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**December 2001**

**E.B. 2001-16**

# **New York Economic Handbook 2002**



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This publication contains information pertaining to the general economic situation and New York agriculture. It is prepared primarily for use by professional agricultural workers in New York State. USDA reports provide current reference material pertaining to the nation's agricultural situation. Many of these reports are available on the internet at: <http://www.usda.gov/newsroom.html>

The chapters in this handbook are available in PDF format on the Applied Economics and Management website: <http://aem.cornell.edu/index.html>

# Chapter 1. Economic Situation Resources

Steven C. Kyle, Associate Professor

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## Internet Sources for Economic Information and Commentary

1.	<a href="http://www.whitehouse.gov/fsbr/esbr.html/">http://www.whitehouse.gov/fsbr/esbr.html/</a>	<i>Economic Statistics Briefing Room</i> Easy access to latest Federal data at national level
2.	<a href="http://www.economagic.com/">http://www.economagic.com/</a>	<i>Economagic: Economic Times Series Page</i> Easy access to figures and graphs of important data from a variety of sources for the present as well as going back decades into the past
3.	<a href="http://www.bea.doc.gov/">http://www.bea.doc.gov/</a>	<i>Bureau of Economic Analysis Home Page</i> Links to: State level "GSP" figures ("Gross State Product") "Survey of Current Business" BEA news releases Overview of U.S. economy Many data sources
4.	<a href="http://www.dismal.com/">http://www.dismal.com/</a>	<i>"The Dismal Scientist"</i> Forecasts; Great site for commentary on current events; latest leading indicators; calendar of economic data releases; dictionary of economic terminology; and much more
5.	<a href="http://www.nber.com/">http://www.nber.com/</a>	<i>National Bureau of Economic Research</i> Access to the latest cutting edge academic research Also the home of business cycle analysis
6.	<a href="http://www.federalreserve.gov/">http://www.federalreserve.gov/</a>	<i>Federal Reserve</i> Latest news on monetary policy Functions of Federal Reserve General information on national banking system Links to regional Federal Reserve Bank sites Many articles on national economy at this, plus regional, sites
7.	<a href="http://stats.bls.gov/">http://stats.bls.gov/</a>	<i>Bureau of Labor Statistics</i> Latest employment figures
8.	<a href="http://www.conference-board.org/">http://www.conference-board.org/</a>	<i>The Conference Board</i> Latest leading indicators -- to reach directly, go to <a href="http://www.tcb-indicators.org/">http:// www.tcb-indicators.org/</a> Consumer confidence index
9.	<a href="http://europa.eu.int/">http://europa.eu.int/</a>	<i>European Union</i> Links to economic information and news for all members of the European Union
10.	<a href="http://www.worldbank.org/">http://www.worldbank.org/</a> <a href="http://www.imf.org/">http://www.imf.org/</a>	<i>The World Bank and the International Monetary Fund</i> Best single sources for data and information on other countries Includes cross country data banks; news releases; information on the organizations' structures and activities

## Chapter 2. Marketing Costs

William Drake, Extension Associate and Kristen S. Park, Extension Support Specialist

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### Customer Relationship Management

Today's food retailers operate in a difficult environment--one that is characterized by overstoring, negligible overall sales growth, and predation by new forms of competition. A key strategy for retailers to cope with this environment is "Customer Relationship Management" (CRM), a series of activities that collectively allow a retailer to better understand their existing customers and, in turn, develop targeted promotions and services. In doing so, retailers can capture a greater share of existing customers' spending--profitable means of increasing market share.

The most visible manifestation of CRM strategies are the loyalty cards or frequent shopper cards which have become commonplace among food retailers during the last several years.

The basic tenets of CRM are as follows:

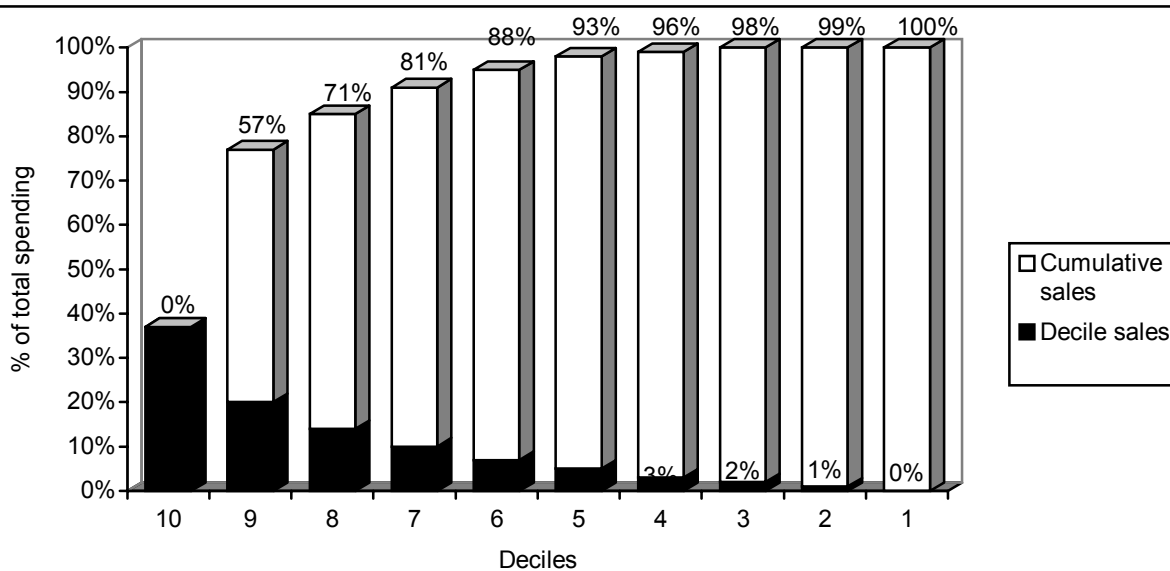
1. All customers are not of equal value to a retailers. Some customers account for a disproportionate share of sales and profit, while other customers are actually unprofitable for the retailer.
2. Good customers want to be recognized and appreciated.
3. Key customer groups will respond. When provided with relevant messages and information, good customers will exhibit increased loyalty and in-store spending.
4. It is less expensive to retain and/or increase spending among current customers than to acquire new customers.
5. Mass discounts are expensive and favor the less profitable or unprofitable "cherry picker" customer.
6. Discounting alone does not create true loyalty.

Key to an effective CRM strategy is customer segmentation--the identification of key customer groups who will become the focus of customized marketing efforts.

Figure 2-1 below, with data from a leading U.S. food retailer, illustrates the disproportionate importance of the "heavy users". In this case, the top 10 percent of customers (10<sup>th</sup> decile) account for 37 percent of total spending and 20 percent of customers (9<sup>th</sup> decile) account for more than half (57%), the additional decile having contributed an additional 20 percent of spending. In contrast, the bottom 20 percent of customers (2<sup>nd</sup> decile) account for only 1% of total spending. All customers are truly not "created equal"!

Loyalty card programs, which utilize scan-based, unique customer identifiers, allow retailers to link purchase behavior to specific customers. Retailers can then identify their top deciles of customers (heavy users) and target customized messages and promotions to these customers.

FIGURE 2-1. CUSTOMER SPENDING BY DECILES FOR COMPANY "XYZ"



An important facet of CRM strategies is the “stealth” nature of many of the targeted promotions. In contrast to the typical newspaper advertisement which targets the masses and is visible to competitors, CRM promotions are often targeted to very specific customer groups via a direct mail mode of delivery. These “pin point” promotions are inherently more efficient, and most importantly, invisible to competition.

Aided by technology and sophisticated analytics, retailers are rapidly becoming more sophisticated in their utilization of CRM strategies. While undifferentiated promotions to loyalty cardholders are an everyday occurrence in today’s marketplace, retailers are increasingly utilizing differentiated marketing tactics to:

- recognize and reward key customers
- attempt to recapture lost customers
- convert moderate spenders to heavy spenders
- build patronage and sales in specific product categories (e.g. In infant food/supplies, pet food/supplies, etc...)

The benefits of CRM strategies are significant. Best practice retailers report:

- increased sales
- increased margin
- reduced promotional markdowns and media costs
- increased differentiation of the store as a “brand”

An interesting result of CRM is often a reduction in transaction count, accompanied by moderate sales increases and significant margin increases--all the result of increased spending by key customers and the elimination of the unprofitable “cherry-picker” customers.

While CRM strategies are not surrogates for the time-tested fundamentals of retailing (good locations, clean and sanitary stores, high quality perishables, in-stock conditions and appropriate service levels) they do provide a unique tool for the retailer to connect with their customers and profitably capture market share – which is necessary for sales growth in a constant sum mature sales environment.

### **The Food Marketing System**

“The strong economy of the last few years has raised incomes and allowed more consumers to pay for convenience. Fast-paced, two-income lifestyles have limited time for preparing food at home, raising the demand for quick, easy-to-prepare food and the marketing services needed to provide foods in the forms consumers demand...meats cut up, marinated, and ready for the grill; entrees in microwaveable packaging; individual juice boxes for bag lunches; and the large portion of our meals prepared by foodservice companies.”

—Howard Elitzak, “Desire for Convenience Drives Marketing Costs,” *Food Review*, USDA-ERS, Vol. 22, Issue 3.

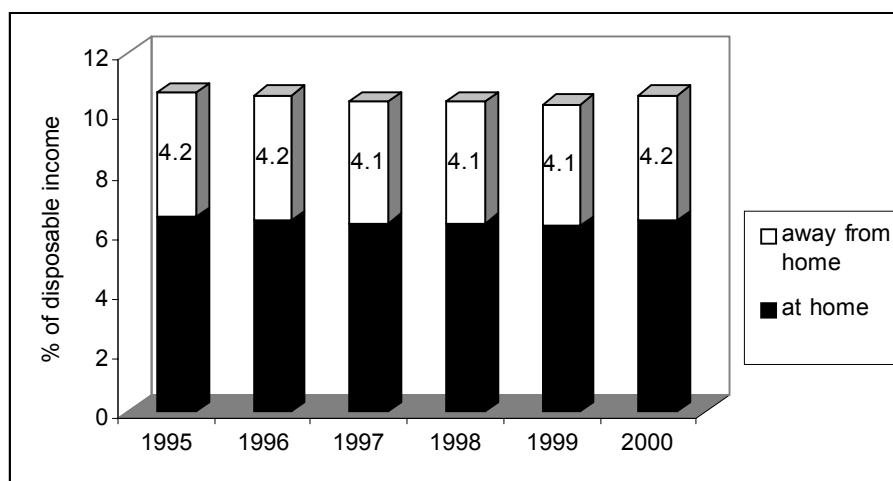
The statement above still held true for food sales in 2000. Total food and beverage sales grew 8.5 percent between 1999 and 2000, a growth of \$70.8 billion (Table 2-1). The majority of food sales still came from the food at home sector which saw total food sales of \$442.4 billion in 2000. Most of the food sales growth in 2000 also occurred in the food at home sector, unlike previous years. This was a move away from the trend where most of the food sales growth has been occurring in the food away from home sector. Food away from home grew 8.2 percent, or \$27.2 billion, between 1999 and 2000 to total \$359.9 billion. From 1990 to 2000, spending for food away from home grew more quickly than total food spending (58.3 versus 49.1 percent), increasing the share of total food spending used for food away from home from 44.0 to 46.7 percent over the period.

TABLE 2-1. FOOD SALES				
Sector	Sales 1999	Sales 2000	Increase	Growth
	--\$ billion--		--\$ billion--	--% change--
Total food and beverage sales	835.9	906.7	70.8	8.5
Total food sales (excluding alcohol)	740.3	802.3	62.0	8.4
Food at home sales	407.6	442.4	34.8	8.5
Food away from home sales	332.7	359.9	27.2	8.2
Alcoholic beverage sales	95.6	104.4	8.8	9.2

Source: USDA-ERS, <http://www.ers.usda.gov/briefing/CPIFoodAndExpenditures/Data/table1.htm>, Nov. 14, 2001.

Food expenditures as a share of disposable personal income increased somewhat to 10.6 percent in 2000 (Figure 2-2). This, however, was still well in line with the long-term decline in the share, which was 11.4 percent in 1990 and 13.2 percent in 1980.

FIGURE 2-2. FOOD EXPENDITURES AS A SHARE OF DISPOSABLE PERSONAL INCOME



Expenditures include food purchases from grocery stores and other retail outlets, including purchases with food stamps and WIC vouchers and food produced and consumed on farms (valued at farm prices) because the value of these foods is included in personal income. Excludes government-donated foods. Purchases of meals and snacks by families and individuals, and food furnished employees since it is included in personal income. Excludes food paid for by government and business, such as donated foods to schools, meals in prisons and other institutions, and expense-account meals.

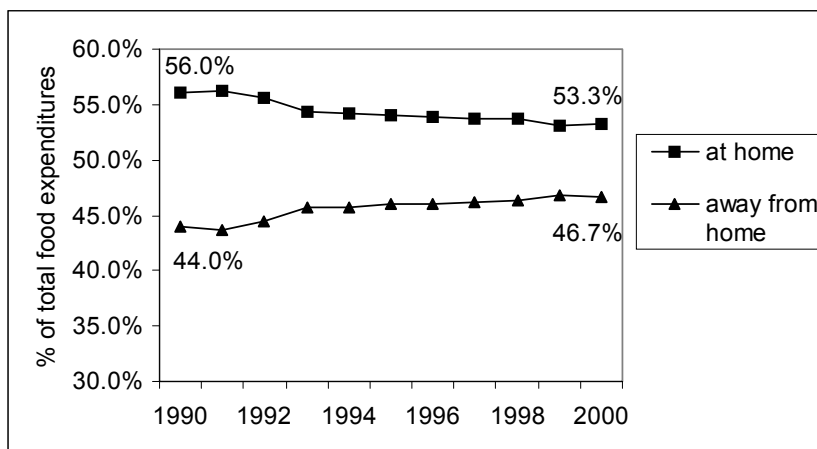
Source: USDA-ERS, <http://www.ers.usda.gov/briefing/CPIFoodAndExpenditures/Data/table7.htm>. Nov. 14, 2001.

In 2000 away from home consumer food expenditures were 46.7 percent of total consumer food expenditures (Figure 2-3), relatively stable from the year ago level of 46.9 percent.

A poor economy in 2001, however, will likely impact all the food industries including growth of sales in the foodservice sector. For example, according to word from food manufacturers and shippers, sales to foodservice, primarily restaurants, have plummeted this fall since our recent tragedies. While this has been a blow to this industry, retailers have seen quite varied consumer responses. One retailer recently commented that as their customers have been eating out less, they have seen an increase in their sales of prepared foods. Sales of rotisserie chicken have risen for example. They have also seen a reduction in labor turnover as people feel less secure about the future. Other retailers, warehouse clubs and discount food retailers, have been experiencing good sales during this downturn in the economy.



FIGURE 2-3. PERCENT OF TOTAL CONSUMER FOOD EXPENDITURES, AT HOME AND AWAY FROM HOME



Source: USDA-ERS, <http://www.ers.usda.gov/briefing/CPIFoodAndExpenditures/Data/table1.htm>, Nov. 14, 2001.

Assessing earlier signals, the U.S. Department of Agriculture reported that the Consumer Price Index (CPI) for food is expected to increase 2.5 to 3.0 percent in 2001, after increasing only 2.3 percent in 2000. The Bureau of Labor Statistics reports that the seasonally adjusted annual rate (SAAR) for food at home through September has advanced at a 3.4 percent rate thus far in 2001. Among the major grocery store food groups, the index for dairy products has shown the sharpest advance--increasing at a 6.6 percent SAAR after declining 0.4 percent in all of 2000. Higher-than-expected retail prices for beef and fresh fruits have also contributed to the increase.

## Chapter 3. Cooperatives

Brian M. Henahan, Senior Extension Associate

### U.S. Situation

The most complete data available on U.S. agricultural cooperatives are collected through an annual survey of marketing, farm supply and selected service cooperatives conducted by the Rural Business-Cooperative Service of the USDA. Results of the most recent survey are summarized in Table 3-1. Additional analysis of the data reported for 2000 was obtained from USDA Rural Development staff.

Table 3-1. UNITED STATES AGRICULTURAL COOPERATIVE NUMBERS, BUSINESS VOLUME, AND NET INCOME 1999-2000 <sup>1</sup>						
Major Business Activity	Number		Net Volume		Net Income	
	1999	2000	1999	2000	1999	2000
				(\$ billion)		(\$ million)
Marketing	1,749	1,672	72.0	72.1	871	867
Farm Supply	1,313	1,277	23.2	24.1	353	311
Related Service	404	397	3.9	3.5	104	98
	_____	_____	_____	_____	_____	_____
TOTAL	3,466	3,346	99.1	99.7	1,328	1,276

<sup>1</sup> Totals may not add due to rounding.  
Source: Farmer Cooperative Statistics, 1999, Rural Business - Cooperative Service, USDA, RBS Service Report 59, Washington, D.C., December, 2000 and preliminary release from Rural Business - Cooperative Service, USDA, November, 2001.

The number of cooperatives in the United States has continued to decline to 3,346 in 2000, a net decrease of 120 associations. This is primarily due to ongoing consolidation and merger of local marketing and supply cooperatives in the Midwest. However, 43 cooperatives were added to the USDA list as well. The rate of decline decreased over the past year compared to 1999. Total net business volume, which excludes intercooperative business, amounted to \$99.7 billion, up slightly from 1999.

Lower average farm milk price was a major factor contributing to a decline in sales by dairy cooperatives in 2000. However, sales of all other types (except rice) of marketing cooperatives grew, paced by a \$1.3 billion increase in the sale of grains and oilseeds.

Total net income for 2000 was \$1.3 billion, down from 1999 which was the lowest net income level since 1993. Although net income increased for dairy cooperatives, that gain was offset by lower margins for farm supplies, grains, and related service cooperatives (which perform services such as fertilizer and chemical application or livestock breeding).

Combined assets in 2000 for all cooperatives reached a record high of \$49.7 billion, a 4.2 percent increase from 1999. Total liabilities were \$29.4 billion in 2000. Net worth totaled nearly \$20.3 billion, up slightly from the previous year.

The estimated number of full-time employees in U.S. cooperatives for 2000 totaled 176,665, up from 172,951 in 1999.

### New York State Situation

Data for agricultural cooperatives headquartered in New York State were obtained from the Cooperative Service survey cited previously. State level data are collected every other year. The most current statistics available are for 1997 and 1999. Table 3-2 summarizes cooperative numbers and business volume for New York State.

Table 3-2. NEW YORK STATE AGRICULTURAL COOPERATIVE NUMBERS AND NET BUSINESS VOLUME BY MAJOR BUSINESS, 1997 and 1999 <sup>1</sup>				
Major Business Activity	Number Headquartered in State		Net Volume	
	1997	1999	1997 (\$ million)	1999
<u>Marketing:</u>				
Dairy	63	67	1,171.7	1,595.2
Fruit & Vegetable	9	9	285.8	492.4
Other Products <sup>2</sup>	7	6	353.6	353.5
TOTAL MARKETING	79	82	1,811.1	2,441.1
<u>Supply:</u>				
Crop Protectants			36.1	34.5
Feed			133.1	121.3
Fertilizer			55.3	54.1
Petroleum			244.9	182.5
Seed			23.3	17.1
Other Supplies			139.2	152.2
TOTAL SUPPLY	11	11	631.9	561.7
<u>Service</u> <sup>3</sup>	6	5	152.6	232.5
TOTAL	96	98	2,595.6	3,235.3
Source: <u>Farmer Cooperative Statistics</u> , 1999, RBS Service Report 59, USDA, RBS, Washington, DC, 2000 preliminary release and <u>Farmer Cooperative Statistics</u> , 1998. RBS Service Report 57, USDA, RBS, Washington, DC, November 1999.				
<sup>1</sup> Totals may not add due to rounding.				
<sup>2</sup> Includes wool, poultry, dry bean, grains, livestock, maple syrup, and miscellaneous.				
<sup>3</sup> Includes those cooperatives that provide services related to cooperative marketing and purchasing.				

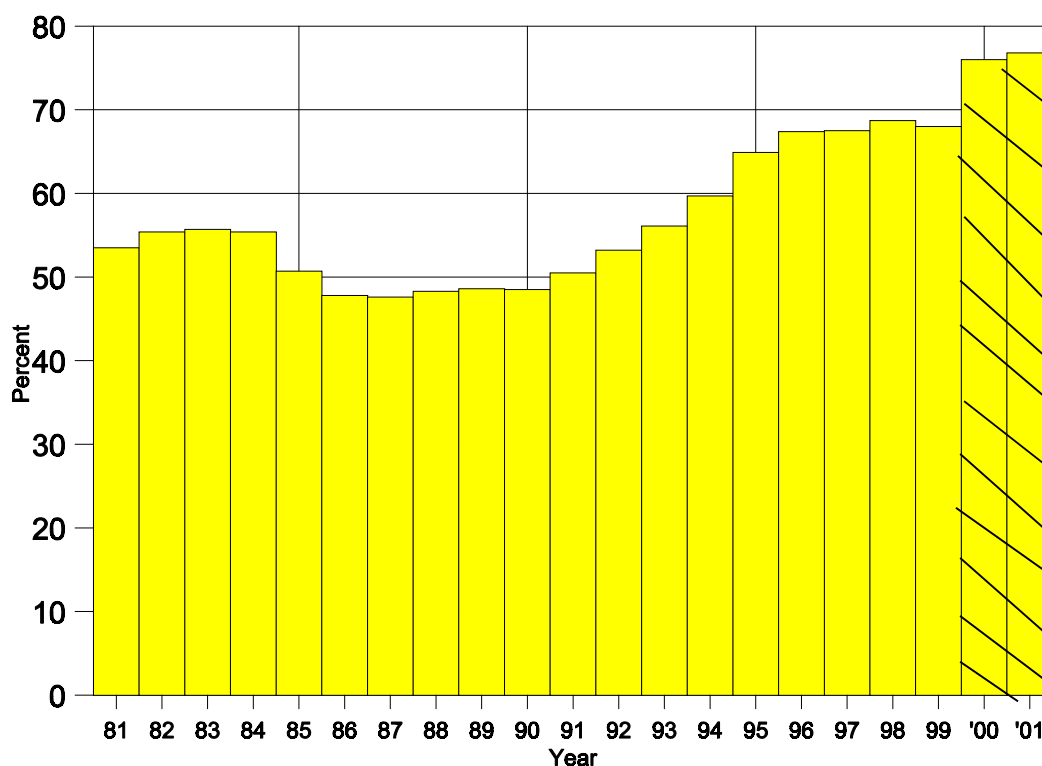
The number of agricultural cooperatives in New York State in 1999 showed a net increase of 2 cooperatives from 1997, with an increase in dairy cooperatives and a decrease in the number of marketing as well as service cooperatives. Total net business volume grew significantly to \$639.7 million, an increase of 25 percent from 1997. Supply cooperative volume decreased by \$72 million with lower sales of petroleum, feed and seed. Marketing volume increased by \$630 million with dairy and fruit & vegetable marketing cooperatives showing significant increases in volume over the two year period. Total volume of other products marketed through cooperatives remained the same. A significant portion of the increased revenues for dairy and fruit and vegetable cooperatives came from the higher value of products sold as well as more volume. Total volume for services related to marketing or purchasing grew from \$153 million to \$232 million over the two-year period.

### **Cooperative Share of Northeast Federal Milk Marketing Order 1**

As indicated in Figure 3-1, the proportion of milk receipts handled by (the old) Milk Marketing Order 2, dairy cooperatives fluctuated over the twenty-year period and leveled off at about 67 percent from 1996 to 1999. However, the cooperative share of milk receipts increased significantly to 76 percent under the new consolidated order combining former Federal Order 1 (New England), Federal Order 2 (New York-New Jersey), and Federal Order 4 (Middle Atlantic) into the new Northeast Milk Marketing Order 1. The increase following the consolidation of Orders was primarily the result of pre-existing higher percentages of milk being shipped to cooperatives in the former Orders 1 and 4. Those higher percentages increased the total average of milk received by cooperatives in the new Order 1. The cooperative share of milk receipts for the first eight months of 2001 increased slightly over the previous year.

**Figure 3-1. COOPERATIVE SHARE OF PRODUCER MILK RECEIPTS**

**Federal Order 2, 1981- 1999 and  
Northeast Federal Order 1, 2000-2001\***



\* The year 2001 is based on data for the first eight months of the year. Data for 2000 and 2001 represent the consolidated Federal Milk Marketing Order 1 (the result of a merger of the old Federal Orders 1, 2, and 4).  
Source: Market Administrator's Office, Northeast Federal Milk Marketing Order 1.

### New York State Dairy Cooperatives

This year's report focuses on dairy cooperatives in New York State. The number of dairy cooperatives, member numbers and gross business volume are compared with selected states. New York State has the highest number of dairy cooperatives (67) of any state in the U.S. (See Table 3-3) The New York figures of gross business volume per cooperative at \$29 million, as well as the gross business volume per member at \$298,000, are relatively low in comparison to the other selected states. It should be noted that although there are 67 dairy marketing cooperatives headquartered in New York State, only four or five dairy cooperatives account for a major share of total business volume. Many smaller bargaining cooperatives have affiliated with major dairy cooperatives or market their milk through a federated cooperative system.

Table 3-3. DAIRY MARKETING COOPERATIVES, MEMBERS, AND BUSINESS VOLUME FOR SELECTED STATES, 1999					
State	Number of Dairy Cooperatives	Volume per Cooperative (million dollars)	Number of Members	Volume per Member (000 dollars)	Gross Business Volume (billion dollars)
California	8	299	1,215	1,968	2.4
Illinois	4	389	2,609	597	1.6
Iowa	8	185	4,717	314	1.5
Minnesota	35	101	17,097	207	3.5
<b>New York</b>	<b>67</b>	<b>29</b>	<b>6,433</b>	<b>298</b>	<b>1.9</b>
Pennsylvania	19	21	2,612	160	.4
Wisconsin	30	200	25,266	238	6.0
U.S.	221	128	90,675	314	28.5

Source: Farmer Cooperative Statistics, 1999, RBS Service Report 59, USDA, RBS, Washington, DC, 2000

However, the relatively large number of small bargaining cooperatives in New York can create a fragmented marketing position for dairy producers, especially as the number of dairy plants and firms purchasing milk continue to decline in New York and across the U.S.

New York State has 30 percent of all U.S. dairy cooperatives and seven percent of members, accounting for seven percent of the total dairy cooperative business volume. (See Table 3.4) California has four percent of U.S. dairy cooperatives and one percent of all members, accounting for eight percent of total U.S. dairy cooperative volume.

Table 3-4. SHARE OF U.S. DAIRY COOPERATIVES, MEMBERS, AND BUSINESS VOLUME FOR SELECTED STATES, 1999			
<i>State</i>	<i>% Share of Cooperatives</i>	<i>% Share of Members</i>	<i>% Share of Volume</i>
California	4	1	8
Illinois	2	3	5
Iowa	4	5	5
Minnesota	16	19	12
<b>New York</b>	<b>30</b>	<b>7</b>	<b>7</b>
Pennsylvania	9	3	1
Wisconsin	14	28	21

Source: Farmer Cooperative Statistics, 1999, RBS Service Report 59, USDA, RBS, Washington, DC, 2000

### **Outlook for New York Dairy Cooperatives**

Although the number of dairy marketing cooperatives increased from 63 in 1997 to 67 in 1999, the outlook for New York dairy cooperatives will be continued consolidation or mergers as well as increased coordination among cooperatives. There will be continued interest in joint ventures and strategic alliances with dairy cooperatives and other firms outside the region as well as outside the U.S. to better leverage resources for competing in an increasingly demanding marketplace.

Smaller bargaining cooperatives with limited capacity to add value to members' milk or serve ever more demanding buyers will be hard pressed to deliver benefits to their dairy producer members on into the future. Larger cooperatives involved in value-added operations will continue to explore opportunities to spread fixed costs across a greater number of members or higher volume of milk.

# Chapter 4. Finance

Eddy L. LaDue, Professor

Table 4-1. United States Farm Balance Sheet  
Current Dollars, December 31  
Excluding Operator Households

Item	1980	1985	1990	1995	1999	2000	2001 <sup>d</sup>
<i>billion dollars</i>							
<b>Assets</b>							
Real Estate	783	586	626	741	870	906	933
Livestock	61	47	71	58	70	74	78
Machinery	80	83	85	89	89	89	90
Crops <sup>a</sup>	33	23	23	27	27	28	28
Purchased Inputs	c	1	3	3	4	4	4
Financial Assets	26	33	38	49	56	55	56
Total	983	773	846	967	1116	1156	1189
<b>Liabilities &amp; Equity</b>							
Real Estate Debt	90	100	75	79	94	98	99
Nonreal Estate Debt <sup>b</sup>	77	78	63	72	82	86	86
Total	167	178	138	151	176	184	185
Owner Equity	816	595	708	816	940	972	1004
Total	983	773	846	967	1116	1156	1189
Percent Equity	83	77	84	84	84	84	84

<sup>a</sup> Excludes crops under CCC loan.

<sup>b</sup> Excludes CCC loans.

<sup>c</sup> Not available.

<sup>d</sup> Forecast

Table 4-2. Changes in Structure, United States Farm Balance Sheet  
Current Dollars, December 31  
Excluding Operator Households

Item	1980	1985	1990	1995	1999	2000	2001 <sup>c</sup>
<i>percent of total</i>							
<b>Assets</b>							
Real Estate	80	76	74	77	78	78	78
Livestock	6	6	8	6	6	6	7
Machinery	8	11	10	9	8	8	8
All Other <sup>a</sup>	6	7	8	8	8	8	7
Total	100	100	100	100	100	100	100
<b>Liabilities</b>							
Real Estate Debt	54	56	54	52	53	53	54
Nonreal Estate Debt <sup>b</sup>	46	44	46	48	47	47	46
Total	100	100	100	100	100	100	100

<sup>a</sup> Excludes crops under CCC loan.

<sup>b</sup> Excludes CCC loans.

<sup>c</sup> Forecast

Source: Agricultural Income and Finance Outlook, ERS, USDA, AIS-77, September 2001.

