December 2002 **E.B. 2002-21**

New York Economic Handbook 2003

Department of Applied Economics and Management
College of Agriculture and Life Sciences
Cornell University
Ithaca, NY 14853-7801

Table of Contents

Chapter	Topic	Author(s)*	Page
1	Websites for Economic Information and Commentary	Steven Kyle	1-1
2	The Marketing System`	William Drake Kristen Park	2-1
3	Cooperatives	Brian Henehan Bruce Anderson	3-1
4	Finance	Eddy LaDue	4-1
5	Grain and Feed	James Hilker	5-1
6	Livestock	James Hilker	6-1
7	Dairy – Markets and Policy	Mark Stephenson	7-1
8	Dairy – Farm Management	Wayne Knoblauch Linda Putnam	8-1
9	Fruit	Gerald White	9-1
10	Vegetables	Wen-fei Uva	10-1
11	Ornamentals	Wen-fei Uva	11-1

*Faculty and staff in the Department of Applied Economics and Management, Cornell University, except James Hilker, Professor, Michigan State University.

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 outreach website: *http://aem.cornell.edu/outreach/materials.htm*

Chapter 1. Websites for Economic Information and Commentary

Steven C. Kyle, Associate Professor

1. http://www.whitehouse.gov/news/fsbr.html *Economic Statistics Briefing Room*
   Easy access to latest Federal data at national level

2. http://www.economagic.com/ *Economagic: Economic Times Series Page*
   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. http://www.bea.doc.gov/ *Bureau of Economic Analysis Home Page*
   Links to:
   State level GSP figures (Gross State Product)
   A Survey of Current Business
   BEA news releases
   Overview of U.S. economy
   Many data sources

4. http://www.dismal.com/ *"The Dismal Scientist"*
   Good site for commentary on current events; latest leading indicators; calendar of economic data releases; dictionary of economic terminology; and much more

5. http://www.nber.com/ *National Bureau of Economic Research*
   Access to the latest cutting edge academic research
   Also the home of business cycle analysis

6. http://www.federalreserve.gov/ *Federal Reserve*
   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. http://stats.bls.gov./ *Bureau of Labor Statistics*
   Latest employment figures

8. http://www.conference-board.org/ *The Conference Board*
   Latest leading indicators -- to reach directly, go to http:// www.tcb-indicators.org/
   Consumer confidence index

9. http://europa.eu.int/ *European Union*
   Links to economic information and news for all members of the European Union

10. http://www.worldbank.org/ *The World Bank and*
http://www.imf.org/ *the International Monetary Fund*
Best single sources for data and information on other countries
Includes cross country data banks; news releases; information on the organizations' structures and activities

11. http://www.economic-indicators.com/ Website for Mark Rogers' book, *The Handbook of Key Economic Indicators*
For web links which track news on economic indicators and other facets of the current economy

12. http://globalfindata.com/ - A variety of long term financial data.
Stock Markets: Dow Jones, S&P (Composite, Industrials, Rails, Telephones, Utilities), United Kingdom, Germany, France, Japan Exchange Rates: Dollar/Pound Interest Rates: US AAA Corporate Bonds, US Government Bonds, British Government Securities
Inflation: US Consumer Prices, US Wholesale Prices, UK Consumer Prices Commodities: Chicago Corn, Chicago Wheat, US Cotton, US Gold, US Silver

13. http://www.developmentgateway.org/node/244175/
The best source for international commodity prices is through the World Bank website. Commodity Prices from the World Bank include: Coal, Australia; Coal, US; Crude oil, average spot; Crude oil, Brent; Crude oil, Dubai; Crude oil, West Texas Int.; Natural gas, Europe; Natural gas, US; Cocoa; Coffee, Other Milds; Coffee, Robusta; Tea, auctions;
Tea, London auction; Coconut oil; Copra; Groundnut meal; Groundnut oil; Palm oil;
Soybean meal; Soybean oil; Soybeans; Maize; Rice, Thai, 5%; Rice, Thai, 35%;Rice,Thai, A1.Special; Sorghum; Wheat, Canada; Wheat, US, HRW; Wheat, US, SRW; Bananas;
Beef; Fishmeal; Lamb; Oranges; Shrimp; Sugar, EU, domestic; Sugar, US, domestic;
Sugar, world; Logs, Malaysia; Logs, Cameroon; Plywood; Sawn wood, Malaysia; Sawn wood, Ghana; Wood pulp; Cotton; Jute; Rubber, Malaysia; Rubber, NY; Rubber,
Singapore; Sisal; Wool; DAP; Phosphate rock; Potassium chloride; TSP; Urea; Aluminum; Copper; Gold; Iron ore; Lead; Nickel; Silver; Steel products (8) index; Steel, cold rolled coilsheet; Steel, hot rolled coilsheet; Steel, rebar; Steel, wire rod; Tin; Zinc

Chapter 2. The Marketing System

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

Retail Update

The Food Marketing Institute (FMI) reports that in 2002, weekly visits to the supermarket remained stable at 2.2 trips. Expenditures declined, however, with the average household spending $87 per week for groceries in 2002 versus $91 in 2001. Per capita spending fell from $38 in 2001 to $36 in 2002. The soft sales environment and economizing behavior on the part of consumers has created a promotional sales environment that has persisted through 2002. Retailer and manufacturer margins are being pressured as a result. (Source: Food Marketing Institute, *Consumer Attitudes and the Supermarket, 2002*)

The mid-Atlantic region saw a net increase of 66 supermarket stores (1.7%) in the April 2001 – April 2002 time period. This growth is in line with the national average of 1.8 percent for this time period. Fifty-three of the 66 stores (80%) were concentrated in formats that are relatively new to the region:

- limited assortment stores (40), e.g., Aldi and Save-A-Lot
- supercenters (13), primarily Wal-Mart

Both of these formats utilize aggressive, everyday pricing as the core feature of their go-to-market strategy. The rapid growth of these formats in the region is likely to further pressure retailer and manufacturer margins as price competition intensifies.

Currently, the mid-Atlantic region is home to disproportionately few supercenter format stores (63). However, the region is targeted for significant expansion by Wal-Mart. An indicator of the region's significant potential for further supercenter development is the fact that the region contains 14 percent of the nation's population but only 3.7 percent of the country's supercenters.

It should be noted that the entry of supercenters and limited assortment retailers might offer unique opportunities for manufacturers and producers in the region. For example, an upstate New York firm has secured the position as Wal–Mart's primary fluid milk supplier for the state. Similar opportunities may exist for regional agricultural producers and marketers. (Sources: Wal-mart; *Progressive Grocer*)

New food products totaled 9,598 items in 2001 (Table 2-1). A breakdown of products by grocery category illustrates the continued innovation by manufacturers in categories such as bakery, beverages, confectionery, and sauces and seasonings.

TABLE 2-1. NEW PRODUCT TOTALS—BY CATEGORY, 2001	
Category	**Total Items-2001**
Baby food	60
Bakery	1,200
Beverages	1,212
Breakfast cereals	91
Confectionery	1,442
Dairy	414
Desserts & ice cream	495
Fruit & vegetables	176
Meals & meal centers	539
Pet food	183
Processed fish	655
Sauces/seasonings	1,291
Side dishes	261
Snacks	794
Soup	217
Spreads	456
Sweeteners	21
Weight control	91

Source: New Product News, January 2002.

The U.S. Food Marketing System

According to the forecast for the Consumer Price Index (CPI) , food prices are predicted to increase approximately 2.1 percent by year-end of 2002. This is lower than the CPI for food in 2001 which increased 3.1 percent. Food items which are predicted to contributed a *negative* influence on the index, in other words which will see lower prices, are:

- fish and seafood (-1.7%)
- pork (-0.6%)
- fats and oils (-0.4%)

Food items predicted to see increases over the average price increase of 2.1 percent are:

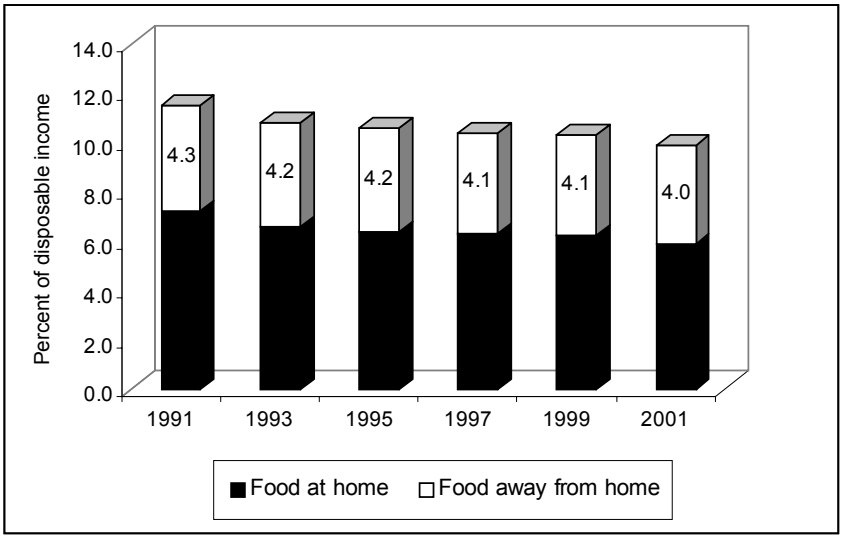
- fresh vegetables (7.1%)
- processed fruits and vegetables (4.0%)
- meats other than beef, veal, pork, and poultry (3.4%)
- sugar and sweets (2.2%)

The Bureau of Labor Statistics which releases these figures, predicts similar trends for the year 2003 with an overall CPI of 2 to 2.5; declines in prices for pork and eggs; and increases for other meats, fresh vegetables, processed fruits and vegetables, and sugar and sweets.

Wage gains, in general, have surpassed slight food price gains, leading to a continued decrease of food expenditures when stated as a percent of disposable income. Food expenditures as a share of disposable personal income was 10.0 percent in 2001 (Figure 2-1). This continued a long, downward trend in one of the measures of food costs for the U.S. public.

Even expenditures for food away from home, which include higher labor costs than for food at home, have decreased although not as rapidly as those seen for food at home expenditures.

FIGURE 2-1. 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. June 18, 2002.

The economy in 2001 even took its toll on food sales. Sales in the food system in 2001 grew a total of $35.2 billion or 3.8 percent over the previous year (Table 2-2). This compared to the gains in 2000 over 1999 which were $70.8 billion. Despite the deep blow to the foodservice sector after 9-11 last year, this sector, overall, had a better year than food at home and posted an absolute dollar gain of $17.9 billion compared to an increase of only $13.0 billion from food at home sales.

This increase in total U.S. food sales does not contradict the observed decrease in food expenditures per household described on page 1. Rather, the population and number of households being formed increased more the amount of total food sales.

TABLE 2-2. FOOD SALES

Sector	Sales 2000[1]	Sales 2001	Increase	Growth
	--$ billion--		*--$ billion--*	*--% change--*
Total food and beverage sales	915.4	950.6	35.2	3.8
Total food sales (excluding alcohol)	813.4	844.2	30.8	3.8
Food at home sales	430.9	443.9	13.0	3.0
Food away from home sales	382.4	400.3	17.9	4.7
Alcoholic beverage sales	102.0	106.4	4.4	4.3

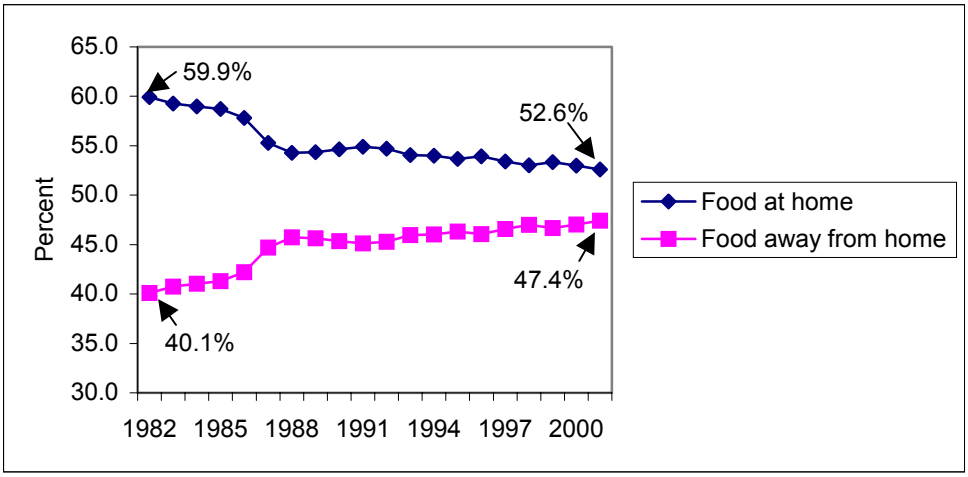
[1] revised figures

Source: USDA-ERS, http://www.ers.usda.gov/briefing/CPIFoodAndExpenditures/Data/table1.htm, last updated: June 18, 2002.

The strong away from home consumer food expenditures constituted 47.4 percent of total consumer food expenditures (Figure 2-3), a somewhat surprising increase over 46.7 percent the year before, considering

the slump in the last quarter of 2001. Consumer food expenditures for food at home were still greater than away from home sales; however, the gap continues to narrow.

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



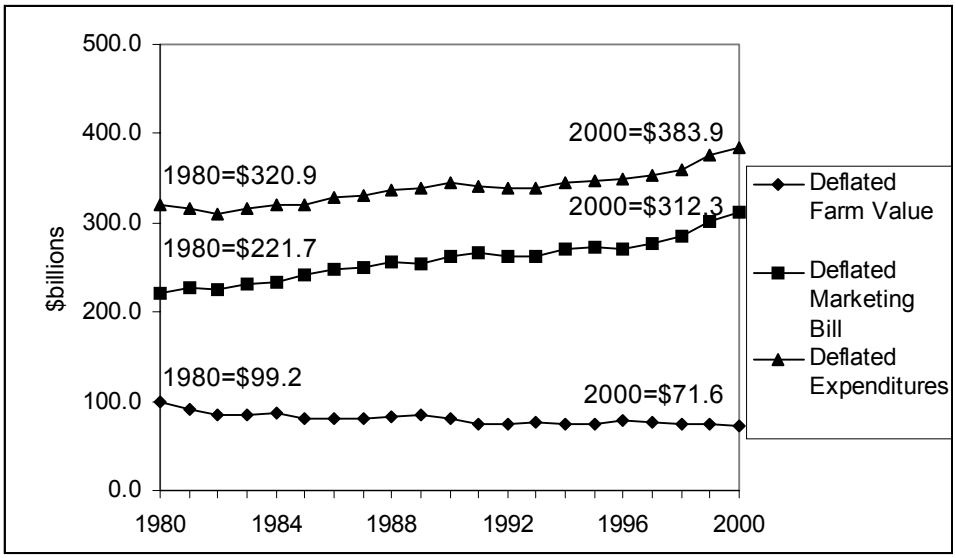
Source: USDA-ERS, http://www.ers.usda.gov/briefing/CPIFoodAndExpenditures/Data/table1.htm, June 18, 2002.

Changes in the economy, consumer trends, and market competition have played roles in increasing consumers' food expenditures. As a whole, consumer food expenditures have risen, even in real or constant terms after inflation is accounted for. This increase in food expenditures has been due to costs added post farm-gate. The farm value or share of food expenditures has steadily been decreasing in real dollars, and in 2000, the latest year figures could be obtained, was $71.6 billion, or 18.7 percent of consumer food expenditures (Figure 2-4). This was down, in real terms, from $99.2 billion, or 30.9 percent, in 1980. Therefore, increases in food expenditures have been for expenses or costs added to food after it has been produced on the farm.

