the Economic Indicators of the Farm Sector series by the ERS. Cost estimates were developed by the USDA for six major producing regions in the United States.

Over the past 10 years the differences in prices received for milk at the farm between regions have narrowed substantially. The highest prices received nationally are in the south and the lowest in the Pacific region. The spread is now about $1.40 per hundredweight. There are important differences in average production costs between regions. The USDA estimates are based on a consistent methodology and appear reasonable in relation to other data and information from the six designated regions. In 1984, the Pacific region replaced the Southern Plains as the region with the highest return to labor and management. The Northeast moved ahead of the Upper Midwest into third place on this measure.

Labor and Capital Requirements

Labor management practices are an area of farm management that likely will demand more attention by dairy farmers in the years ahead. In 1964, 64 percent of the human resources on dairy farms participating in the New York Dairy Farm Business Summary and Analysis Project[2] were provided by the operators while in 1984 operators provided only 43 percent (Table 7). Paid family and hired labor combined increased from 24 percent to 49 percent or from one-fourth to one-half. This suggests that managing hired employees has increased in importance over this period.

Table 7. Percent of Human Resource Inputs by Kind on New York Dairy Farms, Business Summary Farms, 1964-1984.

	Percent of total labor force				
Human Resource Input	1964	1969	1974	1979	1984
	percent				
Operator(s)	64	57	48	47	43
Unpaid family	12	9	11	9	8
Paid family	5	8	10	13	14
Hired	19	26	31	31	35
Total	100	100	100	100	100

SOURCE: C.A. Bratton, Agricultural Update, Department of Agricultural Economics, Cornell University, September 1985.

Capital is a major farm resource and how efficiently it is used becomes increasingly important when the economic environment is not favorable. New York Dairy Farm Business Summary data show that approximately nine times as much capital was invested in these New York dairy farms in 1984 as was in 1964 (Table 8). Total investment per cow, machinery investment per cow, and land and building investment per cow have all nearly tripled from 1964 to 1984.

2 The Department of Agricultural Economics of the New York State College of Agriculture and Life Sciences at Cornell University and the County Extension Associations cooperate in sponsoring the Dairy Farm Business Summary and Analysis Project. Records submitted by New York State dairy farmers provide the basis for extension education programs for farmers, applied research studies, and classroom teaching.

Table 8. Capital Investment and Capital Efficiency Factors for New York Dairy Farm Business Summary Farms, Selected Years, 1964-1984.

Item	1964	1974	1979	1984
Number of farms	434	628	610	458
Capital Investment (end year)				
Livestock	$14,592	$ 49,268	$106,271	$118,266
Feed & supplies	3,610	19,058	27,496	41,053
Machinery & equipment	12,591	41,153	71,063	97,284
Land & buildings	27,845	122,074	190,093	251,272
Total Investment	$58,638	$231,553	$394,923	$507,875
Capital Efficiency				
Total investment per worker	$34,493	$95,683	$147,900	$164,894
Total investment per cow	$1,466	$3,216	$5,100	$5,520
Machinery investment per cow	$315	$572	$910	$1,057
Machinery investment per tillable acre	$121	$193	$312	$347
Land & buildings per cow	$696	$1,695	$2,440	$2,731
Land & buildings per tillable acre owned	$268	$878	$1,230	$1,344
Capital turnover (years)[a]	2.6	2.5	2.3	2.3

[a] Number of years of farm receipts to equal or "turnover" capital investment (year-end farm inventory divided by year's total farm receipts).

Looking to the Future

The reactor's panel on the New York Agriculture 2000 Project made these concluding remarks:

> The dairy industry will continue to be dominant in New York State, but it will be under great pressure to adjust to changing technology, market conditions, and national policies. It is important that New York maintains its competitive position in the United States, therefore, investment in technology should not be resisted. Dairy processing improvements are necessary to utilize most profitably the expected increase in milk production. Improved efficiency in assembly, transportation, distribution, and pricing of milk are possible and would contribute to market performance.

To continue to maintain their competitive position in the U.S. dairy industry, New York farmers must constantly strive for efficient production. This means using new technologies where appropriate and always searching for more efficient ways to produce milk.

In dairy processing, new product development and attaining efficiencies in processing must be continued. We must remember the interrelationship in the food chain from producer to consumer.