Table 4-3. Distribution of United States Farm Debt by Lender  
Current Dollars, December 31  
Excluding Operator Households

Item	1980	1985	1990	1995	1999	2000	2001 <sup>c</sup>
<i>billion dollars</i>							
<b>Real Estate</b>							
Farm Credit System	33.2	42.2	25.8	24.8	30.3	31.8	32.2
Individuals & Others	27.8	25.8	15.1	18.0	18.7	18.7	18.6
Commercial Banks	7.8	10.7	16.2	22.3	29.8	31.8	32.7
Farm Service Agency	7.4	9.8	7.6	5.1	3.9	3.5	3.3
Insurance Companies	12.0	11.3	9.7	9.1	11.5	11.8	12.1
CCC-Storage	<u>1.5</u>	<u>.3</u>	<u>a</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	89.7	100.1	74.4	79.3	94.2	97.6	98.9
<b>Nonreal Estate<sup>b</sup></b>							
Commercial Banks	30.0	33.7	31.3	37.7	42.0	44.5	44.6
Farm Service Agency	10.0	14.7	9.4	5.1	4.0	3.9	3.7
Merchants & Dealers	17.4	15.1	12.7	16.2	20.3	20.9	21.5
Farm Credit System	<u>19.7</u>	<u>14.0</u>	<u>9.8</u>	<u>12.5</u>	<u>15.9</u>	<u>16.7</u>	<u>16.5</u>
Total	77.1	77.5	63.2	71.5	82.2	86.0	86.3

<sup>a</sup> Less than .05 billion.

<sup>b</sup> Excludes crops under CCC loan.

<sup>c</sup> Forecast

Table 4-4. Market Share of United States Farm Debt by Lender  
Current Dollars, December 31  
Excluding Operator Households

Item	1980	1985	1990	1995	1999	2000	2001
<i>percent of total</i>							
Farm Credit System	32	32	26	25	26	26	26
Commercial Banks	23	25	35	40	41	42	42
Farm Service Agency	11	14	12	7	4	4	4
Insurance Companies	7	6	7	6	7	6	6
Individuals & merchants	<u>27</u>	<u>23</u>	<u>20</u>	<u>22</u>	<u>22</u>	<u>22</u>	<u>22</u>
Total <sup>a</sup>	100	100	100	100	100	100	100

<sup>a</sup> Excludes crops under CCC loan.

Source: Economic Research Service, USDA, Agricultural Income and Finance, AIS-77, September 2001.



Table 4-5. New York Farm Balance Sheet  
Current Dollars, December 31  
Excluding Operator Households

Item	1980	1985	1990	1995	1998	1999	2000
<i>million dollars</i>							
<b>Assets</b>							
Real Estate	6178	6520	7768	8165	8683	9020	9595
Livestock	1527	983	1259	1138	1272	1360	1360
Machinery	1718	1875	1847	1838	1667	1722	1689
Crops <sup>a</sup>	561	491	540	352	507	252	308
Purchased Inputs	<sup>c</sup>	27	74	88	137	109	133
Financial Assets	<u>607</u>	<u>668</u>	<u>666</u>	<u>670</u>	<u>804</u>	<u>845</u>	<u>917</u>
Total	10591	10564	12154	12251	13070	13308	14002
<b>Liabilities &amp; Equity</b>							
Real Estate Debt	1038	1125	901	854	830	980	1024
Nonreal Estate Debt <sup>b</sup>	<u>1582</u>	<u>1472</u>	<u>1268</u>	<u>1318</u>	<u>1589</u>	<u>1475</u>	<u>1545</u>
Total	2620	2597	2169	2172	2419	2455	2569
Owner Equity	<u>7971</u>	<u>7967</u>	<u>9985</u>	<u>10079</u>	<u>10651</u>	<u>10853</u>	<u>11433</u>
Total	10591	10564	12154	12251	13070	13308	14002
Percent Equity	75	75	82	82	81	82	82

<sup>a</sup> Excludes crops under CCC loan.

<sup>b</sup> Excludes CCC loans.

<sup>c</sup> Not available.

Table 4-6. Changes in Structure, New York Farm Balance Sheet  
Current Dollars, December 31  
Excluding Operator Households

Item	1980	1985	1990	1995	1998	1999	2000
<i>percent of total</i>							
<b>Assets</b>							
Real Estate	58	62	64	67	66	68	68
Livestock	15	9	10	9	10	10	10
Machinery	16	18	15	15	13	13	12
All Other	<u>11</u>	<u>11</u>	<u>11</u>	<u>9</u>	<u>11</u>	<u>9</u>	<u>10</u>
Total <sup>a</sup>	100	100	100	100	100	100	100
<b>Liabilities</b>							
Real Estate Debt	40	43	42	39	34	40	40
Nonreal Estate Debt <sup>b</sup>	<u>60</u>	<u>57</u>	<u>58</u>	<u>61</u>	<u>66</u>	<u>60</u>	<u>60</u>
Total	100	100	100	100	100	100	100

<sup>a</sup> Excludes crops under CCC loan.

<sup>b</sup> Excludes CCC loans.

Source: Economic Research Service, USDA. Data revised November 2001.

Table 4-7. New York Farm Debt by Lender  
Current Dollars, December 31  
Excluding Operator Households

Item	1980	1985	1990	1995	1998	1999	2000
<i>million dollars</i>							
<b>Real Estate</b>							
Farm Credit System	367	449	404	332	251	388	428
Individuals & Others	373	363	216	256	266	266	261
Commercial Banks	108	89	116	146	199	218	233
Farm Service Agency	145	192	156	116	101	94	89
Insurance Companies	26	26	9	4	13	14	13
CCC - Storage	19	6	a	0	0	0	0
Total	1038	1125	901	854	830	980	1024
<b>Nonreal Estate</b>							
Commercial Banks	632	597	417	374	416	408	433
Farm Service Agency	284	287	219	176	180	176	172
Merchants & Dealers	338	257	216	274	332	344	361
Farm Credit System	328	331	416	494	661	547	579
Total <sup>b</sup>	1582	1472	1268	1318	1589	1475	1545

<sup>a</sup> Less than .5 million.

<sup>b</sup> Excludes CCC loans.

Table 4-8. Market Share of New York Farm Debt by Lender  
Current Dollars, December 31  
Excluding Operator Households

Item	1980	1985	1990	1995	1998	1999	2000
<i>percent of total</i>							
Farm Credit System	27	30	38	38	38	38	39
Commercial Banks	28	26	25	24	25	25	26
Farm Service Agency	17	19	17	14	12	11	10
Insurance Companies	1	1	a	a	a	1	1
Individuals & Merchants	27	24	20	24	25	25	24
Total	100	100	100	100	100	100	100

<sup>a</sup> Less than .5 percent.

Source: Economic Research Service, USDA. Data revised November 2001.

Table 4-9. Nonaccrual and Nonperforming Loans  
Farm Credit System, December 31

Year	Nonaccrual	Nonperforming <sup>a</sup>
	percent of loan volume	
1988	6.5	12.3
1989	5.1	11.0
1990	4.5	9.7
1991	3.7	8.0
1992	2.7	6.0
1993	2.3	4.2
1994	1.9	2.9
1995	1.4	2.1
1996	1.1	1.5
1997	0.9	1.3
1998	1.8	2.1
1999	1.4	1.6
2000	0.9	1.2
2001 (9/30)	1.0	1.2

<sup>a</sup> Nonaccrual plus accrual that are restructured or 90 days or more past due (impaired loans)

Source: Annual and Quarterly Reports of the Farm Credit System.

Table 4-10. Nonaccrual, Nonperforming, and Total Delinquent  
United States Commercial Banks, December 31

Year	Farm Nonreal Estate Loans			Farm Real Estate Loans		
	Nonaccrual	Nonperforming <sup>a</sup>	Delinquent <sup>b</sup>	Nonaccrual	Nonperforming	Delinquent
	percent of loan volume					
1985	6.1	7.3	10.1			
1986	5.9	7.0	9.4			
1987	4.2	4.8	6.5			
1988	2.9	3.3	4.5			
1989	1.9	2.3	3.7			
1990	1.6	1.9	3.1			
1991	1.6	1.9	3.2			
1992	1.5	1.8	2.8	1.0	1.3	2.1
1993	1.2	1.4	2.2	0.8	1.1	1.8
1994	0.9	1.1	2.0	0.9	1.4	2.4
1995	0.9	1.1	2.1	0.9	1.4	2.4
1996	1.0	1.3	2.4	1.0	1.7	2.8
1997	0.9	1.1	2.0	0.9	1.5	2.6
1998	0.9	1.2	2.2	1.0	1.7	2.9
1999	1.1	1.3	2.1	0.7	1.3	2.0
2000	1.0	1.2	2.1	0.8	1.4	2.3
2001 (6/30) <sup>c</sup>	1.3	1.8	2.9	1.2	1.7	2.7

<sup>a</sup> Includes nonaccrual and past due 90 days but accruing.

<sup>b</sup> Includes nonperforming and past due 30 to 89 days but accruing.

<sup>c</sup> Estimation procedures changed with new call reports adopted in March 2001. Part of increased delinquency rate may be due to changed procedure.

Source: Agricultural Financial Databook, Board of Governors of the Federal Reserve System.

Table 4-11. Delinquent Major Farm Program Direct Loans  
Farm Service Agency

Date	Farm Ownership <sup>a</sup>		Operating Loans <sup>a</sup>		Emergency Loans		Economic Emergency		Soil and Water <sup>a</sup>	
	U.S.	N.Y.	U.S.	N.Y.	U.S.	N.Y.	U.S.	N.Y.	U.S.	N.Y.
	percent of loan volume									
9/30/83	3	4	13	8	25	13	16	11	7	4
9/30/84	4	4	17	11	32	22	20	15	9	5
9/30/85	5	5	13	10	37	25	23	19	11	7
9/30/86	5	5	16	12	41	31	27	25	12	9
9/30/87	6	7	19	14	45	34	31	34	14	10
9/30/88	8	9	25	19	57	38	42	45	20	12
9/30/89	9	10	26	20	60	41	44	51	23	13
9/30/90	7	9	23	17	60	37	42	50	18	10
9/30/91	7	9	24	16	61	38	42	51	18	11
9/30/92	7	9	25	19	61	41	42	55	19	9
9/30/93	7	10	24	19	62	40	40	61	18	10
9/30/94	6	11	23	18	60	41	40	63	17	11
9/30/95	6	12	23	20	60	38	39	62	18	13
9/30/96	6	13	21	19	48	37	36	65	17	14
9/30/97	6	14	20	17	44	34	33	67	15	15
9/30/98	5	13	18	16	39	34	31	68	16	14
9/30/99	5	13	15	15	32	29	29	63	15	11
9/30/00	4	12	14	14	26	27	26	60	15	11
9/30/01	4	11	13	13	24	24	24	55	14	10

<sup>a</sup> Includes limited resource loans.

Source: FSA Report Code 616.

Table 4-12. Delinquent Major Farm Program Guaranteed Loans  
Farm Service Agency

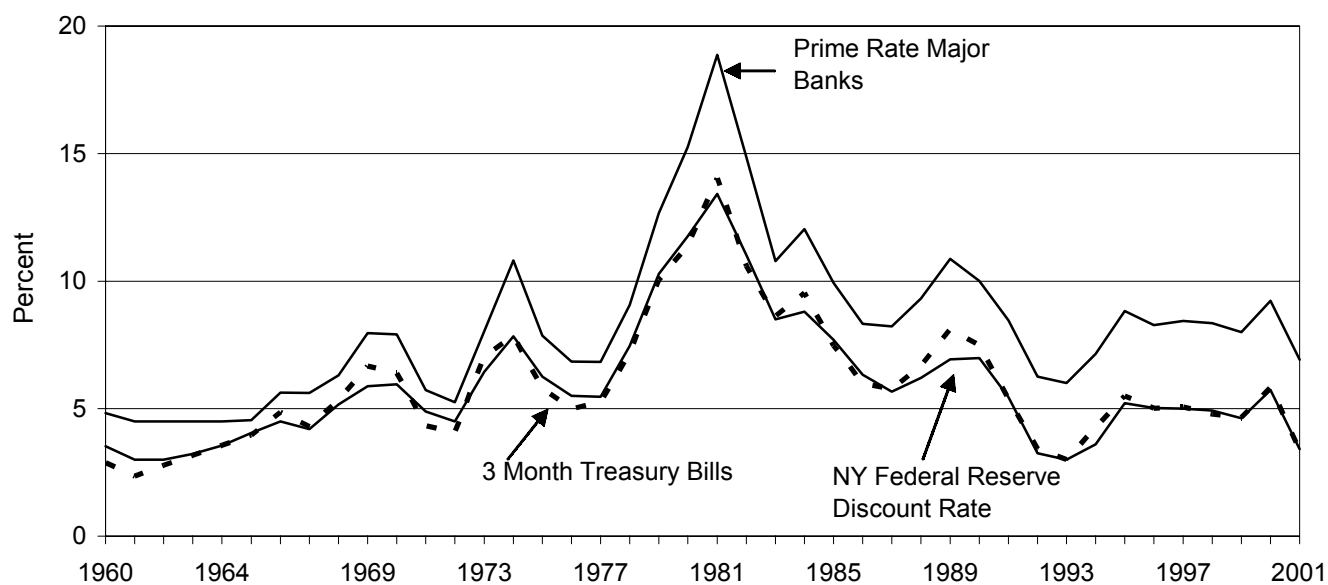
Date	Farm Ownership		Farm Operating	
	U.S.	N.Y.	U.S.	N.Y.
	percent of loan volume			
9/30/95	1	1	2	1
9/30/96	1	1	2	1
9/30/97	1	1	2	1
9/30/98	1	2	3	2
9/30/99	1	2	3	2
9/30/00	1	2	2	3
9/30/01	2	3	3	3

Source: FSA Reports 4067 and 4067-C

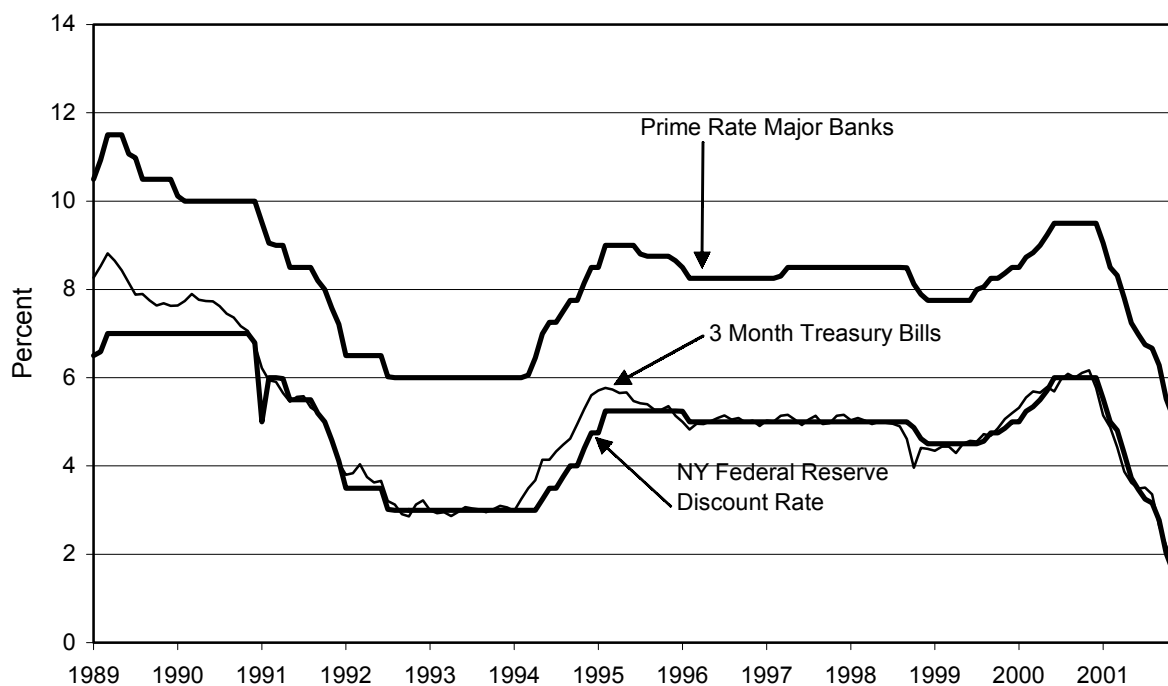
In spite of low commodity prices, national average real estate prices increased another three percent in 2001. Clearly, the high level of government payments is providing cash for farmers to bid up the price of land. Higher prices were particularly prevalent in the Midwest where government payments are a high proportion of net farm income. Higher livestock prices, particularly for dairy and swine breeding stock, increased the value of livestock by about five percent during 2001.

National debt levels were basically unchanged with only a small increase in real estate debt. The increased value of assets with constant debt increased the equity of farmers. The net financial position of the nation's agriculture remains very strong with an 84 percent equity.

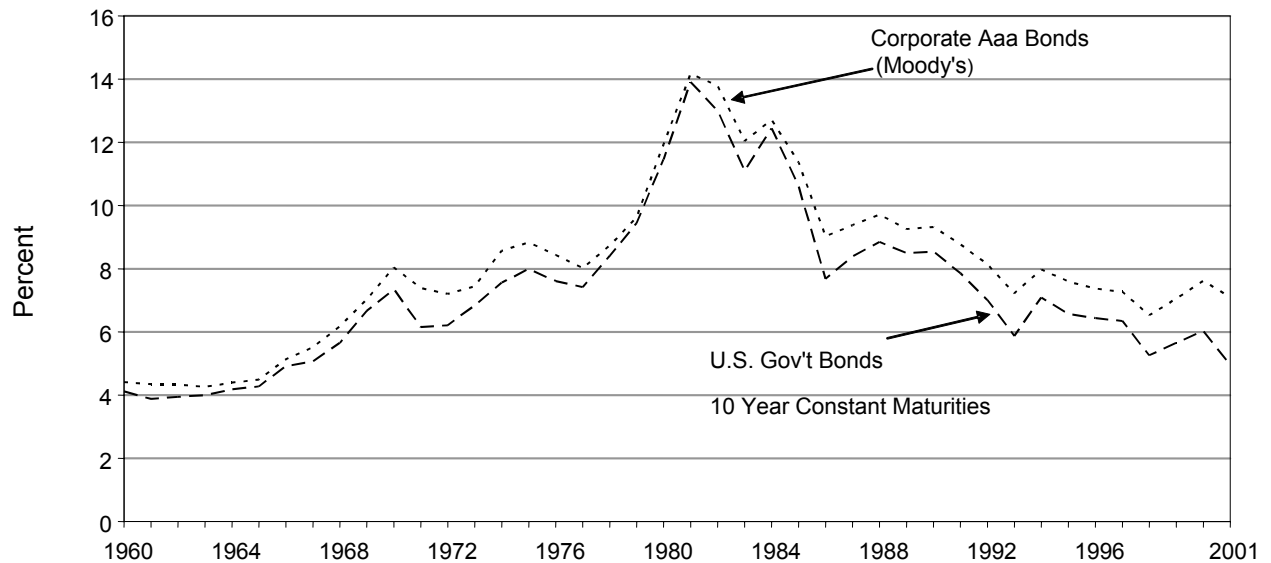
Market shares of the nation's agricultural debt remained constant during 2001 with commercial banks continuing as agriculture's most important lender. The Farm Credit System continued at a relatively distant second position with a 26 percent market share compared to banks 42 percent.

**FIGURE 4-1. ANNUAL AVERAGE SHORT TERM INTEREST RATES**

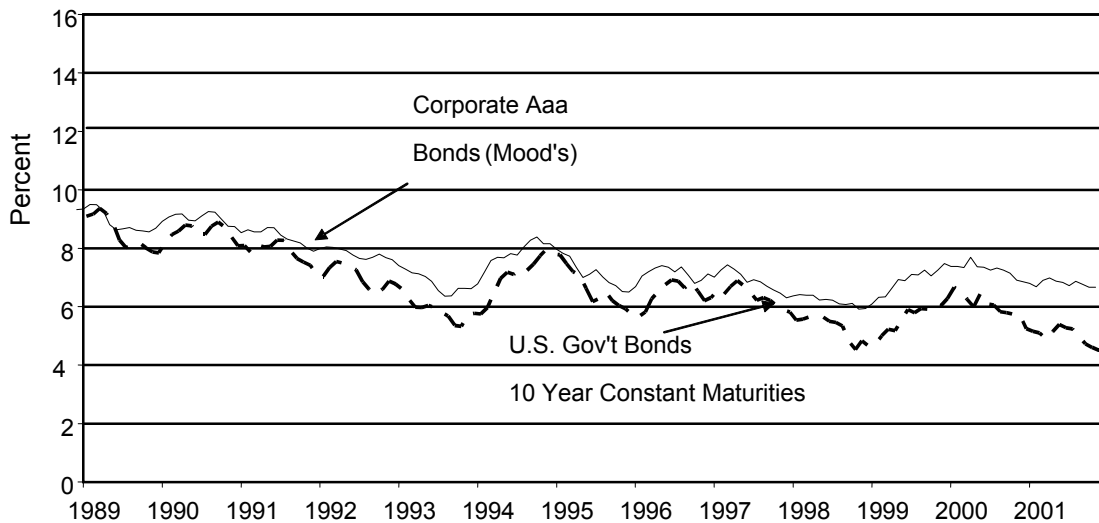
After increasing during 2000, short term interest rates were pushed sharply lower throughout 2001. Basic rates fell by about four percentage points.

**FIGURE 4-2. MONTHLY SHORT TERM INTEREST RATES**

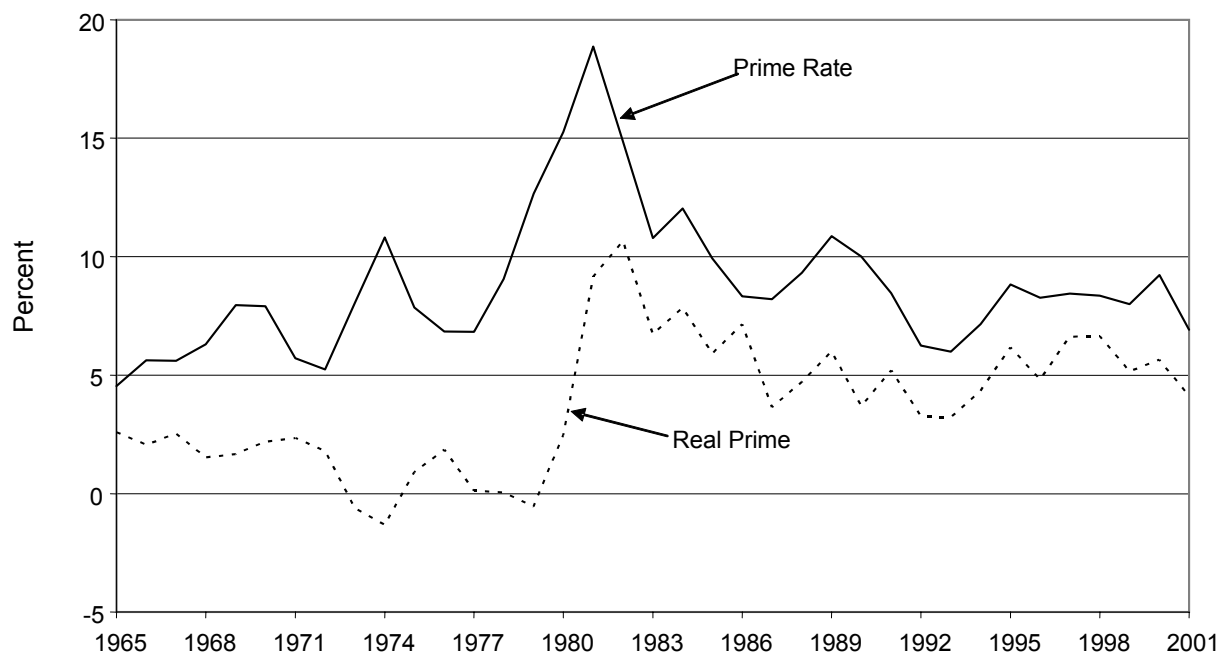
3 Month Treasury Bills		
	2000	2001
Jan.	5.32	5.15
Feb.	5.55	4.88
Mar.	5.69	4.42
Apr.	5.67	3.87
May	5.66	3.62
June	5.69	3.49
July	5.96	3.51
Aug.	6.09	3.36
Sept.	6.00	2.64
Oct.	6.11	
Nov.	6.17	
Dec.	5.77	

**FIGURE 4-3 ANNUAL LONG TERM INTEREST RATES**

In contrast to the sharp declines in short term interest rates, long term rates fell modestly during 2001. Declines were generally one-half percentage or less.

**FIGURE 4-4. MONTHLY LONG TERM INTEREST RATES**

U.S. Gov't Bonds 10 Year Constant Maturity		
	2000	2001
Jan	6.66	5.16
Feb	6.52	5.10
Mar	6.26	4.89
Apr	5.99	5.14
May	6.44	5.39
June	6.10	5.28
July	6.05	5.24
Aug	5.83	4.97
Sept	5.80	4.73
Oct	5.74	
Nov	5.72	
Dec	5.24	

**FIGURE 4-5. CONTRACT AND REAL INTEREST RATES**

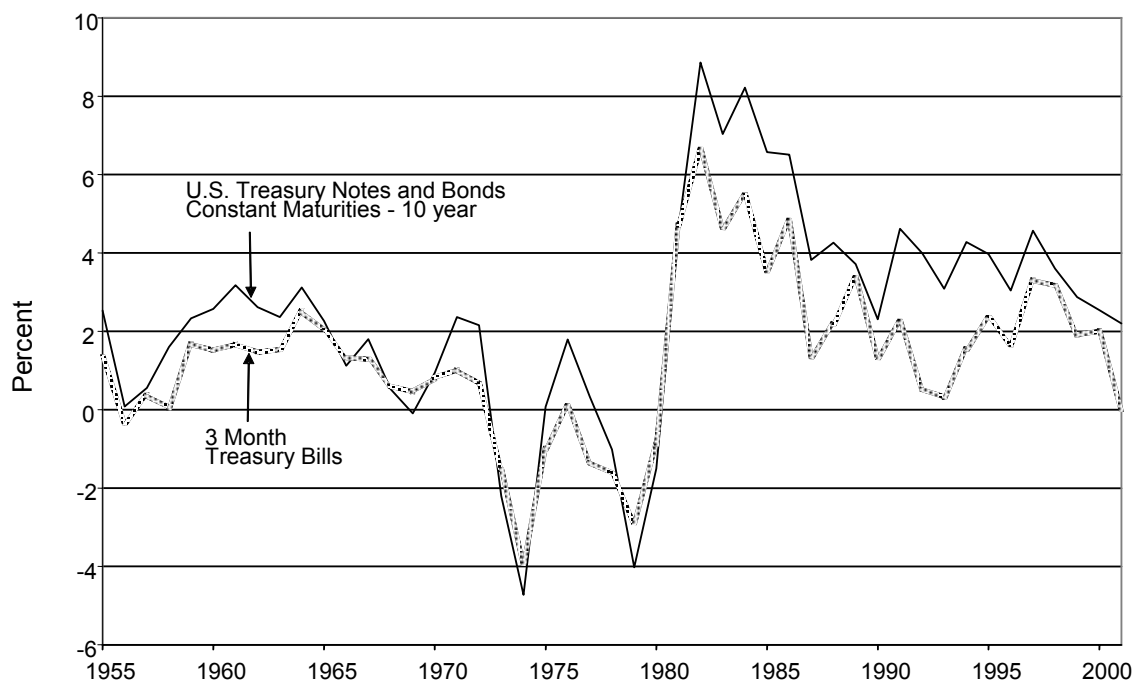
The quality of lender portfolios remain strong. Delinquencies continue at low levels. The high level of government payments has undoubtedly contributed significantly to this situation nationally. The strong recovery of the price of milk has contributed to maintenance of low delinquencies in New York.

Short term real interest rates declined to levels below zero in late 2001. These very low rates were the result of low contract rates with modest inflation. The last time real rates were this low was in the late 1970's when the low rates were the result of high inflation rates. Average real short term rates for the year dropped 1.25 to 1.5 percentage points.

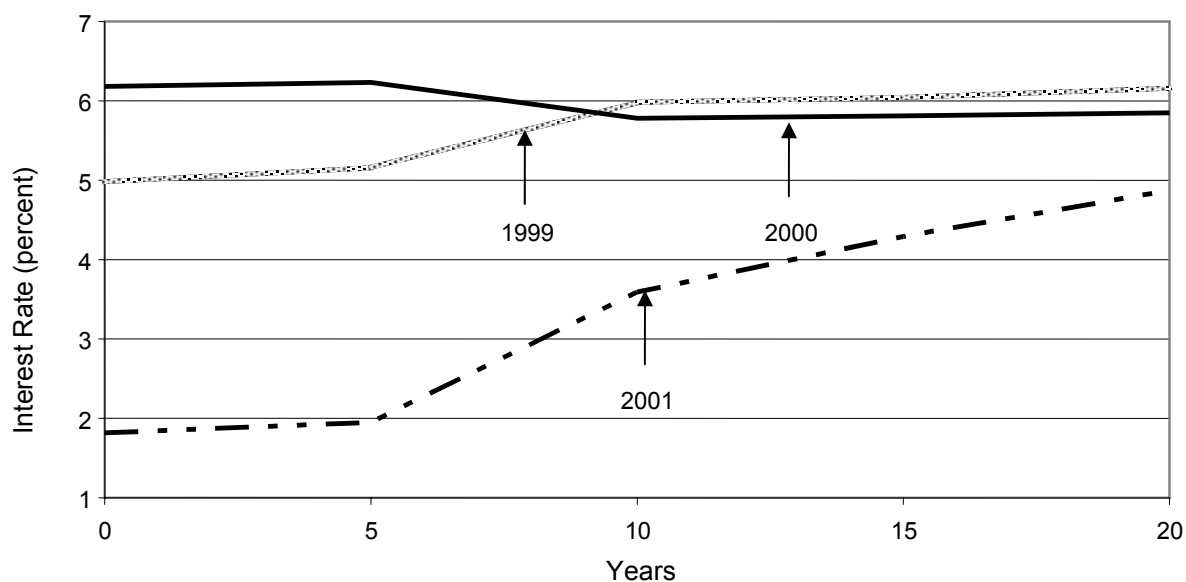
The Federal Reserve Board's unusually aggressive reductions in short term interest rates resulted in the resurgence of a strongly upward sloping yield curve. Long term rates in early November were three percent above short term rates.

There is reason to believe that the economy is at or near the bottom of the economic cycle at the end of 2001. The Federal Reserve Board has been aggressively pushing interest rates lower for a full year. The effect of these reductions should start showing up in early 2002. In the absence of additional horrific terrorist attacks, growth of the economy should resume. When growth starts to pick up, interest rates should start to rise. However, there is good reason to expect that growth will be quit sluggish during most of 2002. This implies that the rise in rates during the year should be modest.

Current inflation pressures are modest for many sectors of the economy. The year 2002 inflation could be slightly below that experienced during 2001.