The increases observed post farm-gate can be attributed, at least in part, to: (see Figure 2-5)

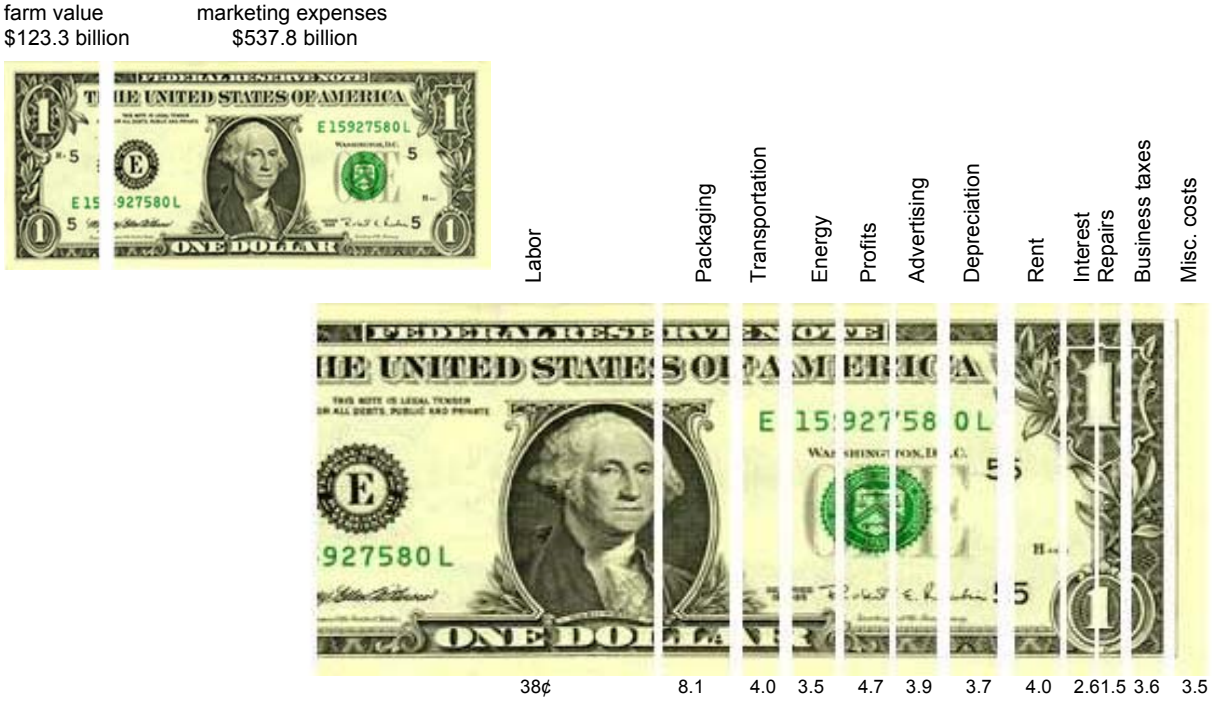
- wage gains
- increased demands for convenience including additional processing and manufacturing, more expensive high-tech packaging, and product development costs
- transportation
- increased efforts in food safety
- increased energy use
- a greater share of food consumed away from home, food which is more expensive than that purchased for home

FIGURE 2-4. CONSUMER FOOD EXPENDITURES—FARM VALUE AND MARKETING BILL, IN CONSTANT, DEFLATED DOLLARS



Source: USDA-ERS, http://www.ers.usda.gov/briefing/foodpricespreads/trends/. September 3, 2002.

FIGURE 2-5. WHAT A DOLLAR SPENT ON FOOD PAID FOR IN 2000, IN CURRENT DOLLARS



Source: USDA-ERS, Food Marketing and Price Spreads: USDA Marketing Bill.
http://www.ers.usda.gov/briefing/foodpricespreads/bill/components.htm. June 21,2002.

Global agricultural trade remains vital to the national food system. Exports from U.S. suppliers to trading regions around the world support national sales. Imports serve a dual function; one, of providing competition to U.S. products, and two, providing complementary products suppliers can use to better serve their U.S. customers. Imports as a share of U.S. food consumption have increased since the mid-1990s and have remained steady since 1998. In 2000, 8.8 percent of U.S. food consumption came from imported products. Approximately 12.3 percent of food crops and crop products were imported, while 4.2 percent of animal products, including fish and shellfish, were imported (USDA-ERS, "The Import Share of U.S. Consumed Food Continues to Rise," July 2002). In 1992, imports constituted approximately 7 percent of food consumed in the U.S.

Chapter 3. Cooperatives

Bruce L. Anderson, Associate Professor
Brian M. Henehan, 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 2001 was obtained from USDA Rural Development staff.

Table 3-1. UNITED STATES AGRICULTURAL COOPERATIVE NUMBERS, BUSINESS VOLUME, AND NET INCOME 2000-2001[1]

Major Business Activity	Number		Net Volume ($ billion)		Net Income ($ million)	
	2000	2001	2000	2001	2000	2001
Marketing	1,672	1,606	72.1	75.0	867	810
Farm Supply	1,277	1,234	24.1	24.8	311	429
Related Service	397	389	3.5	3.5	98	118
TOTAL	3,346	3,229	99.7	103.3	1,276	1,357

[1] Totals may not add due to rounding.
Source: Farmer Cooperative Statistics, 2000, Rural Business - Cooperative Service, USDA, RBS Service Report 60, Washington, D.C., December, 2001 and preliminary release from Rural Business - Cooperative Service, USDA, October 22, 2002.

The number of cooperatives in the United States has continued to decline to 3,229 in 2001, a net decrease of 117 associations. This is primarily due to ongoing consolidation and merger of local grain marketing and supply cooperatives in the Midwest. The rate of decline decreased over the past year compared to 2000. Total net business volume, which excludes intercooperative business, amounted to $103.3 billion, up from 2000.

Sales of milk and dairy products increased by 15 percent. Livestock and poultry sales also showed gains. However, sales by other marketing cooperatives declined with fruits and vegetables off by $700 million in 2001.

Supply sales climbed 2.8 percent, due mainly to higher petroleum prices. Petroleum sales increased nearly $1 billion. Feed and fertilizer sales also grew from the previous year.

Total net income for 2001 was $1.4 billion, up from 2000 which was the lowest net income level since 1993. Although net income increased for dairy cooperatives, that gain was offset by lower margins for poultry, rice, sugar, and livestock.

Combined assets in 2001 for all cooperatives reached $48.7 billion, down 2.5 percent from 2000. Net worth totaled nearly $20.1 billion, down slightly from the previous year.

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[1]

Major Business Activity	Number Headquartered in State		Net Volume	
	1997	1999	1997	1999
			($ million)	
Marketing:				
Dairy	63	67	1,171.7	1,595.2
Fruit & Vegetable	9	9	285.8	492.4
Other Products[2]	7	6	353.6	353.5
TOTAL MARKETING	79	82	1,811.1	2,441.1
Supply:				
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
Related Service[3]	6	5	152.6	232.5
TOTAL	96	98	2,595.6	3,235.3

Source: Farmer Cooperative Statistics, 1999, RBS Service Report 59, USDA, RBS, Washington, DC, 2000 preliminary release and Farmer Cooperative Statistics, 1998. RBS Service Report 57, USDA, RBS, Washington, DC, November 1999.

[1] Totals may not add due to rounding.

[2] Includes wool, poultry, dry bean, grains, livestock, maple syrup, and miscellaneous.

[3] Includes those cooperatives that provide services related to cooperative marketing and purchasing.

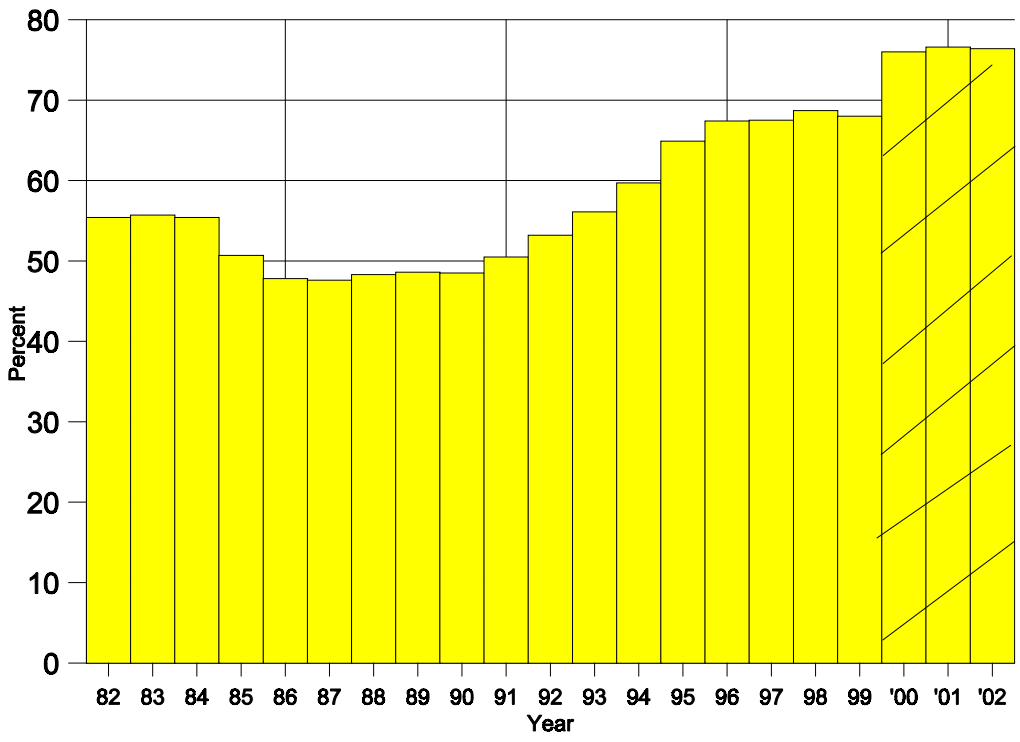
The number of agricultural cooperatives in New York State in 1999 showed a net increase of 2 cooperatives from 1997, with an increase in dairy cooperatives and a decrease in the number of marketing as well as service cooperatives. Total net business volume grew significantly from $2,598 million in 1997 to $3,235 million in 1999, 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 dairy cooperatives fluctuated over the twenty-year period and leveled off at about 67 percent from 1996 to 1999 under the old Order 2. 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 nine months of 2002 remained stable from the previous year.

Figure 3-1. COOPERATIVE SHARE OF PRODUCER MILK RECEIPTS

Federal Order 2, 1982- 1999 and Northeast Federal Order 1, 2000-2002*



* The year 2002 is based on data for the first nine months of the year. Data from the year 2000 forward 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.

Cooperative Performance

Financial performance of major agricultural cooperatives was extremely mixed in 2002, not just in New York or the Northeast, but across the country.

Due to their significance in the Northeast we will start by examining dairy cooperatives' share of producer milk receipts as well as recent events, review important developments in other types of cooperatives, and finally look at some major factors likely to influence cooperatives in the coming year.

As indicated by Figure 3-1, the proportion of milk receipts handled under the Northeast Milk Marketing Order 1 by dairy cooperatives remained relatively steady in 2001 and the first nine months of 2002. However, over 76 percent of all milk received in Order 1 is marketed through dairy cooperatives. This is the next highest cooperative share since 1974, and about 20 percentage points higher than a decade ago. However, some of this increase is due to milk marketing order mergers in 1999.

As predicted last year, the dairy industry continues to experience significant consolidation. The joint procurement and marketing arrangement between the two largest New York dairy cooperatives continues to work well for both parties. The strategic alliance has reduced assembly, sales and administrative costs.

About a year ago the largest U.S. dairy cooperative, which has a major presence in New York, entered into a 50 percent ownership of their fluid and soft product operations with private owners. The cooperative's profitability and credit rating remained strong throughout the year. In mid-November 2002, this company announced a pending merger with the largest private dairy company in New England.

Despite relatively weak milk prices at the farm level over the last year, the financial performance of Northeast milk marketing cooperatives was relatively strong in 2002. One cooperative had good results primarily due to its membership in another dairy processing cooperative and experienced a turn-around from 2001. A second organization with a very strong brand name continued its growth in the hard products consumer market. A third profitable milk marketing cooperative with no major physical assets continued its expansion into services for dairy farmer members.

Dairy related cooperatives generally experienced increased profitability despite weak milk prices. The major artificial insemination cooperative operating in the Northeast has been experiencing increased sales (some internationally) and profitability. The primary dairy herd improvement cooperative also reported increased sales and profitability. In fact, they are aggressively pursuing mergers with other DHI cooperatives, including Pennsylvania and Texas. Even the major cooperative livestock marketing organization in the Northeast, a subsidiary of a milk marketing cooperative, has been doing well after decades of struggle.

The major supply cooperative in the Northeast declared bankruptcy on October 1, 2002. Unfortunately this is not a unique trend. On May 31, 2002, the largest cooperative in the U.S. and a supply cooperative, also declared bankruptcy. Both cooperatives are in Chapter 11 re-organizations. And we understand a few other large supply cooperatives are experiencing financial difficulties. However, one major Mid-western supply cooperative has been doing extremely well financially.

What were the reasons for these bankruptcies? We have identified three primary factors. First, agricultural production experienced rapid structural change, and some cooperatives did not keep up with this evolution. More farmers today are buying direct and bypassing traditional supply firms. Traditional organizations maintained a significant investment in fixed assets, many operating at significantly less than capacity, resulting in a major cost burden. Second, many supply cooperatives became very diversified. In fact, the Northeast supply cooperative announced the planned divestiture of four businesses (i.e.

agronomy and seeds, leasing, insurance and a speciality seed plant), while the Mid-west supply cooperative may divest of everything except their meat business. Finally, both of these cooperatives were very highly leveraged.

The major vegetable and fruit cooperative, headquartered in New York but operating throughout the country, also experienced a traumatic change in 2002. On August 19 it sold majority interest in its processing and marketing operations to a merchant bank. This was done to reduce its debt and meet new accounting rules that require the write-down of intangible assets (i.e. goodwill), which were the result of major acquisitions in recent years. It is anticipated this new ownership structure will allow greater investment in advertising as well as new product development. While the cooperative still maintains a significant, but minority, investment in the continuing entity, the cooperative is currently exploring it's future role in the vegetable and fruit industry. It should be added, that several question marks remain. The biggest one being: what will happen to the processing and marketing firm once the merchant bank decides to sell its current investment? Our best guess, based on historical strategies of merchant banks, is that this could happen anywhere from 3 to 7 years from now.

The major grape cooperative in New York reported strong sales and record returns to growers. Increased marketing efforts in terms of new product development, increased spending on advertising, and positive public reaction to health research has helped increase the consumption of grape products. Their investment in a strong brand name with associated consumer awareness were their saving graces this year. Grape cooperatives marketing bulk, unbranded juice suffered. This was due to a significant volume of low priced bulk grape juice on the market.

The farm credit cooperatives had good financial performance during the year. Despite weak prices for many agricultural products conservative lending policies served credit cooperative well in 2002.

While some large well-known cooperatives experienced poor performance and financial difficulties, interest in and creation of new cooperatives continues.

Cooperative Outlook

While, New York and Northeast cooperatives had extremely mixed results in 2002, many are financially strong. The weak and uncertain economy has caused the adoption of more conservation strategies on the part of many cooperatives.

We have been surprised by the relative strong health of many of our dairy related cooperatives, especially given very weak milk prices. Again, we attribute this to the sound and conservative strategies of dairy marketing, credit,, artificial insemination, and dairy herd improvement organizations. We expect these to continue

Certainly, the general economy will be a major factor in 2003. There are pluses and minuses. On the plus side we have low inflation and interest rates as well as the lack of "irrational exuberance". While food purchases are only moderately impacted by the economy, there may be some switching down to lower cost commodity type products. Any military action in the Middle East is most likely to have a negative impact on consumer purchasing, and more importantly energy prices. We can also guarantee that there will be continued industry consolidation and structural change. This will most likely come in the form of more mergers and acquisitions, but unfortunately may even include a bankruptcy or two.

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	2000	2001	2002[d]
				billion dollars			
Assets							
Real Estate	783	586	626	741	949	999	1,009
Livestock	61	47	71	58	77	73	73
Machinery	80	83	85	89	90	91	92
Crops[a]	33	23	23	27	28	25	25
Purchased Inputs	c	1	3	3	5	4	4
Financial Assets	26	33	38	49	57	59	58
Total	983	773	846	967	1206	1251	1261
Liabilities & Equity							
Real Estate Debt	90	100	75	79	98	103	105
Nonreal Estate Debt[b]	77	78	63	72	86	89	92
Total	167	178	138	151	184	192	197
Owner Equity	816	595	708	816	1022	1059	1064
Total	983	773	846	967	1206	1251	1261
Percent Equity	83	77	84	84	85	85	84

[a] Excludes crops under CCC loan.
[b] Excludes CCC loans.
[c] Not available.
[d] Forecast

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

Item	1980	1985	1990	1995	2000	2001	2002[c]
				percent of total			
Assets							
Real Estate	80	76	74	77	79	80	80
Livestock	6	6	8	6	6	6	6
Machinery	8	11	10	9	8	7	7
All Other[a]	6	7	8	8	7	7	7
Total	100	100	100	100	100	100	100
Liabilities							
Real Estate Debt	54	56	54	52	53	54	53
Nonreal Estate Debt[b]	46	44	46	48	47	46	47
Total	100	100	100	100	100	100	100

[a] Excludes crops under CCC loan.
[b] Excludes CCC loans.
[c] Forecast

Source: Agricultural Income and Finance Outlook, ERS, USDA, AIS-79, September 2002 and ERS, USDA Data Files and Briefing Room Forecasts. Forecast data represent a combination of these sources.

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[c]
				billion dollars			
Real Estate							
Farm Credit System	33.2	42.2	25.8	24.8	30.3	31.8	35.2
Individuals & Others	27.8	25.8	15.1	18.0	18.7	18.7	18.8
Commercial Banks	7.8	10.7	16.2	22.3	29.8	31.8	33.4
Farm Service Agency	7.4	9.8	7.6	5.1	3.9	3.5	3.6
Insurance Companies	12.0	11.3	9.7	9.1	11.5	11.8	12.0
CCC-Storage	1.5	.3	a	0	0	0	0
Total	89.7	100.1	74.4	79.3	94.2	97.6	103.0
Nonreal Estate[b]							
Commercial Banks	30.0	33.7	31.3	37.7	42.0	44.5	44.4
Farm Service Agency	10.0	14.7	9.4	5.1	4.0	3.9	3.8
Merchants & Dealers	17.4	15.1	12.7	16.2	20.3	20.9	21.6
Farm Credit System	19.7	14.0	9.8	12.5	15.9	16.7	19.2
Total	77.1	77.5	63.2	71.5	82.2	86.0	89.0

[a] Less than .05 billion.
[b] Excludes crops under CCC loan.
[c] 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
				percent of total			
Farm Credit System	32	32	26	25	26	26	28
Commercial Banks	23	25	35	40	41	42	41
Farm Service Agency	11	14	12	7	4	4	4
Insurance Companies	7	6	7	6	7	6	6
Individuals & merchants	27	23	20	22	22	22	21
Total[a]	100	100	100	100	100	100	100

[a] Excludes crops under CCC loan.

Source: Economic Research Service, USDA Date files.

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

Item	1980	1985	1990	1995	1999	2000	2001
				million dollars			
Assets							
Real Estate	6178	6520	7768	8165	9020	9324	9817
Livestock	1527	983	1259	1138	1360	1360	1360
Machinery	1718	1875	1847	1838	1722	1657	1656
Crops[a]	561	491	540	352	252	308	328
Purchased Inputs	c	27	74	88	109	106	91
Financial Assets	607	668	666	670	845	917	945
Total	10591	10564	12154	12251	13308	13672	14197
Liabilities & Equity							
Real Estate Debt	1038	1125	901	854	980	1011	1070
Nonreal Estate Debt[b]	1582	1472	1268	1318	1475	1545	1629
Total	2620	2597	2169	2172	2455	2556	2699
Owner Equity	7971	7967	9985	10079	10853	11116	11498
Total	10591	10564	12154	12251	13308	13672	14197
Percent Equity	75	75	82	82	82	81	81

[a] Excludes crops under CCC loan.
[b] Excludes CCC loans.
[c] 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	1999	2000	2001
				percent of total			
Assets							
Real Estate	58	62	64	67	68	68	69
Livestock	15	9	10	9	10	10	9
Machinery	16	18	15	15	13	12	12
All Other	11	11	11	9	9	10	10
Total[a]	100	100	100	100	100	100	100
Liabilities							
Real Estate Debt	40	43	42	39	40	40	40
Nonreal Estate Debt[b]	60	57	58	61	60	60	60
Total	100	100	100	100	100	100	100

[a] Excludes crops under CCC loan.
[b] Excludes CCC loans.

Source: Economic Research Service, USDA. Data revised November 2002.

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

Item	1980	1985	1990	1995	1999	2000	2001
				million dollars			
Real Estate							
Farm Credit System	367	449	404	332	388	423	468
Individuals & Others	373	363	216	256	266	258	263
Commercial Banks	108	89	116	146	218	230	240
Farm Service Agency	145	192	156	116	94	87	86
Insurance Companies	26	26	9	4	14	13	13
CCC-Storage	19	6	a	0	0	0	0
Total	1038	1125	901	854	980	1011	1070
Nonreal Estate							
Commercial Banks	632	597	417	374	408	433	431
Farm Service Agency	284	287	219	176	176	172	169
Merchants & Dealers	338	257	216	274	344	361	367
Farm Credit System	328	331	416	494	547	579	662
Total[b]	1582	1472	1268	1318	1475	1545	1629

[a] Less than .5 million.
[b] 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	1999	2000	2001
				percent of total			
Farm Credit System	27	30	38	38	38	39	42
Commercial Banks	28	26	25	24	25	26	25
Farm Service Agency	17	19	17	14	11	10	9
Insurance Companies	1	1	a	a	1	1	1
Individuals & Merchants	27	24	20	24	25	24	23
Total	100	100	100	100	100	100	100

[a] Less than .5 percent.

Source: Economic Research Service, USDA. Data revised November 2002.

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

Year	Nonaccrual	Nonperforming[a]
	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	0.9	1.2
2002 (9/30)	1.1	1.4

[a] 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. Nonaccrural, Nonperforming, and Total Delinquent United States Commercial Banks, December 31

	Farm Nonreal Estate Loans			Farm Real Estate Loans		
Year	Nonaccrual	Nonperforming[a]	Delinquent[b]	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	1.3	1.5	2.7	1.2	1.5	2.6
2002 (6/30)	1.3	1.8	2.9	1.1	1.6	2.6

[a] Includes nonaccrural and past due 90 days but accruing.
[b] Includes nonperforming and past due 30 to 89 days but accruing.

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[a]		Operating Loans[a]		Emergency Loans		Economic Emergency		Soil and Water[a]	
	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
9/30/02	4	10	12	12	21	22	23	51	13	12

[a] 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
9/30/02	1	2	3	4

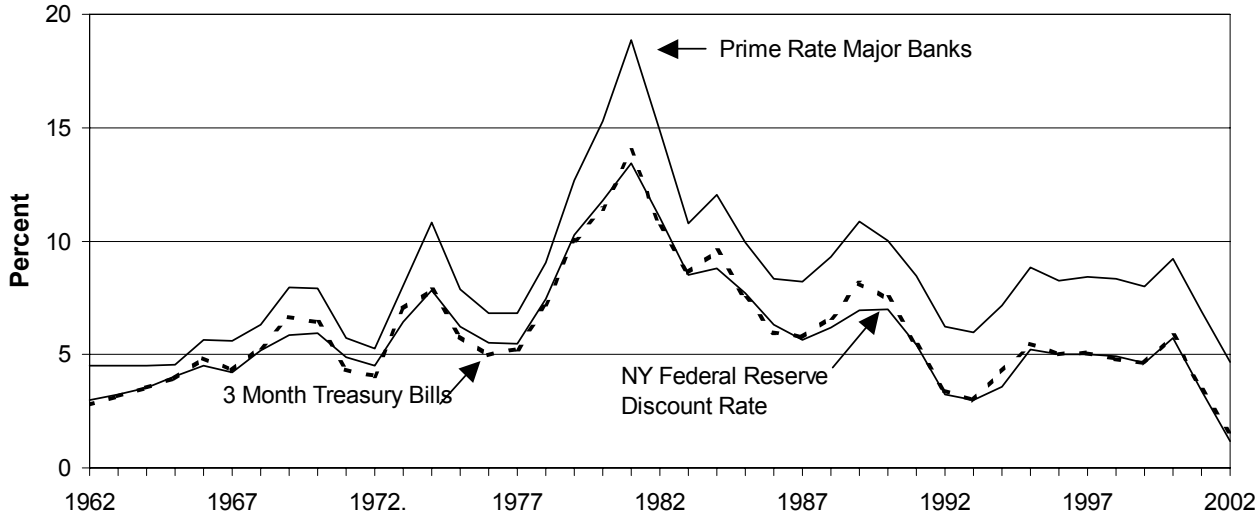
Source: FSA Reports 4067 and 4067-C.

In spite of low commodity prices, capitalization of the generous 2002 Farm Bill payments into land values is resulting in higher farm real estate values. Farm real estate is expected to increase at least another one percent in 2002 following increases of seven and five percent in the last two years. An increase in cattle prices is offset by declines in hog prices to result in a constant total inventory of livestock.

Debt is expected to increase about three percent with non-real estate debt increasing somewhat more rapidly than real estate debt in 2002. Farmer equity is predicted to increase modestly. The net financial position of the nation's agriculture remains very strong with 84 percent equity.

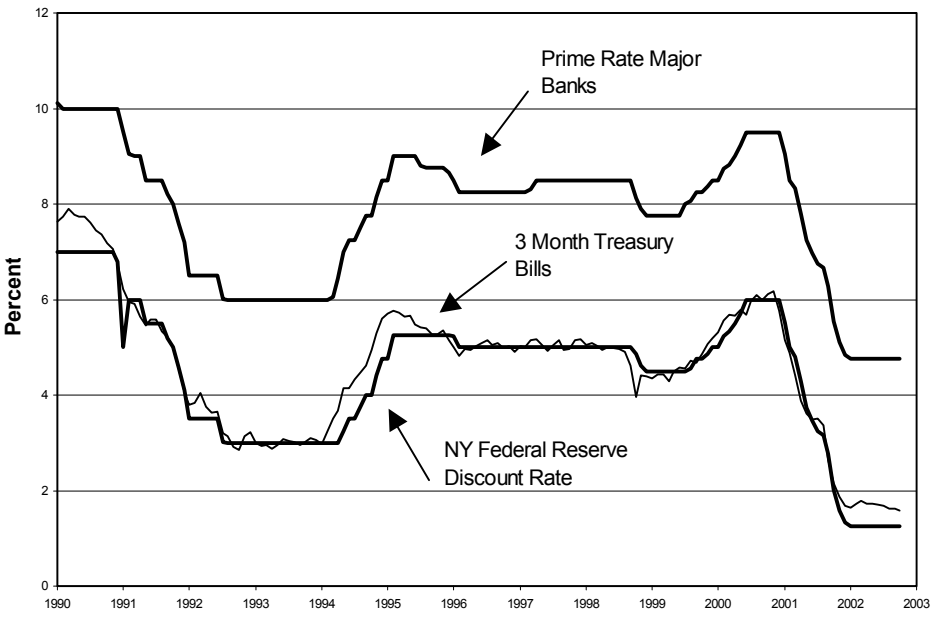
Market shares of the nation's agricultural debt shifted modestly during 2001 with the Farm Credit System experiencing a slight increase at the expense of commercial banks, individuals and merchants. Commercial bank continue to be the nation's most important agricultural lender with a 41 percent market share. The Farm Credit System, individuals and merchants provide most of the rest of agricultural credit.

FIGURE 4-1. ANNUAL AVERAGE SHORT TERM INTEREST RATES



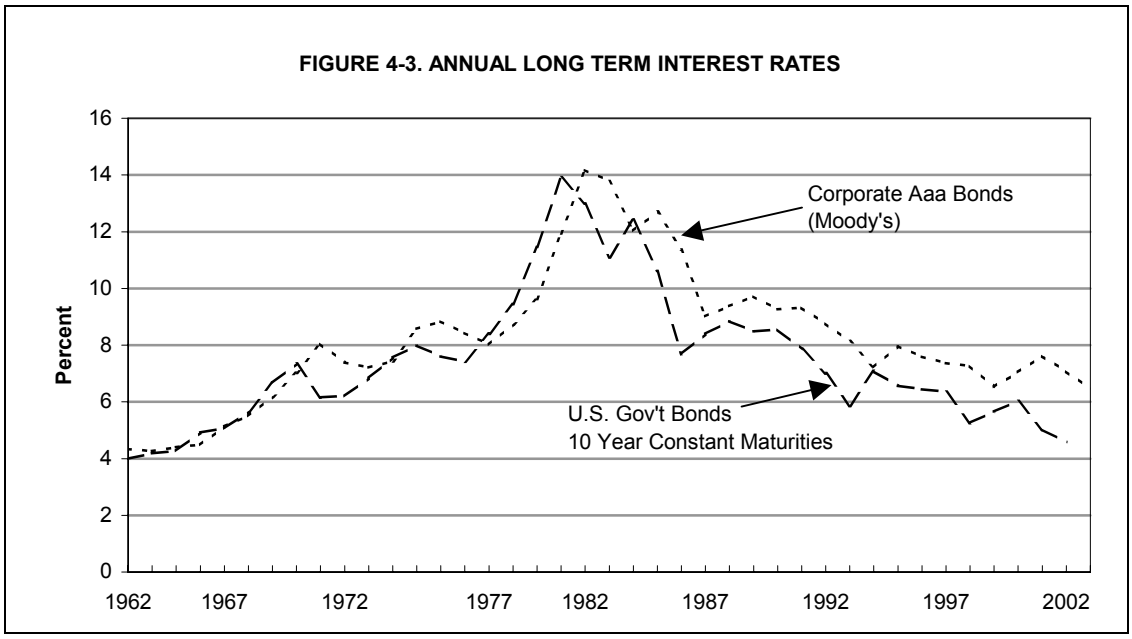
Following a precipitous decline in rates in 2001, short-term interest rates were constant throughout most of 2002. The only real change was a modest decline late in the year. Average 2002 short-term rates were about 1.8 percent below 2001 levels.