**FIGURE 4-6, LONG AND SHORT TERM REAL INTEREST RATES**

Farm level interest rates are expected to continue at late 2001 levels well into 2002. Increases during the year will likely be modest. Average interest cost for the year will likely be one to two percentage points below that experienced in 2001. This is particularly good news following the two-plus percentage point decrease experienced during 2001. Credit should be readily available for farmers with demonstrated repayment capacity.

**FIGURE 4-7. YIELD CURVE 1ST WEEK OF NOVEMBER (U.S. GOVERNMENT SECURITIES)**



## Chapter 5. Grain and Feed

James H. Hilker, Professor

The outlook for grain and feed are summarized in Tables 5-1 through 5-3. Grain and soybean prices have been very low for the past three years. While it appears corn and wheat prices may increase marginally the next two years, soybean prices are expected to remain in the doldrums unless we have a major growing problem somewhere in the world. Not only has the U.S. had generally large crops the past four growing seasons, but the rest of the world as a whole has also had four years of good crops.

### Corn

For the second fall in a row we will have had the second highest corn yield on record. So even with 3.5 million less acres of corn harvested, we will have over a 9.5 billion bushel corn crop. Combined with almost 1.9 billion bushels of beginning stocks carried over from last year, we start the year with a total supply over 11.45 billion bushels; this would be the fourth largest on record and just 2% less than last year. The expected corn supply situation for the September 1-August 31 2001-02 corn marketing year can be seen in Table 5-1.

TABLE 5-1. SUPPLY/DEMAND BALANCE SHEET FOR CORN			
	Est. 2000-01	Hilker 2001-02	Hilker 2002-03
(Million Acres)			
Acres Planted	79.5	76.0	77.3
Acres Harvested	72.7	69.2	70.5
Bu./Harvested Acre	137.1	138.0	139.5
(Million Bushels)			
Beginning Stocks	1718	1899	1549
Production	9968	9546	9835
Imports	7	9	11
Total Supply	11693	11454	11395
Use:			
Feed and Residual	5890	5825	5900
Food, Seed and Ind. Uses	1967	2045	2155
Total Domestic	7857	7870	8055
Exports	1937	2035	2115
Total Use	9794	9905	10170
Ending Stocks	1899	1549	1225
Ending Stocks, % of Use	19.4	15.6	12.0
Regular Loan Rate	\$1.89	\$1.89	1.89
US Season Average Farm Price, \$/Bu.			
	\$1.85	\$2.00	\$2.20

Source: USDA and Jim Hilker.

Feed use of all feed grains is expected to be down 2% and corn used for feed down a little over 1% from last year's record level. Wheat used for feed is also down. Why the lower feed use? While broiler production is expected to be up nearly 3% over the next year, beef production (i.e., cattle fed) is expected to be down nearly 3%, pork production (hog numbers) is expected to decline a little less than 1%. The reason expected corn fed is down so little is having less of the other grains to feed, as eluded to above, and we expect weights will continue to increase.

Food, Seed, and Industrial uses (FSI) is expected to continue its rapid growth. The big growth stimulant here is the expected growth in ethanol demand. As the law is written now gasoline in certain areas with higher smog problems must have a certain level of oxygenate. There are two ways to do this, adding MBTE or ethanol. After discovering that the MBTE was polluting their wells, California has said that the MBTE additive has to be out of all gasoline by 2003. There have been some recent fines of the same problem on the East Coast.

Exports are expected to grow by 5%, as shown in Table 1. The increase in exports is expected to come from less corn coming out of South America and China joining the WTO. However, corn exports are presently lagging behind last year and will need to (are expected to) make a strong recovery this winter and spring to reach the forecast.

Total all these up and we expect to use a record 9.9 billion bushels. The problem is, we still will have 1.549 billion bushels, 15.5 % of use, left over. The good part is, 1.54 billion bushels is a lot less than this past year's ending stocks of 1.9 billion bushels, which was 19.4% of use. The annual average weighted U.S. price is expected to be around \$2.00 for the 2001-02 corn marketing year.

The market, by the basis is telling sellers it may pay to store on-farm. This also means it may pay users to buy and store if they have on-farm storage. If on-farm storage is not available sellers should move the corn and consider buying calls if they want to be in the market for a spring rally. Buyers should consider buying some of their needs through the winter as they need it, but should also consider locking in a significant amount of their needs before a possible winter or spring rally. The next paragraph will also show why some forward contracting of feed needed through next year may be prudent.

If you consider higher corn prices good, my analysis for the 2002-03 corn marketing year, also shown on Table 5-1, would be considered positive. I expect corn acreage to make a marginal recovery, 1.3 million more acres, as a more normal planting season would be anticipated and expected corn prices come nearer to matching the returns of the soybean loan rate. Multiple the increased acres by a trend yield of 139.5 bu/ac and we have a 9.8 billion bushel crop, 300 million more than this year. But given the smaller beginning stocks, total supply is expected to be down a bit as shown.

Feed use is expected to grow marginally as hog numbers recovery a little, as will broiler numbers, and cattle numbers stop their big slide. FSI use should see a large increase as we complete the switch over to ethanol. Exports are expected to grow as world needs increase and the world economy recovers. My analysis would indicate that total use will approach 10.2 billion bushels. This would leave projected ending stocks at the lowest level in years at 12%. This would indicate an annual average price of around \$2.20 for 2002-03, given a "normal" growing season. This forecast is pretty well in line with December 2002 corn futures.

## Wheat

The story for 2001-02 wheat, which we are half way through, is shown in the three columns of Table 5-2. The situation is better than last year, but poorer than next year's forecast. Ending stocks forecast at 652 million bushels, 28.7 % of use, is a big improvement relative to the past few years.

Wheat yields for the 2001-02 wheat crop year were the lowest in the past four years, but also the fourth highest on record. The lower yield along with over 4 million less acres harvested and we ended up with a much smaller crop as shown in Table 5-2. With bit smaller beginning stocks and the smaller production, total wheat supplies for 2001-02 were down close to 350 million bushels, over 10% smaller than the previous year.

TABLE 5-2. SUPPLY/DEMAND BALANCE SHEET FOR WHEAT			
	Est. 2000-01	Projected 2001-02	Hilker 2002-03
(Million Acres)			
Acres Planted	62.5	59.6	60.0
Acres Harvested	53.1	48.7	50.0
Bu./Harvested Acre	42.0	40.2	42.9
(Million Bushels)			
Beginning Stocks	950	876	652
Production	2232	1958	2145
Imports	90	90	93
Total Supply	3272	2924	2890
Use:			
Food	957	960	970
Seed	80	87	85
Feed and Residual	298	200	215
Total Domestic	1335	1247	1270
Exports	1061	1025	1050
Total Use	2396	2272	2320
Ending Stocks	876	652	570
Ending Stocks, % of Use	36.6	28.7	24.6
Regular Loan Rate	\$2.58	\$2.58	\$2.58
Season Average Farm Price			
U.S, \$/Bu.	\$2.62	\$2.85	\$3.20
Michigan \$/Bu.	2.10	2.20	2.70

Source: USDA and Jim Hilker.

The use side will not make an improvement this year. Wheat used for feed use was down by a third and exports are expected to fall below last year's level. Therefore, projected use is down over 120 million bushels relative to 2000-01. However, this drop is much less than the drop in supplies, so ending stocks will decrease. The average U.S. price is expected to be about \$2.85, but soft red prices are expected to average much less.

Total supplies are expected to drop marginally in 2002-03 as acreage will be about the same, and yields are expected to go to trend. This will give us more production, but not enough to offset the smaller beginning stocks. I expect use to increase some, once again lowering ending stocks. This will lead to higher prices for next year's wheat crop.

## Soybeans

The second highest yield on record, record planted acreage, brought us a record soybean crop this fall. I expect the price picture to remain poor this year and next. Without a weather concern we should have cheap soy meal over the same period. Put a record South American crop from last spring on top of that with another record expected this year and we continue to be awash in soybeans. The surprising part to me is that we get rid of as many as we do.

The soybean picture can be seen in Table 5-3. The 2001-02 total supplies will top 3 billion bushels for the third year in a row, moderate beginning stocks with huge production. Crushing are expected to grow despite fewer animal units, partially due to export growth, but mostly higher feed use. Exports are expected to drop off 18 million bushels as we will have huge competition from South America, like another 150 million bushels. In that light, an 18 million bushel dropoff isn't bad.

TABLE 5-3. SUPPLY/DEMAND BALANCE SHEET FOR SOYBEANS			
	Est. 2000-01	Projected 2001-02	Hilker 2002-03
(Million Acres)			
Acres Planted	74.3	75.2	74.7
Acres Harvested	72.4	72.4	73.5
Bu./Harvested Acre	38.1	39.4	39.5
(Million Bushels)			
Beginning Stocks	290	248	355
Production	2758	2923	2903
Imports	4	4	4
Total Supply	3052	3175	3260
Use:			
Crushings	1641	1665	1690
Exports	998	980	1025
Seed, Feed and Residuals	165	175	175
Total Use	2804	2820	2890
Ending Stocks	248	345	370
Ending Stocks, % of Use	8.8	12.6	12.8
Regular Loan Rate	\$5.26	\$5.25	\$5.26?
US Season Average Farm Price, \$/Bu.	\$4.55	\$4.30	\$4.30

Source: USDA and Jim Hilker.

In total, the above numbers increase use marginally. Much bigger supply and only a little bigger use, leads to sharply higher ending stocks. Ending stocks for 2001-02 are expected to grow over a hundred million bushels, leaving us with a stocks-to-use ration of 12.6%. This leads to low prices.

The last column of Table 5-3 suggests things are not liable to change. The relatively high soybean loan rate means planted acres are not liable to drop off much for the 2002-03 crop year. That along with trend yields being about the same as this year's yield suggests another large crop, and larger total supplies. Even with the projected increase in use for 2002-03, ending stocks are expected to grow. This cycle is unlikely to change without a lowering of the soybean loan rate, or a weather shock.

**You can see Jim Hilker's Market Updates bi-monthly at <http://www.msu.edu/user/hilker/>.**

## Chapter 6. Livestock

James H. Hilker, Professor

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The big story for livestock right now is demand. Both beef and pork demand started decreasing in the late 1970s at a very significant rate. Or as an economist would say, given other factors constant, the beef and pork demand curves were shifting to the left, due to changes in tastes and preferences. Or, for a given price, people were continuously willing to pay less and less for the same amount of beef and pork as we went through the 80s and most of the 90s. The only way producers were able to cover their cost with the resulting lower prices was to cut back production and become more efficient, both of which they did, resulting in smaller industries. There was also still a positive income effect over the period, which counteracted some of the demand decreases.

However, beginning about two years ago, this trend seems to have stopped, and may have even reversed itself. Then came the September 11 tragedies. Possibly due to the resulting slowdown in the restaurant trade, demand seems to have fallen off significantly the past two months. While I feel this is more of a short-run problem, it is unclear how long it will last, especially as we are in an economic slowdown as well.

### Cattle

On the supply side, the longer run question for the cattle industry is whether we will see any signs of expansion in the January 1 Cattle Inventory Report. Generally after several years of good returns in the cow-calf sector, like we have seen, beef cow numbers and heifers kept for replacement begin to increase. Given the number of heifers that have been in the slaughter mix over the past year along with the cow kill, I don't foresee a huge jump in numbers held for breeding stock in the upcoming report. But I do expect the numbers to be up a bit and continue to grow as we go through 2002. This, of course, will lower the number of head available for slaughter. This scenario will also keep feeder prices as strong or stronger than this past year for at least the next two years.

In my price forecasts I am assuming that demand will gradually come back to close to last year level as we go through 2002. I expect total beef production to be down around 2.5% for the year. This is based on fewer placements this fall and less feeder cattle available as we go through the year. Actual slaughter will probably be down even a greater amount, but heavier weights will counteract some of that decrease.

First quarter beef production is expected to be down 1-2% and steer prices should fight back into the high \$60s to the low \$70s. While that seems like a sharp increase from this fall's low \$60s, we must remember that first quarter prices in 2001 averaged \$79/cwt with more beef. This shows, that how quickly demand rebounds, will play a big role on the outcome. Production is expected to be off about 2% in the second quarter and prices will likely be in the mid-70s. If demand recovers fully by then steer prices will be in the upper \$70s. At this point the futures are calling for prices in the upper \$60s for April. It is important to see this discrepancy in opinions. It tells you something about the risk faced by the feedlots as they decide on their bids for feeder cattle.

Beef production in the third quarter is expected to be down 1.5-2.5%. Price forecasts vary from the futures \$66 to the USDA's close to \$80s. I am in the mid-70s camp. Fourth quarter production is expected to be down around 4%. This should put steer prices in the mid-70s compared to this year's mid to low \$60s. The futures markets are calling for prices next fall in the high \$60s. Cow and cull prices should be near this

past year prices for most of the year, and a little stronger next fall than this year. It should be easy to tell I don't see any good forward pricing opportunities using the futures at this time.

## **Hogs**

This fall hog prices have been low, pork prices have not, and the retailers have been the benefactors. But things change, and I expect more normal spreads as we go through 2002. Pork production is expected to be up about 1-2% for 2002 as a whole, some due to higher slaughter and some due to increased slaughter weights. Prices for the year are expected to average \$42-44, a little lower than this past year's \$46/cwt.

First quarter 2002 pork production is expected to be down about 1%. This should put prices in the low \$40s, near last year's \$42.83. This suggests demand will have not fully recovered. Second quarter production is expected to be up about 2% and prices are projected to be in the high \$40s. This compares to prices in the second quarter of 2001 averaging \$52.

As we go into the third quarter, production is expected to be up about 3%. This should put prices in the mid-40s, compared to the previous year's \$51. This would suggest pork demand has recovered. The fourth quarter production is a big question mark. The December 1 USDA Hogs and Pigs Report, to be released December 28, should shed some light on it. Estimates range from down 1% to up 3%. Price estimates range from \$38-42.

As of mid-November futures prices were below the above forecasts. However, before the sharp drop off in prices there were some good forward pricing opportunities through 2002. Keep an eye on all of the futures for 2002 delivery. If they reach their previous highs, consider locking in a portion of your projected production. Remember, future contract prices are in carcass weights, multiply by .74 to get a live weight equivalent.

**You can see Jim Hilker's Market Updates bi-monthly at <http://www.msu.edu/user/hilker/>.**

## Chapter 7. Dairy — Markets and Policy

Mark W. Stephenson, Senior Extension Associate

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### 2002 Dairy Outlook

Positive Factors:

- Excellent forage quality
- Coming off highest farm milk price year ever
- Grain prices remain low

Negative Factors:

- Some forage supplies are short
- Demand for dairy products will not grow as much in stalled economy
- Replacement animals are expensive

Uncertainties:

- Policy actions, including new Farm Bill

New York Dairy Situation and Outlook 1999, 2000 Preliminary 2001, and Projected 2002						
Item					Percent Change	
	1999	2000	2001	2002	00-01	01-02
Number of milk cows (thousand head)	701	686	671	660	-2.2	-1.6
Milk per cow (lbs.)	17,175	17,376	17,380	17,500	0.0	0.7
Total milk production (million lbs.)	12,040	11,920	11,662	11,550	-2.2	-1.0
Blended milk price (\$/cwt.) <sup>a</sup>		14.74	15.61	15.06	5.9	-3.5

<sup>a</sup> Northeast federal order statistical uniform price for farms shipping milk to Suffolk County, MA (Boston).

Table 7-1. U.S. Milk Supply and Utilization, 1995–2002.

	1995	1996*	1997	1998	1999	2000 <sup>a</sup>	2001 <sup>b</sup>	2002 <sup>c</sup>
<u>Supply</u>								
Cows Numbers (thous.)	9,458	9,351	9,258	9,158	9,156	9,210	9,125	9,146
Production/cow (lbs)	16,433	16,498	16,916	17,192	17,771	18,204	18,140	18,550
Production	155.4	154.3	156.6	157.4	162.7	167.7	165.5	169.6
Farm Use	1.6	1.5	1.4	1.4	1.4	1.3	1.3	1.2
Marketings	153.8	152.8	155.2	156.0	161.3	166.3	164.2	168.4
Beginning Commercial Stocks	4.3	4.1	4.7	4.9	5.3	6.1	6.9	6.3
Imports	2.9	2.9	2.7	4.6	4.8	4.4	5.6	4.3
<b>Total Supply</b>	<b>161.0</b>	<b>159.8</b>	<b>162.6</b>	<b>165.5</b>	<b>171.4</b>	<b>176.9</b>	<b>176.7</b>	<b>179.0</b>
<u>Utilization</u>								
Commercial Disappearance	154.8	155.0	156.6	159.9	164.9	169.2	170.3	172.7
Ending Commercial Stocks	4.1	4.7	4.9	5.3	6.1	6.9	6.3	5.8
DEIP	1.9	0.1	1.1	0.3	0.3	0.4	0.1	0.4
Net Removals (excluding DEIP)	0.2	0.0	0.0	0.0	0.1	0.5	0.0	0.2
<b>Total Use</b>	<b>161.0</b>	<b>159.8</b>	<b>162.6</b>	<b>165.5</b>	<b>171.4</b>	<b>176.9</b>	<b>176.7</b>	<b>179.0</b>

Source: Dairy Situation and Outlook, Milk Production, and Dairy Market News, U.S. Department of Agriculture. Note that total may not add exactly due to rounding.

\* Leap year.

<sup>a</sup> Revised.

<sup>b</sup> Based on preliminary USDA data and Cornell estimates.

<sup>c</sup> Projected by Mark Stephenson.

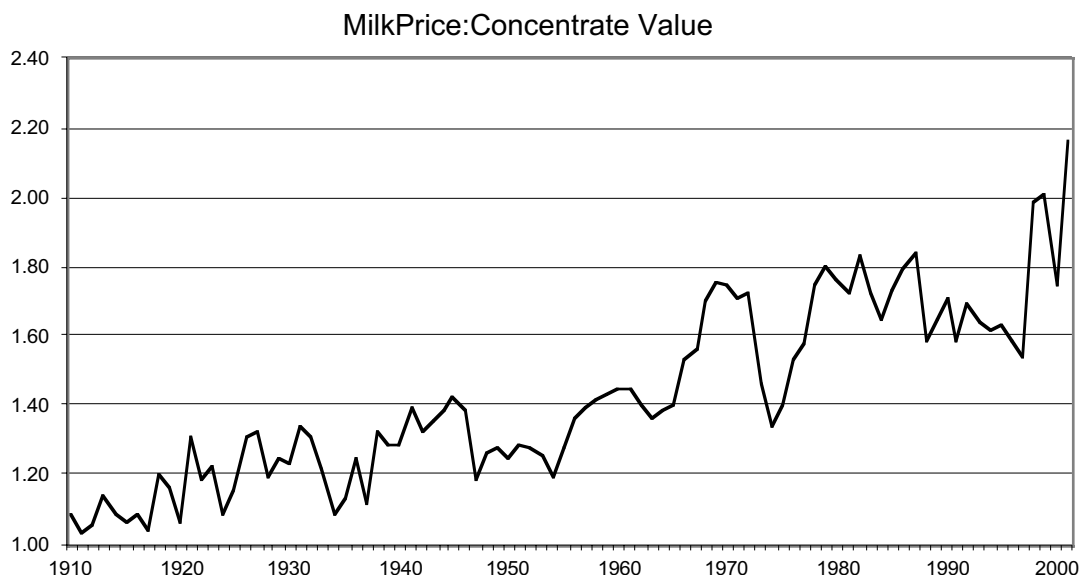


## The U.S. Dairy Situation and Outlook

### Prices

What a comeback! Last year, producers were lamenting the lowest milk prices in 28 years. Admittedly, those were class III prices and, no producer that I know of receives a class III price, but farm prices were considerably below the expectations of recent years. We presume that low price will cure themselves, and they did.

2001 will end with the third highest annual average class III price on record. As I said, no producer receives a class III price. Federal Milk Marketing Orders specify the minimum price that producers must receive as the statistically uniform price (blend price). 2001 will post the highest blend price ever recorded in New York state. Moreover, the federal order price is the minimum that must be paid to producers and the last two years have seen some of the largest over-order premiums paid to New York producers. Milk prices have been *very* good this year. If that wasn't enough good news, feed prices were very low. The national dairy ration value was the lowest since 1987. This has made 2001 the year with the highest milk/feed price ratio ever recorded...Not a bad year at all from a producer prospective.



### Milk Supplies

There are many lags in the dairy industry. Some of those lags result from biological processes that cannot respond immediately to new information. Reproduction decisions are an example. There are also lags in information and decision making. The sum of those lags often results in prices and production that look out of synchronization. Low milk prices last year were accompanied by some of the largest increases in cow numbers, milk production per cow and thus, total milk production,

that we have ever seen on an annual basis. This production increase was in response to the high milk prices of 1998 and 1999, not the low prices of 2000.

The very strong milk prices of 2001 were accompanied by sharp decreases in milk production nationwide. At the time of this writing, every month of 2001 has shown a production decline from year earlier levels. This was not related to any particular meteorological event but was the response to low milk prices the year before.

The milk production declines of 2001 were a result of both fewer cows and less production per cow. The cow loss during the year was actually quite a typical pattern of loss during the first quarter, stable cow numbers during the second, and decline for the rest of the year. The October Milk Production report was estimating cow numbers in the 20 states to be only slightly below September's values. This may be an early signal that producers are beginning to respond to the higher milk prices during the year. Production per cow has also been below year earlier in almost every month. This is a much more unusual phenomenon than the loss of cows from the national herd. We often measure milk production against year earlier levels and both 1999 and 2000 had double the increase in production per cow that we normally expect. The drop in 2001 was more nearly a return to the trend level and the previous two years were the abnormal years. Again, the October report of milk per cow was beginning to show signs of producer response to higher prices. I would not be surprised to see the last quarter of the year showing greater total milk production than the year earlier. The momentum of increasing production will sweep us into the new year.

One of the counter balances to increasing production is the tightness in the heifer and replacement cow markets. National Agricultural Statistics Service data shows replacement cow prices 30 percent above levels of two years ago. Herd expansions and cow build up during 1999-2000 had placed strong demand on heifers and, coupled with heavy culling rates in larger herds, there is a relative scarcity of replacement animals. NASS estimates the ratio of 500 pound and above heifers to cows that have calved. The value had dropped from 44.0 percent in January to 39.3 percent in July, 2001. This number may be revised with the next January report, but there has been a large decrease in available replacement heifers nationally.

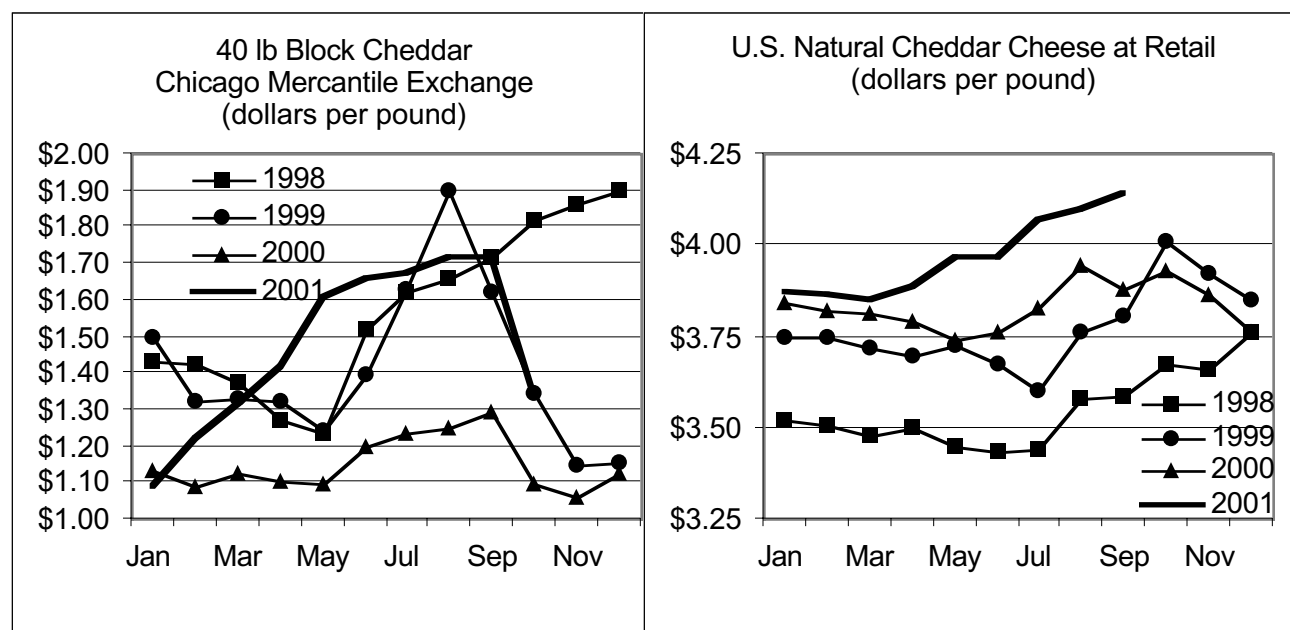
### Demand for Dairy Products

We have become accustomed to what a few years ago was considered to be tremendous increases in demand for dairy products. Supply and commercial disappearance most often move together with about a 1-1.5% increase annually. We have had a 2-3% increases over the last several years as an extraordinary economy supported our desires to consume more dairy products.

Consumer trends show that we have been eating out of the home more often and that dairy products are prominently featured on menus. Cheese has been an extraordinary growth item. One startling fact is that per capita cheese consumption over the last decade has increased faster than any other food item—even soft drinks. Cheese contains a fair amount of butterfat and, along with increased consumption of cream products and butter, has yielded a somewhat lopsided increase in demand for butterfat versus nonfat solids. The tightness in butter markets provided quite high prices in 2001.

The high wholesale butter prices have been reflected at retail with those prices approaching the high water mark set in 1998. In 1998, we saw consumers abandon butter at retail when we were nearing the \$4.00 per pound mark. High butterfat prices may be warranted in the short-run, but it is doubtful if they can be sustained longer term.

About 30 percent of the cheese consumed in this country is purchased at retail prices. Because the cheese category has been such a growth area, it has been able to sustain a steady increase in consumer prices. Most retail dairy product prices follow the wholesale markets quite closely, but cheese is the notable exception. Wholesale cheese prices in 2000 were among the lowest that we have seen in a couple of decades but retail prices continued to climb. As consumer confidence in the economy fades and concerns of a recession loom, strategies for retail cheese pricing may have to be reconsidered.



## Policy

2001 has been a year with several pieces of action on the policy front. Hearings have been held and recommendations have been made on federal milk marketing orders. The Northeast Dairy Compact expired. And, the House and Senate Agriculture Committees have drafted their versions of a farm bill.

The Consolidated Appropriations Act of 2000 mandated that USDA reconsider the class III and class IV pricing formulas which had been implemented under federal order reforms earlier that year. On December 7, 2000, the USDA published their "Tentative Final Decision" on changes in class III and

IV pricing. In an effort to correct a pricing artifact of the order reform formulas, the decision recommended that butterfat be priced differently in class III and class IV. On December 28, the USDA implemented an interim amendment on all federal orders to put into place those new pricing formulas. There was a great deal of dissatisfaction with the decision from across the industry and in an almost unprecedented show of unity, producer and processor groups voiced their concern over the impacts of the new formulas. Following a legal challenge, the USDA was enjoined from implementing the changes on February 2, 2001.

On October 23, 2001, the USDA issued a new recommendation to revise the milk pricing formulas. This time, the recommendation was much less controversial and the changes more incremental. Dairy producers will have the opportunity to vote on the recommended changes sometime early in the new year. It is likely that these changes will be implemented. USDA's economic analysis of the changes predicts a 20¢ per hundredweight increase in blend prices to producers over the next five years.

The federal order reforms of 2000 have also liberalized the pooling requirements in most order regions. This has made it easier to qualify milk in distant regions and receive those higher blend prices. The Midwest, Northwest, Mideast and Central orders have held hearings to tighten the pooling requirements. There have been no requests for hearings for the Northeast federal order.

Of more importance to the Northeast has been the end of the Northeast Regional Dairy Compact. The Compact was set to expire in 2000 when the federal order reforms were implemented. However, it was extended through the end of the fiscal year on September 30, 2001. Although hugely controversial, it was widely expected that the Northeast Dairy Compact would be extended again until the passage of the next Farm Bill. The Farm Bill debate would be the place where the longer term future of the Compact would be debated and decisions rendered as to whether it would be expanded to other regions of the country. The terrorist attacks of September 11, 2001, so completely captivated the attention of Washington that the legislation to extend the Compact was not enacted and the Compact authority was terminated on the last day of September.

Even with the disruptions to lawmaking that terrorism with anthrax has caused, a substantial effort to pass Farm Bill legislation was mounted in the Fall of 2001. Legislation that would be passed before the new year could be budget scored against the April 2001 budget. At the time that benchmark was made the economy in the U.S. appeared to be fairly robust. The third quarter of 2001 recorded negative growth in the GDP and it is widely expected that the fourth quarter will as well—technically, that would put us in the recession that most economists feel we are in right now. It would be an advantage to try to pass big ticket legislation against a budget score from April rather than a more ominous projection of an economy in recession.

Most dairy interests were not ready for the farm bill with position papers and lobbyists had not begun to make farm bill contacts. The House Agriculture Committee was the first to mark up a version of a farm bill in late July and passed the H.R.2646 on October 5. The dairy title of the bill was not very creative. It would continue the dairy price support program at \$9.90 through 2011 and would reauthorize the dairy export incentive program and the promotion programs. An amendment was offered by Sanders of Vermont and supported by Obey of Wisconsin. This amendment was

creative and narrowly avoided passage. The amendment would have created a relatively high class I price floor and provided counter-cyclical payments from the government when class III prices were below \$13.00. The money from class I and the government would have been pooled in a national trust and distributed to farms on the first 230,000 pounds produced per month. Multi-state districts would be in charge of distributing the proceeds and of implementing supply management programs if production was excessively stimulated by the proceeds. The amendment was viewed with great interest as the co-sponsors are from the Northeast and the Upper Midwest—previously regional opponents in most dairy legislative debates. The amendment did garner 200 votes but was not passed.

The Senate Committee on Agriculture, Nutrition and Forestry was next to begin drafting farm bill legislation. Senator Lugar offered a sweeping reform of agricultural programs. His bill (S.1571) would phase out commodity programs (such as the dairy price support program) and replace them with a voucher system for producers. The vouchers could be used for one of three things: purchase whole farm revenue insurance, matching contributions to farm savings accounts, or offset cost of futures market or options contract. The Lugar bill did not make it out of committee but one offered by Senator Harkin did.

The Harkin bill was much like the House Agriculture Bill in that it would continue the dairy price support program at \$9.90 until 2006. It would also extend the DEIP program and reauthorized milk promotion. Unlike the House version, the Senate bill also included provisions similar to what was offered as an amendment by Sanders and Obey in the House. The class I mover would be floored at \$14.25 (equal to \$17.50 at Boston) and the proceeds would be pooled into a national trust and distributed to 11 districts (supply management boards roughly conforming to the Federal Orders regions but including states such as California). The class III price would be protected by a government payment to the national pool when the class III price was below \$13.00. Twenty five percent of the difference between the class III price and \$13.00 would be contributed up to \$300 million annually. The money in the pool would be paid out to producers up to the first 500,000 pounds produced each month. If a district had excessive sales of supported products to the CCC, that district would be responsible to the government for cost offsets and a supply management program would be implemented.

The Senate bill would probably replace regional acrimony over dairy policy with big farm versus small farm rancor. At the time that this chapter was written, the Senate bill has not been debated on the Senate floor and the House and Senate versions of a bill would have to go to conference to iron out the differences before being passed onto the White House for a signature. I don't believe that a Farm Bill will be passed until 2002 and the longer the wait, the less likely it is that there will be significant change to the status quo.

## Outlook and Summary

As I summarize the forces shaping milk pricing over the next year, I have to give Farm Bill policy a low impact score. If the national trust were to be put in place I would have to increase my projections, but I don't give that plan much hope of implementation. I do however expect that the federal order recommended decision will be affirmed by producers and that it will be somewhat price enhancing.

The futures markets seem to run like lemmings following one another to the edge of a cliff. In the Fall of 2001, they were quite pessimistic about milk prices over the next year. I am sure that they have the direction of change correctly identified, but I think that the magnitude is much too large. A look at the fundamentals would indicate that commercial inventories are not out of hand. Butter stocks are the only commodity that looks a bit high and it is probably a reflection of consumers who have backed away from the high prices at retail—those prices will have to be lower. Commercial stocks of cheese and nonfat dry milk are not unusual.

Butter prices began falling in mid September and cheese prices dropped a couple of weeks later. When wholesale prices begin falling, buyers step back away from the market waiting for prices to hit the bottom or until they run out of inventory. This makes falling prices a self-fulfilling prophecy and often takes prices below a new equilibrium level.

The events of September 11 have impacted dairy markets in a measurable way. For nearly two weeks, it was difficult to get raw milk into processors in New York City and distribution in the city was even worse. September is usually a month when the Northeast class I utilization rises as schools are back in session. Last year the September class I utilization was 49% and this year it was 44%—a drop almost entirely attributed to September 11. The travel related industries have been much impacted by the terrorists events as well and food service items in those sectors have been well off of normal levels. Anecdotally, I am told that the faltering economy has also impacted upscale restaurants where a fair amount of butterfat is consumed in cheeses, creams and butter.

Most economists do not expect this recession to be long-lived. Many are forecasting positive growth in the GDP as early as the second quarter in 2002. I would expect that demand for dairy products to return to modest growth again next year. That modest growth in demand can accompany a modest growth in the milk supply and I am forecasting that both will occur. Although we have just come off of the year with the highest milk/feed price ratio ever recorded, dairy producers have been more restrained in their production response. It may be because of their own concerns about overextending debt financing in a sluggish economy or because replacement animals are expensive and difficult to find.

I am forecasting milk prices to decline modestly from their 2001 levels. I expect a class III price to be about 45 cents below the year earlier averages, class IV prices about 55 cents below, and the Northeast blend price about 55 cents below. I also think that the over-order premiums in New York may be somewhat lower next year. All-in-all, producers should anticipate a drop of about 75 cents per hundredweight from the farm price they received in 2001.

Table 7-2. National Farm Prices for Milk; CCC Purchase, Wholesale, and Retail Prices for Cheddar Cheese, Butter, and Nonfat Dry Milk; and Selected Retail Price Indices, 1992–2001.

	1992	1993	1994	1995	1996	1997	1998	1999	2000 <sup>a</sup>	2001
<b>Farm Milk (\$/cwt.)</b>										
All Milk (ave. fat)	13.15	12.84	13.01	12.78	14.75	13.34	15.50	14.36	12.33	15.40
Class III (3.5%)	11.88	11.80	12.03	11.83	13.39	12.05	14.20	12.43	9.74	13.05
Support (3.5%)	9.96	9.98	9.99	9.99	10.25	10.10	9.95	9.80	9.80	9.80
Milk Price: Concentrate Value	1.69	1.64	1.62	1.63	1.59	1.54	1.98	2.01	1.75	2.16
Assessment	0.13	0.15	0.17	0.15	0.03 <sup>c</sup>	0.00	0.00	0.00	0.00	0.00
<b>Cheddar Cheese, Blocks (\$/lb.)</b>										
CCC Purchase	1.116	1.119	1.120	1.120	1.145	1.130	1.115	1.100	1.122	1.131
Wholesale, NCE/Chicago Mercantile Exchange	1.282	1.286	1.287	1.304	1.466	1.308	1.569	1.404	1.149	1.434
<b>Butter (\$/lb.)</b>										
CCC Purchase, Grade A or higher, Chicago	0.807	0.708	0.668	0.770	0.650	0.650	0.650	0.650	0.668	0.855
Wholesale, Gr. AA, Chicago Merc. Exchange	0.844	0.771	0.709	0.814	1.078	1.159	1.769	1.229	1.177	1.671
<b>Nonfat Dry Milk</b>										
CCC Purchase, Unfortified (\$/lb.)	0.948	1.002	1.034	1.034	1.065	1.047	1.028	1.010	1.010	0.900
Wholesale, Central States	1.092	1.120	1.079	1.086	1.222	1.100	*1.069	1.031	1.015	1.013
<b>Retail Price Indices (1982–84=100.0)</b>										
Whole Milk	126.4	127.9	131.2	131.1	141.1	142.9	147.9	156.2	156.9	164.9
Cheese	135.5	135.3	136.4	137.9	144.7	147.7	152.3	162.6	162.9	169.6
All Dairy Products	128.5	129.4	131.7	132.8	142.1	145.5	150.8	159.6	160.4	167.1
All Food	137.9	140.9	144.3	148.4	153.3	157.3	160.7	164.1	167.9	173.6
All Consumer Prices	140.3	144.5	148.2	152.4	156.9	160.5	163.0	166.6	172.4	177.5

Source: Dairy Situation and Outlook, Dairy Market News, and Federal Milk Order Market Statistics, U.S. Department of Agriculture.

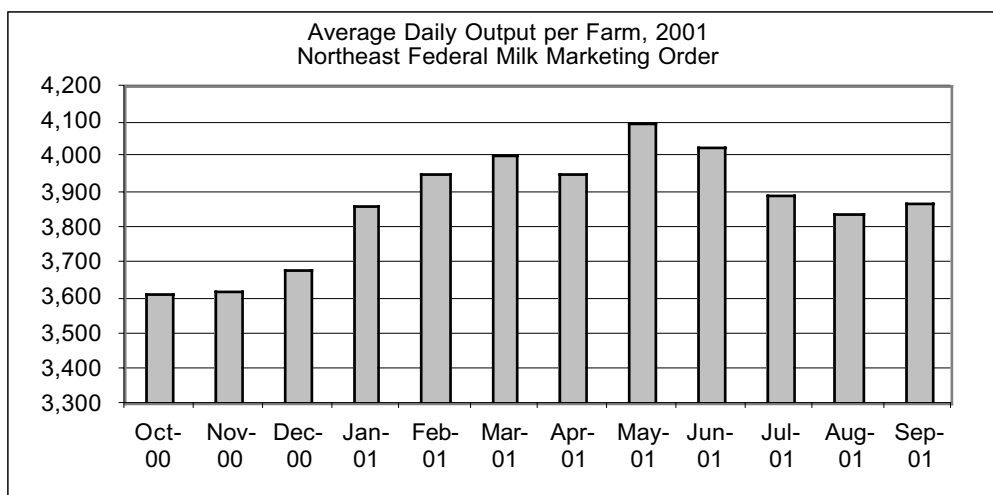
<sup>a</sup> Revised.<sup>b</sup> Estimated by Mark Stephenson.<sup>c</sup> The Federal Agriculture Improvement and Reform Act of 1996 terminated the authority to assess marketings of milk on and after May 1, 1996.

### The Northeast Dairy Situation and Outlook

Number of Producers by State Northeast Federal Milk Marketing Order												
State	Oct-00	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01
CT	207	209	210	209	207	206	204	202	199	199	195	197
DE	67	67	63	85	84	84	84	82	82	83	81	80
ME	390	385	388	384	451	453	457	456	453	448	449	444
MD	683	676	676	678	671	676	673	664	667	664	653	651
MA	248	246	247	243	242	245	243	241	241	242	244	239
NH	165	166	165	163	170	167	167	166	163	164	166	168
NJ	150	154	146	153	149	143	146	144	151	150	144	144
<b>NY</b>	<b>6,435</b>	<b>6,460</b>	<b>6,356</b>	<b>6,325</b>	<b>6,592</b>	<b>6,334</b>	<b>6,309</b>	<b>6,315</b>	<b>6,259</b>	<b>6,410</b>	<b>6,308</b>	<b>6,348</b>
PA	6,723	6,770	6,656	6,632	6,407	6,742	6,659	6,539	6,406	6,755	6,746	6,873
RI	25	24	21	NR	NR	NR	NR	NR	NR	NR	NR	NR
VT	1,520	1,507	1,493	1,492	1,478	1,476	1,470	1,472	1,466	1,462	1,460	1,464
VA	214	192	181	218	177	178	148	145	161	171	189	158
WV	29	35	35	35	35	35	28	29	867	23	23	20
All Other	39	189	476	481	491	640	704	824	29	849	485	210
<b>Total</b>	<b>16,895</b>	<b>17,080</b>	<b>17,113</b>	<b>17,098</b>	<b>17,154</b>	<b>17,379</b>	<b>17,292</b>	<b>17,279</b>	<b>17,144</b>	<b>17,620</b>	<b>17,143</b>	<b>16,996</b>

Source: Northeast Monthly Federal Milk Order Market Statistics .

In January, 2000, the New England, Middle Atlantic, and New York-New Jersey federal milk marketing orders were merged into a single new Northeast federal milk marketing order. New York state has producers who are pooled on other federal and state orders, most notably the Western New York State order and the new Mideast federal order. This year, statistics from the new Northeast order are given. The table above shows an annual New York farm loss of only 1.35 percent. We should be careful with this kind of interpretation. Milk has been moving and is being pooled on many different orders from the Northeast and is not necessarily indicative of actual farm loss. The federal order numbers show actual increases in farms in Maine and Pennsylvania. The seasonal pattern of production is shown below in the average daily deliveries to handlers pooled under the Northeast order.

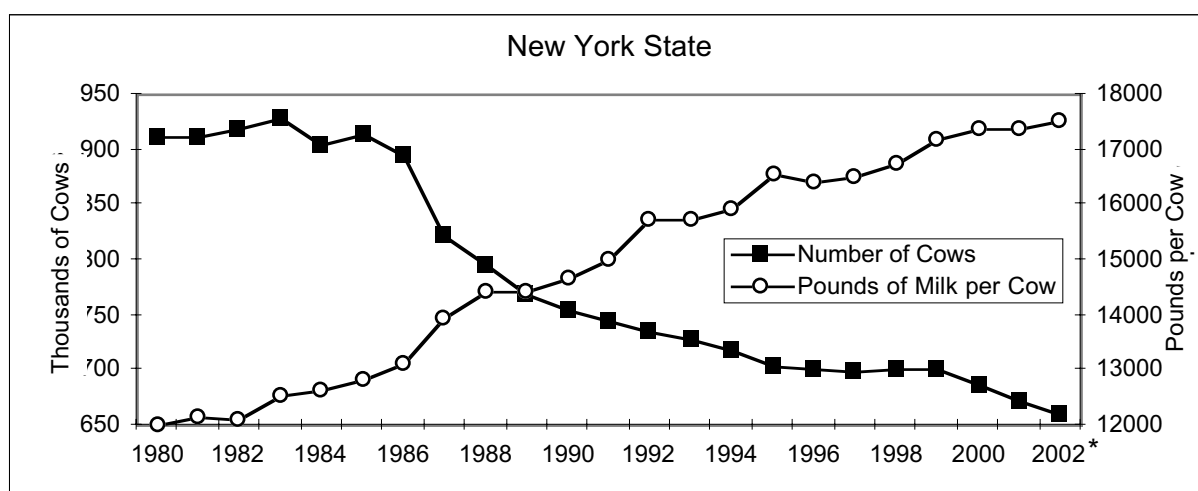




Receipts of Producer Milk by State Northeast Federal Milk Marketing Order												
State	Oct-00	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01
CT	35,920	35,662	37,857	38,884	36,123	39,893	38,089	39,029	36,115	36,210	33,865	32,957
DE	8,479	8,401	8,960	11,385	10,909	12,297	11,264	11,984	10,683	10,859	9,169	9,081
ME	41,156	38,913	40,299	41,044	48,378	53,382	52,481	56,373	54,889	55,932	54,781	52,124
MD	87,281	84,765	88,988	91,735	85,831	103,666	94,944	100,962	89,805	96,164	82,660	83,765
MA	27,693	26,299	27,599	27,947	25,661	28,647	27,743	29,604	28,040	28,502	27,770	26,624
NH	24,176	23,517	24,728	25,433	24,633	27,374	26,708	27,878	26,101	26,384	25,421	24,663
NJ	17,525	17,402	17,675	18,821	17,359	18,672	17,579	19,041	18,324	18,531	17,740	17,102
<b>NY</b>	<b>795,732</b>	<b>782,575</b>	<b>791,190</b>	<b>825,756</b>	<b>769,029</b>	<b>851,334</b>	<b>826,267</b>	<b>859,186</b>	<b>831,137</b>	<b>839,041</b>	<b>843,890</b>	<b>843,708</b>
PA	609,531	589,079	611,151	651,544	588,893	682,747	614,098	686,033	621,612	657,797	632,199	623,218
RI	1,849	1,663	1,559	NR	NR	NR	NR	NR	NR	NR	NR	NR
VT	216,662	206,607	215,459	221,456	200,949	223,889	218,785	232,154	222,698	226,552	219,480	213,901
VA	22,339	22,134	21,756	26,036	21,981	24,288	22,977	21,269	19,192	21,119	20,072	17,354
WV	3,994	4,766	4,247	5,235	4,777	4,897	3,587	4,213	107,861	2,955	2,684	2,247
All Other	2,543	15,574	59,401	63,955	63,319	83,190	93,816	107,938	4,213	105,260	66,103	28,693
Total	1,894,880	1,857,357	1,950,869	2,049,231	1,897,842	2,154,276	2,048,338	2,195,664	2,070,670	2,125,306	2,035,834	1,975,437

Source: Northeast Monthly Federal Milk Order Market Statistics .

Nationally, milk production has been down from year earlier levels in the first 10 months of 2001. New York's decline in milk production is about 2.2 percent and about double the national average. Last year's poor forage quality and relatively low milk prices were to blame. New York is also projected to lose milk production in 2002 primarily through loss of cow numbers.



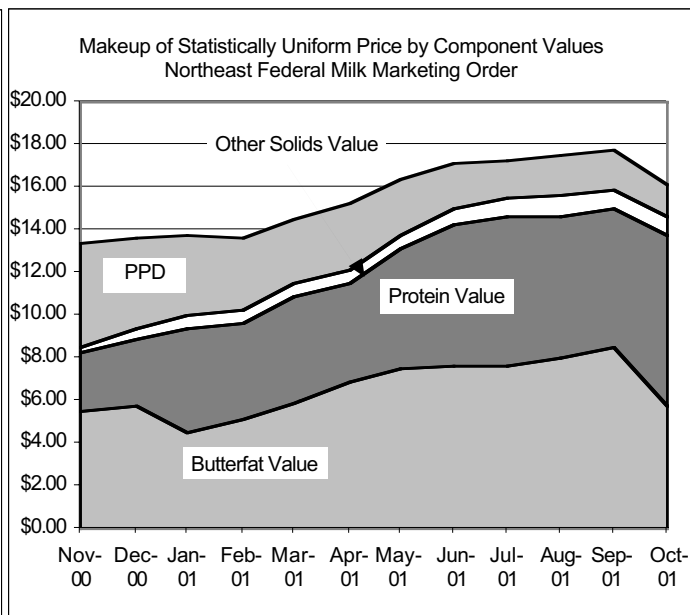
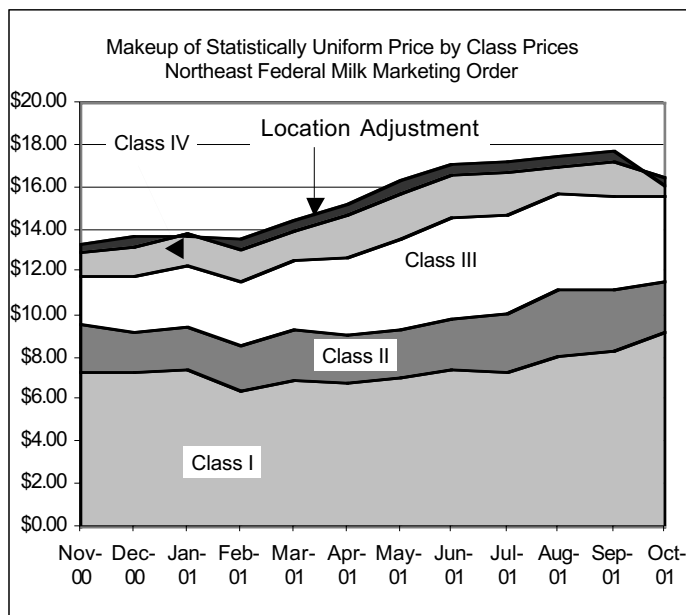
Source: Milk Production, US Department of Agriculture.

\* Projected

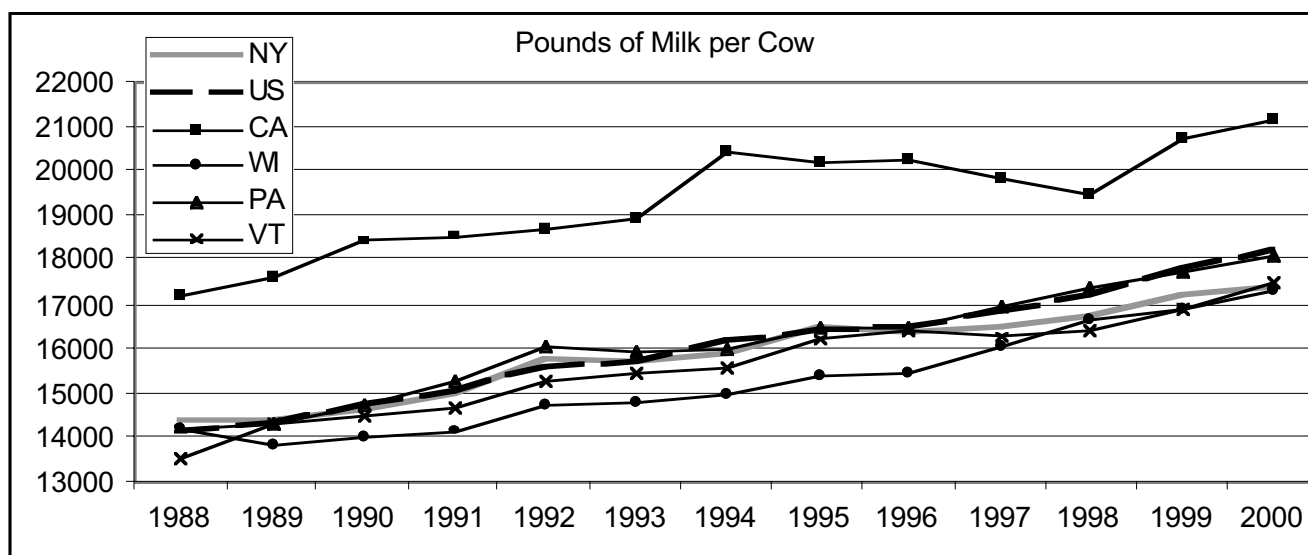
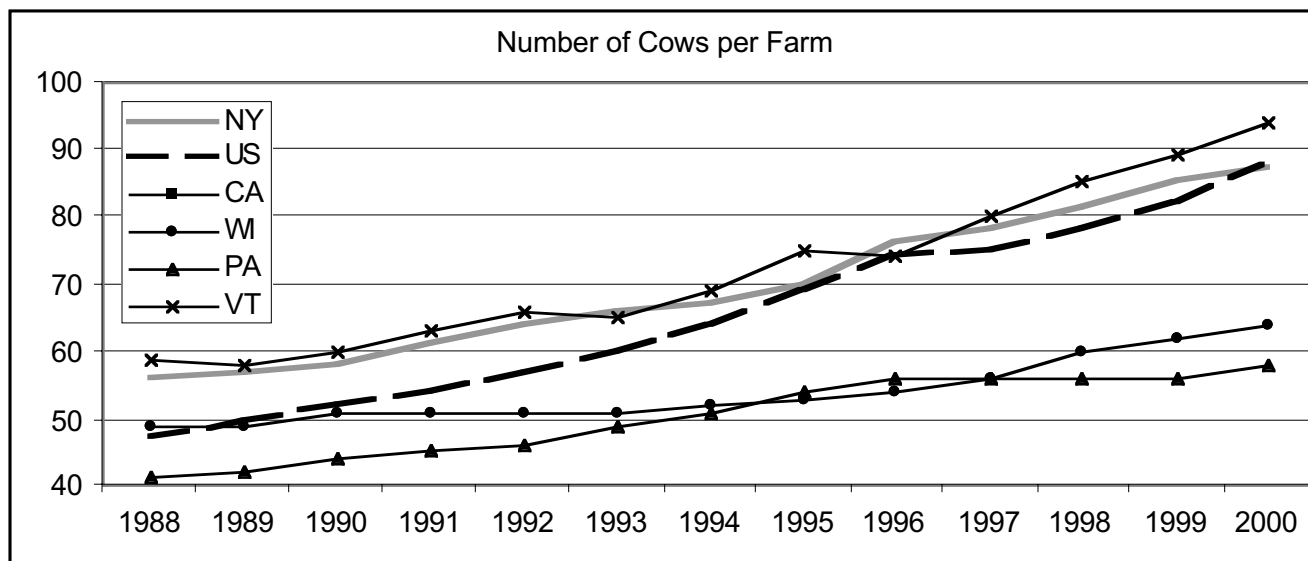
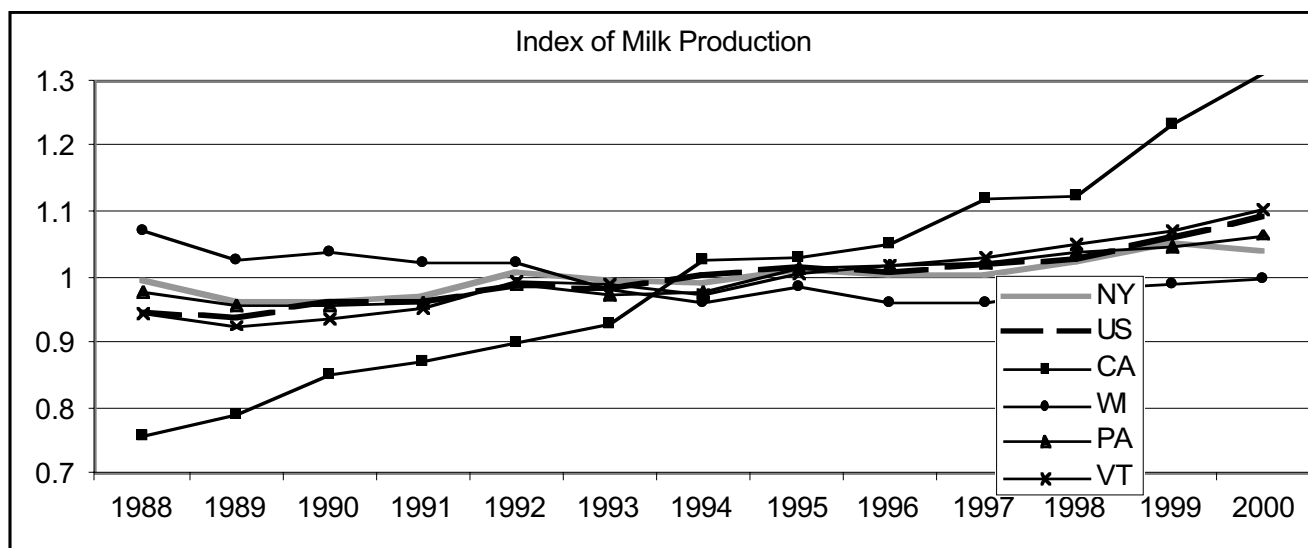
Class Utilization and Prices Northeast Federal Milk Marketing Order												
	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01	Oct-01
Class I Utilization	48.1%	47.0%	42.8%	42.3%	43.4%	40.6%	40.2%	40.2%	39.1%	43.3%	44.4%	47.8%
Class II Utilization	16.8%	14.5%	16.0%	15.7%	16.7%	15.4%	15.0%	15.8%	17.4%	19.5%	17.5%	17.7%
Class III Utilization	26.4%	27.3%	28.3%	28.8%	29.5%	30.7%	30.9%	31.6%	30.7%	29.3%	27.8%	27.7%
Class IV Utilization	8.7%	11.2%	12.9%	13.3%	10.4%	13.3%	13.9%	12.4%	12.8%	7.9%	10.3%	6.9%
Class I Price	\$15.07	\$15.38	\$17.24	\$15.19	\$15.90	\$16.69	\$17.46	\$18.24	\$18.59	\$18.65	\$18.81	\$19.18
Class II Price	\$13.68	\$13.97	\$12.82	\$13.43	\$14.17	\$15.10	\$15.72	\$16.05	\$15.96	\$15.98	\$16.24	\$13.53
Class III Price	\$8.57	\$9.37	\$9.99	\$10.27	\$11.42	\$12.06	\$13.83	\$15.02	\$15.46	\$15.55	\$15.90	\$14.60
Class IV Price	\$13.68	\$13.27	\$12.13	\$12.70	\$13.46	\$14.41	\$15.04	\$15.33	\$14.81	\$15.06	\$15.59	\$12.77

Source: Northeast Monthly Federal Milk Order Market Statistics .

The graphs below are created from the data above. They illustrate the where the money in the Northeast Federal Order pool is coming from and how it is being paid out. The first graph shows the contribution of processors from the four classes of milk to the pool. The second graph shows the disbursement of the pool dollars to producers in component values and the Producer Price Differential. You can see from the chart that when class III prices are relatively small, the PPD is quite large and when they are relatively large, the PPD declines.



## New York State Trends



MILK PRICE PROJECTIONS* Northeast Federal Order Blend Price 3.5 Percent, Suffolk County, Massachusetts Last Quarter 2000-2001			
Month	2000	2001	Difference
(dollars per hundredweight)			
October	13.32	16.04 <sup>a</sup>	2.72
November	13.36	14.13 <sup>a</sup>	0.77
December	13.72	13.92 <sup>a</sup>	0.20
<i>Fourth Quarter Average</i>	13.47	14.70 <sup>a</sup>	1.23
<b>Annual Average</b>	<b>14.74</b>	<b>15.61</b>	<b>0.87</b>
Month	2001	2002 <sup>a</sup>	Difference
(dollars per hundredweight)			
January	13.76	14.39	0.63
February	13.80	14.48	0.68
March	14.50	14.48	-0.02
<i>First Quarter Average</i>	14.02	14.45	0.43
April	15.24	14.61	-0.63
May	16.32	14.67	-1.65
June	17.08	14.86	-2.22
<i>Second Quarter Average</i>	16.21	14.71	-1.50
July	17.21	15.02	-2.19
August	17.53	15.21	-2.32
September	17.76	15.65	-2.11
<i>Third Quarter Average</i>	17.50	15.29	-2.21
October	16.04	16.06	0.02
November	14.13 <sup>a</sup>	15.87	1.74
December	13.92 <sup>a</sup>	15.46	1.54
<i>Fourth Quarter Average</i>	14.70 <sup>a</sup>	15.80	1.10
<b>Annual Average</b>	<b>15.61 <sup>a</sup></b>	<b>15.06 <sup>a</sup></b>	<b>-0.54</b>

\* Averages may not add due to rounding.

<sup>a</sup> Projected.

## Chapter 8. Dairy -- Farm Management

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### Herd Size Comparisons

Data from the 294 New York dairy farms that participated in the Dairy Farm Business Summary (DFBS) Project in 2000 have been sorted into nine herd size categories and averages for the farms in each category are presented in Tables 8-1 and 8-2. Note that after the less than 50 cow category, the herd size categories increase by 25 cows up to 100 cows, by 50 cows up to 200 cows, by 100 cows up to 400 cows, and by 200 cows up to 600 cows.

As herd size increases, the average profitability generally increases (Table 8-1). Net farm income without appreciation averaged \$13,624 per farm for the less than 50 cow farms and \$110,976 per farm for those with 400-599 cows. This relationship generally holds for all measures of profitability including rate of return on capital.

It is more than size of herd that determines profitability on dairy farms. Farms with 600 and more cows averaged \$60 net farm income per cow while the less than 50 cow dairy farms averaged \$359 net farm income per cow. The 100 to 149 herd size category had the second highest net farm income per cow at \$315. Other factors that affect profitability and their relationship to the size classifications are shown in Table 8-2.

<b>TABLE 8-1. COWS PER FARM AND FARM FAMILY INCOME MEASURES</b>						
<b>294 New York Dairy Farms, 2000</b>						
Number of Cows	Number of Farms	Avg. No. of Cows	Net Farm Income w/o Apprec.	Net Farm Income Per Cow	Labor & Management Inc./Oper.	Return to all Capital w/o Apprec.
Under 50	28	38	\$13,624	\$359	\$-3,635	-3.1%
50 to 74	54	61	18,788	308	-4,522	-1.7%
75 to 99	29	84	24,071	287	-286	-0.1%
100 to 149	48	121	38,122	315	986	1.0%
150 to 199	25	167	44,764	268	-3,657	1.1%
200 to 299	36	241	75,607	314	11,943	3.9%
300 to 399	19	343	73,288	214	7,107	4.1%
400 to 599	26	481	110,976	231	11,193	4.2%
600 & over	29	957	57,262	60	-36,324	2.7%

This year, net farm income per cow did not exhibit the usual increase as herd size increased. Farms with more than 600 cows were the only category to show an increase in operating cost of producing milk; all other categories were the same as a year earlier or decreased. Net farm income per cow will increase as farms become larger if the costs of increased purchased inputs are offset by greater and more efficient output.