FIGURE 4-2. MONTHLY SHORT TERM INTEREST RATES



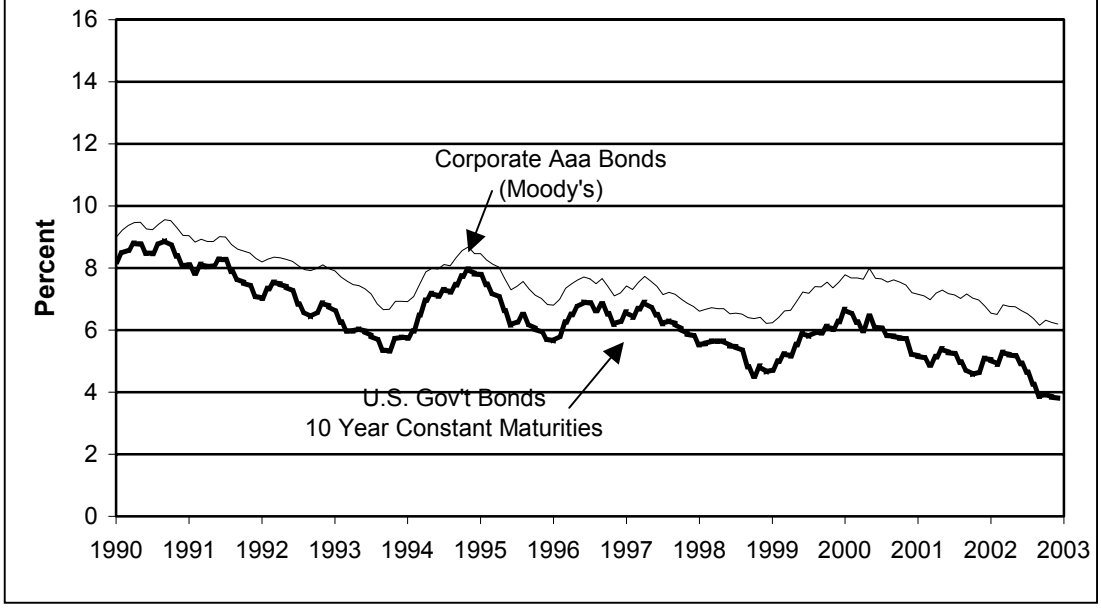
	3 Month Treasury Bills	
	2001	2002
Jan.	5.15	1.65
Feb.	4.88	1.73
Mar.	4.42	1.79
Apr.	3.87	1.72
May	3.62	1.73
June	3.49	1.70
July	3.51	1.68
Aug.	3.36	1.62
Sept	2.64	1.63
Oct.	2.16	1.58
Nov.	1.87	
Dec.	1.69	

FIGURE 4-3. ANNUAL LONG TERM INTEREST RATES



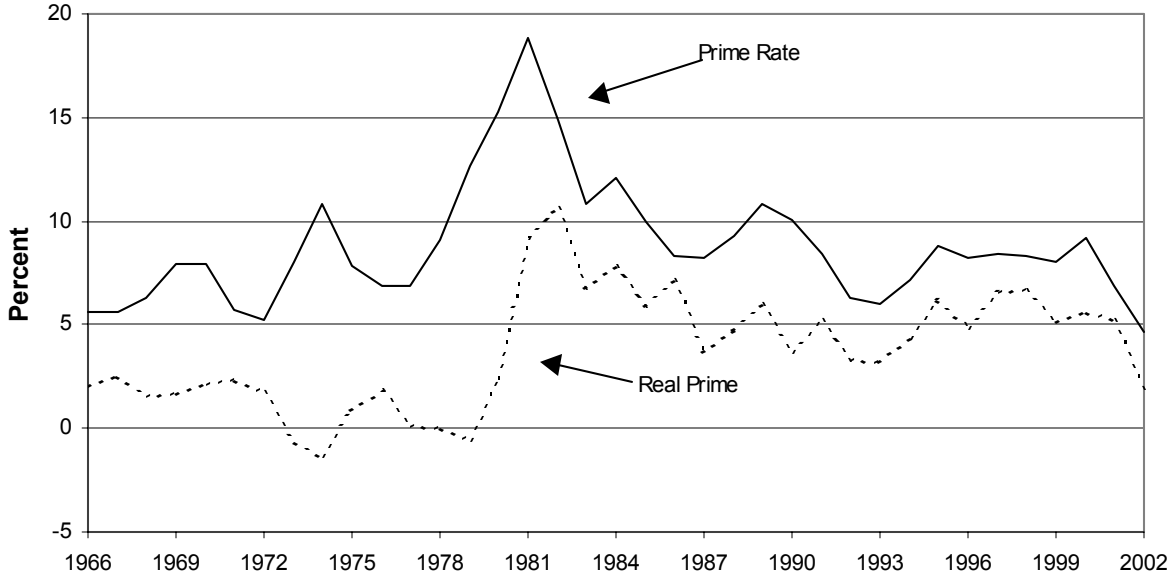
Basic long-term interest rates increased slightly early in 2002 and then generally slid to lower levels during the last half of the year. Average rates for the year were about one-half percentage point lower in 2002 than 2001.

FIGURE 4-4. MONTHLY LONG TERM INTEREST RATES



U.S. Govt. Bonds		
10 Year Constant Maturity		
	2001	2002
Jan.	5.16	5.04
Feb.	5.10	4.91
Mar.	4.89	5.28
Apr.	5.14	5.21
May	5.39	5.16
June	5.28	4.93
July	5.24	4.65
Aug.	4.97	4.26
Sept	4.73	3.87
Oct.	4.57	3.94
Nov.	4.65	
Dec.	5.09	

FIGURE 4-5. CONTRACT AND REAL INTEREST RATES



In New York, the Farm Credit System continues to be the dominant lender to agriculture with a 42 percent market share. Their market share has crept up during the last few years while the commercial bank market share has remained at about 25 percent.

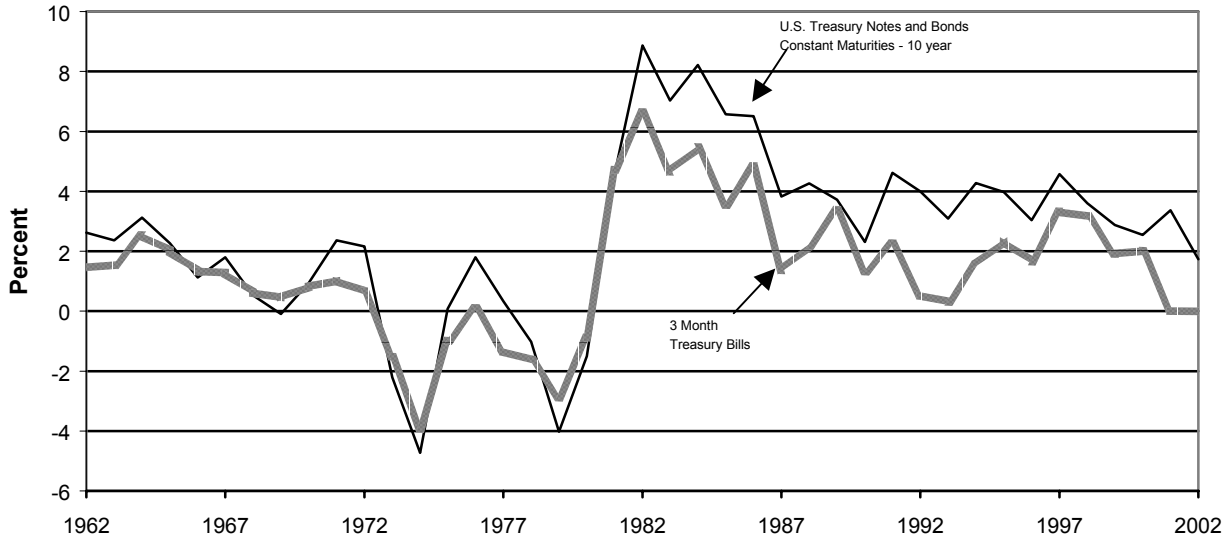
The quality of lender portfolios remains strong. Nonaccruals and delinquent loans made by commercial lenders rose slightly during 2002, reflecting the stressed financial conditions in much of agriculture. The level of delinquency is still low. The Farm Service agency loans have experienced little change in delinquencies. Government payments have undoubtedly contributed to farmer's ability to make debt payments in spite of low commodity prices.

The Federal Reserve Board's aggressive reductions in short-term interest rates during 2001 created a very strongly upward sloping yield curve. The steepness of the curve became even greater in 2002 as a result of the decline in short-term rates exceeding the decline in long-term rates.

Throughout 2002, the economy has been on a recovery track. However, that recovery has been slow and irregular. The recovery slowed in the last quarter as the economy entered a "soft spot." The current weakness of the economy is caused by uncertainty about possible war with Iraq, the stock market and job prospects resulting from the weak economy itself. Although considerable uncertainty is expected to continue, most forecasters currently expect that the economy will improve with increasing speed throughout 2003. Sluggish growth in early 2003 is likely to be followed by growth in the 3 percent range late in the year. This should result in modest increases in interest rates in the last half of the year. Increases of three-quarters of a percent in short term rates and a slightly lower rise in long term rates are expected.

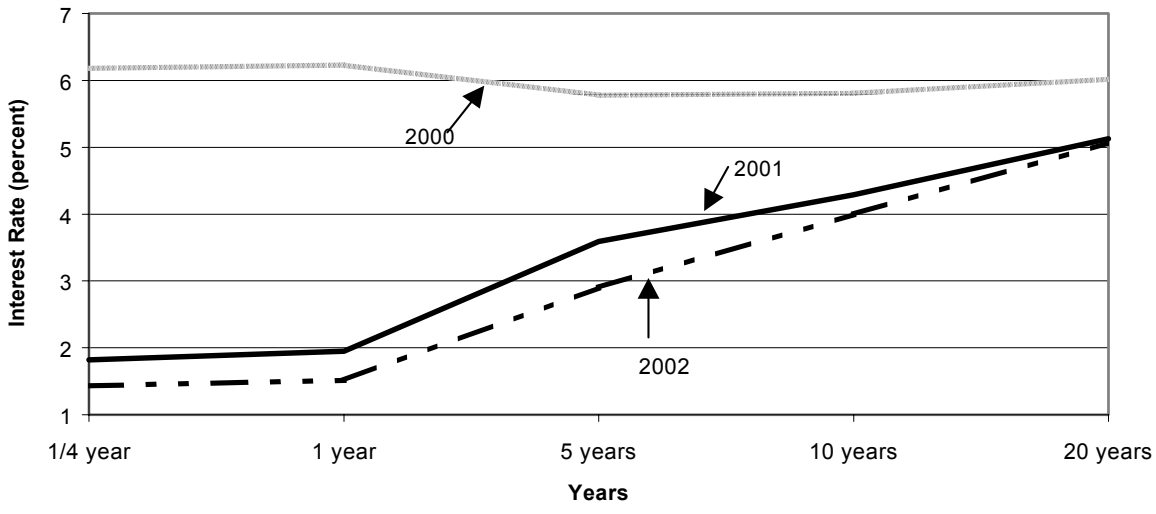
The sluggish economy will provide little inflation pressure. Inflation rates are expected to continue at 2002 rates of about 2.2 percent on a forth-quarter over forth-quarter basis.

FIGURE 4-6. LONG AND SHORT TERM REAL INTEREST RATES



Farm level interest rates are expected to remain at late 2002 levels well into 2003. Current rates are the lowest in about 40 years and will likely hold at that level for spring borrowing needs. Rate increases of one-half to three-quarters of a percent are likely late in the year. For the entire year farm level interest costs will likely be similar to the very favorable 2002 levels. While slight increases in farm loan delinquencies will cause lenders to carefully analyze agricultural loans, credit should be readily available for farmers with demonstrated repayment capacity. Current low milk prices, and the likelihood that it may be several months before significant price recovery occurs, means that lenders will be forced to carefully assess dairy businesses with repayment stress.

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



Chapter 5. Grain and Feed

James H.Hilker, Professor

While corn, wheat, and soybean prices are the highest in 4 years, they are really only at what we would call long-run average prices. These higher prices are really needed by sellers, but have been hard on livestock producers that need to purchase feed, especially given the low hog, cattle, and milk prices we have had over the past several months. The outlook for corn, wheat and soybeans is summarized in Tables 5-1 through 5-3.

Corn

After six good U.S. corn crops in a row, the U.S. had its first poor corn yield since 1995. The U.S. 2002 corn yield is expected to be 127.7 bu/ac, about 11 bushels below trend and last year's yield. Part of the shortfall was made up by three million more acres of corn being planted. Total production for 2002-03 is expected to be 9 billion bushels, down 5% from last year as shown in the second column of Table 5-1. Total 2002-03 supply is projected to be down 7% as beginning stocks are down from last year as well.

TABLE 5-1. SUPPLY/DEMAND BALANCE SHEET FOR CORN

	Est. 2001-02	Projected 2002-03	Hilker 2003-04
		(Million Acres)	
Acres Planted	75.8	78.8	79.1
Acres Harvested	68.8	70.5	72.0
Bu./Harvested Acre	138.2	127.7	140.0
		(Million Bushels)	
Beginning Stocks	1899	1599	848
Production	9507	9004	10080
Imports	10	15	7
Total Supply	11416	10618	10935
Use:			
Feed and Residual	5874	5675	5700
Food, Seed and Ind. Uses	2054	2170	2290
Total Domestic	7928	7820	7990
Exports	1889	1925	2000
Total Use	9817	9770	9990
Ending Stocks	1599	848	945
Ending Stocks, % of Use	16.3	8.7	9.5
Regular Loan Rate	$1.89	$1.98	$1.98
US Season Average Farm Price, $/Bu.	$1.97	$2.40	$2.20

Source: USDA and Jim Hilker.

The poor U.S. corn yield is mostly a function of poor corn crops in the eastern cornbelt, great corn crops in Iowa and Minnesota, and mediocre to poor crops in most other areas. New York is expected to harvest 40 million bushels of corn -- down 30%. Harvested corn acres in New York dropped from 540,000 in 2001 to 450,000 in 2002 and the corn yield dropped from 105 bushels per acre in 2001 to 89 bushels per acre

in 2002. This will mean even higher relative New York cash prices as corn will have to be shipped in to meet demand, and Ohio is short as well.

Oats do not seem to be an insignificant feed source in New York. Planted acres over the past three years have been 80, 95, and 70 thousand acres. Harvested acres run about 15,000 acres less. Oat yields have been 65, 69, and 66 bushels per acre the past three years. Production has been 3.9 million, 5.5 million, and 3.6 million acres from 2000-2002.

Corn-for-feed use is expected to be down 3.4% as red meat production is projected to be down 3.7% and poultry production is only expected to be up 1.7 %. Dairy numbers are not expected to chance enough to effect corn use very much. Wheat-for-feed use will be down as well, but the leftovers from making ethanol will add significantly to feed supplies.

Food, seed and industrial uses are expected to grow 5.6% as ethanol use is expected to continue it's rapid growth as California continues to convert from the oxygenate MBTE to the oxygenate ethanol in the quest for cleaner air as well as water. The relatively high oil prices will also help. There already is enough capacity to supply the projected use of ethanol and more is under construction.

Corn exports are expected to grow by a small 2% in 2002-03. Higher prices and a very good Chinese corn crop will limit export growth. However at this time corn exports are lagging 25% behind a year ago year-to-date. The eventual size of the Argentina crop that has just been planted will also affect the final U.S. export number.

This puts projected total use at 9.77 billion bushels, down only a ½%. Ending stocks are projected to be just 848 million bushels, a relatively tight 8.7% of use. This should mean an average U.S. weighted average price of about $2.40 for the 2002-03 corn marketing year. At this point fundamentals match up pretty well with the futures.

The market, by the strong basis, is telling sellers not to store corn, move it. This can be done by moving the corn and using a basis contract or buying futures or buying a call if you think prices are still going up. Otherwise, just sell and look to next year. Buyers need to determine how much upside price risk they can afford. If they want to limit their risk they need to forward contract a percentage of their feed needs on downturns, the market is saying it will not pay to buy and store. Another tool would be to buy a call to protect against upside risk but not be locked in if prices fall.

In order to make selling or purchasing decisions with a storable crop it is important to look a little down the road. In column three of Table 5-1 is a forecast of the 2003-04 corn supply and demand situation. My first analysis shows that while prices will likely be a little lower, it will not take much of a weather scare to send prices much higher this spring. Purchasers should consider this in making their timing decisions now.

On the supply side I expect a continued move to corn acres as the relative corn/soybean loan rate was corrected in the 2002 Farm Bill, although I think the big move was made last year. I use a trend yield of 140 bushels per acre. These two improvements bring us back to a 10 billion bushel corn crop, but with the low beginning stocks total supply should not be burdensome.

On the demand side I see some recovery in 2003 livestock numbers and continued strong growth in ethanol production, which also produces feed as mentioned earlier. Some recovery in exports is expected as well due to expected economic growth and a normal corn crop in China. This will leave projected 2003-04 ending stocks at 945 million bushels, 9.5% of use. Prices could easily go either direction from my $2.20 price forecast as production will vary by the weather over the growing season.

Wheat

New York is not considered a wheat producing giant, but there was 130,000 acres of winter wheat planted last year, up from 125,000 acres a year earlier and 150,000 acres two years earlier. There were 128,000 acres harvested in New York in 2002. Total state production was 7.4 million bushels from a yield of 58 bushels per acre. This compares with the 2001 production and yield numbers of 6.4 million bushels and 53 bushels per acre. The 2000 numbers were 7.4 million bushels produced and a yield of 53 bushels per acre. Straw is an important by-product.

The U.S. as a whole had a poor crop as shown in column two of Table 5-2 below. The poor U.S. yield was mostly due to the poor wheat crop in the high plains where a majority of our wheat is grown. The soft red winter wheat crop was pretty good east of the Mississippi River and north of the Ohio River. Harvested acres as a percentage of planted was down as well as the yield.