The farms with 600 and more cows averaged more milk sold per cow than any other size category (Table 8-2). With 23,158 pounds of milk sold per cow, farms in the largest herd size group averaged 19 percent more milk output per cow than the average of all herds in the summary with less than 600 cows.

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Note: All data in this section are from the New York Dairy Farm Business Summary and Analysis Project unless a specific source is specified.

Publications reporting Dairy Farm Business Summary data for New York, 6 regions of the state, large herds, small herds, grazing farms, and farms that rent are available from Faye Butts (607-254-7412, [fsb1@cornell.edu](mailto:fsb1@cornell.edu)).

The ability to reach high levels of milk output per cow with large herds is a major key to high profitability. Three times a day milking (3X) and supplementing with bST are herd management practices commonly used to increase milk output per cow in large herds. Many dairy farmers who have been willing and able to employ and manage the labor required to milk 3X have been successful. Only 5 percent of the 111 DFBS farms with less than 100 cows used a milking frequency greater than 2X. As herd size increased, the percent of herds using a higher milking frequency increased. Farms with 100 to 200 cows reported 15 percent of the herds milking more often than 2X, the 200-299 cow herds reported 44 percent, 300-399 cow herds reported 68 percent, 400-599 cow herds reported 88 percent, 600 cow and larger herds reported 90 percent exceeding the 2X milking frequency.

**TABLE 8-2. COWS PER FARM AND RELATED FARM FACTORS**  
**294 New York Dairy Farms, 2000**

Number of Cows	Avg. No. of Cows	Milk Sold Per Cow (lbs.)	Milk Sold Per Worker (cwt.)	Till-able Acres Per Cow	Forage DM Per Cow (tons)	Farm Capital Per Cow	Cost of Producing Milk/Cwt.	
							Oper.	Total
Under 50	38	16,600	3,724	4.2	7.6	\$8,822	\$9.64	\$17.88
50 to 74	61	17,643	4,673	3.5	7.1	8,138	10.42	16.64
75 to 99	84	18,665	5,025	3.4	7.5	7,099	10.53	15.25
100 to 149	121	18,771	6,435	2.9	7.6	7,235	10.49	15.25
150 to 199	167	20,245	6,974	3.3	7.6	7,968	10.50	15.10
200 to 299	241	21,032	8,534	2.4	7.4	6,647	10.84	14.19
300 to 399	343	20,977	9,281	2.2	6.7	6,172	11.08	14.03
400 to 599	481	22,186	9,336	2.1	7.7	6,113	11.23	14.05
600 & over	957	23,158	10,993	1.8	7.8	6,109	11.95	14.24

Bovine somatotropin (bST), was used to a greater extent on the large herd farms. bST was used sometime during 2000 on 25 percent of the herds with less than 100 cows, 55 percent of the farms with 100 to 299 cows and on 91 percent of the farms with 300 cows and more.

Milk output per worker has always shown a strong correlation with farm profitability. The farms with 100 cows or more averaged over 859,000 pounds of milk sold per worker while the farms with less than 100 cows averaged less than 450,000 pounds per worker.

In addition to achieving the highest productivity per cow and per worker, the largest farms practiced the most efficient use of cropland with 1.8 tillable acres per cow, and the most efficient use of farm capital with an average investment of \$6,109 per cow.

The last column in Table 8-2 may be the most important in explaining why profits were significantly higher on the 400 to 599 cow farms. The 26 farms with 400 to 599 cows held their average total costs of producing milk to \$14.05 per hundredweight, \$1.27 below the \$15.32 average for the remaining 268 dairy farms. The lower average costs of production plus a similar milk price gave the managers of the 400 to 599 cow dairy farms profit margins (milk price less total cost of producing milk) that averaged \$1.44 per hundredweight above the average of the other 268 DFBS farms.

### **Ten-Year Comparisons**

The total cost of producing milk on DFBS farms has increased \$0.24 per cwt. over the past 10 years (Table 8-3). In the intervening years, total cost of production had exhibited a downward trend to 1995, increased in 1996, decreased 1997 through 1999, and increased in 2000. Over the past 10 years milk sold per cow has increased 19 percent and cows per worker by 21 percent on DFBS farms (Table 8-4). Farm net worth has increased significantly, while percent equity has been stable to declining.

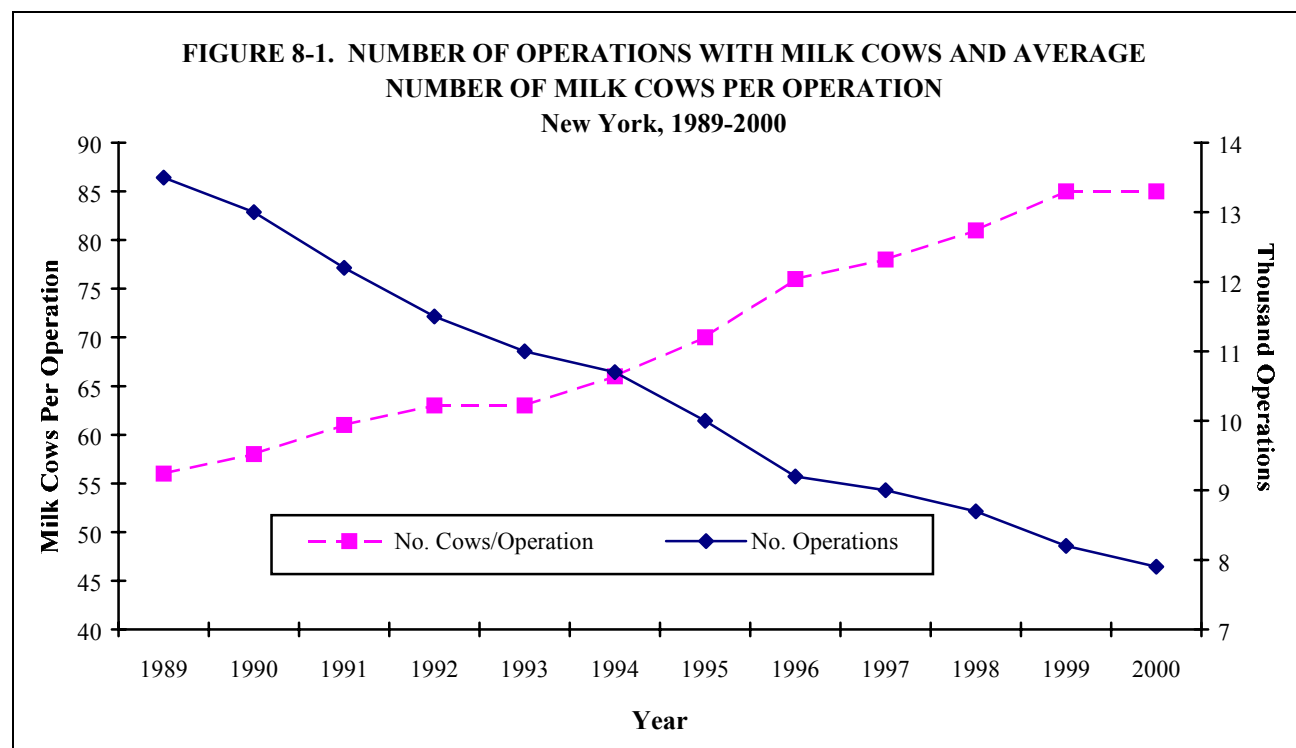
**TABLE 8-3. TEN YEAR COMPARISON: AVERAGE COST OF PRODUCING MILK PER HUNDREDWEIGHT  
New York Dairy Farms, 1991 to 2000**

Item	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<u>Operating Expenses</u>										
Hired labor	\$ 1.74	\$ 1.80	\$ 1.86	\$ 1.80	\$1.78	\$1.89	\$1.97	\$2.06	\$2.14	\$2.25
Purchased feed	3.88	3.92	3.85	3.89	3.71	4.73	4.63	4.18	3.96	3.91
Machinery repair, vehicle expense & rent	.93	.97	.93	.92	.85	1.02	.94	1.12	1.18	1.06
Fuel, oil & grease	.37	.35	.34	.31	.27	.31	.28	.25	.24	.34
Replacement livestock	.15	.21	.17	.21	.15	.19	.18	.24	.24	.23
Breeding fees	.18	.18	.19	.17	.15	.15	.15	.16	.17	.17
Veterinary & medicine	.33	.35	.37	.40	.39	.42	.41	.45	.47	.51
Milk marketing	.58	.63	.64	.67	.70	.59	.52	.53	.49	.69
Other dairy expenses	.65	.70	.72	.88	.92	.99	1.05	1.09	1.13	1.16
Lime & fertilizer	.40	.37	.36	.33	.31	.32	.33	.35	.35	.29
Seeds & plants	.20	.21	.20	.19	.19	.20	.21	.22	.20	.19
Spray & other crop expense	.20	.21	.20	.20	.20	.21	.23	.24	.24	.22
Land, building & fence repair	.19	.24	.21	.21	.16	.23	.19	.27	.27	.21
Taxes	.38	.35	.34	.29	.27	.26	.23	.21	.21	.20
Insurance	.23	.22	.20	.18	.17	.18	.16	.17	.16	.16
Utilities (farm share)	.39	.38	.39	.38	.38	.39	.35	.32	.31	.32
Interest paid	1.07	.88	.80	.81	.94	.91	.90	.89	.83	.95
Misc. (including rent)	.43	.44	.41	.40	.40	.41	.38	.41	.44	.45
Total Operating Expenses	\$12.30	\$12.41	\$12.18	\$12.24	\$11.94	\$13.40	\$13.12	\$13.15	\$13.02	\$13.31
Less: Nonmilk cash receipts	1.73	1.67	1.65	1.30	1.15	1.07	1.14	1.18	1.44	1.83
Increase in grown feed & supplies	.04	.23	.13	.25	.14	.15	.07	.25	.25	0.11
Increase in livestock	.18	.08	.22	.21	.25	.18	.15	.22	.11	0.06
OPERATING COST OF MILK PRODUCTION	\$10.35	\$10.43	\$10.18	\$10.47	\$10.40	\$12.00	\$11.76	\$11.50	\$11.22	\$11.31
<u>Overhead Expenses</u>										
Depreciation: machinery & buildings	\$ 1.28	\$1.19	\$ 1.17	\$ 1.13	\$1.07	\$1.04	\$0.95	\$1.08	\$1.14	\$1.20
Unpaid labor	.18	.16	.15	.12	.12	.13	.13	.11	.11	.10
Operator(s) labor <sup>a</sup>	1.06	.99	1.00	.86	.92	.88	.79	.74	.80	.79
Operator(s) management (5% of cash receipts)	.73	.76	.74	.73	.70	.80	.73	.82	.83	.76
Interest on farm equity capital (5%)	1.20	1.11	1.11	1.00	.94	.94	.87	.85	.86	.88
Total Overhead Expenses	\$ 4.45	\$ 4.21	\$ 4.17	\$ 3.84	\$ 3.75	\$3.79	\$3.47	\$3.60	\$3.74	\$3.73
TOTAL COST OF MILK PRODUCTION	\$14.80	\$14.64	\$14.35	\$14.31	\$14.15	\$15.79	\$15.23	\$15.10	\$14.96	15.04
AVERAGE FARM PRICE OF MILK	\$12.95	\$13.58	\$13.14	\$13.44	\$13.03	\$14.98	\$13.65	\$15.60	\$14.91	13.38
Return per cwt. to operator labor, capital & mgmt.	\$ 1.14	\$ 1.80	\$ 1.64	\$ 1.72	\$ 1.44	\$ 1.81	\$ 0.81	\$2.91	\$2.44	\$0.77
Rate of return on farm equity capital	-2.7%	0.2%	-0.4%	0.6%	-1.0%	0.7%	-4.1%	8.0%	4.7%	-4.4%
<sup>a</sup> 1991 = \$1,300/month, 1992 = \$1,350/month, 1993 = \$1,400/month, 1994 and 1995 = \$1,450/month, 1996 = \$1,500/month, 1997 = \$1,550/month, 1998 = \$1,600/month, 1999 = \$1,800/month, and 2000 = \$1,900/month of operator labor.										

**TABLE 8-4. TEN YEAR COMPARISON: SELECTED BUSINESS FACTORS**  
**New York Dairy Farms, 1991 to 2000**

Item	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Number of farms	407	357	343	321	321	300	253	305	314	294
<u>Cropping Program</u>										
Total tillable acres	330	346	351	392	399	415	462	497	516	566
Tillable acres rented	124	135	135	159	166	183	207	232	234	262
Hay crop acres	169	171	182	195	197	198	219	239	248	274
Corn silage acres	88	98	96	110	117	120	156	175	186	192
Hay crop, tons DM/acre	2.4	2.8	2.7	3.0	2.8	2.8	2.5	3.1	2.9	3.3
Corn silage, tons/acre	13.7	14.5	14.9	16.4	15.6	15.9	16.1	18.0	16.3	15.1
Fert. & lime exp./tillable acre	\$25	\$25	\$25	\$25	\$25	\$26	\$28	\$31	\$32	\$27
Machinery cost/cow	\$438	\$444	\$430	\$438	\$402	\$450	\$429	\$471	\$502	\$513
<u>Dairy Analysis</u>										
Number of cows	111	123	130	151	160	167	190	210	224	246
Number of heifers	92	96	100	116	121	124	139	155	164	186
Milk sold, cwt.	20,060	23,130	24,448	30,335	32,362	33,504	39,309	43,954	47,932	52,871
Milk sold/cow, lbs.	18,027	18,789	18,858	20,091	20,269	20,113	20,651	20,900	21,439	21,516
Purchased dairy feed/cwt. milk	\$3.87	\$3.91	\$3.85	\$3.89	\$3.70	\$4.73	\$4.63	\$4.18	\$3.96	\$3.91
Purc. grain & conc. as % of milk receipts	29%	28%	29%	28%	27%	30%	33%	26%	25%	27%
Purc. feed & crop exp/cwt. milk	\$4.67	\$4.70	\$4.61	\$4.61	\$4.39	\$5.46	\$5.39	\$5.00	\$4.75	\$4.61
<u>Capital Efficiency</u>										
Farm capital/cow	\$6,688	\$6,587	\$6,462	\$6,398	\$6,264	\$6,218	\$6,196	\$6,161	\$6,368	\$6,535
Real estate/cow	\$3,063	\$3,015	\$2,932	\$2,859	\$2,763	\$2,701	\$2,650	2,537	2,562	2,615
Mach. invest./cow	\$1,267	\$1,203	\$1,165	\$1,150	\$1,098	\$1,107	\$1,108	1,118	1,163	1,225
Asset turnover ratio	.43	.47	.46	.50	.49	.55	.52	0.61	0.59	0.54
<u>Labor Efficiency</u>										
Worker equivalent	3.38	3.60	3.68	4.02	4.40	4.48	5.01	5.35	5.71	6.11
Operator/manager equivalent	1.37	1.41	1.45	1.49	1.56	1.56	1.60	1.62	1.76	1.83
Milk sold/worker, lbs.	593,297	641,893	664,868	755,178	736,269	747,861	784,604	821,565	839,432	865,325
Cows/worker	33	34	35	38	36	37	38	39	39	40
Labor cost/cow	\$538	\$552	\$568	\$558	\$570	\$582	\$598	\$609	\$653	\$674
<u>Profitability &amp; Financial Analysis</u>										
Labor & mgmt. income/operator	\$-955	\$11,254	\$9,000	\$14,789	\$10,346	\$18,651	\$-1,424	\$55,917	\$42,942	\$-2,908
Farm net worth, end year	\$480,131	\$515,215	\$542,126	\$608,749	\$624,261	\$648,186	\$685,665	\$798,297	\$865,626	\$942,881
Percent equity	64%	64%	65%	63%	61%	61%	57%	59%	58%	57%



**Milk Cow Operations and Milk Cow Inventory**

As the number of milk cow operations decreases, the average number of milk cows per operation increases as shown by the chart above. There were 5,600 less milk cow operations in 2000 than there were in 1989. The average number of milk cows per operation has increased by 29 cows, or 52 percent over the same period. On January 1, 2001, 29 percent of the total milk cows were in herds with 50-99 head, 60 percent were in herds with over 100 milk cows, and 11 percent were in herds with less than 50 head.

**TABLE 8-5. MILK COW OPERATIONS AND MILK COW INVENTORY  
by Herd Size, 1989 to 2000**

MILK COW OPERATIONS BY HERD SIZE & TOTAL, 1989-2000 (Number of Milk Cows in Herd)							MILK COWS ON FARMS, JAN. 1 BY HERD SIZE & TOTAL, 1990-2001 (Number of Milk Cows in Herd)						
Year	1-29	30-49	50-99	100-199 <sup>a</sup>	200 plus	Total	Year	1-29	30-49	50-99	100-199 <sup>a</sup>	200 plus	Total
(Number of Operations)							(Thousand Head)						
1989	2,700	3,400	5,400	2,000		13,500	1990	29	121	321	289		760
1990	2,650	3,150	5,300	1,900		13,000	1991	27	116	319	288		750
1991	2,500	2,900	5,000	1,800		12,200	1992	24	111	314	291		740
1992	2,600	2,600	4,400	1,900		11,500	1993	22	102	285	190	131	730
1993	2,400	2,500	4,200	1,500	400	11,000	1994	22	87	297	189	130	725
1994	2,400	2,200	4,200	1,500	400	10,700	1995	21	92	277	178	142	710
1995	2,100	2,200	4,000	1,300	400	10,000	1996	19	79	259	189	154	700
1996	1,800	2,000	3,700	1,300	400	9,200	1997	18	73	245	189	175	700
1997	1,700	1,900	3,600	1,300	500	9,000	1998	18	73	238	182	189	700
1998	1,600	1,800	3,500	1,300	500	8,700	1999	14	70	218	189	211	702
1999	1,400	1,600	3,200	1,400	600	8,200	2000	14	70	217	189	210	700
2000	1,400	1,500	3,000	1,400	600	7,900	2001	13	60	194	188	215	670

<sup>a</sup>100 plus category prior to 1993.

Source: NYASS, New York Agricultural Statistics, 2000-2001.

**TABLE 8-6. COMPARISON OF FARM BUSINESS SUMMARY DATA**  
**Same 69 New York Dairy Farms, 1991 - 2000**

Selected Factors	1991	1992	1993	1994
Milk receipts per cwt. milk	\$13.02	\$13.61	\$13.26	\$13.55
<u>Size of Business</u>				
Average number of cows	168	190	208	225
Average number of heifers	146	147	161	175
Milk sold, cwt.	31,633	36,798	40,435	46,941
Worker equivalent	4.67	5.06	5.29	5.70
Total tillable acres	461	474	493	518
<u>Rates of Production</u>				
Milk sold per cow, lbs.	18,833	19,388	19,452	20,861
Hay DM per acre, tons	2.4	2.9	2.8	3.1
Corn silage per acre, tons	13	13	14	16
<u>Labor Efficiency</u>				
Cows per worker	36	38	39	39
Milk sold per worker, lbs.	677,330	727,562	764,715	823,188
<u>Cost Control</u>				
Grain & concn. purchased as % of milk sales	28%	28%	28%	27%
Dairy feed & crop expense per cwt. milk	\$4.75	\$4.96	\$4.72	\$4.64
Operating cost of producing cwt. milk	\$10.03	\$10.37	\$9.96	\$10.14
Total cost of producing cwt. milk	\$14.85	\$15.06	\$14.41	\$14.39
Hired labor cost per cwt.	\$1.48	\$1.51	\$1.52	\$1.51
Interest paid per cwt.	\$1.05	\$0.85	\$0.83	\$0.81
Labor & machinery costs per cow	\$1,007	\$1,031	\$1,028	\$1,044
Replacement livestock expense	\$3,120	\$5,000	\$6,328	\$7,125
Expansion livestock expense	\$16,652	\$21,099	\$15,618	\$15,203
<u>Capital Efficiency</u>				
Farm capital per cow	\$7,320	\$7,364	\$7,272	\$7,197
Machinery & equipment per cow	\$1,373	\$1,352	\$1,340	\$1,313
Real estate per cow	\$3,436	\$3,530	\$3,458	\$3,373
Livestock investment per cow	\$1,546	\$1,531	\$1,533	\$1,553
Asset turnover ratio	0.45	0.46	0.46	0.47
<u>Profitability</u>				
Net farm income without appreciation	\$45,865	\$78,778	\$77,352	\$98,057
Net farm income with appreciation	\$69,295	\$101,774	\$97,130	\$117,794
Labor & management income per operator/manager	\$2,336	\$30,328	\$24,192	\$34,946
Rate return on:				
Equity capital with appreciation	2.0%	3.7%	3.7%	4.9%
All capital with appreciation	4.2%	4.5%	4.6%	5.3%
All capital without appreciation	2.0%	2.5%	3.0%	4.0%
<u>Financial Summary, End Year</u>				
Farm net worth	\$697,183	\$793,953	\$824,030	\$885,851
Change in net worth with appreciation	\$14,064	\$54,375	\$39,162	\$60,302
Debt to asset ratio	0.35	0.33	0.35	0.35
	\$2,448	\$2,323	\$2,398	\$2,377

Farms participating in the DFBS each of the last 10 years have increased size of business, labor efficiency and milk sold per cow (Table 8-6). While net farm income has generally increased except for declines in 1995, 1997, and 2000, rates of return on capital have not.

**TABLE 8-6. COMPARISON OF FARM BUSINESS SUMMARY DATA (Continued)**  
**Same 69 New York Dairy Farms, 1991 - 2000**

1995	1996	1997	1998	1999	2000
\$13.10	\$15.07	\$13.81	\$15.77	\$15.12	\$13.55
244	261	275	287	298	314
189	199	213	231	240	251
51,298	55,172	59,781	62,096	66,880	70,246
6.17	6.34	6.73	6.97	7.25	7.56
545	578	600	620	651	677
21,026	21,170	21,771	21,630	22,431	22,383
2.8	2.7	2.4	3.0	2.8	3.0
14	14	14	16	14	13
40	41	41	41	41	41
831,024	869,666	887,759	890,445	922,462	928,588
27%	29%	31%	25%	24%	27%
\$4.43	\$5.36	\$5.36	\$5.04	\$4.67	\$4.59
\$10.42	\$11.64	\$11.66	\$11.11	\$10.72	\$10.58
\$14.45	\$15.76	\$15.72	\$15.22	\$14.98	\$14.96
\$1.51	\$1.57	\$1.55	\$1.57	\$1.63	\$1.75
\$0.92	\$0.91	\$0.93	\$0.91	\$0.79	\$0.87
\$1,026	\$1,088	\$1,066	\$1,115	\$1,234	\$1,268
\$4,440	\$5,709	\$6,170	\$11,775	\$12,599	\$12,209
\$11,848	\$13,127	\$13,535	\$9,849	\$15,661	\$29,523
\$7,063	\$7,040	\$7,122	\$7,108	\$7,301	\$7,527
\$1,296	\$1,305	\$1,333	\$1,341	\$1,407	\$1,494
\$3,289	\$3,246	\$3,275	\$3,215	\$3,178	\$3,224
\$1,526	\$1,502	\$1,510	\$1,517	\$1,563	\$1,631
0.45	0.51	0.46	0.54	0.53	0.49
\$90,319	\$121,877	\$66,009	\$196,705	\$189,288	\$48,781
\$100,899	\$135,600	\$74,363	\$226,621	\$217,256	\$89,506
\$28,466	\$50,513	\$2,287	\$82,139	\$83,260	\$-19,740
1.0%	5.1%	-2.1%	12.8%	9.9%	2.9%
3.5%	5.8%	1.9%	10.0%	8.4%	4.6%
3.2%	4.8%	1.4%	8.5%	6.8%	2.5%
\$926,087	\$1,004,120	\$996,412	\$1,148,417	\$1,257,364	\$1,241,342
\$43,556	\$77,978	\$-8,782	\$148,229	\$117,620	\$-14,410
0.36	0.35	0.38	0.34	0.33	0.34
\$2,377	\$2,380	\$2,511	\$2,321	\$2,323	\$2,331

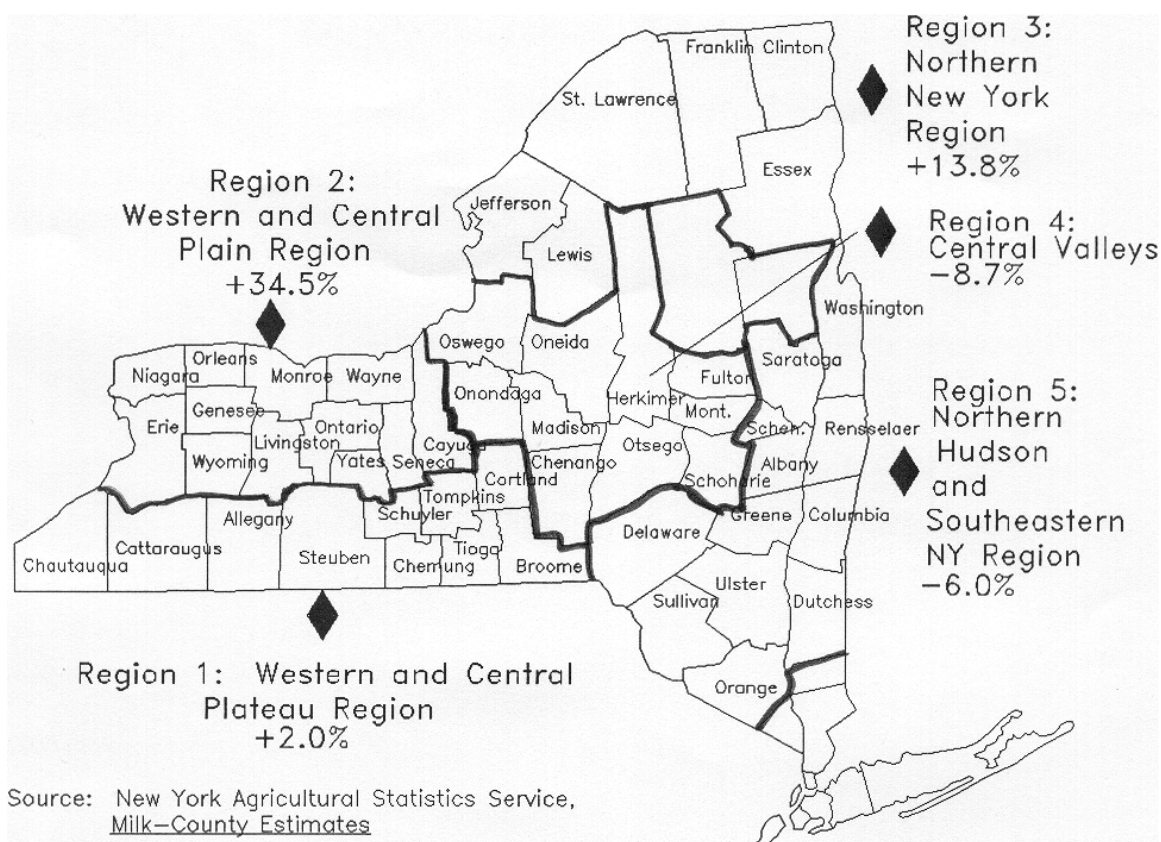
Debt to asset ratio and debt per cow have remained stable with farm net worth almost doubled. During this time, crop yields have fluctuated, largely due to weather. Purchased grain and concentrate as a percent of milk sales has varied only from 24 to 31 percent, with the high being in 1997 and the low in 1999.

**TABLE 8-7. COMPARISON OF DAIRY FARM BUSINESS DATA BY REGION**  
**294 New York Dairy Farms, 2000**

Item	Western & Central Plateau Region	Western & Central Plain Region	Northern New York	Central Valleys	No. Hudson & South- eastern New York
Number of farms	56	84	43	34	77
<b>ACCRUAL EXPENSES</b>					
Hired labor	\$59,645	\$259,661	\$82,220	\$55,414	\$57,126
Feed	126,789	396,485	169,111	123,958	115,794
Machinery	45,279	134,524	61,112	45,845	49,855
Livestock	78,617	284,556	94,659	107,302	87,101
Crops	23,471	64,785	32,228	26,646	23,943
Real estate	27,835	63,739	26,772	31,020	20,477
Other	48,511	163,252	72,470	60,799	43,780
Total Operating Expenses	\$410,147	\$1,367,002	\$538,572	\$450,982	\$398,082
Expansion livestock	9,941	41,394	10,235	24,967	4,698
Machinery depreciation	26,968	62,245	38,318	31,154	17,856
Building depreciation	18,761	50,265	22,901	21,909	9,782
Total Accrual Expenses	\$465,817	\$1,520,906	\$610,026	\$529,012	\$430,418
<b>ACCRUAL RECEIPTS</b>					
Milk sales	\$416,775	\$1,335,568	\$577,326	\$465,708	\$413,844
Livestock	38,022	129,332	48,889	46,803	39,160
Crops	10,799	18,917	7,788	6,201	1,789
All other	35,426	79,896	43,079	29,196	35,499
Total Accrual Receipts	\$501,022	\$1,563,713	\$677,082	\$547,907	\$490,292
<b>PROFITABILITY ANALYSIS</b>					
Net farm income (w/o appreciation)	\$35,205	\$42,807	\$67,056	\$18,895	\$59,874
Net farm income (w/ appreciation)	\$62,038	\$117,076	\$103,454	\$45,607	\$72,674
Labor & management income	\$-5,242	\$-35,209	\$25,069	\$-19,037	\$16,503
Number of operators	1.58	1.87	1.65	1.79	1.72
Labor & mgmt. income/operator	\$-3,318	\$-18,828	\$15,193	\$-10,635	\$9,595
<b>BUSINESS FACTORS</b>					
Worker equivalent	4.33	10.14	4.99	4.18	4.49
Number of cows	158	453	207	163	142
Number of heifers	124	341	157	120	106
Acres of hay crops <sup>a</sup>	233	364	304	210	217
Acres of corn silage <sup>a</sup>	119	342	174	128	119
Total tillable acres	433	867	566	412	404
Pounds of milk sold	3,155,556	10,125,811	4,432,081	3,218,570	2,949,719
Pounds of milk sold/cow	19,981	22,366	21,425	19,796	20,472
Tons hay crop dry matter/acre	3.1	4.0	2.8	3.2	2.5
Tons corn silage/acre	14.9	16.3	14.4	13.8	13.0
Cows/worker	36	45	41	39	32
Pounds of milk sold/worker	728,766	998,601	888,193	769,993	656,953
% grain & conc. of milk receipts	29%	27%	28%	25%	27%
Feed & crop expense/cwt. milk	\$4.76	\$4.56	\$4.54	\$4.68	\$4.74
Fertilizer & lime/crop acre	\$19.98	\$29.17	\$22.85	\$27.17	\$30.69
Machinery cost/tillable acre	\$190	\$255	\$202	\$214	\$194

<sup>a</sup> Average of all farms in the region, not only those producing the crop.

**FIGURE 8-2. PERCENT CHANGE IN MILK PRODUCTION  
Five Regions in New York, 1990-2000**



**TABLE 8-8. MILK PRODUCTION & AVERAGE COST OF PRODUCING MILK  
Five Regions of New York, 2000**

Item	Region <sup>a</sup>				
	1	2	3	4	5
<b>Milk Production<sup>b</sup></b>	(million pounds)				
1990	2,062.0	2,539.0	2,085.2	2,823.0	1,545.4
2000	2,103.8	3,415.2	2,372.3	2,576.1	1,452.6
Percent change	+2.0%	+34.5%	+13.8%	-8.7%	-6.0%
<b>Cost of Producing Milk<sup>c</sup></b>	(\$ per hundredweight milk)				
Operating cost	\$10.64	\$11.66	\$10.13	\$12.23	\$11.06
Total cost	14.76	14.20	13.60	16.57	14.91
Average price received	13.21	13.19	13.03	14.47	14.03
Return per cwt. to operator labor, management & capital	\$0.96	\$0.38	\$1.41	\$0.44	\$1.79

<sup>a</sup>See Figure 8-2 for region descriptions.  
<sup>b</sup>Source: New York Agricultural Statistics Service, Milk-County Estimates.  
<sup>c</sup>From Dairy Farm Business Summary data

### Prices Paid by New York Dairy Farmers and Values of Inventory Items

The prices dairy farmers pay for a given quantity of goods and services has a major influence on farm production costs. The astute manager will keep close watch on unit costs and utilize the most economical goods and services. The table below shows average prices of selected goods and services used on New York dairy farms.

**TABLE 8-9. PRICES PAID BY NEW YORK FARMERS  
FOR SELECTED ITEMS, 1990-2000**

Year	Mixed Dairy Feed 16% Protein*	Fertilizer, Urea 45-46%N*	Seed Corn, Hybrid**	Diesel Fuel*	Tractor 50-59 PTO**	Wage Rate All Hired Farm Workers***
	(\$/ton)	(\$/ton)	(\$/80,000 Kernels)	(\$/gal)	(\$)	(\$/hr)
1990	177	215	69.90	1.080	17,950	5.51
1991	172	243	70.20	0.995	18,650	6.06
1992	174	221	71.80	0.910	18,850	6.42
1993	171	226	72.70	0.900	19,200	6.76
1994	181	233	73.40	0.853	19,800	6.96
1995	175	316	77.10	0.850	20,100	6.92
1996	226	328	77.70	1.020	20,600	7.19
1997	216	287	83.50	0.960	21,200	7.63
1998	199	221	86.90	0.810	21,800	7.63
1999	175	180	88.10	0.750	21,900	8.12
2000	174	201	87.50	1.270	21,800	8.74

SOURCE: NYASS, New York Agricultural Statistics. USDA, ASB, Agricultural Prices. \*Northeast region average. \*\*United States average.  
\*\*\*New York and New England combined.

Inflation, farm profitability, supply and demand all have a direct impact on the inventory values on New York dairy farms. The table below shows year-end (December) prices paid for dairy cows (replacements), an index of these cow prices, an index of new machinery prices (U.S. average), the average per acre value of farmland and buildings reported in January (February for 1986-89 and April for 1985), and an index of the real estate prices.

**TABLE 8-10. VALUES OF NEW YORK DAIRY FARM  
INVENTORY ITEMS, 1985-2000**

Year	Dairy Cows		Machinery*		Farm Real Estate	
	Value/Head	1977=100	1977=100		Value/Acre	1977=100
1985	740	149	181		820	140
1986	770	156	178		843	144
1987	870	176	180		960	164
1988	900	182	189		993	169
1989	1,020	206	201		1,045	178
1990	1,060	214	209		1,014	173
1991	1,040	210	219		1,095	187
1992	1,090	220	226		1,139	194
1993	1,100	222	235		1,237	211
1994	1,100	222	249		1,260	215
1995	1,010	204	258		1,280	218
1996	1,030	208	268		1,260	215
1997	980	198	276		1,250	213
1998	1,050	212	286		1,280	218
1999	1,250	253	294		1,340	228
2000	1,200	242	301		1,410	240

SOURCE: NYASS, New York Agricultural Statistics and New York Crop and Livestock Report. USDA, ASB, Agricultural Prices.  
\*United States average; 1995 - 2000 are estimated due to discontinuation of 1977=100 series.

## Farm Business Charts

The Farm Business Chart is a tool which can be used in analyzing a business by drawing a line through the figure in each column which represents the current level of management performance. The figure at the top of each column is the average of the top 10 percent of the 294 farms for that factor. The other figures in each column are the average for the second 10 percent, third 10 percent, etc. Each column of the chart is independent of the others. The farms which are in the top 10 percent for one factor would not necessarily be the same farms which make up the 10 percent for any other factor.

The cost control factors are ranked from low to high, but the lowest cost is not necessarily the most profitable. In some cases, the "best" management position is somewhere near the middle or average. Many things affect the level of costs, and must be taken into account when analyzing the factors.

TABLE 8-11. FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS							
294 New York Dairy Farms, 2000							
Size of Business			Rates of Production			Labor Efficiency	
Worker Equiv- alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
20.6	957	22,198,446	25,404	5.5	22	59	1,256,953
11.1	471	10,590,578	23,680	4.2	18	49	1,032,913
7.3	307	6,481,814	22,820	3.6	17	44	907,871
5.5	215	4,364,487	21,770	3.3	16	40	815,510
4.4	155	3,100,320	20,774	3.1	15	37	747,605
3.6	119	2,222,882	19,591	2.8	14	34	673,029
3.1	91	1,682,014	18,314	2.5	13	31	584,433
2.6	71	1,270,526	16,853	2.2	11	28	489,958
2.1	56	999,849	15,288	1.9	10	24	407,682
1.4	39	534,983	11,742	1.3	6	18	284,367
Cost Control							
Grain Bought Per Cow		% Grain is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk	
\$326		15%	\$263	\$792	\$503	\$3.24	
502		22	372	969	680	3.85	
588		24	420	1,057	765	4.17	
639		25	463	1,121	831	4.41	
705		27	502	1,186	895	4.57	
753		28	534	1,248	949	4.70	
797		29	575	1,321	1,013	4.91	
847		31	620	1,421	1,070	5.17	
913		33	688	1,540	1,140	5.56	
1,049		39	934	1,894	1,301	6.49	

The next section of the Farm Business Chart provides for comparative analysis of the value and costs of dairy production.

The profitability section shows the variation in farm income by decile and enables a dairy farmer to determine where he or she ranks by using several measures of farm profitability. Remember that each column is independently established and the farms making up the top decile in the first column will not necessarily be on the top of any other column. The dairy farmer who ranks at or near the top of most of these columns is in a very enviable position.

<b>TABLE 8-11. (CONTINUED) FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS 294 New York Dairy Farms, 2000</b>						
Milk Receipts Per Cow	Milk Receipts Per Cwt.	Oper. Cost Milk Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cow	Total Cost Production Per Cwt.	
\$3,458	\$15.53	\$1,115	\$7.42	\$1,992	\$12.02	
3,148	14.16	1,510	8.81	2,421	13.14	
3,014	13.85	1,723	9.38	2,655	13.68	
2,908	13.60	1,903	9.84	2,809	14.18	
2,775	13.37	2,055	10.32	2,955	14.65	
2,616	13.17	2,189	10.86	3,058	15.09	
2,465	13.00	2,349	11.57	3,207	15.77	
2,285	12.79	2,475	12.03	3,333	16.66	
2,017	12.57	2,693	12.85	3,531	18.34	
1,569	12.10	3,046	15.10	3,925	23.20	
Profitability						
Net Farm Income Without Appreciation			Net Farm Income With Appreciation		Labor & Management Income	
Total	Per Cow	Operations Ratio	Total	Per Cow	Per Farm	Per Operator
\$295,646	\$939	0.28	\$394,582	\$1,204	\$182,415	\$101,405
123,950	643	0.21	177,673	835	61,791	36,385
77,197	523	0.17	114,922	707	30,556	21,128
55,750	424	0.13	85,577	602	19,433	12,413
43,028	343	0.11	65,516	508	8,094	5,760
29,681	254	0.08	51,646	431	-3,700	-2,958
18,501	161	0.05	39,963	332	-13,870	-10,917
5,293	56	0.02	22,976	211	-28,414	-21,054
-17,461	-125	-0.04	9,708	55	-54,924	-41,251
-153,963	-436	-0.20	-99,776	-278	-242,811	-171,152



### Financial Analysis Chart

The farm financial analysis chart is designed just like the farm business chart on pages 8-11 and 8-12 and may be used to measure the financial health of the farm business.

TABLE 8-12. FINANCIAL ANALYSIS CHART 294 New York Dairy Farms, 2000							
Liquidity (repayment)							
Planned Debt Payments Per Cow	Available for Debt Service Per Cow	Cash Flow Coverage Ratio	Debt Coverage Ratio	Debt Payments as Percent of Milk Sales	Debt Per Cow	Working Capital as % of Total Expenses	Current Ratio
\$107	\$862	6.61	6.60	4%	\$373	47%	14.02
234	693	1.76	1.91	9	1,046	29	3.89
319	610	1.40	1.57	12	1,545	23	2.80
378	550	1.24	1.31	14	2,035	19	2.22
447	491	1.10	1.07	17	2,452	15	1.85
495	432	0.96	0.89	19	2,742	11	1.56
549	377	0.83	0.75	20	3,010	7	1.29
607	319	0.72	0.54	23	3,365	1	0.99
693	215	0.57	0.28	27	3,921	-5	0.78
935	-2	-0.72	-1.59	41	5,296	-23	0.38
Solvency				Profitability			
Leverage Ratio <sup>a</sup>	Percent Equity	Debt/Asset Ratio		Percent Rate of Return with appreciation on:			
		Current & Intermediate	Long Term	Equity	Investment <sup>b</sup>		
-0.13	96%	0.05	0.00	23%	15%		
0.16	86	0.13	0.00	11	9		
0.27	79	0.19	0.07	8	7		
0.38	73	0.27	0.20	5	6		
0.51	66	0.34	0.30	3	5		
0.68	60	0.41	0.39	2	3		
0.89	53	0.47	0.45	-1	2		
1.15	47	0.53	0.55	-4	0		
1.52	40	0.63	0.72	-10	-3		
4.32	21	0.95	1.14	-39	-8		
Efficiency (Capital)							
Asset Turnover (ratio)	Real Estate Investment Per Cow	Machinery Investment Per Cow	Total Farm Assets Per Cow	Change in Net Worth w/Appreciation	Farm Net Worth, End Year		
.78	\$1,228	\$551	\$4,388	\$243,497	\$3,289,413		
.65	1,828	837	5,275	109,676	1,630,823		
.59	2,139	975	5,899	53,346	1,171,081		
.54	2,385	1,114	6,250	37,622	909,405		
.49	2,638	1,264	6,653	26,228	730,445		
.46	2,921	1,416	7,062	14,324	616,811		
.43	3,299	1,601	7,604	5,269	466,827		
.38	3,861	1,810	8,370	-9,057	359,003		
.32	4,621	2,210	9,416	-32,304	244,172		
.24	6,800	3,108	11,955	-223,967	101,057		
<sup>a</sup> Dollars of debt per dollar of equity, computed by dividing total liabilities by total equity.							
<sup>b</sup> Return on all farm capital (no deduction for interest paid) divided by total farm assets.							

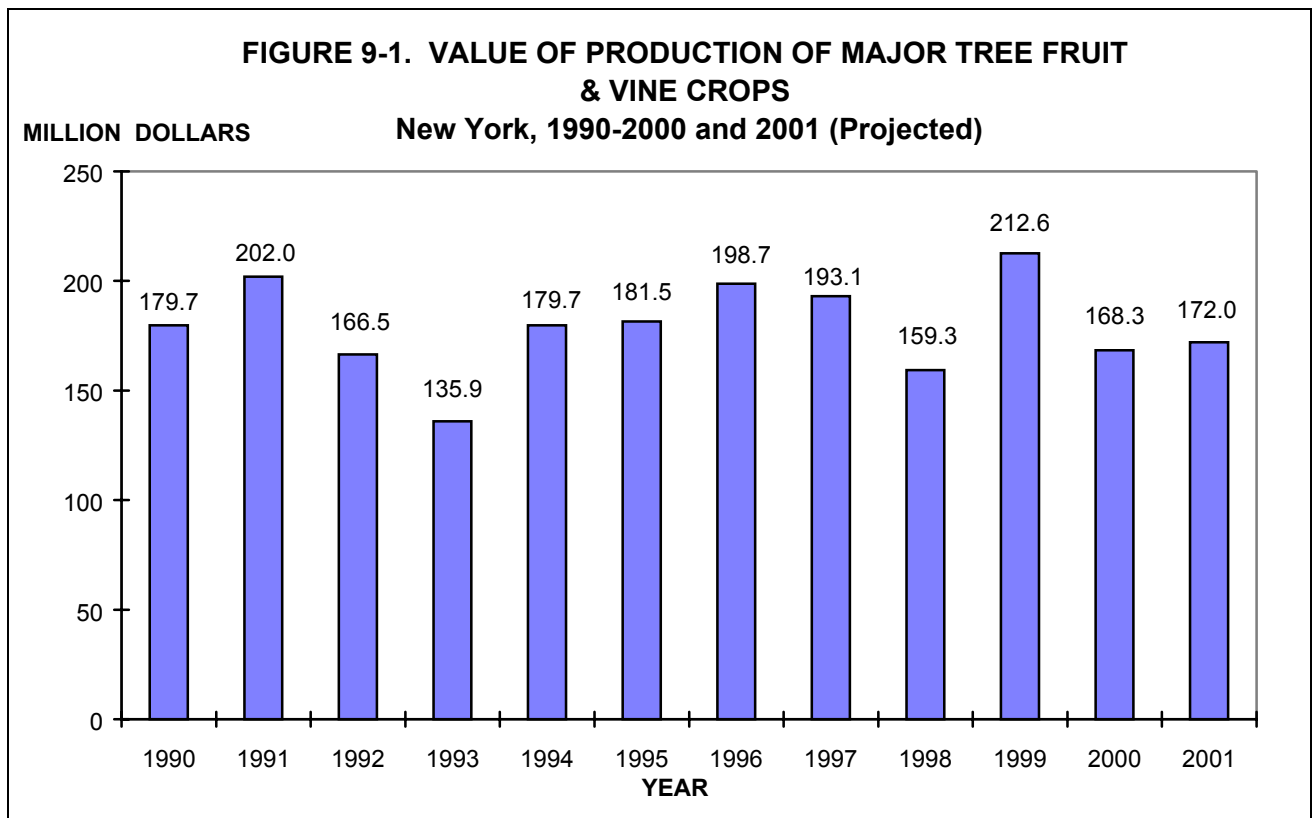
## Chapter 9. Fruit

Gerald B. White, Professor

The total production of the six tree and vine crops which are important to New York's agricultural economy was projected to decrease by 11 per cent nationally. The national production of sweet cherries and tart cherries were forecast to increase compared with last year's production, while decreased production was indicated for apples, grapes, pears and peaches. The national production of apples was forecast at 228 million bushels, down ten percent from 2001, and the shortest crop since 1988. Grape production was expected to total 6.5 million tons, a decrease of 15 percent from last year's record crop.

In New York, apple production is indicated to be 23.8 million bushels, fractionally above last year's crop, but 21 per cent below the huge crop of '99. Indicated production is nine percent below the average production of the last 5 years. Grape production of 141 thousand tons was estimated, 8 percent below last year's near average crop. Total production of the six major fruit and vine crops of 666 thousand tons is projected for the State, down 2 percent from the previous year. Total production is the lowest since the extremely short crop year in 1993.

The utilized value of the major fruit tree and vine crops in New York for the last ten years and the projected value for 2001 is shown below. With much smaller than average apple and grape crops and only slightly higher prices, the value of the state's major fruit tree and vine crop is projected at \$172 million, slightly above last year, but well below the record \$213 million realized in '99.



Source: New York Agricultural Statistics, 2000-2001

**TABLE 9-1. COMMERCIAL NONCITRUS FRUIT PRODUCTION**  
**New York and United States**

Fruit	New York				United States			
	1998	1999	2000	2001*	1998	1999	2000	2001*
----- thousand tons -----								
Apples	535	630	498	500	5,823	5,315	5,324	4,780
Grapes	128	205	154	141	5,820	6,236	7,658	6,472
Tart Cherries	7	9	8	7	174	128	144	178
Pears	12	13	15	10	970	1,015	967	916
Peaches	5	7	6	7	1,200	1,263	1,300	1,269
Sweet Cherries	1	1	1	1	197	216	207	236
Total New York's Major Fruit Crops	688	865	682	666	14,184	14,173	15,600	13,851
*indicated								

**TABLE 9-2. AVERAGE FARM PRICES OF NONCITRUS FRUITS**  
**New York and United States**

Fruit	New York				United States			
	1997	1998	1999	2000	1997	1998	1999	2000
----- dollars per ton -----								
Apples								
Fresh	352	316	330	340	442	346	426	358
Processed	166	160	134	130	130	95	128	103
All Sales*	252	228	228	234	308	244	300	258
Grapes	292	311	286	298	429	454	469	405
Tart Cherries	346	360	314	360	318	290	436	374
Pears	384	375	388	353	276	291	294	264
Peaches	922	832	908	800	354	384	380	390
Sweet Cherries	1,720	2,070	1,490	1,370	1,250	1,100	1,100	1,340

**TABLE 9-3. VALUE OF UTILIZED PRODUCTION, NONCITRUS FRUITS**  
**New York and United States**

Fruit	New York				United States			
	1997	1998	1999	2000	1997	1998	1999	2000
----- million dollars -----								
Apples								
Fresh	91.5	66.4	97.4	78.2	1,288	1,111	1,278	1,123
Processed	49.8	43.2	42.9	30.9	288	206	286	213
All Sales*	141.3	109.6	140.2	109.1	1,575	1,316	1,564	1,336
Grapes	40.0	38.9	58.4	45.9	3,126	2,640	2,927	3,104
Tart Cherries	2.3	2.2	2.7	3.0	45	44	56	53
Pears	3.1	3.8	4.4	4.6	288	282	298	250
Peaches	5.3	3.5	5.5	4.5	444	447	463	489
Sweet Cherries	1.1	1.3	1.5	1.2	279	213	235	274
Total New York's Major Fruit Crops*	193.1	159.3	212.8	168.3	5,758	4,943	5,543	5,506

\*May not add from total of fresh and processed due to rounding errors.

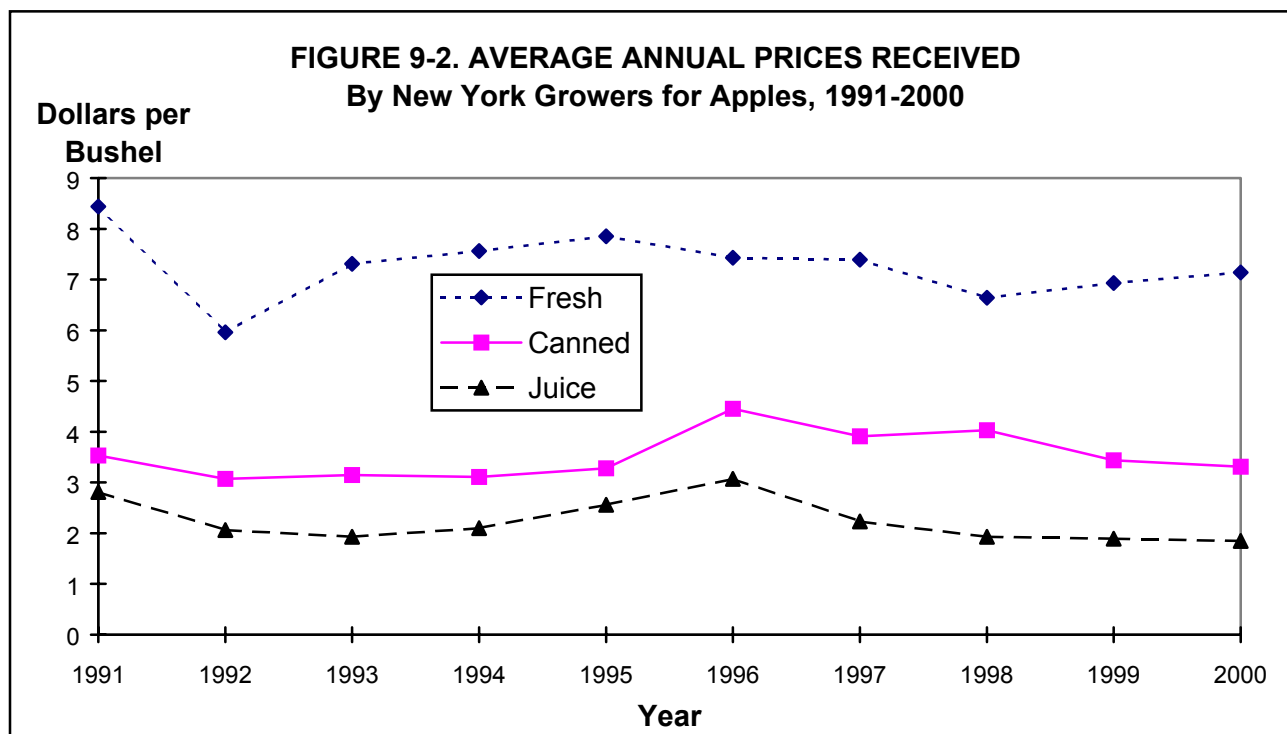
Source: NASS, USDA, *Noncitrus Fruits and Nuts 2000 Summary*, July 2001.

**TABLE 9-4. APPLE PRODUCTION, UNITED STATES,  
1996-2000, Five-Year Average Production, and 2001 Forecast  
1,000 42-Pound Bushels**

States/Regions	5-Year Average 1996-2000*	2000*	2001 USDA Estimate**	2001 Compared to USDA 5-Year Average % Change	2001 vs. 2000 % Change
Maine	1,355	929	1,024	-24.4	10.3
New Hampshire	838	810	619	-26.1	-23.5
Vermont	1,088	988	857	-21.2	-13.3
Massachusetts	1,245	1,190	1,071	-14.0	-10.0
Rhode Island	74	55	31	-58.1	-43.5
Connecticut	500	488	429	-14.3	-12.2
New York	26,071	23,690	23,810	-8.7	0.5
New Jersey	1,286	1,190	1,310	1.9	10.0
Pennsylvania	10,957	11,310	10,952	0.0	-3.2
Maryland	863	802	952	10.3	18.7
Virginia	7,310	8,333	8,095	10.7	-2.9
West Virginia	2,667	2,143	2,738	2.7	27.8
North Carolina	4,367	4,524	2,381	-45.5	-47.4
South Carolina	890	476	131	-85.3	-72.5
Georgia	319	333	214	-32.8	-35.7
<b>Total East</b>	<b>59,901</b>	<b>57,262</b>	<b>54,614</b>	<b>-8.8</b>	<b>-4.6</b>
Ohio	2,062	2,452	2,429	17.8	-1.0
Indiana	1,225	1,071	1,262	3.0	17.8
Illinois	1,298	1,000	1,357	4.6	35.7
Michigan	22,619	20,238	22,619	0.0	11.8
Wisconsin	1,524	1,690	1,690	10.9	0.0
Minnesota	532	524	524	-1.6	0.0
Iowa	244	179	181	-25.9	1.3
Missouri	981	905	976	-0.5	7.9
Kansas	101	71	107	5.6	50.0
Kentucky	208	155	190	-8.3	23.1
Tennessee	250	226	226	-9.5	0.0
Arkansas	146	171	214	47.1	25.0
<b>Total Central</b>	<b>31,190</b>	<b>28,683</b>	<b>31,776</b>	<b>1.9</b>	<b>10.8</b>
<b>Total East &amp; Central</b>	<b>91,091</b>	<b>85,945</b>	<b>86,390</b>	<b>-5.2</b>	<b>0.5</b>
Colorado	776	714	619	-20.2	-13.3
New Mexico	143	190	NA	NA	NA
Utah	919	1,167	548	-40.4	-53.1
Idaho	3,167	3,333	2,857	-9.8	-14.3
Washington	133,333	140,476	116,667	-12.5	-16.9
Oregon	3,871	3,976	3,571	-7.7	-10.2
California	20,562	15,476	16,571	-19.4	7.1
Arizona	1,525	2,262	405	-73.5	-82.1
<b>Total West</b>	<b>164,297</b>	<b>167,595</b>	<b>141,238</b>	<b>-14.0</b>	<b>-15.7</b>
<b>TOTAL U.S.</b>	<b>255,388</b>	<b>253,540</b>	<b>227,629</b>	<b>-10.9</b>	<b>-10.2</b>
<b>TOTAL NORTHEAST</b>	<b>47,016</b>	<b>43,595</b>	<b>43,793</b>	<b>-6.9</b>	<b>0.5</b>

\*2000 and 5-year average production from NASS, USDA, Non-Citrus Fruits and Nuts Summary July 2001.

\*\*NASS, USDA, Crop Production, October 10, 2001.



Source: New York Agricultural Statistics, 2000-2001.

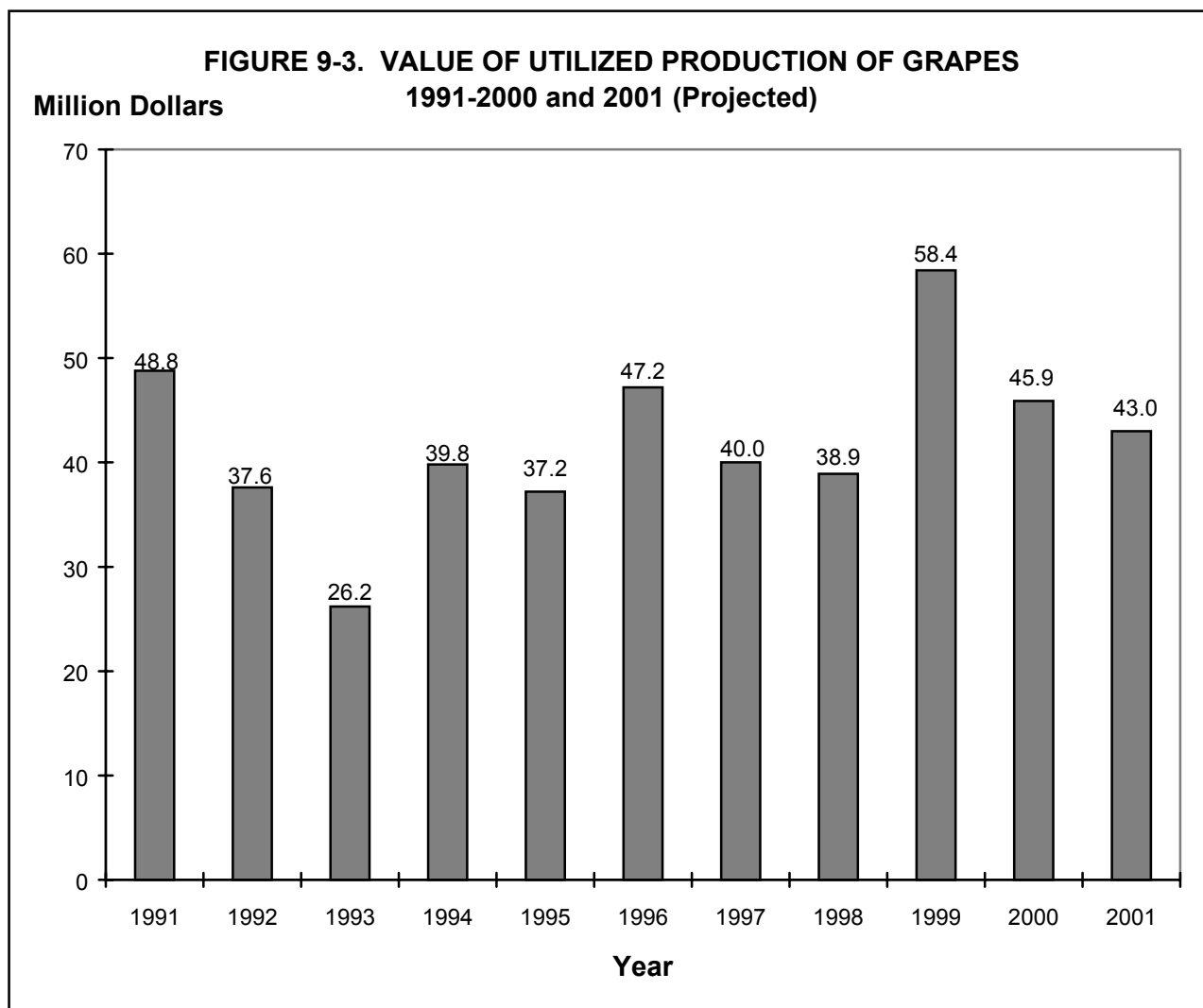
Over the past decade until 1996, prices for processed apples were fairly constant, while fresh apple prices had more pronounced fluctuations due to particular supply and demand conditions in a given year. In 1996, prices for canned and juice apples increased dramatically while the price for fresh apples decreased. The value of the 1996 apple crop was 138.9 million dollars, buoyed by record prices for processed fruit. Since 1996, processing prices have steadily declined; however, in 1999, the largest crop since 1926 pushed up the crop value to \$140.2 million, despite soft prices. Lower production, lower processing prices, and hail damage in the Hudson Valley pushed down the crop value in 2000 to \$109.1 million.

In October 2001, the average price for fresh apples in New York State was 19.7 cents per pound, three per cent below last year. Apple production in the Northern Hemisphere is down about seven percent from last year's record output, down notably in EU countries such as Germany, Italy, and France. EU production is down 18 percent from last year's record. Washington state's short crop of large sized apples and the strong value of the dollar in relation to the British pound are factors that will affect export potential. Exports from New York were running well above a year ago, with very strong movement in October to the UK and Ireland. Exports may increase slightly above last year's shipments of 760 thousand cartons. For the entire season, New York's average price for fresh apples will probably average about the same as last year at 17 cents per pound.