TABLE 5-2. SUPPLY/DEMAND BALANCE SHEET FOR WHEAT

	Est. 2001-02	Projected 2002-03	Hilker 2003-04
			(Million Acres)
Acres Planted	59.6	60.4	62.5
Acres Harvested	48.6	45.8	53.0
Bu./Harvested Acre	40.2	35.3	42.0
		(Million Bushels)	
Beginning Stocks	876	777	358
Production	1957	1616	2226
Imports	108	81	101
Total Supply	2941	2474	2685
Use:			
Food	928	930	935
Seed	82	86	85
Feed and Residual	193	150	200
Total Domestic	1203	1166	1220
Exports	961	950	975
Total Use	2164	2116	2195
Ending Stocks	777	358	490
Ending Stocks, % of Use	35.9	17.5	22.3
Regular Loan Rate	$2.58	$2.80	$2.80
Season Average Farm Price			
U,S, $/Bu.	$2.78	$3.80	$3.30
Michigan $/Bu.	2.45	3.35	2.90

Source: USDA and Jim Hilker.

Expected use in 2002-03 is expected to be down as well. Food use tends to grow at a very small rate and feed use will be down sharply as the corn/wheat price ratio says to feed corn versus wheat even in the high plains. Exports are expected to be down as well, but that is due more to the higher prices than lots of wheat elsewhere in the world. Canada and Australia had very poor wheat crops, but an excellent wheat crop in Europe offset some of the damage.

The 2002-03 wheat ending stocks are projected to be 358 million acres, 17.5% of use, the lowest in recent memory. The world wheat stocks-to-use ratio is the lowest since the 1970s. However, the market price has not reacted anywhere near like the 1970s. The world seems much more comfortable with low stocks. Consider moving any wheat in storage; it is a unlikely to pay.

With the new government program and the recovery in prices more wheat is expected to be planted for 2003-04. However, while down a bit, prices are expected to stay better than the previous few years. See Table 5-2 below for my 2003-04 U.S. Wheat Supply/Demand situation.

Soybeans

New York only grew 153,000 acres of soybeans last year, down 5,000 from the previous year, but the U.S. Soybean Supply/Demand situation is also important due to soymeal being such an important feed protein source. New York produced 4.6 million bushels of soybeans in 2002 and had a yield of 30 bushels per acre, this compares with the previous year's numbers of 5.2 million bushels and 33 bushels per acre.

U.S. soybean acreage was down in 2002 as shown in column two of Table 5-3 below. Yields were down as well at 37.5 bushels per acre, about 2 bushels below trend. Along with a smaller and fairly tight carryin, this leaves total supply nearly 8% below last year.

TABLE 5-3. SUPPLY/DEMAND BALANCE SHEET FOR SOYBEANS

	Est. 2001-02	Projected 2002-03	Hilker 2003-04
		(Million Acres)	
Acres Planted	74.1	73.0	72.7
Acres Harvested	73.0	71.8	71.7
Bu./Harvested Acre	39.6	37.5	40.0
		(Million Bushels)	
Beginning Stocks	248	208	185
Production	2891	2690	2868
Imports	2	2	2
Total Supply	3141	2900	3055
Use:			
Crushings	1700	1660	1700
Exports	1063	890	990
Seed, Feed and Residuals	170	165	165
Total Use	2933	2715	2855
Ending Stocks	208	185	200
Ending Stocks, % of Use	7.1	6.8	7.0
Regular Loan Rate	$5.26	$5.00	$5.00
US Season Average Farm Price, $/Bu.	$4.35	$5.40	$5.15

Source: USDA and Jim Hilker.

Crush for soyoil and soymeal is expected to be down as shown, but this is due to price and competition, and is a factor of lower expected exports versus lower domestic use. Domestic use of soyoil is expected to be up 2.6%, and soymeal use is expected to be up 1.1%. Exports are expected to be down sharply

as the market will only allow ending stocks to get so small, and South America is planning on a huge crop, enough to basically make up the difference relative to world wants.

The 2002-03 projected ending stocks are 185 million bushels -- 6.8% of use. This leads to an expected price of about $5.40 per bushel. However, I would argue it will not take much of a South American crop shortfall to make prices take off, given the tight stocks situation. Much of the higher expected soybean price is due to soy oil prices projected to be up 4¢ per pound to 21.5¢. Soymeal prices per ton are expected to be $170-$175 per ton versus $168 last year and $174 the previous year.

The market is telling sellers to move the beans, the basis is tight and the futures show a negative return to storage. Use futures or a call option if you want to stay in the market. The market is telling buyers of soy products a couple of things. One is there is no need to buy now and store, the market will pay storage for you. But, there is a lot of risk in the market; buyer's should seriously look at locking in a chunk of their soymeal needs now as we have reasonable prices. Consider forward contracting a serious percentage of your protein needs through at least the summer, there is more upside risk than downside potential. Another method would be to use calls through the risky periods.

So what about next year? My initial forecast for the 2003-04 Soybean Supply/Demand Situation in shown in the third column of Table 5-3. As you can see, I do not see much change in the bottom line. This means unless there is even a bigger crop in South America than expected and a drop off in the world income, there will be significant price risk as we go through the U.S. growing season in 2003.

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

Chapter 6. Livestock

James H.Hilker, Professor

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 1980s and most of the 1990s. However, beginning about two years ago, this trend seems to have stopped, and appears to have even reversed itself. This is especially good given we in an economic slowdown.

Some very interesting data was recently released by the USDA on retail meat prices -- everybody should check it out. For years the retail price and its fluctuation did not appear to follow meat animal prices. In 1999 the USDA was mandated to develop a new method of reporting retail meat prices. The new series, which started in January of 2001 is based on grocery store checkout scanner data. The old survey was a monthly survey of grocery stores. The new information is volume-weighted price and can better account for sales. For two classes of beef and pork the prices have averaged below the old series, but the big change is the variability we now see. Retailers do run specials and consumers do respond to lower prices.

Cattle

In New York, as most of you are probably more aware than even I am, beef comes largely from the dairy industry, but not completely. On January 1, 2002 all cattle and calves in New York totaled 1.348 million head. Of these 750,000 were cows that have calved. And of those 75,000 were beef cows, down 6% from 2001, and 675,000 of those were dairy cows, up 1% from 2001. Of course most of the dairy steer calves go into the beef market. Of the heifers kept, 20,000 were for beef cow replacement, and 300,000 were for dairy cow replacement. The 2001 calf crop in New York totaled 620,000, down 3% form January 1, 2001.

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, 2003 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. As of January 1,2002 that had not yet began to happen, as I expected in the outlook a year ago. Now we have had another decent year of feeder prices, will we see expansion on January 1, 2003. As of July 1, 2002, beef cows that had calved were even with the previous year and dairy cows were up 1%. Heifers over 500 pounds that were to be kept for beef cows on July 1 were still even with a year ago, dairy heifers kept as replacements were up 3%. Heifers in feedlots and in the slaughter mix are down from a year ago. This may be an indication that the cow herd is expanding, but I doubt with any great speed. It was quite droughty in many cow/calf areas of the country this year.

My price forecast are for choice steers, you will need to adjust them by the basis/spread you typically get if you are feeding heifers or holsteins. I am assuming demand will continue at or above the levels we see today. Beef production for the year is expected to be down around 5-6%. This should lead to an average fed steer price of $73-75/cwt. First quarter production is expected to be down 1-2 %, which would lead to prices in the mid-70s. Second quarter production is expected to be down 2-3%, and this would make the price forecast about $75-76/cwt. Third quarter production is expected to be down 6-7%. Some of the second and third quarter cuts in production may come from lighter weights. Third quarter prices are expected to average in the $72-73/cwt. range. Fourth quarter production is expected to be down 5-7%, which should lead to

average choice steer prices in the $73-75/cwt. range. These prices are below futures for the first quarter and above what futures would suggest for the last half of the year.

I forecast 400-500 feeder steer prices to average $89-94 for 2003 and 600-700 feeder steer prices to average $81-86/cwt. for 2003. What happens to feed prices will directly affect feeder prices. Cull cattle is expected to have the usual large spread in prices, due to quality differences. Cull prices are projected to be in the $27-40/cwt. range.

Hogs

Times have been tough in hogs of late, but there is some hint that things will get better. The most recent USDA Hogs and Pigs Report showed that production is likely to be down quarter to quarter as we go though 2003. The next Quarterly USDA Hogs and Pigs Report will be released December 30 and should give us a confirmation of this information. Pork production is expected to be down 2% in 2003 and prices are expected to average somewhere in the range of $38-41/cwt.

First quarter production is expected to be down 1%. This should lead to prices in the range of $38-41/cwt. First quarter average prices in 2002 were $39.73 for barrows and gilts. First quarter prices are more likely to end up at the top end of that range if exports pickup. And that would be true for the rest of the quarterly hog price forecasts.

Second quarter production is expected to be down 2-3%. Projected prices for the second quarter of 2003 are $38-42/cwt. Second quarter prices in 2002 averaged $35.03/cwt. Third quarter production is expected to be down 1-2%. This should bring prices in the $$40-44/cwt range. The previous year averaged $33.86/cwt. Fourth quarter production is expected to be down 2-3%. Prices will likely average in the mid to high $30 range relative to this fall's expected average price of $27-29/cwt.

The total number of hogs being raised under contract for firms that own over 5000 head makes up 35% of total production. If the trend to these larger producers contracting their production continues, the hog industry is likely to end up like the poultry industry, and we won't need these forecasts. On the other hand the percentage stayed the same this past year.

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

2003 Dairy Outlook

Positive Factors:

- Low interest rates
- Adequate forage supplies
- New MILC payments

Negative Factors:

- Forage quality is questionable
- Demand for dairy products has been lackluster
- Butter inventories are large

Uncertainties:

- When milk supplies will tighten
- Whether government program costs will be too burdensome

New York Dairy Situation and Outlook
2000, 2001 Preliminary 2002, and Projected 2003

Item	2000	2001	2002	2003	Percent Change 01-02	Percent Change 02-03
Number of milk cows (thousand head)	686	672	677	660	0.7	-2.5
Milk per cow (lbs.)	17,376	17,527	18,120	18,181	3.4	0.3
Total milk production (million lbs.)	11,920	11,778	12,267	11,999	4.2	-2.2
Blended milk price ($/cwt.)[a]	13.04	15.67	12.65	13.34	-19.3	5.5

[a] Northeast federal order statistical uniform price for farms shipping milk to Suffolk County, MA (Boston).

Table 7-1. U.S. Milk Supply and Utilization, 1996–2003.

	1996*	1997	1998	1999	2000*	2001[a]	2002[b]	2003[c]
Supply								
Cows Numbers (thous.)	9,351	9,258	9,158	9,156	9,206	9,115	9,137	9,000
Production/cow (lbs)	16,498	16,916	17,192	17,771	18,201	18,139	18,612	18,800
Production	154.3	156.6	157.4	162.7	167.6	165.3	169.6	169.2
Farm Use	1.5	1.4	1.4	1.3	1.3	1.3	1.2	1.2
Marketings	152.8	155.2	156.0	161.4	166.3	164.1	168.4	168.0
Beginning Commercial Stocks	4.1	4.7	4.9	5.3	6.1	6.8	7.0	9.0
Imports	2.9	2.7	4.6	4.8	4.4	5.7	5.5	5.3
Total Supply	**159.8**	**162.6**	**165.5**	**171.4**	**176.8**	**176.6**	**179.0**	**182.3**
Utilization								
Commercial Disappearance	155.0	156.6	159.9	164.9	169.2	169.4	169.7	172.6
Ending Commercial Stocks	4.7	4.9	5.3	6.1	6.8	7.0	9.0	7.2
DEIP	0.1	1.1	0.3	0.3	0.4	0.1	0.0	0.1
Net Removals (excluding DEIP)	0.0	0.0	0.0	0.1	0.5	0.1	0.2	2.4
Total Use	**159.8**	**162.6**	**165.5**	**171.4**	**176.8**	**176.6**	**179.0**	**182.3**

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.
[a] Revised.
[b] Based on preliminary USDA data and Cornell estimates.
[c] Projected by Mark Stephenson.

The U.S. Dairy Situation and Outlook

Prices

In 2001 we were celebrating a return to profitability on many farms as milk prices had rebounded from the relative lows of 2000. There were several months in 2001 when class III and class IV prices were well into the fifteen-dollar range and the uniform price in the Northeast well above seventeen dollars. 2002 has brought a dramatic drop to the high prices of 2001. Milk price volatility is endemic to the industry. We have seen the expression of that trait for more than a decade while the dairy price support program has set price goals at levels most often below market prices.

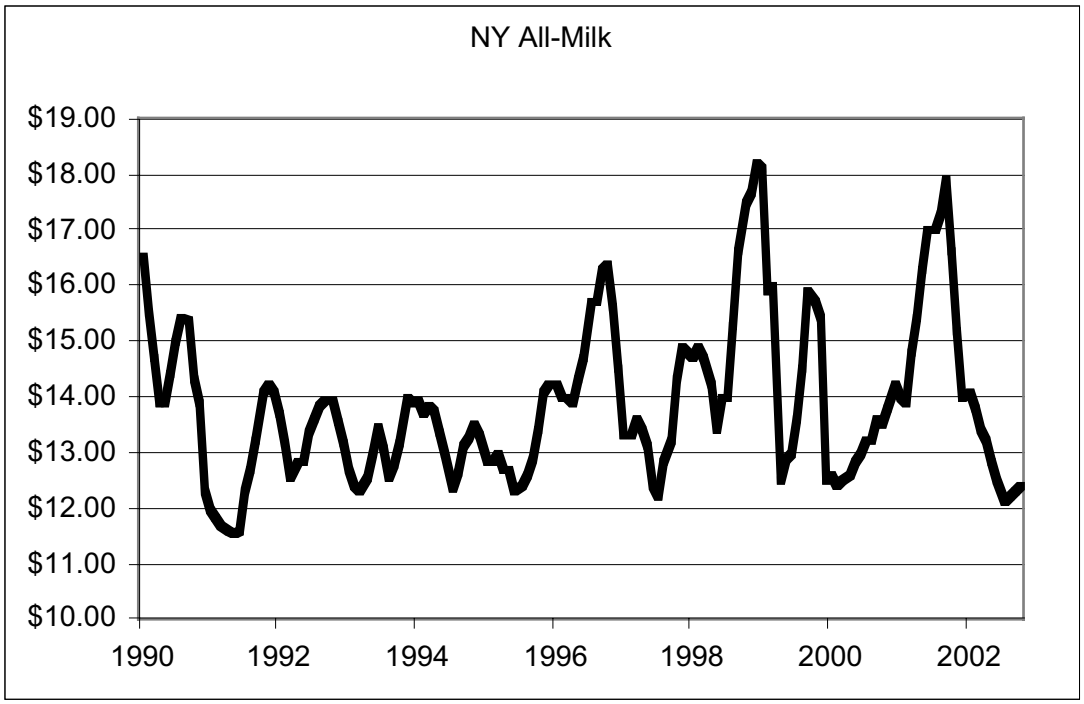
Everyone knows that 2002 milk prices have been low—very low—and the question of the day may be when will they rebound. By the time the year ends, our class III milk price will have averaged about $10.60 or about $3.36 lower than it did last year. That is a huge drop but the class III milk price averaged $9.74 in 2000. So is this year a better milk price year for producers than we had just a couple of years ago? Answer is that "It depends…".

Farms don't receive the class III price. A better benchmark is the uniform, or blend, price. Two years ago when the class III price was much lower than it is today, the blend price was actually better. The "higher of" provision in the federal orders prices class I skim milk off of the higher of skim milk values in class III or class IV. In 2000, the class IV price was as much as $5.00 per cwt. higher than class III and with about a 40 percent class I utilization, our uniform price was much better than the class III price indicated. This year's average uniform price should come in around $12.65 per cwt. which would be $2.92 lower than last year's price and even $0.39 lower than 2000's relatively low uniform price.