Announced processing apple prices in 2001 were up about 2.5 percent for peelers above 2 and 1/2 inches (but down for smaller peelers). Juice apples in the fall were being sold mostly for 4 to 4.5 cents, slightly above last year. Juice prices are unlikely to average more than the 4.4 cents per pound for the '01 crop. Overall apple growers can expect increased revenue. Net income will be much improved for growers in the Hudson Valley as their receipts recover from the hail-damaged crop value last year. Net income will be similar to last year for Champlain Valley and Western New York growers. The total value of the crop is projected at \$116 million, about six percent above last year's crop value. (The assistance of Alison DeMarree, Area Specialist, Cornell Cooperative Extension, is acknowledged for this section of the handbook.)

## Grapes

The New York grape crop this year is projected to be 141,000 tons, about 14 percent below the average of the last five years. Market conditions were generally favorable for both juice and wine grape growers. When the final crop value estimate is available, it will likely show a crop value of \$43 million, down slightly below last year due to lower production, and well below the record value of \$58.4 million realized in 1999.

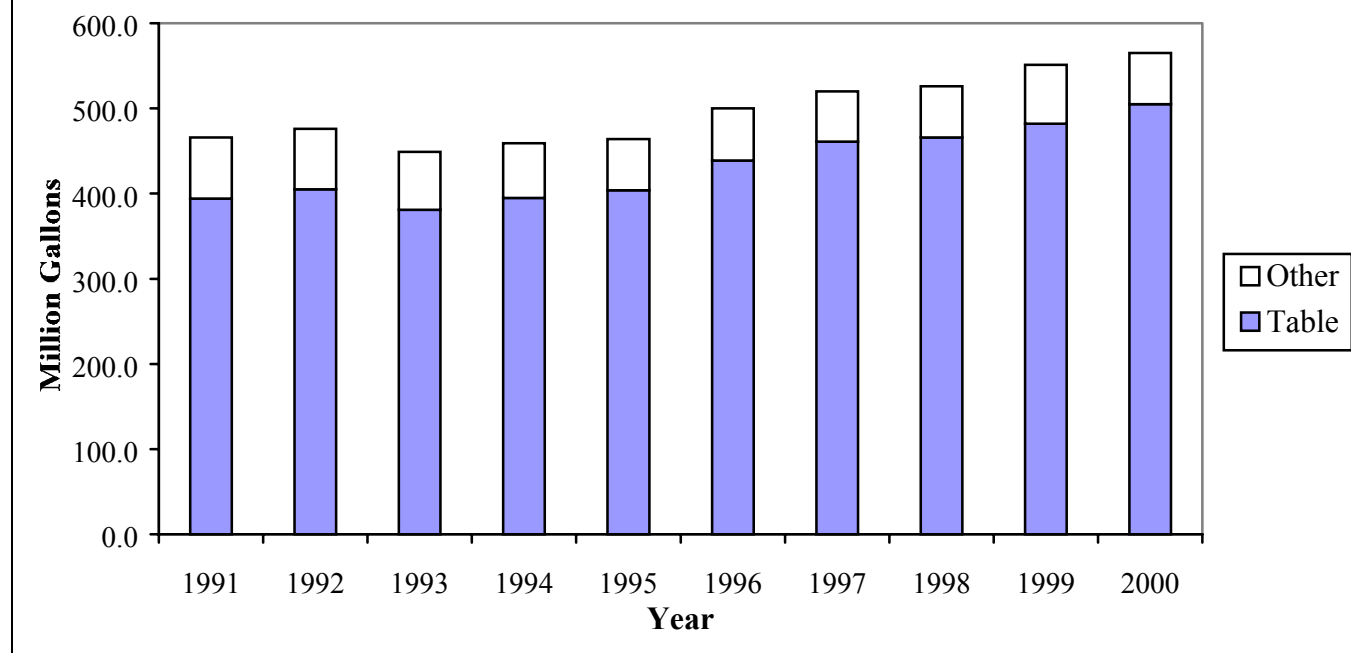


Source: New York Agricultural Statistics, 2000-2001.

Total wine consumption in 2000 increased 2.5 percent. Increased consumption was driven by the seventh consecutive gain in the table wine category, which now accounts for 89 percent of US consumption. The “other wine” category registered a decrease in 2000 due to more normal consumption of sparkling wine and champagne which had been unusually high in '99 due to end of the millennium celebrations. Favorable publicity given to research showing positive health benefits from regular, moderate wine consumption has undoubtedly increased consumption. Final consumption figures for 2001 will likely show a growth in U.S. wine consumption of about 3 percent.

The US economy is now probably in a recession. The likely impacts are the following: (1) consumers will increase consumption of alcohol, and wine will share in the increased consumption; (2) consumers will trade down from higher priced products to lower priced products; (3) consumers will entertain more at home, resulting in less purchases for on-premise consumption, but more purchases for off-premise consumption; and (4) baby-boomers (who comprise the most important drivers of increased wine consumption) will continue to reward themselves in times of adversity as well as in the good times. The results: a continued increase in US consumption (by volume), but a relatively unchanged level of retail sales. We can expect to see increased resistance to higher priced products (\$25 and up) as consumers become more price conscious due to the slowing economy. We can also expect to see price-cutting and more bargains, especially for wine priced below \$7 per bottle at retail.

**FIGURE 9-4. TOTAL WINE CONSUMPTION, U.S.  
1991-2000**



Source: Wine Institute/Department of Commerce/Gomberg, Fredrickson and Associates

Concords are the predominant variety grown and processed in New York. There were 113,300 tons of Concords from New York processed in 2000, 27 percent below the record crop of '99. Over the past five years, Concords have comprised 75 percent of total tonnage utilized. The second leading variety is Niagara with 8.1 percent of tonnage followed by Catawba with 4.7 percent. *Vinifera*, with an average of just 4,013 tons utilized, accounted for just 2.5 percent of the NY crush over the last five years.

The average price for French-American hybrids such as Aurore, de Chaunac, and Seyval has been flat to declining in recent years until the short crop of 2000 when most prices increased. The prices of other major French American varieties, such as Baco Noir, Cayuga White, and Rougeon, had been increasing due to the strong growth in the small winery sector. Native American varieties used for juice (i.e. Concord and Niagara) are in a cycle of relatively high prices.

*Vitis Vinifera* prices are heavily influenced by Riesling and Chardonnay, which are harvested in larger quantities than other *vinifera* varieties. Most Riesling and Chardonnay sold in the \$1,000 - 1,400 per ton range in 2000, while red *vinifera* generally brought \$1,300 - 1,700 per ton. Hence, the average *vinifera* price in 2000 was \$1,310, a 1.6 percent increase from '99 prices.

**TABLE 9-5. GRAPES: NEW YORK GROWN  
Received By Wineries and Processing Plants, 1996-2000**

Variety	1996	1997	1998	1999	2000	5-Year Avg.
----- tons -----						
Concord	139,000	96,600	89,400	154,500	113,300	118,560
Niagara	10,700	12,800	10,000	17,200	13,900	12,920
Catawba	7,900	7,335	6,090	9,600	6,400	7,465
Elvira	5,100	4,110	3,080	4,540	3,660	4,098
Delaware	1,650	1,010	550	1,180	630	1,004
Dutchess	120	***	***	***	***	***
Ives	***	130	115	210	140	***
Aurora	4,900	3,295	4,080	4,240	4,060	4,115
de Chaunac	910	575	710	940	670	760
Baco Noir	1,200	670	890	730	720	842
Seyval Blanc	900	600	650	850	550	710
Cayuga White	1,000	630	840	860	740	814
Rougeon	720	585	420	660	540	585
Vitis Vin.(all)	3,700	3,650	4,015	4,030	4,670	4,013
Other varieties	2,200	2,010	2,160	2,460	2,020	2,170
Total, all varieties	180,000	134,000	123,000	202,000	152,000	158,200

SOURCE: New York Agricultural Statistics, 2000-2001.

**TABLE 9-6. GRAPES: PRICES PAID FOR NEW YORK GROWN GRAPES PROCESSED  
1996-2000**

Variety	1996	1997	1998	1999	2000	5-Year Avg.
<u>American Varieties</u>						
Catawba	215	220	245	243	246	234
Concord	207	257	276	261*	263*	253
Delaware	210	230	270	279	272	252
Dutchess	200	***	***	***	***	***
Elvira	215	215	240	238	244	230
Ives	***	300	370	384	385	***
Niagara	220	233	265	271*	248*	247
<u>French American Hybrid</u>						
Aurore	230	220	245	248	240	237
Baco Noir	280	330	395	409	405	364
Cayuga White	270	335	390	401	412	362
de Chaunac	280	315	375	285	391	329
Rougeon	280	320	380	404	384	354
Seyval Blanc	290	335	360	346	392	345
<u>Vitis Vinifera</u>						
All varieties	1,130	1,240	1,230	1,290	1,310	1,240
TOTAL	249	281	308	283	295	283

\*Preliminary estimates of future payments by cooperatives have been included based upon historical data.

SOURCE: Fruit, 975-2-01 NY Agricultural Statistics Service.

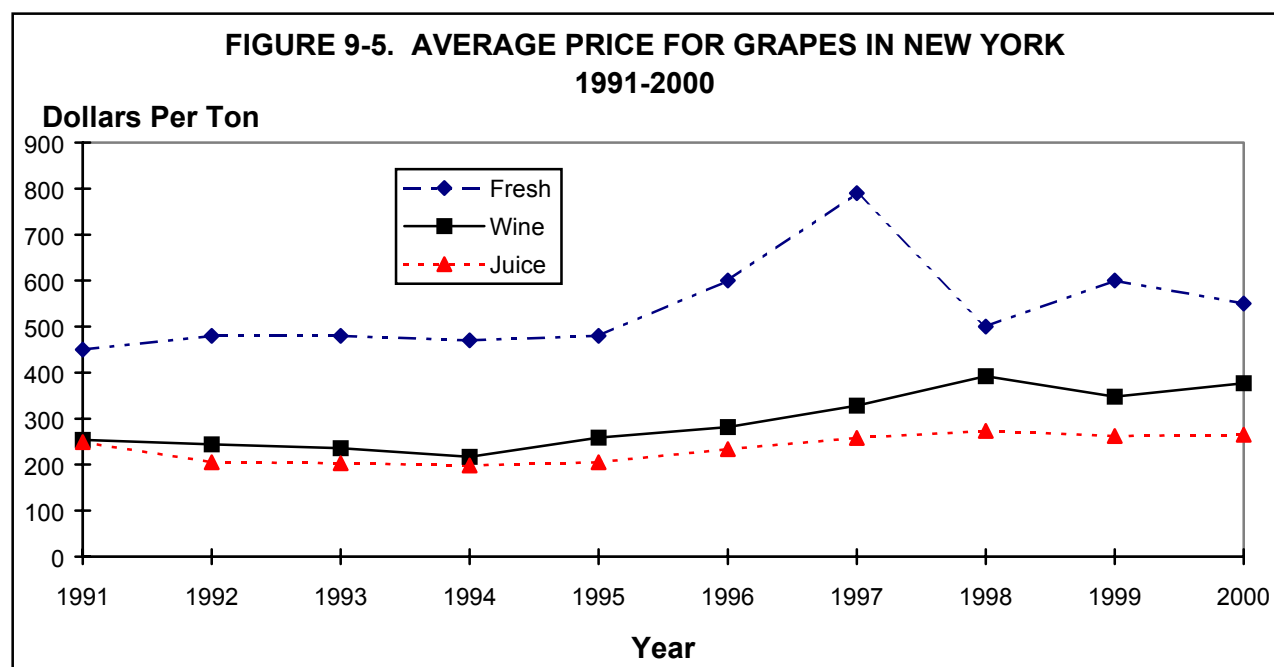


The national crop of Concord and Niagara grapes decreased in 2001 for the second year in a row after the huge '99 crop. The outlook for this sector is influenced mainly by the extremely short national crop of Concord. Smaller than normal crops in Michigan (down about 70 per cent), and reduced crops in Pennsylvania and New York, as well as the third consecutive short Concord crop in Washington, contributed to the shortfall. The reduced crop in New York resulted from lower yields in the Lake Erie Grape Belt due to a below average set and smaller cluster size. Some vineyards averaged less than 2 tons per acre. Juice grape varieties in the Finger Lakes, however, had near normal yields. The utilized production from this year's crop is likely to be the lowest for Concord since 1990. In view of the short national crop, most processors offered higher cash prices, averaging about \$265 per ton, about \$15 higher than a year ago.

National Grape, which processes about 30 per cent of the total NY grape crop and about two thirds of the US Concord crop, paid a harvest cash advance of \$100 per ton for the fourth consecutive year. Favorable publicity about the health benefits of grape juice has enhanced demand for Concord grapes. The Cooperative's international operations are strong, contributing about \$100 million to net sales, out of a total of nearly \$650 million. A major challenge will be to manage the small crop in a market in which the Cooperative has achieved demand momentum through new product development, international operations, and new research findings on the health benefits of grape juice.

For growers selling to large wineries, prices were similar to last year. Canandaigua Wine Company (the major purchaser of the State's wine grapes) listed \$5 per ton increases for Aurore, early Catawba, and white hybrids. Delaware and red hybrids were unchanged. The major difference was for Concord, for which the price was up by about 10 percent.

The small winery sector continued its strong performance. The average price for *vinifera* grapes will probably increase about two percent to a record \$1340 per ton. The recession may somewhat dampen the performance of small wineries in the second half of 2001 as well as the first few months of 2002; nevertheless, sales of small wineries with high quality wine and good marketing programs may still grow in 2002. (The assistance of Barry Shaffer and Tim Martinson, area Extension Educators in the Lake Erie region and the Finger Lakes region, is acknowledged for this section of the handbook.)



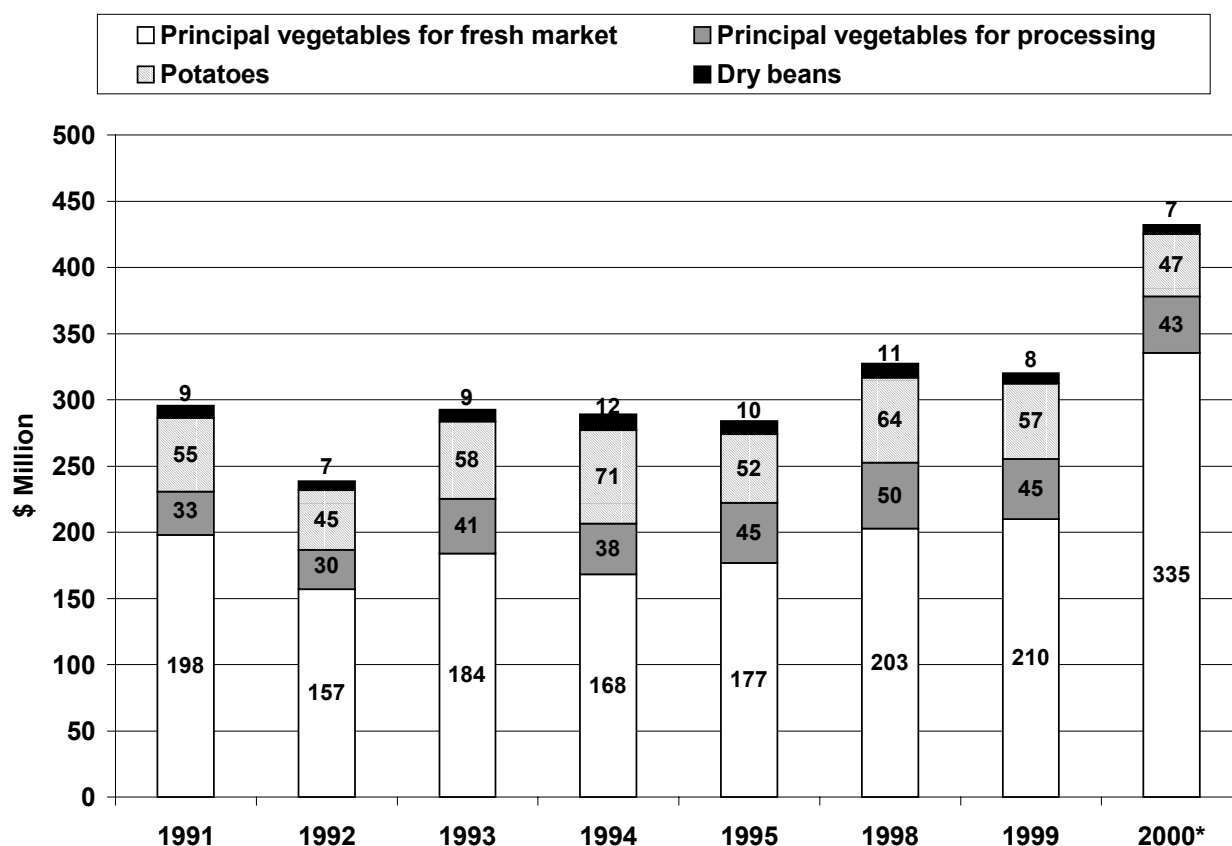
Source: New York Agricultural Statistics, 2000-2001.

## Chapter 10. Vegetables

Wen-fei L. Uva, Senior Extension Associate

The value of all New York vegetable production in 2000 totaled \$378 million (Figure 10-1). New York ranked fifth in the nation for the value of principal fresh market vegetables and seventh for the value of principal processed vegetables in 2000. Six crops were added to New York Agricultural Statistics Service's fresh market vegetable program this year: bell peppers, eggplant, escarole/endive, pumpkins, spinach, and squash. Carrots and lettuce were dropped from the program. As a result, the estimated value of New York's principal fresh market vegetables totaled \$335 million in 2000, a 59.5 percent increase from 1999. The 2000 New York processed vegetable program dropped carrots, while all other crops remained the same, and the principal processing vegetable value totaled \$42.6 million in 2000, a 4 percent decrease from 1999.

**FIGURE 10-1. VALUE OF PRODUCTION OF PRINCIPAL VEGETABLES FOR FRESH MARKET AND PROCESSING, POTATOES, AND DRY BEANS, NEW YORK, 1991–2000**



\* Six crops were added to New York's fresh market vegetable program in 2000: bell peppers, eggplant, escarole/endive, pumpkins, spinach and squash; carrots and lettuce were dropped from the program. Carrots were dropped from the 2000 New York processed vegetable program, while all other crops remained the same.

Source: New York Agricultural Statistics, 2000-2001.

Cabbage, sweet corn, snap beans, potatoes, and onions are the top five vegetable crops produced in New York (Table 10-1). The value of cabbage production reached \$90.8 million in 2000 and exceeded sweet corn (\$68 million) to become the number one vegetable crop in New York for the first time in three years. The value of snap beans was \$48.8 million in 2000 and ranked third among New York vegetable crops, risen from fifth in 1999. The value of potatoes and onions fell to the fourth and fifth rankings in 2000, compared to second and fourth in 1999, respectively. Table 10-2 shows that all major fresh market vegetables in New York realized higher value per acre in 2000, compared to 1999. Tomatoes generated the highest per acre value (\$10,224/acre) in 2000, followed by bell peppers (\$9,194/acre). Value per acre for processing vegetables, potatoes and dry beans had less than 5 percent difference between 1999 and 2000 except for green peas (a 39 percent decrease).

**TABLE 10-1. NEW YORK VEGETABLE CROPS WITH THE HIGHEST PRODUCTION VALUE IN 2000**

1999 Ranking	Crop	2000 Ranking	2000 Value of Production (\$ million)
3	Cabbage <sup>1</sup>	1	90.8
1	Sweet Corn <sup>1</sup>	2	68.0
5	Snap Beans <sup>1</sup>	3	48.8
2	Potatoes	4	47.4
4	Onions	5	47.4
8	Tomatoes	6	30.7
N/A	Pumpkins <sup>2</sup>	7	26.3
6	Cucumbers	8	20.3
N/A	Squash <sup>2</sup>	9	17.2
N/A	Bell Peppers <sup>2</sup>	10	7.1

<sup>1</sup> Processed and fresh market combined

<sup>2</sup> New in 2000

**TABLE 10-2. VALUE PER ACRE OF PRODUCTION FOR SELECTED VEGETABLE CROPS IN NEW YORK, 1998-2000**

	1998	1999	2000	Change 1999-2000
		\$/acre		%
<b><u>Vegetables for Fresh Market</u></b>				
Cabbage	3,570.1	4,602.6	6,721.9	46%
Sweet Corn	1,629.0	1,548.8	2,052.4	33%
Snap Beans	3,140.9	3,250.5	4,149.6	28%
Onions	4,155.8	3,013.2	3,852.4	28%
Cucumbers	3,860.0	4,680.0	5,333.9	14%
Tomatoes	4,060.0	3,973.2	10,224.0	157%
Pumpkins			4,620.0	N/A
Squash			5,213.9	N/A
Bell Peppers			9,193.5	N/A
<b><u>Vegetables for Processing</u></b>				
Sweet Corn	395.4	389.7	400.0	3%
Snap Beans	652.1	654.4	650.4	-1%
Green Peas	726.0	668.7	410.6	-39%
Cabbage for Kraut	956.0	1,392.1	1,451.4	4%
<b>Potatoes</b>	2,372.1	2,237.6	2,226.1	-1%
<b>Dry Beans</b>	359.3	266.0	277.6	4%

Source: New York Agricultural Statistics, 2000-2001.

Tables 10-3 to 10-5 show production values, production levels, and average farm prices for major vegetable crops produced in New York from 1998 to 2000 and compare them to U.S. production. Table 10-6 presents production areas and average yields for major vegetable crops produced in New York from 1998 - 2000.

### **Fresh Vegetables**

The 2000 value of fresh market vegetable production in New York was about 6 percent of U.S. total, increased from 3 percent in 1999. The largest percentage increases in production value between 1999 and 2000 occurred in tomatoes (149 percent), followed by snap beans (59 percent) and cabbage (56 percent). The value of fresh market vegetable production in the U.S. in 2000 also increased 16% from 1999 and totaled \$4.7 billion. Among fresh market vegetables produced in the U.S., cabbage, bell peppers, and tomatoes had the highest percentage increase between 1999 and 2000. While the 2000 value of U.S. snap bean production decreased 4 percent from 1999, the value of snap bean production in New York increased 59 percent from 1999 to 2000.

Fresh-market vegetable and melon area for harvest in summer (largely July-September) of 2001 is estimated to rise 2 percent in the U.S. from a year ago. New York is the second leading summer-season producer for fresh market vegetables with 11 percent of production acreage and is expected to harvest 5 percent more area in 2001 than a year ago. This reflects both stronger growers' prices since last summer and a recovery from reduced summer area for crops such as sweet corn, which was hindered by the cool, wet weather last spring and had a 18 percent reduction in production and harvested area in 2000 compared to 1999.

However, the hot, dry weather in the 2001 growing season has damaged unirrigated crops and reduced yields in New York, Michigan, and Pennsylvania. In New York, the lack of widespread rainfall has led to acreage losses and reduced yields on crops such as sweet corn and onions. Shipping-point prices for fresh-market vegetables have generally been higher than a year ago in the first and second quarters of 2001. However, due to higher acreage of summer vegetables planted this year and slower economic growth than a year ago, New York's 2001 growing season have shown signs of restraining demand and lower summer-season fresh-market vegetable prices in addition to the general seasonal decline in shipping-point prices in peak summer supply season (starting late June and July).

After several years of low prices, this past winter, shipping point prices of onions were 126 percent above the lows of a year before. These higher prices reflected a small crop last fall, good storability and quality of the fall crop, strong domestic and export demand, and fewer imports from foreign suppliers such as Mexico and Peru. As a result, although the production volume of onions was lower in the U.S. in 2000, it generated higher values. New York enjoyed both higher production and prices in 2000. National production of storage onions for 2001 is estimated down 8 percent from 2000, and New York storage onion production for 2001 is estimated 14 percent less than 2000 due to lower yields. Lower volume and higher quality could bring in higher prices for growers again this year.

### **Processed Vegetables**

The production of New York processing vegetables was valued at about 3 percent of U.S. total, same as in 1999 (Table 10-2). Among the top four processing vegetables in New York, snap beans and cabbage for kraut had an increase in production value in 2000, compared to 1999, and sweet corn and green peas had a reduction in production value during the same period. The reduction of production value was from reduced

**TABLE 10-3. VALUE OF PRODUCTION, SELECTED VEGETABLE CROPS  
NEW YORK AND UNITED STATES, 1998-2000**

	<u>New York</u>				<u>United States</u>				NY as % of U.S. 2000
				% Change				% Change	
	1998	1999	2000	1999-2000	1998	1999	2000	1999-2000	
	---(\$ million)---			%	---(\$ million)---			%	
<b><u>Vegetables for Fresh Market</u></b>									
Cabbage	43.2	55.7	86.7	56%	303.7	240.9	332.4	38%	26%
Sweet Corn	47.6	52.2	56.4	8%	452.4	443.3	474.0	7%	12%
Onions	51.9	38.0	47.4	25%	838.4	635.1	732.3	15%	6%
Snap Beans	16.6	19.8	31.5	59%	238.9	260.9	251.4	-4%	13%
Tomatoes	13.4	12.3	30.7	149%	1,149.7	951.0	1,160.1	22%	3%
Pumpkins			26.3	N/A			101.6	N/A	26%
Cucumbers	14.7	16.8	20.3	20%	225.6	216.7	234.5	8%	9%
Squash			17.2	N/A			207.7	N/A	8%
Bell Peppers			7.1	N/A	506.6	483.8	614.4	27%	1%
<i>Total Principal Fresh Market Vegetables<sup>1</sup></i>	202.8	209.9	335.4	60%	5,053.3	4,742.6	5,487.0	16%	6%
<b><u>Vegetables for Processing</u></b>									
Snap Beans	13.6	13.8	17.2	25%	125.4	134.5	142.5	6%	12%
Sweet Corn	15.5	12.7	11.6	-8%	238.7	234.4	231.6	-1%	5%
Green Peas	12.7	10.0	6.7	-33%	136.6	126.9	131.7	4%	5%
Cabbage for Kraut	2.9	3.3	4.1	22%	7.7	7.8	9.9	27%	41%
<i>Total Principal Processing Vegetables<sup>1</sup></i>	49.8	45.3	42.6	-6%	1,395.3	1,680.1	1,453.0	-14%	3%
<b>Fall Potatoes</b>	64.0	57.1	47.4	-17%	2,011.0	1,994.0	2,064.6	4%	2%
<b>Dry Beans</b>	10.8	8.0	6.8	-15%	189.8	215.0	209.0	-3%	3%

<sup>1</sup> Totals include additional principal crops not listed.

Source: ERS, USDA, *Vegetable Specialties – Situation and Outlook Yearbook*, July 2001.  
New York Agricultural Statistics, 2000-2001.

yield (-11 percent) due to adverse weather conditions in spring 2000 for sweet corn and lower prices (-35 percent) for green peas.

Processors of five major vegetables (tomatoes, sweet corn snap beans, green peas, and cucumbers for pickles) contracted for 1.23 million acres in the U.S. in 2001, down 10 percent from a year ago. Most of the decline came from canning vegetables (down 13 percent) as processors responded to high inventories and weak wholesale prices. New York processing acreage increased in 2001, but yields are down due to the near-drought conditions this summer. Wholesale prices for canned vegetables are expected to increase in the coming year as production is curtailed and stock levels are reduced. Higher cold storage costs caused by rising utility rates may also be reflected in commodity pricing.

## Potatoes

The 2000 value of potato production in New York was \$47.4 million, 17 percent lower than in 1999. The reduction in production value is mainly from a decrease in acreage. The first estimate of 2001 fall-season potato planted acreage in the U.S. indicates a 10 percent reduction. Area for harvest is down in most of the leading states except for New York (up 9%) and Pennsylvania (up 4%). The acreage reduction in 2001 is largely due to weak grower prices in 2000, which are the result of record-high potato production last year – a combination of larger harvested area and record-high yields. Lower supply and high quality products have moved prices above year-earlier levels this year. Even with increased acreage, production of fall potatoes in New York for 2001 is estimated at 5.94 million hundredweight (cwt.), down fractionally from a year ago due to lower yields.

**TABLE 10-4. PRODUCTION OF SELECTED VEGETABLE CROPS  
NEW YORK AND UNITED STATES, 1998-2000**

	<u>New York</u>				<u>United States</u>				NY as % of U.S.
	1998	1999	2000	% Change 1999-2000	1998	1999	2000	% Change 1999-2000	
<b><u>Vegetables for Fresh Market</u></b>	---(Million cwt)---			%	---(Million cwt)---			%	%
Sweet Corn	2.6	3.2	2.6	-19%	26.3	25.8	25.9	1%	10%
Cabbage	4.6	5.0	5.7	14%	23.9	21.8	26.4	21%	21%
Onions	3.8	3.5	4.7	34%	67.3	73.6	71.6	-3%	7%
Snap Beans	0.3	0.4	0.5	25%	4.9	5.6	5.9	5%	9%
Cucumbers	0.8	0.6	0.8	33%	11.3	11.9	11.5	-3%	7%
Tomatoes	0.5	0.4	0.5	25%	32.6	36.7	37.0	1%	1%
Pumpkins			1.1	N/A			8.95	N/A	12%
Squash			0.7	N/A			8.69	N/A	8%
Bell Peppers			0.2	N/A	14.6	15.6	19.5	25%	1%
<i>Total Principal Fresh Market Vegetables<sup>1</sup></i>	13.1	13.6	17.2	27%	271.4	291.7	289.0	-1%	6%
<b><u>Vegetables for Processing</u></b>	---(1,000 tons)---				---(1,000 tons)---				
Sweet Corn	219.5	179.4	154.7	-14%	3,255.6	3,297.4	3,155.5	-4%	5%
Snap Beans	76.9	72.5	89.3	23%	731.0	778.4	833.5	7%	11%
Green Peas	38.5	31.7	32.8	3%	483.9	461.6	530.1	15%	6%
Cabbage for Kraut	61.8	68.2	76.1	12%	172.6	177.9	208.3	17%	37%
<i>Total Principal Processing Vegetables<sup>1</sup></i>	459.8	420.8	389.3	-7%	15,178.8	18,711.3	16,651.4	-11%	2%
<b><u>Fall Potatoes</u></b>	---(1,000 cwt)---				---(1,000 cwt)---				
	7290	6758	5964	-12%	432.7	429.8	470.5	8%	1%
<b><u>Dry Beans</u></b>	426	414	358	-14%	30.4	33.1	26.4	-20%	1%

<sup>1</sup> Totals include additional principal crops not listed.

Source: ERS, USDA, *Vegetable Specialties – Situation and Outlook Yearbook*, July 2001.  
New York Agricultural Statistics, 2000-2001.