Even the federal order uniform price is not a perfect reflection of a producer's well being. In almost all regions of the country over-order premiums are paid by processors above the minimum blended price. Premium levels do vary from farm-to-farm and they do vary by region of the country. In 2000 and even in 2001 the over-order premiums in the Northeast were really quite high by historic standards. The Southeast had been short of milk and enough of the milk produced in our region was being moved into the Southeast to make supplies feel short to processors in the Northeast. This past year, demand for dairy products has softened in all parts of the country and milk production in the southeast has picked up a bit with the effect of leaving the Northeast with plenty of milk. Processors in the Northeast would not be expected to pay as much in over-order premiums under these conditions. We have conducted surveys of producer checks for August milk in each of the last three years. The milk checks show that there has been an erosion of market premiums this year but total premiums have held up surprisingly well. However, the bottom line is that regulated prices are lower than they were in 2000 and over-order premiums have declined as well.

The National Agricultural Statistics Service, or NASS, collects data from milk plants and federal orders on what was actually paid by plants to producers or their cooperatives. The "all milk price" includes values for premiums paid as well as component levels above (or below) the federal order

standardized milk value. It is the most accessible indicator of farm prices published on a regular basis. The chart below shows that the all milk price in New York is currently quite low but not at levels that we haven't seen before. The take-away message is that we have had prices about as low as today's prices every couple of years in the past decade and 1991 prices were even a bit lower than prices are now.

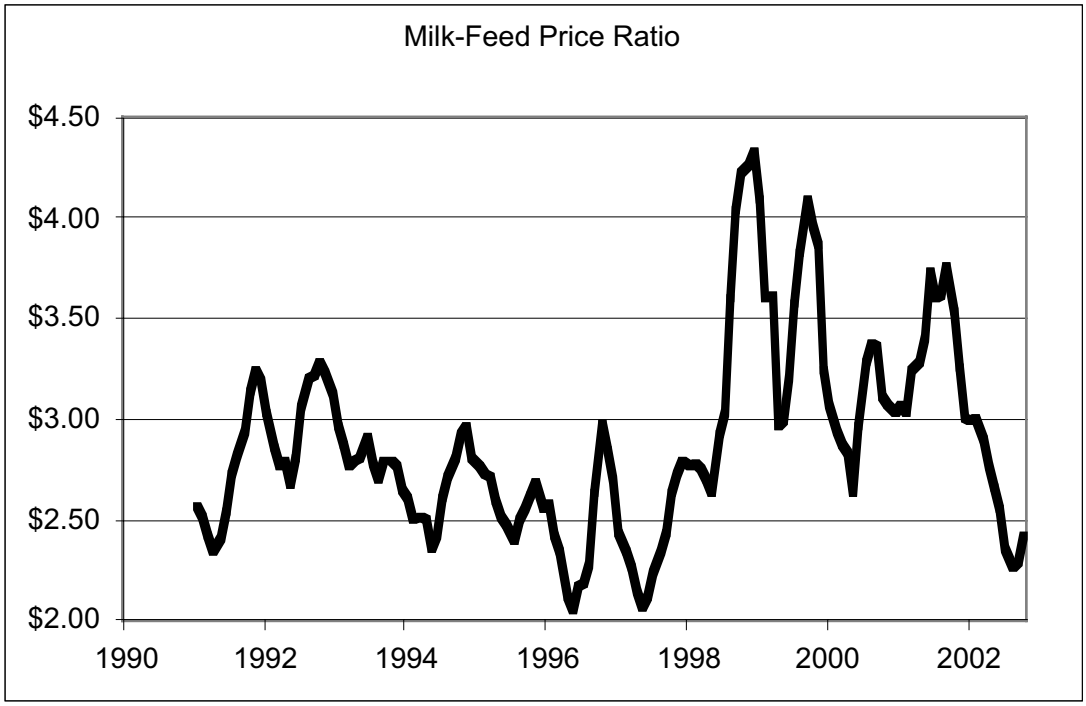


Milk Supplies

The expected response to high milk prices is increased output of milk. Strong milk prices in 2001 provided the stimulus for dairy farmers to both add cows and to increase milk per cow. Averaging nearly 52 pounds per cow per day, 2002 will mark the highest milk yield ever. Genetic and management improvements have made increases in milk per cow an expected long-term trend but year-over-year increases are not guaranteed. Poor quality forages may lead to reductions in output and high concentrate prices and/or low milk prices may cause producers to voluntarily reduce production levels. As we near the end of 2002, low milk prices and higher feed prices are both in evidence.

Course grain and oilseed prices have been higher in recent months than we have seen in a couple of years. For example, the U.S. #2 corn price in September averaged $2.56 this year and it was $1.61 and $1.91 in September of 2000 and 2001 respectively. Soybeans were at $6.54 per bushel compared to $4.57 and $4.53 in previous years. Because feed costs are the single largest cost of production on dairy farms, the squeeze between a low milk price and higher prices for inputs really causes cash flow problems for our farms. The second chart shows the milk-feed price ratio which is a reasonable proxy for farm profitability. This ratio is the number of pounds of 16% protein mixed dairy feed (corn-51 pounds, Soybeans-8 pounds, Alfalfa hay-41 pounds) equal in value to one pound of the all milk price. Literally, how many pounds of feed you could afford to buy per pound of milk

produced. As you can see, the ratio has fallen to fairly low levels but not as low as they were in 96-98. The ratio was worse in those years because of high feed prices (El Nino effects). Currently, it is low because of low milk prices and somewhat higher prices for feed. Drought in the Midwest and Middle Atlantic has diminished the national feed grains harvest. Grain prices would have been even higher but for the unusually large carryover of the previous season's crops.



Another long-tem trend that we have come to expect is an annual loss of cows from the national herd. With output per cow typically outstripping increases in demand for milk and dairy products, we simply don't need as many cows to produce the milk. There are years which are exceptions to this trend however, and 2002 was one of those years. The high prices of the previous year had caused dairy producers to commit to expansions across the country. We will finish 2002 with more cows in the national herd than we had in 2001. However, there are signs that the cull rate in the second half of 2002 was somewhat higher than in the same period of the previous year. It is an indication that dairy producers are beginning to respond to lower prices with a reduction in productive capacity.

Overall, milk production in 2002 will be up more than 2.5 percent over year earlier levels.

Demand for Dairy Products

Could it be pizza fatigue? Over the past decade we have come to expect 2-3 percent growth in commercial disappearance for milk and dairy products. Not all product categories have grown equally. Beverage milk category has been stagnant in volume and declining on a per capita basis for many years. Annual per capita consumption of beverage milk declined from 31 gallons in 1970 to 24 gallons in 1997. Other segments have been up or down a bit, but the major growth in dairy over

the past 20 plus years has been cheese consumption. In fact, according to food consumption data compiled by the Economic Research Service of the USDA, growth in cheese consumption has been second to none. It leads soda, chicken and any other food item that you can nominate for spectacular growth. Average consumption of cheese increased 146 percent between 1970 and 1997, from 11 pounds per person to 28 pounds. Current annual consumption is just below 30 pounds. However, this year American cheese sales have been flat and other cheese sales growth has been tepid. Overall, commercial disappearance of dairy products on a milkfat equivalent basis has modestly declined in the first three quarters of 2002 relative to the same period in 2001.

It will probably be a few years until we can look back on this time period and understand what has happened to demand for dairy products. Most often a decline in commercial disappearance is a result of milk supply problems. Widespread drought or flooding can cause a shortage of milk and dairy product prices are usually high as a result. Those high prices help to ration short supplies until more milk is back in the pipeline. An economist would say that we are "exploring the demand curve" under these conditions. This year is quite different. We have adequate milk supplies and wholesale prices have been quite low. This seems to be a "shift" of the demand curve and many folks are puzzled as to why.

One explanation for the decreased demand may be the "soft" economy. People have been bombarded with news of bankruptcies of very large companies and the stock markets have reflected this gloomy outlook. Although our technical recession was mild and short, there has been a tremendous erosion of wealth as personal investments have followed the stock market down. September 11 may also have had an effect. It certainly had an immediate effect, but it may also have triggered deeper and longer-term effects. The home fix-it chain, Lowes, has reported much larger than expected earnings. A Lowes spokesman attributed no small part of their success to homeowners spending more time at home and remodeling their dwellings. This same stay-at-home attitude has probably affected out-of-home dining and dairy products feature prominently in fast food and higher-end restaurants—particularly butterfat consumption in cheese, butter and creams.

If we have a return to normalcy in the economy and, the specter of terrorism doesn't loom so largely in our minds, then perhaps dairy product consumption will rebound. My own suspicion is that slower growth in dairy product demand will be with us for a few years.

Policy

On May12, President Bush signed into law the Farm Security and Rural Investment Act of 2002. The commodity title of this Farm Bill contained a number of dairy specific provisions, but there were several other provisions that will impact the dairy industry as well.

The dairy provisions of the farm bill really came together in the conference between the House and Senate leaders. The initial House bill looked like "status quo" for dairy while the Senate had been somewhat more adventurous. But what was reported out of the conference committee bore little resemblance to either bill.

The dairy subtitle differs from most other commodities in that the provisions are quite passive. I.e., a dairy producer really doesn't have to make any big decisions about involvement in the program. The major pieces of policy for dairy include:

- Extension of the Milk Price Support Program
- Extension of the Dairy Export Incentive Program
- Promotion fees for imported dairy products
- Fluid milk promotion program extended
- Clarification of mandatory reporting
- National Dairy Market Loss Payments program (now referred to as the MILC program)

Dairy Price Support Program

Some form of the Dairy Price Support Program (DPSP) has been with us since the 1930s. The program was originally implemented to help stabilize volatile milk prices and was quite effective for many years. The program worked by government purchases of surplus dairy products (cheese, butter and nonfat dry milk) off of the domestic market when prices are low and selling them back when prices rebounded. During the 1970s, the Price Support Program was used more aggressively than was needed to stabilize prices—it was used to enhance income to dairy producers. This became a very expensive program in the 1980s and in the second half of the decade, the government began to systematically reduce support levels. By 1989, the level of support was generally below market price levels and volatility in dairy markets was rediscovered. The government bought very little product in the first half of the 1990s. The 1996 Farm Bill contained wording that would phase out the dairy price support program altogether by the end of 1999. Dairy producers fought to retain the program even at relatively low levels of support and the program was not discarded. The current Farm Bill explicitly retains the price support program through the life of the bill (December 31, 2007). It also authorizes the secretary of agriculture, at his/her discretion, to change the "tilt" up to twice a year to minimize government expenditures. The "tilt" is the relationship between the CCC purchase price for nonfat dry milk and butter.

Dairy Export Incentive Program

The Dairy Export Incentive Program (DEIP) was authorized in the 1985 Food Security Act and was also devised to reduce surplus dairy products. The program was designed to assist U.S. exporters of dairy products in entering foreign markets. The CCC was authorized to accept or reject bids for export subsidies from any qualified exporter of dairy products. These payments were given to offset some of the costs involved in selling the higher priced U.S. dairy products in the lower priced world market. This has the effect of taking burdensome supplies of dairy products off of our domestic markets at a lower cost than the price support program. The DEIP was extended in the current farm bill through 2007.

Milk Promotion

Milk promotion programs were a part of the new farm bill. The 1983 Dairy Production Stabilization Act authorized the check off of 15¢ per hundredweight of milk from dairy producers for dairy product research and advertising. We might recognize the advertising from this money as the "Got Milk" ad campaign. Imported dairy products may have benefited from the increased demand from producer advertising but those products have never contributed to the costs of the program. The new farm bill requires imported dairy products to pay the equivalent of 15¢ per hundredweight for prod-

uct promotion. Fluid milk processors have also been contributing 20¢ per hundredweight for promotion since the passage of the Fluid Milk Promotion Act of 1990. Their advertising campaign has included the popular milk mustache ads. The fluid processor program was to have expired in 2001 but was extended indefinitely in the farm bill.

Mandatory Reporting

The National Agricultural Statistics Service (NASS) collects survey information from processors regarding the sale volume and price of products used in the calculation of federal milk marketing order component values. NASS also collects data about commercial inventories of manufactured dairy products. Bill language was previously introduced to require mandatory reporting of manufactured dairy products. The new Farm Bill supports that previous position and provides clarifying language for mandatory reporting.

National Dairy Market Loss Payments

From the point of view of the dairy industry, the National Dairy Market Loss Payments program was the most interesting and the most controversial portion of the farm bill. The New England states fought long and hard to reinstate the Northeast Dairy Compact which had expired in September of 2001. The Compact has been a very contentious issue in many regions of the country. The New England states want to retain it, the rest of the Northeast want to join it, the Southeast and Northwest want to form their own, and the rest of the country (basically, anyone with low class I utilization) and the dairy processors were prepared to spend substantial political capital to eradicate Compacts.

The National Dairy Market Loss Payments program was a compromise that provided something for almost everyone. The New England states got a program that looks and behaves very much like the Compact did. The Upper Midwest got a national program put in place where they have as much access to the benefits as New England producers. The processors can't complain that the higher price to consumers will stifle demand because the cost of the program doesn't show up in a gallon of milk. About the only ones who have a right to complain about this policy are taxpayers who are less-than-average consumers of dairy products, and large dairy farms.

As the Farm Service Agency drafted the rules of implementation, The National Dairy Market Loss Payments program became known as the Milk Income Loss Contracts (MILC). It provides support to dairy producers when the price of class I milk in Boston falls below $16.94. That is the same trigger that was used by the Northeast Dairy Compact when it was in place. The payment that will be made is equal to 45 percent of the difference between $16.94 and the lower class I federal order price. 45 percent is approximately the class I utilization in the Northeast federal milk marketing order. The program is retroactive to December 1, 2001 and runs through September 30, 2005. Please note that this program is not scheduled to last the entire life of the farm bill. The payments will be made on all eligible milk production.

Eligible milk production is defined to be equal to 2.4 millions pounds of milk per farm per fiscal year (October 1 through September 30). This volume is not determined from any prior base period. It is calculated from current production. The language of the bill is quite explicit regarding congres-

sional intent about the definition of a "farm".

> *The Secretary shall promulgate regulations to ensure that a producer does not reconstitute a dairy operation for the sole purpose of receiving additional payments under this section.*

The Farm Service Agency has implemented the farm definition that was used for emergency payments in previous years.

About 6100, or 87% of, farms in New York state, produce milk under the 2.4 million pound payment cap. These farms are eligible to receive the full pay MILC payment per hundredweight. At our state average milk production per cow (17,527 lbs), herds of 137 cows or less fall into this category. The remaining 900 farms in the state produce more milk in total than the other 6100 operations, but they will only be paid on 2.4 million pounds of their production. I estimate that about 68% of all milk produced in the state will qualify for the payments. Of course, there can be great variability around this statewide number for any individual farm based on the number of cows and the milk yield.

Beginning in the third week in August, producers began signing up for the MILC payments and checks began to be distributed in the last week of October. Farms that produced less than 2.4 million pounds of milk in calendar year 2002 were eligible for payments in all months of the year. These farms will receive MILC checks that averaged $1.21 per hundredweight for the calendar year.

In the third week of September, the Secretary of Agriculture announced a program to help drought stricken livestock producers across the country. The Livestock Compensation Program was meant to provide relief to livestock producers who experience feed losses or who were having to pay unusually high prices for feed due to drought in their regions. Initially, dairy farms in 26 counties in New York were eligible to receive the payments. The state petitioned to have additional counties included and late in November additional counties were added to the list. In all, 56 counties in the state are now eligible. Only producers in Schenectady, Schoharie and Tompkins county will not receive these payments. The Livestock Compensation Program is not a disaster loan but rather another form of direct payment. Any farm owning livestock for a minimum of 90-calendar days on or before June 1, 2002 can receive a one-time payment of $31.50 a head for adult dairy cows and bulls and $13.50 per head for non-mature heifers,

On November 6th, the USDA announced a final decision on changes to the class III and IV pricing formulas used in federal milk marketing orders. The original hearing for the changes was held May 8-12, 2000. A referendum on the proposed changes is being conducted and votes must be submitted by November 25. The changes recognize farm-to-plant losses of milk, increase the dry whey make allowance and revise the cheese yield factor slightly. The sum of these changes would modestly enhance milk prices to class III. In particular, they would increase protein values paid for milk.

On November 15th, the Secretary of Agriculture announced several changes to federal dairy policy. The USDA invoked a WTO "special safeguard" on cheese imports, they changed the "tilt" in the price support program, and they made available the second allocation for export in the current fiscal year under the DEIP (Dairy Export Incentive Program).

Volume-based safeguards may come into play when the level of imports in a calendar year reaches some reference level—37 million lbs in the case of American Cheese. But rather than kick in automatically, someone has to request that they be imposed, and the government has to agree to do so. These volume-triggered tariffs only apply until the end of the calendar year in which they are imposed, and they start at the time they are authorized following the request. In addition, they don't apply to any shipments that are "on the water" at the time the tariffs are authorized. Since it was the middle of November when the announcement was made and it takes a few weeks by boat for cheese to reach the US, it is unlikely that they will apply to many imports

The government has been buying burdensome stocks of nonfat dry milk (NDM) powder under the CCC's price support program. At the end of September, 2002, the CCC held 1.3 billion pounds of NDM which was about equal to 166% of annual domestic use. The dairy price support program tries to achieve a milk price goal (currently $9.90 for 3.67% butterfat milk) by purchasing storable dairy products. Butter and NDM are jointly produced products and while the government has been buying a good deal of NDM, they have not purchased any butter. A change in tilt can be made twice per year at the discretion of the Secretary of Agriculture. The change lowered the purchase price of NDM 10 cents to $0.80 per pound and raised the butter purchase price 19.52 cents to $1.05 per pound. This will have the effect of lowering dairy producer revenue somewhat—cooperatives own most of the NDM plants in the country and the class IV price will decline, but it will help to keep all dairy product prices from becoming too distorted.

Finally, the USDA also is announcing the second allocation under the 2002/03 fiscal year for the DEIP. The DEIP works to help U.S. marketers develop overseas markets for our dairy products by accepting bids from traders to close the gap between U.S. domestic prices for dairy products and a price that the products could be sold for in another country. There are WTO limits on DEIP activities, but the announcement makes available an additional 25,576 metric tons of NDM, 7,912 metric tons of butterfat and 1,137 metric tons of various cheeses immediately. The total WTO limits for this year's DEIP are 68,201 metric tons of NDM, 21,097 metric tons of butterfat and 3,030 metric tons of various cheeses. With November's announcement, USDA has now made available a total of 42,626 metric tons of NDM, 13,186 metric tons of butterfat and 1,894 metric tons of various cheeses under this program.

Outlook and Summary

All of the observations on milk production, consumer demand for dairy products and policy impacts need to be assimilated into a consistent story on expected changes in milk price. To do that, Table 7-1, a milk supply and utilization, is crucial to coordinated thinking. From that table, including my projections for 2003, several things become apparent.

The low milk prices and higher feed prices will make producers evaluate just how hard they want to push cows. I would expect that rbST usage to be lower and the amount of concentrate fed to cows to be somewhat less. Because of that, I have production per cow increasing only modestly. I also expect a return to heavier culling in the herd. Fewer cows is a long-term norm and I have only assumed a slightly heavier culling rate than a long-term average. However, the cow loss dominates

the modest gains in yield per cow and I expect milk production to decline in 2003 from its current levels.

Current commercial stocks are higher than processors desire to carry. Butter stocks are particularly noteworthy as they have been at twice the level we normally carry. These will have to be worked down through commercial sales and probably some sales to the government. With the change in tilt, I expect some butter to be sold to the Commodity Credit Corporation and there will be a real effort to maximize our Dairy Export Incentive Program sales overseas.

I am also expecting some return in consumer confidence in the economy. We should expect a nearly one percent growth in sales just due to population growth. However, I am further expecting that consumers will return to more eating out-of-home and that inexpensive dairy products will be one of the more heavily used ingredients. By the standards of the 1990s, the gains in commercial disappearance that I have projected are modest, but achievable.

All of these factors cannot lead me to a very high milk price forecast. I am projecting a higher milk price than producers have received in 2002, but it certainly is not a return to 2001 levels. The futures markets have forecast a steady improvement in class III milk prices for most of 2002. If the previous decade has taught us anything it is that dairy markets do not move in long and smooth ways. My expectations are that prices will improve steadily for several months while milk supplies begin to tighten. Once we begin to work down some of our inventories and production does not look as strong as it would in a more average year, dairy product buyers will jump into the market to begin their fall buying early. This should have the effect of giving us a rapid increase in product prices and thus farm milk prices. I cannot be sure when this will happen, but my expectation is that it will begin toward the end of the spring flush and into the early summer (perhaps June-July).

I am projecting an increase in class III prices of $1.55 but because of the change in tilt and large butter reserves, I am expecting class IV prices to be no higher on average than they were in 2002. This kind of math leads me to a projected uniform price in the Northeast that would be about 70 cents higher in 2003. By historic standards, the over order premiums in the region have been quite high the past three or four years. The premiums did erode some 25 cents in 2002 but have stayed fairly strong given the ample supplies of milk. I expect that the premiums may hold at current levels in 2003 but doubt that they will regain the 25 cents lost in the previous year.

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, 1994–2002.

	1994	1995	1996	1997	1998	1999	2000	2001[a]	2002[b]
Farm Milk ($/cwt.)									
All Milk (ave. fat)	13.01	12.78	14.75	13.34	15.50	14.38	12.40	15.05	12.14
Class III (3.5%)	12.03	11.83	13.39	12.05	14.20	12.43	9.74	13.10	10.44
Support (3.5%)	9.99	9.99	10.25	10.10	9.95	9.80	9.80	9.80	9.80
Milk Price: Feed Price Value	2.65	2.60	2.45	2.38	3.34	3.59	3.05	3.38	2.62
Assessment	0.17	0.15	0.03[c]	0.00	0.00	0.00	0.00	0.00	0.00
MILC payments[d]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	1.21
Cheddar Cheese, Blocks ($/lb.)									
CCC Purchase	1.120	1.120	1.145	1.130	1.115	1.100	1.122	1.131	1.131
Wholesale, NCE/Chicago Mercantile Exchange	1.287	1.304	1.466	1.308	1.569	1.404	1.149	1.439	1.178
Butter ($/lb.)									
CCC Purchase, Grade A or higher, Chicago	0.668	0.770	0.650	0.650	0.650	0.650	0.668	0.855	0.855
Wholesale, Gr. AA, Chicago Merc. Exchange	0.709	0.814	1.078	1.159	1.769	1.229	1.177	1.663	1.099
Nonfat Dry Milk									
CCC Purchase, Unfortified ($/lb.)	1.034	1.034	1.065	1.047	1.028	1.010	1.010	0.900	0.900
Wholesale, Central States	1.079	1.086	1.222	1.100	*1.069	1.031	1.015	1.004	0.928
Retail Price Indices (1982–84=100.0)									
Whole Milk	131.2	131.1	141.1	142.9	147.9	156.2	156.9	165.9	162.1
Cheese	136.4	137.9	144.7	147.7	152.3	162.6	162.8	167.6	169.8
All Dairy Products	131.7	132.8	142.1	145.5	150.8	159.6	160.7	167.1	167.9
All Food	144.3	148.4	153.3	157.3	160.7	164.1	167.8	173.1	176.1
All Consumer Prices	148.2	152.4	156.9	160.5	163.0	166.6	172.2	177.1	180.0

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

[a] Revised.

[b] Estimated by Mark Stephenson.

[c] 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-01	Nov-01	Dec-01	Jan-02	Feb-02	Mar-02	Apr-02	May-02	Jun-02	Jul-02	Aug-02	Sep-02
CT	193	194	195	195	193	195	192	192	191	191	191	191
DE	79	80	80	90	90	92	82	83	79	80	76	76
ME	436	436	430	429	429	429	429	432	423	424	426	423
MD	645	647	646	629	625	620	645	650	643	645	645	643
MA	240	237	238	241	240	243	242	243	243	243	241	242
NH	168	167	167	167	166	166	166	164	162	163	165	164
NJ	141	140	140	140	141	141	141	141	141	140	141	140
NY	**6,322**	**6,340**	**6,315**	**6,330**	**6,319**	**6,297**	**6,355**	**6,331**	**6,318**	**6,353**	**6,319**	**6,305**
PA	6,943	6,956	6,814	6,682	6,616	6,548	6,749	6,618	6,743	6,834	6,822	6,808
VT	1,460	1,453	1,449	1,439	1,429	1,427	1,431	1,432	1,430	1,422	1,413	1,410
VA	172	179	206	326	346	375	137	139	188	156	102	106
WV	21	25	24	NR	24	23	26	22	25	28	29	30
All Other	188	106	237	571	554	537	497	447	442	420	30	20
Total	17,008	16,960	16,941	17,239	17,172	17,093	17,092	16,894	17,028	17,099	16,600	16,558

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.

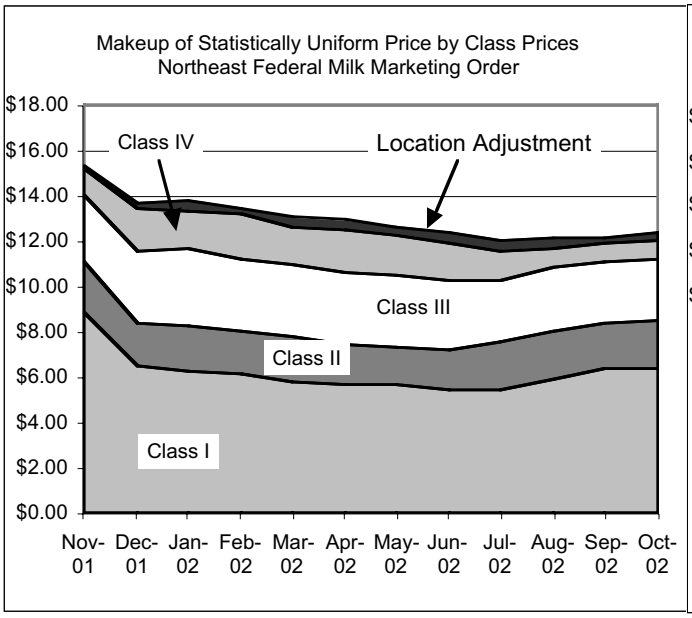
Average Daily Output per Farm by State
Northeast Federal Milk Marketing Order

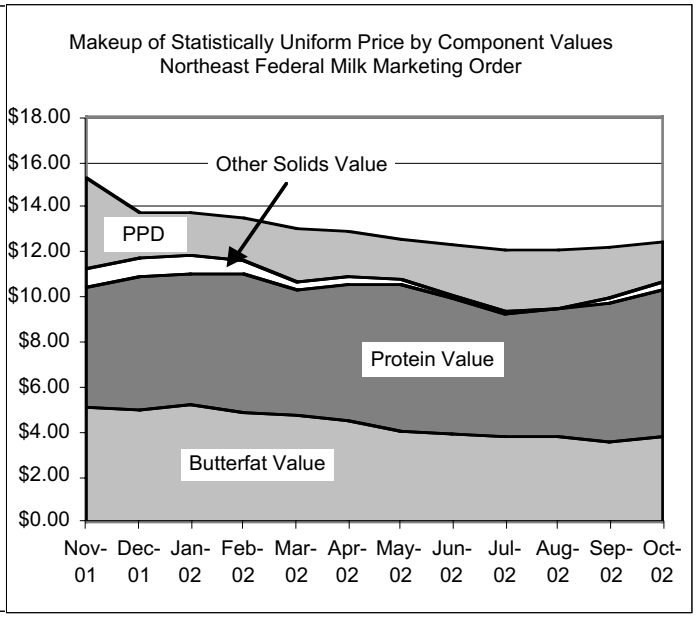
State	Oct-01	Nov-01	Dec-01	Jan-02	Feb-02	Mar-02	Apr-02	May-02	Jun-02	Jul-02	Aug-02	Sep-02
CT	5,753	5,865	6,042	6,261	6,457	6,406	6,570	6,513	6,306	5,942	5,803	5,830
DE	3,919	4,312	4,531	5,162	5,382	5,725	4,920	5,118	4,503	4,093	3,726	3,839
ME	3,925	3,918	4,102	4,154	4,156	4,191	4,236	4,286	4,396	4,209	4,099	4,078
MD	4,354	4,221	4,655	4,705	5,219	5,231	5,472	5,288	4,677	4,472	4,276	4,359
MA	3,640	3,686	3,802	3,837	3,887	3,879	3,966	4,006	3,931	3,763	3,692	3,716
NH	4,881	5,000	5,220	5,355	5,445	5,514	5,505	5,468	5,463	5,137	4,969	5,001
NJ	3,968	4,032	4,198	4,332	4,357	4,493	4,554	4,604	4,339	4,178	4,038	4,078
NY	**4,134**	**4,245**	**4,368**	**4,701**	**4,541**	**4,817**	**4,785**	**4,702**	**4,661**	**4,723**	**4,602**	**4,311**
PA	3,044	3,048	3,181	3,198	3,337	3,410	3,550	3,574	3,290	3,218	3,094	3,100
VT	4,858	4,902	5,052	5,166	5,242	5,290	5,300	5,387	5,341	5,124	5,036	5,001
VA	3,501	3,538	3,987	4,497	4,708	4,368	4,898	4,424	3,849	4,164	3,861	4,412
WV	3,742	2,991	3,718	NR	3,606	4,645	3,813	3,831	3,879	4,218	3,700	3,554
All Other	4,571	4,192	3,513	0	4,555	4,788	4,932	5,111	4,969	4,912	2,278	3,308
Average	3,768	3,808	3,955	4,127	4,177	4,320	4,370	4,357	4,179	4,128	3,979	3,877

Class Utilization and Prices Northeast Federal Milk Marketing Order												
	Nov-01	Dec-01	Jan-02	Feb-02	Mar-02	Apr-02	May-02	Jun-02	Jul-02	Aug-02	Sep-02	Oct-02
Class I Utilization	46.6%	43.0%	41.0%	40.2%	38.8%	38.3%	39.2%	37.9%	39.3%	42.9%	46.1%	47.8%
Class II Utilization	17.4%	15.0%	15.6%	16.1%	16.5%	15.3%	15.0%	16.7%	18.5%	19.4%	19.0%	19.2%
Class III Utilization	26.4%	26.4%	29.1%	27.0%	29.6%	29.3%	28.7%	29.3%	29.9%	29.3%	26.8%	25.1%
Class IV Utilization	9.7%	15.6%	14.3%	16.7%	15.1%	17.2%	17.1%	16.2%	12.3%	8.4%	8.0%	8.0%
Class I Price	$19.01	$15.23	$15.21	$15.20	$14.87	$14.72	$14.51	$14.28	$13.87	$13.73	$13.71	$13.43
Class II Price	$12.78	$12.61	$12.69	$12.28	$12.19	$11.88	$11.29	$11.19	$11.14	$11.07	$10.91	$11.12
Class III Price	$11.31	$11.80	$11.87	$11.63	$10.65	$10.85	$10.82	$10.09	$9.33	$9.54	$9.92	$10.72
Class IV Price	$11.97	$11.79	$11.93	$11.54	$11.42	$11.09	$10.57	$10.52	$10.45	$10.41	$10.22	$10.50

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.





MILK PRICE PROJECTIONS*
Northeast Federal Order Blend Price
3.5 Percent, Suffolk County, Massachusetts
Last Quarter 2002-2003

Month	2001	2002	Difference
		(dollars per hundredweight)	
October	16.04	12.40 [a]	-3.64
November	15.28	12.34 [a]	-2.94
December	13.72	12.41 [a]	-1.31
Fourth Quarter Average	15.01	12.38 [a]	-2.63
Annual Average	***15.67***	***12.65***	***-3.02***

Month	2002	2003 [a]	Difference
		(dollars per hundredweight)	
January	13.81	12.52	-1.29
February	13.48	12.67	-0.81
March	13.05	12.90	-0.15
First Quarter Average	13.45	12.70	-0.75
April	12.94	13.11	0.17
May	12.63	13.17	0.54
June	12.38	13.27	0.89
Second Quarter Average	12.65	13.18	0.53
July	12.05	13.91	1.86
August	12.16	14.14	1.98
September	12.20	13.99	1.79
Third Quarter Average	12.14	14.01	1.88
October	12.40	13.63	1.23
November	12.34 [a]	13.50	1.16
December	12.41 [a]	13.27	0.86
Fourth Quarter Average	12.38 [a]	13.47	1.08
Annual Average	***12.65*** [a]	***13.34*** [a]	***0.69***

* Averages may not add due to rounding.
[a] Projected.