<b>TABLE 10-5. AVERAGE FARM PRICES OF MAJOR VEGETABLE CROPS NEW YORK AND UNITED STATES, 1998-2000</b>								
	<b>New York</b>				<b>United States</b>			
	1998	1999	2000	% Change 1999-2000	1998	1999	2000	% Change 1999-2000
<b><u>Vegetables for Fresh Market</u></b>	---(\$/cwt)---			%	---(\$/cwt)---			%
Sweet Corn	18.1	16.3	21.6	33%	17.7	17.2	17.2	0%
Cabbage	10.3	12.6	17.5	39%	12.7	11.0	12.6	14%
Onion	16.3	12.2	13.5	11%	12.6	13.8	9.8	-29%
Snap Beans	50.6	53.3	61.0	14%	48.9	46.5	42.7	-8%
Cucumbers	19.3	26.0	25.4	-2%	20.0	18.2	20.4	12%
Tomatoes	29.0	34.5	56.8	65%	35.2	25.9	31.4	21%
Pumpkins			23.1	N/A			11.4	N/A
Squash			23.7	N/A			23.9	N/A
Bell Peppers			43.7	N/A	34.8	31.1	31.5	1%
<b><u>Vegetables for Processing</u></b>	---(\$/ton)---			%	---(\$/ton)---			%
Sweet Corn	70.6	70.6	75.0	6%	73.3	71.1	73.4	3%
Snap Beans	176.0	190.0	193.0	2%	171.5	172.8	171.0	-1%
Green Peas	330.0	314.0	204.0	-35%	282.3	275.0	248.5	-10%
Cabbage for Kraut	46.4	49.0	53.4	9%	44.7	43.7	47.4	8%
	---(\$/cwt)---			%	---(\$/cwt)---			%
Potatoes	9.4	9.0	8.9	-1%	5.2	5.1	5.3	4%
Dry Bean	25.3	19.4	19.0	-2%	19.0	16.4	15.3	-7%

Source: ERS, USDA, *Vegetable Specialties – Situation and Outlook Yearbook*, July 2001.  
New York Agricultural Statistics, 2000-2001.

### **Dry Beans**

Dry bean production continued to decrease in New York as well as U.S. as a whole. Growers reacted to large stock levels, slow exports, and low prices by reducing production area. In 2001, dry bean production in the U.S. is predicted to be 19.4 million cwt, a 27 percent reduction from a year before. The reduced production was the result of low prices causing growers to cut acreage, and low yields due to a severe Midwestern drought. As a result of the short crop, dry bean prices are rising rapidly and can be expected to continue rising through mid-2002. With improved grower prices during the 2001/2002 marketing year, area planted to dry beans is expected to increase 25 to 30 percent in the spring of 2002. Despite the continued strength of the U.S. dollar in the first half of 2001, the volume of dry bean exports rose 18 percent from a year ago. Large increases were observed for navy, Great Northern, and pinto beans. Among the major export markets, sales increased to the United Kingdom, France, and Mexico, but declined to Japan and Canada.

**TABLE 10-6. HARVESTED ACRES AND AVERAGE YIELD OF SELECTED VEGETABLE CROPS IN NEW YORK, 1998-2000**

	<u>Harvested Acres</u>				<u>Average Yield</u>			
	1998	1999	2000	% Change 1999-2000	1998	1999	2000	% Change 1999-2000
<b><u>Vegetables for Fresh Market</u></b>	---(1,000 acres)---				---(cwt/acre)---			
				%				%
Sweet Corn	29.2	33.7	27.5	-18%	90.0	95.0	95.0	0%
Cabbage	12.1	12.1	12.9	7%	380.0	410.0	440.0	7%
OnionS	12.5	12.6	12.3	-2%	300.0	280.0	380.0	36%
Snap Beans	5.3	6.1	7.6	25%	62.0	61.0	68.0	11%
Cucumbers	3.8	3.6	3.8	6%	200.0	180.0	210.0	17%
Tomatoes	3.3	3.1	3.0	-3%	140.0	115.0	180.0	57%
Pumpkins			5.7	N/A			200.0	N/A
Squash			3.3	N/A			220.0	N/A
Bell Peppers			0.8	N/A			210.0	N/A
<i>Total Principal Fresh Market Vegetables<sup>1</sup></i>	<i>68.7</i>	<i>73.6</i>	<i>79.2</i>	<i>8%</i>				
<b><u>Vegetables for Processing</u></b>	---(1,000 acres)---				---(Tons/acre)---			
				%				%
Sweet Corn	39.2	32.5	29.0	-11%	5.6	5.5	5.3	-3%
Snap Beans	20.8	21.1	26.5	26%	3.7	3.4	3.4	-1%
Green Peas	17.5	14.9	16.3	9%	2.2	2.1	2.0	-6%
Cabbage for Kraut	3.0	2.4	2.8	17%	20.6	28.4	27.2	-4%
<i>Total Principal Processing Vegetables<sup>1</sup></i>	<i>84.9</i>	<i>75.7</i>	<i>77.6</i>	<i>3%</i>				
	---(1,000 acres)---				---(cwt/acre)---			
				%				%
<b>Fall Potatoes</b>	27.0	25.5	21.3	-16%	270.0	265.0	280.0	6%
<b>Dry Beans</b>	30.0	30.2	24.5	-19%	14.2	13.7	14.6	7%

<sup>1</sup> Totals include additional principal crops not listed.

Source: New York Agricultural Statistics, 2000-2001.

## **Consumption**

In 2000, per capita use of all vegetables and melons totaled 464 pounds, a 2 percent increase from a year earlier. Much of the gain stems from increased use of potatoes (up 6 percent). Increases were also noted for vegetables for canning and sweet potatoes. Per capita use of fresh-market vegetables in 2000 was up 3 percent from 1999, mainly due to inclusion of several additional crops previously unreported by USDA. For a comparable set of crops, per capita use of fresh-market vegetables in 2000 was unchanged from a year earlier. Significant increases were experienced in fresh cabbage, romaine/leaf lettuce and bell peppers, and melons, broccoli, and tomatoes had lower per capita consumption in 2000.

After declining in 1999, the index of retail prices for fresh market vegetables (including potatoes) rose 5 percent in 2000. With transportation and energy costs also continuing to rise this spring, retail prices for fresh-market vegetables averaged 9 percent above a year earlier during the first 6 months of 2001. Average retail prices for frozen vegetables increased 5 percent during the same period, largely reflecting increased marketing costs, while prices for canned vegetables rose 2 percent. The Consumer Price Index (CPI) for all food is forecast up 3.2 percent in 2001, following smaller increases of 2.1 percent in 1999 and



2.3 percent in 2000. With the higher retail prices in 2001, per capita vegetable and melon consumption is projected to decline 2 percent from the 2000 record high. Reductions are expected to occur across all major categories, including fresh-market, canning, freezing, potatoes, and pulses.

### **Industry Situation and Outlook**

In 2000, USDA Economic Research Service estimated the average input costs for vegetable and melon growers increased between 3 and 4 percent. Among individual items, the largest increase was in fuel and power, which rose 29 percent from a year earlier. Items with significant increases in 2000 include petroleum products (gasoline, diesel) (100 percent), paper products (7 to 9 percent), short-term interest rates (11 percent), property taxes and insurance (6 percent), and advertising (2 percent). Despite rising energy prices, the cost of transportation services averaged about the same as a year earlier. In 2001, prices paid by vegetable and melon growers for production inputs are projected to rise 5 to 7 percent from 2000. Farm wages, which rose nearly 4 percent in 2000, are expected to rise 5 to 7 percent in 2001, partly reflecting the continuing difficulty in attracting skilled labor.

Despite the increase in input costs, domestic production of vegetables and melons is forecast to increase an average of about 3 percent annually during the next decade. All major categories are expected to register gains. Potatoes will remain the largest vegetable crop production in the U.S., accounting for over one-third of total vegetable tonnage and 17 percent of the total forecast farm value of vegetables in 2011. The largest average annual percentage growth for the decade is expected to occur in pulses, due primarily to an anticipated recovery in dry bean production in 2002 and 2003 after a very small crop in 2001. After the initial period, the growth is expected to settle to an average annual increase of about 2 percent through 2011. Growth in processing vegetable production may occur in much the same way. Production of vegetables for fresh market is forecast to increase at a relatively steady pace of about 2 percent annually through 2011.

<b>TABLE 10-7. CHANGES OF PRODUCE DEPARTMENT AND BUYING PRACTICES IN RETAIL SUPERMARKETS, 1996, 2001 AND 2006</b>			
	<b>1996</b>	<b>2001</b>	<b>2006*</b>
Average Produce Department Size	3,462 ft <sup>2</sup>	4,070 ft <sup>2</sup>	4,368 ft <sup>2</sup>
Average Produce Department Share of Total Store Profits	14.6%	15.9%	18.7%
Retail Store SKUs (Store Keeping Units)	430	574	664
Percent of Produce Purchase from the Top 10 Suppliers	61.0%	68.2%	71.6%
Percent of Produce Purchased through "Spot Buying"	10.6%	9.5%	9.0%

\* Prediction by produce department executives

Source: 2001 Produce Management Associate FreshTrack Study, Food Industry Management Program, Dept. of Applied Economics and Management, Cornell University.

U.S. consumer confidence has waned, and labor demand has slackened due to slower economic growth in 2001. In spite of the softening economy, some retail marketers, i.e. Wal-Mart and Home Depot, reported increased third quarter profits in 2001. According to the 2001 FreshTrack study – Supply Chain Management in the Produce Industry – conducted by the Food Industry Management Program at Cornell University, grocery retailers continue to expand their produce departments in both size and number of items carried (Table 10-7). Today's supermarket produce department is more diverse and exiting than ever before with the addition of ethnic and organic produce along with many new varieties, year-round availability, prepared and precut products, and private label produce.

At this age of retail consolidation, while a handshake still seals some deals, the buying process is at the center of changing and technological transformation, which is propelling many changes in produce buying and selling practices. The 2001 FreshTrack study showed that produce buying offices have been “consolidated” in an effort to streamline produce operations. Retail supermarket firms employed fewer produce buyers in 2001 than just 2 years ago. Category management continues to grow in importance within the produce departments. More than half (58.5 percent) of supermarket chains in the 2001 FreshTrack study reported having produce category managers. Concentration of produce buying continues to strengthen. Supermarket retailers are placing more of their produce business with their top 10 suppliers. At the same time, the “opportunity” or “spot” buy is on the decline. Moreover, a growing trend within retail buying offices today is the development of formal guidelines to measure supplier performance. In 3 to 5 years, 70 percent of all retail firms surveyed in the 2001 FreshTrack study anticipate establishing and enforcing performance guidelines with produce suppliers.

With many aggressive changes occurring in the retail sector, growers and shippers are changing their selling paradigm as well. Today, it is often not clear to a grower or shipper whether the decision maker is at the local field buying office, the divisional operating company, or the headquarters; nonetheless, progressive produce sellers will not hesitate to make sales calls at every level in a buying organization to strike a deal. However, price alone is no longer sufficient to guarantee a transaction. An increasing number of produce suppliers are developing various forms of seller-buyer partnerships to improve coordination and provide retailers information and tools to differentiate themselves from their competitors on the strength and uniqueness of their produce departments. Some grower/shippers are taking the approach of providing retailers information and education about the growing, shipping and packing business.

While the pace of consolidation at the retail supermarket level seems to have slowed in the past year, the perception of greater retail market power has prompted a similar trend at the grocery supplier level. Similarly, produce suppliers feel the pressure to consolidate or form strategic alliances, as a mechanism to come closer to the scale of their new customers. The 2001 FreshTrack showed that the objectives of growers and shippers pursuing these alliances include the ability to supply more product on a year-round basis, joint purchasing opportunities, logistic advantages, better access to more advanced management information systems, technical support resources, and also to make use of their sales and marketing talents. It is anticipated that perhaps because of the strong independent nature of family-owned businesses, horizontal and vertical strategic alliances and joint ventures are more likely than ownership consolidation or vertical integration.

Issues related to food safety, profitability, and quality are the top concerns for both retail produce executives and grower/shippers. The way grower/shippers and retailers manage the produce supply chain will continue to change as retailers are asking grower/shippers to take on or share more tasks than ever before. Responsibility for many functions within the supply chain will continue to be shifted backward in the channel from retailers to grower/shippers. The fundamental strategies for both produce retailers and grower/shippers are reinforcing the importance of marketing basics and customer orientation and staying flexible and responsive to customer needs.

## **Chapter 11. Ornamentals**

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In 2000, New York greenhouse and nursery production was valued at \$295 million, a 6 percent increase from 1999 and 24 percent above the 10-year (1990-1999) average (Figure 11-1). New York ranked 11<sup>th</sup> in the nation for total commercial greenhouse and nursery sales.

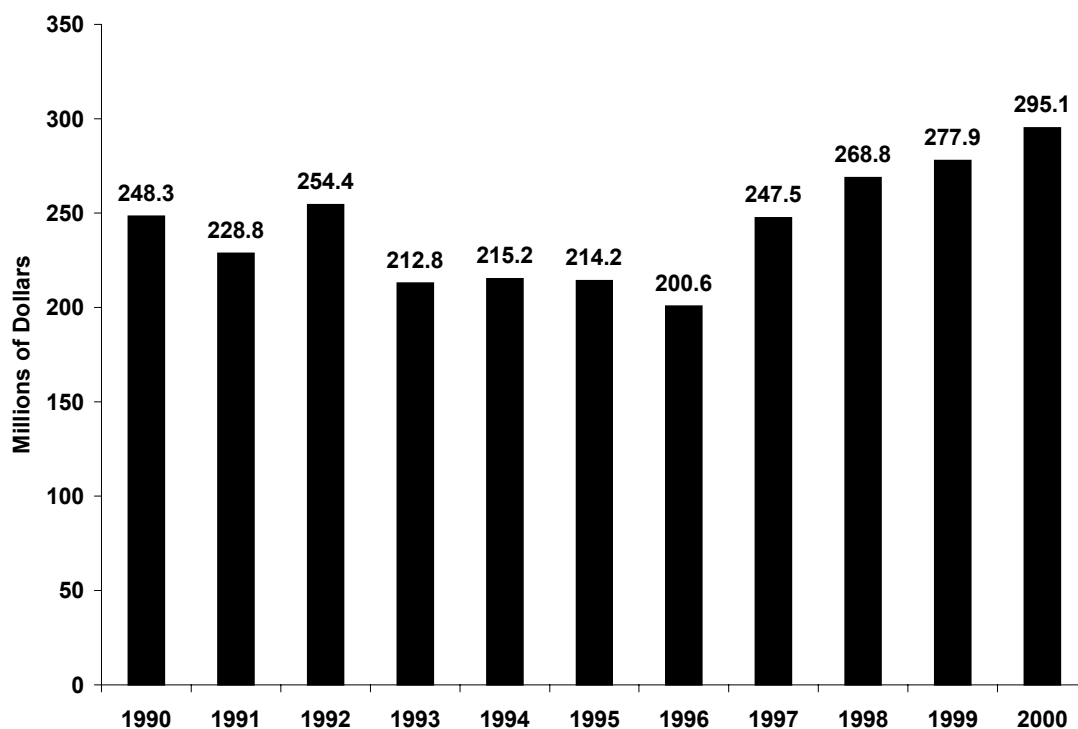
A variety of floriculture crops including bedding/garden plants, cut cultivated greens, cut flowers, flowering potted plants, foliage plants for indoor or patio use, potted perennials, and floriculture propagative material were produced in 26.8 million square feet of covered area and in 897 acres of open ground in New York. The overall value of floriculture production sales generated by growers with \$10,000 or more annual gross sales in New York reached \$175 million in 2000, an 8 percent increase from 1999, and accounted for 59 percent of the total greenhouse and nursery production value in New York. It has maintained the 6<sup>th</sup> ranking among states in the nation's floriculture production sales for the past four years.

While bedding and garden plants continued to top the list of floriculture commodities produced in New York, after enjoying growth for five consecutive years, the value of bedding and garden plants decreased 2.9 percent from 1999 to \$94.7 million. Value of sales increased from a year earlier for all other major commodities – potted flowering plants, cut flowers, and foliage for indoor or patio use (Table 11-1). The number of commercial growers of floriculture crops in New York decreased for the third consecutive year to 760 growers in 2000. The major decrease occurred in the group of growers with \$50,000-99,999 annual gross sales, from 205 in 1999 to 178. Although the land area used to produce floriculture crops in the state was down approximately 13 percent, greenhouse space increased 16.5 percent from 1999 to a total of 26.2 million square feet in 2000, pushing the total covered area (greenhouses plus shade and temporary structures) to 26.8 million square feet.

The total wholesale value of floriculture crops in the U.S. reached \$4.57 billion in 2000, up 11.5 percent from the 1999 total. Values for each crop category as compared with 1999 were mostly up. Bedding and garden plants, the largest commodity, recorded a 9 percent increase in wholesale value to \$2.12 billion. Potted flowering plants were up 3 percent in value to \$781 million. Foliage gained 12 percent in value to \$574 million. Value of cut flowers fell 1 percent to \$428 million, and cut cultivated greens decreased 2 percent to \$124 million.

There is no question that impatiens are still the best-selling bedding plant. However, other bedding plants such as petunias are closing the gap. This was partly due to the development of new varieties such as Wave Petunias. Table 11-2 shows that growers received higher prices for most of the major floriculture crops in 2000, compared to 1999. Prices are expected to be higher for 2001 compared to 2000 prices, to compensate for higher energy costs in the 2001 growing season. New York generally received slightly lower wholesale prices than the national average except for potted bedding/garden plants and florist mums.

**FIGURE 11-1. VALUE OF PRODUCTION OF GREENHOUSE AND NURSERY CROPS  
New York 1990-2000**



Source: New York Agricultural Statistics, various years.

**Table 11-1. VALUE OF FLORICULTURE PRODUCTION BY PLANT CATEGORY,  
New York 1995-2000**

Crop	1995	1996	1997	1998	1999	2000	5-year average 1995-1999	2000 vs. 5-year average	2000 vs. 1999
	\$ Million							% change	% change
Bedding/Garden Plants	68.5	60.3	77.0	93.4	97.5	94.7	79.3	19%	-3%
Potted Flowering Plants	31.9	24.2	37.1	35.0	34.1	37.2	32.5	14%	9%
Cut Flowers	7.6	6.8	6.1	6.0	5.0	6.0	6.3	-5%	19%
Total Foliage for Indoor or Patio Use	2.2	1.6	1.9	2.2	2.3	3.4	2.0	69%	53%
Total of Reported Crops*	110.2	93.0	122.1	137.0	139.0	152.9	120.3	27%	10%
Grower Sales \$10,000- \$99,999 (Unspecified Crops)	16.0	15.6	25.4	21.8	24.0	22.1	20.5	8%	-8%
<b>Total</b>	<b>236.4</b>	<b>201.6</b>	<b>269.6</b>	<b>295.5</b>	<b>301.9</b>	<b>316.4</b>	<b>261.0</b>	<b>21%</b>	<b>5%</b>

\* Total includes categories not listed.

Source: New York Agricultural Statistics, 1999-2000 and 2000-2001.

**Table 11-2. WHOLESALE VALUE, QUANTITY SOLD, AND AVERAGE WHOLESALE PRICE OF SELECTED FLORICULTURE CROPS, 1999 and 2000**  
New York vs. U.S.

		New York				U.S.					
	Year	Value of all sales at wholesale	Quantity sold		Wholesale price		Value of all sales at wholesale	Quantity Sold		Wholesale price	
<b>Bedding/ garden plants (Flats)</b>											
		<u>\$1,000</u>	<u>1,000 flats</u>		<u>\$/flat</u>		<u>\$1,000</u>	<u>1,000 flats</u>		<u>\$/flat</u>	
Impatiens	1999	5,977	879		6.80		114,939	16,331		7.04	
	2000	6,682	885		7.55		116,058	15,115		7.68	
Vegetable type bedding plants	1999	4,567	659		6.93		97,288	11,976		8.12	
	2000	3,800	502		7.57		89,767	10,818		8.30	
Petunias	1999	2,886	417		6.92		86,848	11,645		7.46	
	2000	2,883	387		7.45		88,919	11,318		7.86	
<b>Bedding/ garden plants (hanging baskets)</b>											
		<u>\$1,000</u>	<u>1,000 baskets</u>		<u>\$/basket</u>		<u>\$1,000</u>	<u>1,000 baskets</u>		<u>\$/basket</u>	
New Guinea Impatiens	1999	2,438	387		6.30		31,196	4,911		6.35	
	2000	2,531	398		6.36		29,361	4,613		6.36	
Impatiens	1999	1,182	234		5.05		21,559	4,274		5.04	
	2000	1,267	256		4.95		20,692	4,072		5.08	
Petunia	1999	978	158		6.19		15,774	2,823		5.59	
	2000	1,074	251		4.28		15,502	2,941		5.27	
	Year	Value of all sales at wholesale	Quantity sold		Wholesale price		Value of all sales at wholesale	Quantity Sold		Wholesale price	
			< 5"	>=5"	< 5"	>=5"		< 5"	>5"	< 5"	>5"
		<u>\$1,000</u>	<u>1,000</u>	<u>1,000</u>			<u>\$1,000</u>	<u>1,000</u>	<u>1,000</u>		
			<u>pots</u>	<u>pots</u>	<u>\$/pot</u>	<u>\$/pot</u>		<u>pots</u>	<u>pots</u>	<u>\$/pot</u>	<u>\$/pot</u>
<b>Bedding/ garden plants (pots)</b>											
Geranium from cuttings	1999	8,845	4,788	508	1.44	3.84	110,291	45,221	17,099	1.39	2.76
	2000	8,540	4,853	500	1.43	3.20	108,033	43,538	17,541	1.42	2.63
New Guinea Impatiens	1999	3,931	2,278	238	1.45	2.64	33,802	15,860	5,090	1.33	2.48
	2000	4,688	2,410	454	1.51	2.31	38,237	18,057	5,388	1.36	2.55
Geranium from seed	1999	2,771	3,197	44	0.83	2.67	37,837	42,550	2,149	0.79	1.87
	2000	2,372	2,776	53	0.80	2.86	40,248	44,613	1,514	0.83	2.11
<b>Potted flowering plants</b>											
Poinsettias	1999	10,767	730	2,666	1.31	3.68	226,816	12,839	48,848	1.86	4.15
	2000	12,918	1,099	3,189	1.54	3.52	237,328	15,143	49,896	1.80	4.21
Finished florist azaleas	1999	5,521	313	1,566	1.58	3.21	43,185	2,718	7,207	1.95	5.26
	2000	6,126	386	1,562	1.87	3.46	55,446	4,309	9,484	1.78	5.04
Florist mums	1999	1,525	469	527	2.03	4.06	70,923	6,895	17,218	1.51	3.51
	2000	1,523	917	637	2.11	4.22	73,487	7,624	17,251	1.51	3.59

Source: NASS, USDA, Floriculture Crops 2000 Summary, April 2001

The first multi-state Nursery Production Survey revealed that the gross value of sales for nine categories of nursery products from operations with over \$100,000 in sales in 17 selected states totaled \$3.32 billion. The nine nursery product categories are broadleaf evergreens, coniferous evergreens, deciduous shade trees, deciduous flowering trees, deciduous shrubs and other ornamentals, fruit and nut plants, cut and to be cut Christmas trees, propagation material or lining-out stock, and transplants for commercial truck crop production. New York had a total wholesale value of \$52.0 million for the nine nursery product categories and ranked 16<sup>th</sup> in the nation in 2000.

There were 388 nursery operations with sales over \$10,000, reported production area of 852.6 million square feet (or 19,573 acres) in New York. Table 11-2 shows that the gross sales value for the nine surveyed categories by operations with over \$100,000 in sales in New York was the highest for deciduous shade trees (\$11.6 million) in 2000, followed by deciduous shrubs and other ornamentals (\$9.6 million), coniferous evergreens (\$9.4 million), and broadleaf evergreens (\$9.2 million). These were also the top four categories in the U.S. in terms of wholesale values in 2000, and the deciduous shrub and other ornamental category had the highest value of \$771.8 million. The inventory of the surveyed nursery product categories in these operations was slightly over \$116 million. Deciduous shade trees accounted for 30 percent of the total, deciduous shrubs and other ornamentals 20 percent, coniferous shade trees 14 percent and deciduous flowering trees 13 percent.

**Table 11-3. VALUES OF NURSERY PRODUCTION SALES BY PLANT CATEGORY**  
**For Operations with Over \$100,000 Sales in 2000**  
**New York vs. U.S.**

Plant Category	New York		U.S.		NY as % U.S.
	Total value of sales	% of NY sales	Total value of sales	% of U.S. sales	
	\$ million	%	\$ million	%	%
Broadleaf evergreens	9.2	18%	593.2	18%	2%
Coniferous evergreens	9.4	18%	402.8	12%	2%
Deciduous shade trees	11.6	22%	405.6	12%	3%
Deciduous flowering trees	4.9	9%	232.5	7%	2%
Deciduous shrubs and other ornamentals	9.6	18%	771.8	23%	1%
Fruit and nut plants	3.8	7%	298.9	9%	1%
Cut or to be cut Christmas trees	1.1	2%	149.1	4%	1%
Propagation material	2.3	4%	349.3	11%	1%
Transplants for commercial truck crop production	0	0%	119.9	4%	0%
<b>Total</b>	<b>51.9</b>	<b>100%</b>	<b>3,323.1</b>	<b>100%</b>	<b>2%</b>

Source: NASS, USDA, Nursery Crops 2000 Summary, August 2001.

## **Floriculture Industry Situation and Outlook**

Floriculture products are available from many types of retail outlets. Consumers patronized a variety of retail outlets with varying frequency and distributed their spending dollars differently, depending on product and outlet. In 2000, consumers spent the highest proportion of their dollars for floriculture products on fresh cut flowers (42 percent), followed by bedding/garden plants (37 percent), potted flowering plants (12 percent), and foliage plants (8 percent). During 1998 – 2000, retail florist shops captured 31 percent of the overall consumer dollars spent on floriculture products, followed by garden centers (21 percent) and supermarkets (14 percent). Although consumers are spending much more money per transaction at traditional retail outlets (retail florists and garden centers), increasingly they are purchasing flowers and plants at mass marketing outlets. In 2000, even though only 20 percent of consumer cut flower dollars were spent in supermarkets, 43 percent of the transactions for cut flowers occurred in supermarkets, compared to 62 percent of dollars and 33 percent of the transactions at retail florists. Similarly, discount chain stores and home improvement centers captured 39 percent of transactions for bedding/garden plants, compared to 34 percent of bedding plant transactions at garden centers.

As mass merchandisers continued to expand their market share of retail floriculture products, many are also using their floral or plant departments to reinforce their marketing positions. Some supermarkets increased the size of their floral departments and staff to give customers the perception of personal service in order to differentiate themselves from competition. On the other hand, the floral department is often downsized when a supermarket expands itself to a “superstore”. As a superstore, the supermarket no longer competes on personal service but on price and selection, and it often finds itself competing against discount chain stores. Loyalty of these mass merchandisers to the floral and plant departments or their suppliers depends on the profit margin the department or the supplier can offer compared to other merchandise.

National chains continued to dominate the supermarket, discount chain and home improvement markets and force less aggressive, older, regional chains out of business. Growers serving mass merchandisers were challenged to keep up with expansion and enjoyed growth along with the chain stores in the past five years. However, growers will find that they become more vulnerable when depending heavily on few big customers, and the national chains will be more demanding to their suppliers in order to maintain profitability during a sluggish economy. Products and display quality at retail should improve because more growers will offer additional services and make greater investments in store-level maintenance and merchandising programs to ensure their preferred supplier status.

While growers, suppliers, and retailers continued to consolidate in 2000, the merger frenzy of a couple years has steadied. Companies like the International Garden Products and Hines Horticulture have taken a careful approach to consolidation to avoid acquiring companies faster than they can manage them. More companies will adopt this more conservative attitude while considering expansion. In addition to formal mergers, companies were also forming strategic alliances like the one between Yoder Brothers and the Paul Ecke Ranch. Companies created these partnerships to consolidate their efforts in terms of product scope, marketing and distribution. More strategic alliances would be formed horizontally as well vertically; such as alliances between breeders and distributors could help strengthen pull-through marketing programs.

Toward the end of 2000 we began seeing dot.coms bowing out of the floriculture industry. The fallout continued in 2001 as venture capital dried up, distribution challenges became too overwhelming, and more traditional companies added e-commerce capabilities to their websites. As floral wire services consolidated, the price of participating in floral wire service increased for florists. Therefore, alternatives such as internet marketing become more attractive. Many floral and plant websites have been developed, and online floral sales increased as more product was presented to consumers on a regular basis. However, the

internet also makes other competing non-floral types of gift products available for delivery across the country within 24 hours. In both B2C (business-to-consumer) and B2B (business-to-business) realms, customer acquisition and retention will be key, and established companies are best positioned to do that. Also, companies that form strategic alliances will be in a better position to land customers than companies starting from scratch.

Marketing efforts have intensified across all levels of floriculture industry in recent years, as more merged companies and industry alliances attempt to reach consumers with product identity. Branding has become more common, and suppliers emphasize the final package at the retail level, including plants, pots, tags, point-of-purchase displays, and other marketing tools. Industry groups, such as the Society of American Florists, are supporting scientific studies to prove that flowers improve emotional health, and communicated the study results to the public. Consumers are trying new products and testing their creativity by putting things together as seen on popular television gardening programs (i.e. HGTV) and lifestyle magazines (i.e. Martha Stewart and Southern Living). More independent garden centers and retail florists are working on providing a shopping experience for consumers to differentiate themselves from the chains. They realize that they are not just selling plants, they are selling a lifestyle.

There are good news and bad news for the industry. Despite the past growth, the industry will feel the effect of trickle-down economic problems from recent merger failures (i.e. two recent bankruptcies: Gerald Stevens and U.S.A. Floral Products) and the impact of economic slow-down and in this coming year. If wholesalers go unpaid, they can't pay growers or shippers, and the effect trickles down. On the other hand, the sales rates for existing homes are expected to rise in 35 states in 2001, including most states in the West and South, compared to last year, and existing-home sales in 2001 are expected to be similar or slightly higher than 2000, according to projections by the National Association of Realtors. Heavy home sales suggest that gardening and landscaping will continue to attract their share of consumer dollars. However, the more cautious spending atmosphere will be likely to dampen consumer spending, especially for discretionary items. Marketing efforts will need to continue in the coming year. Every link in the distribution chain will need to invest more money to reach consumers. Marketing gardening and decorating with flowers as a fashionable and rewarding experience is critical in the future.