Chapter 8. Dairy -- Farm Management

Wayne A. Knoblauch, Professor
Linda D. Putnam, Extension Support Specialist

Herd Size Comparisons

Data from the 228 New York dairy farms that participated in the Dairy Farm Business Summary (DFBS) Project in 2001 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 $21,652 per farm for the less than 50 cow farms and $515,889 per farm for those with more than 600 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 $508 net farm income per cow while the less than 50 cow dairy farms averaged $555 net farm income per cow. The 200 to 299 herd size category had the second highest net farm income per cow at $609. Other factors that affect profitability and their relationship to the size classifications are shown in Table 8-2.

TABLE 8-1. COWS PER FARM AND FARM FAMILY INCOME MEASURES
228 New York Dairy Farms, 2001

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	21	39	$21,652	$555	$3,528	0.1%
50 to 74	39	62	34,049	549	2,791	0.6%
75 to 99	29	87	45,786	526	10,773	2.2%
100 to 149	30	126	65,149	517	14,199	3.8%
150 to 199	14	163	65,286	401	763	1.7%
200 to 299	28	248	150,964	609	44,186	7.3%
300 to 399	17	344	172,851	502	54,806	7.2%
400 to 599	23	484	300,386	621	98,441	10.6%
600 & over	27	1,016	515,889	508	137,292	9.1%

This year, net farm income per cow did not exhibit the usual increase as herd size increased. All herd size categories saw an increase in operating cost of producing milk from a year earlier. 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 23,033 pounds of milk sold per cow, farms in the largest herd size group averaged 17 percent more milk output per cow than the average of all herds in the summary with less than 600 cows.

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).

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 4 percent of the 89 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 11 percent of the herds milking more often than 2X, the 200-299 cow herds reported 50 percent, 300-399 cow herds reported 59 percent, 400-599 cow herds reported 87 percent, and the 600 cow and larger herds reported 89 percent exceeding the 2X milking frequency.

TABLE 8-2. COWS PER FARM AND RELATED FARM FACTORS
228 New York Dairy Farms, 2001

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	39	16,585	3,663	3.4	5.8	$8,772	$10.85	$18.96
50 to 74	62	17,763	4,682	3.7	7.5	9,171	11.64	18.42
75 to 99	87	18,678	5,302	3.6	8.4	7,907	11.70	17.16
100 to 149	126	18,733	5,959	2.8	7.4	7,823	12.25	17.07
150 to 199	163	20,253	6,085	3.9	8.7	8,906	12.47	17.60
200 to 299	248	21,052	8,250	2.5	7.6	6,625	11.96	15.54
300 to 399	344	21,511	9,046	2.1	7.2	6,671	12.50	15.83
400 to 599	484	22,489	9,935	2.0	7.3	6,138	11.75	14.43
600 & over	1,016	23,033	11,472	1.8	6.7	6,346	12.48	15.01

Bovine somatotropin (bST), was used to a greater extent on the large herd farms. bST was used sometime during 2001 on 24 percent of the herds with less than 100 cows, 60 percent of the farms with 100 to 299 cows and on 85 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 967,000 pounds of milk sold per worker while the farms with less than 100 cows averaged less than 476,000 pounds per worker.

In achieving the highest productivity per cow and per worker, the largest farms had the fewest crop acres per cow and below average forage dry matter harvested per cow. The farms with 400 to 599 cows had the most efficient use of farm capital with an average investment of $6,138 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 23 farms with 400 to 599 cows held their average total costs of producing milk to $14.43 per hundredweight, $2.52 below the $16.95 average for the remaining 205 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 $2.14 per hundredweight above the average of the other 205 DFBS farms.

Ten-Year Comparisons

The total cost of producing milk on DFBS farms has increased $1.15 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 and 2001. Over the past 10 years milk sold per cow has increased 16 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, 1992 to 2001

Item	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Operating Expenses										
Hired labor	$1.80	$1.86	$1.80	$1.78	$1.89	$1.97	$2.06	$2.14	$2.25	$2.41
Purchased feed	3.92	3.85	3.89	3.71	4.73	4.63	4.18	3.96	3.91	4.25
Machinery repair, vehicle expense & rent	.97	.93	.92	.85	1.02	.94	1.12	1.18	1.06	1.21
Fuel, oil & grease	.35	.34	.31	.27	.31	.28	.25	.24	.34	.32
Replacement livestock	.21	.17	.21	.15	.19	.18	.24	.24	.23	.20
Breeding fees	.18	.19	.17	.15	.15	.15	.16	.17	.17	.19
Veterinary & medicine	.35	.37	.40	.39	.42	.41	.45	.47	.51	.54
Milk marketing	.63	.64	.67	.70	.59	.52	.53	.49	.69	.63
Other dairy expenses	.70	.72	.88	.92	.99	1.05	1.09	1.13	1.16	1.26
Lime & fertilizer	.37	.36	.33	.31	.32	.33	.35	.35	.29	.33
Seeds & plants	.21	.20	.19	.19	.20	.21	.22	.20	.19	.20
Spray & other crop expense	.21	.20	.20	.20	.21	.23	.24	.24	.22	.25
Land, building & fence repair	.24	.21	.21	.16	.23	.19	.27	.27	.21	.26
Taxes	.35	.34	.29	.27	.26	.23	.21	.21	.20	.21
Insurance	.22	.20	.18	.17	.18	.16	.17	.16	.16	.14
Utilities (farm share)	.38	.39	.38	.38	.39	.35	.32	.31	.32	.33
Interest paid	.88	.80	.81	.94	.91	.90	.89	.83	.95	.82
Misc. (including rent)	.44	.41	.40	.40	.41	.38	.41	.44	.45	.42
Total Operating Expenses	$12.41	$12.18	$12.24	$11.94	$13.40	$13.12	$13.15	$13.02	$13.31	$13.98
Less: Nonmilk cash receipts	1.67	1.65	1.30	1.15	1.07	1.14	1.18	1.44	1.83	1.49
Increase in grown feed & supplies	.23	.13	.25	.14	.15	.07	.25	.25	0.11	0.10
Increase in livestock	.08	.22	.21	.25	.18	.15	.22	.11	0.06	0.52
OPERATING COST OF MILK PRODUCTION	$10.43	$10.18	$10.47	$10.40	$12.00	$11.76	$11.50	$11.22	$11.31	$11.87
Overhead Expenses										
Depreciation: machinery & buildings	$1.19	$1.17	$1.13	$1.07	$1.04	$0.95	$1.08	$1.14	$1.20	$1.30
Unpaid labor	.16	.15	.12	.12	.13	.13	.11	.11	.10	.10
Operator(s) labor [a]	.99	1.00	.86	.92	.88	.79	.74	.80	.79	.74
Operator(s) management (5% of cash receipts)	.76	.74	.73	.70	.80	.73	.82	.83	.76	.87
Interest on farm equity capital (5%)	1.11	1.11	1.00	.94	.94	.87	.85	.86	.88	.91
Total Overhead Expenses	$4.21	$4.17	$3.84	$3.75	$3.79	$3.47	$3.60	$3.74	$3.73	$3.92
TOTAL COST OF MILK PRODUCTION	$14.64	$14.35	$14.31	$14.15	$15.79	$15.23	$15.10	$14.96	$15.04	$15.79
AVERAGE FARM PRICE OF MILK	$13.58	$13.14	$13.44	$13.03	$14.98	$13.65	$15.60	$14.91	$13.38	$15.98
Return per cwt. to operator labor, capital & mgmt.	$1.80	$1.64	$1.72	$1.44	$1.81	$0.81	$2.91	$2.44	$0.77	$2.71
Rate of return on farm equity capital	0.2%	-0.4%	0.6%	-1.0%	0.7%	-4.1%	8.0%	4.7%	-4.4%	6.0%

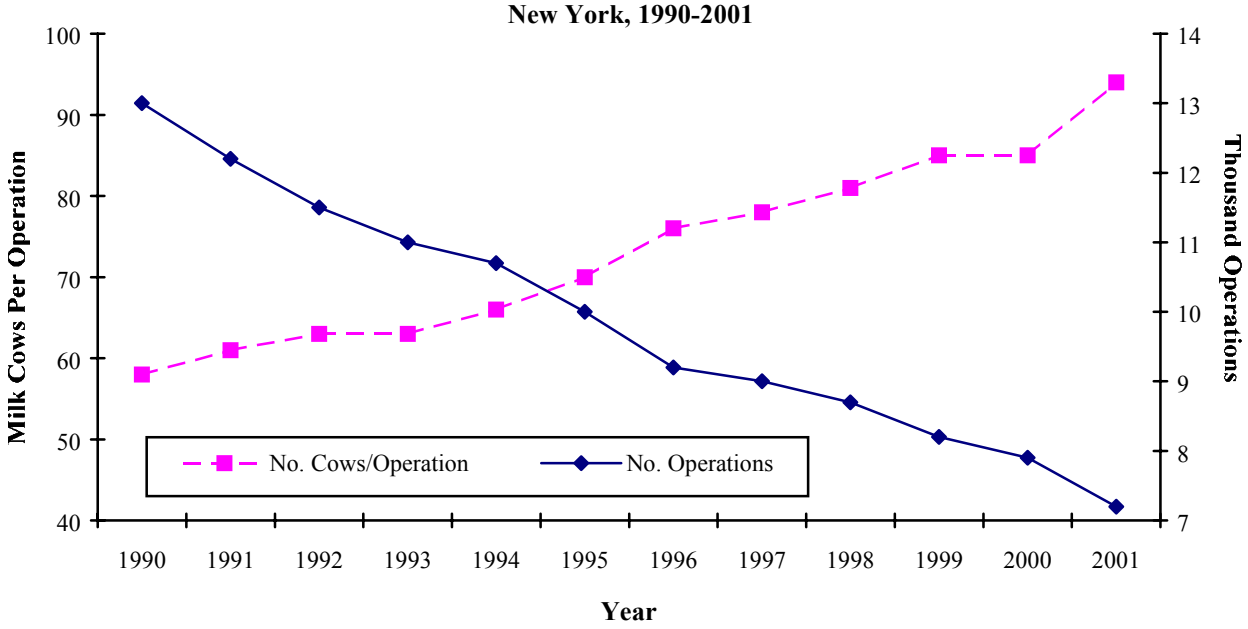
[a]1991 = $1,300/month, 1992 = $1,350/month, 1993 = $1,400/month, 1994 and 1995 = $1,450/month, 1996 = $1,500/month, 1997 = $1,550/month, 1998 = $1,600/month, 1999 = $1,800/month, 2000 = $1,900/month, and 2001 = $2,000/month of operator labor.

TABLE 8-4. TEN YEAR COMPARISON: SELECTED BUSINESS FACTORS
New York Dairy Farms, 1992 to 2001

Item	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Number of farms	357	343	321	321	300	253	305	314	294	228
Cropping Program										
Total tillable acres	346	351	392	399	415	462	497	516	566	618
Tillable acres rented	135	135	159	166	183	207	232	234	262	290
Hay crop acres	171	182	195	197	198	219	239	248	274	302
Corn silage acres	98	96	110	117	120	156	175	186	192	210
Hay crop, tons DM/acre	2.8	2.7	3.0	2.8	2.8	2.5	3.1	2.9	3.3	2.8
Corn silage, tons/acre	14.5	14.9	16.4	15.6	15.9	16.1	18.0	16.3	15.1	16.5
Fert. & lime exp./tillable acre	$25	$25	$25	$25	$26	$28	$31	$32	$27	$32
Machinery cost/cow	$444	$430	$438	$402	$450	$429	$471	$502	$513	$554
Dairy Analysis										
Number of cows	123	130	151	160	167	190	210	224	246	277
Number of heifers	96	100	116	121	124	139	155	164	186	207
Milk sold, cwt.	23,130	24,448	30,335	32,362	33,504	39,309	43,954	47,932	52,871	60,290
Milk sold/cow, lbs.	18,789	18,858	20,091	20,269	20,113	20,651	20,900	21,439	21,516	21,762
Purchased dairy feed/cwt. milk	$3.91	$3.85	$3.89	$3.70	$4.73	$4.63	$4.18	$3.96	$3.91	$4.25
Purc. grain & conc. as % of milk receipts	28%	29%	28%	27%	30%	33%	26%	25%	27%	25%
Purc. feed & crop exp/cwt. milk	$4.70	$4.61	$4.61	$4.39	$5.46	$5.39	$5.00	$4.75	$4.61	$5.03
Capital Efficiency										
Farm capital/cow	$6,587	$6,462	$6,398	$6,264	$6,218	$6,196	$6,161	$6,368	$6,535	$6,755
Real estate/cow	$3,015	$2,932	$2,859	$2,763	$2,701	$2,650	$2,537	$2,562	$2,615	$2,713
Mach. invest./cow	$1,203	$1,165	$1,150	$1,098	$1,107	$1,108	$1,118	$1,163	$1,225	$1,222
Asset turnover ratio	.47	.46	.50	.49	.55	.52	0.61	0.59	0.54	0.63
Labor Efficiency										
Worker equivalent	3.60	3.68	4.02	4.40	4.48	5.01	5.35	5.71	6.11	6.72
Operator/manager equivalent	1.41	1.45	1.49	1.56	1.56	1.60	1.62	1.76	1.83	1.94
Milk sold/worker, lbs.	641,893	664,868	755,178	736,269	747,861	784,604	821,565	839,432	865,325	897,167
Cows/worker	34	35	38	36	37	38	39	39	40	41
Labor cost/cow	$552	$568	$558	$570	$582	$598	$609	$653	$674	$706
Profitability & Financial Analysis										
Labor & mgmt. income/operator	$11,254	$9,000	$14,789	$10,346	$18,651	$-1,424	$55,917	$42,942	$-2,908	$45,479
Farm net worth, end year	$515,215	$542,126	$608,749	$624,261	$648,186	$685,665	$798,297	$865,626	$942,881	$1,181,055
Percent equity	64%	65%	63%	61%	61%	57%	59%	58%	57%	60%

Milk Cow Operations and Milk Cow Inventory

FIGURE 8-1. NUMBER OF OPERATIONS WITH MILK COWS AND AVERAGE NUMBER OF MILK COWS PER OPERATION
New York, 1990-2001



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 5,800 less milk cow operations in 2001 than there were in 1990. The average number of milk cows per operation has increased by 36 cows, or 62 percent over the same period. On January 1, 2002, 29 percent of the total milk cows were in herds with 50-99 head, 61 percent were in herds with over 100 milk cows, and 10 percent were in herds with less than 50 head.

TABLE 8-5. MILK COW OPERATIONS AND MILK COW INVENTORY by Herd Size, 1990 to 2001

	MILK COW OPERATIONS BY HERD SIZE & TOTAL, 1990-2001 (Number of Milk Cows in Herd)							MILK COWS ON FARMS, JAN. 1 BY HERD SIZE & TOTAL, 1991-2002 (Number of Milk Cows in Herd)					
Year	1-29	30-49	50-99	100-199[a]	200 plus	Total	Year	1-29	30-49	50-99	100-199[a]	200 plus	Total
	(Number of Operations)							(Thousand Head)					
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	63	203	196	224	700
2000	1,400	1,500	3,000	1,400	600	7,900	2001	13	54	194	181	228	670
2001	1,300	1,200	2,800	1,300	600	7,200	2002	13	54	196	182	230	675

[a]100 plus category prior to 1993.
Source: NYASS, New York Agricultural Statistics, 2001-2002.

TABLE 8-6. COMPARISON OF FARM BUSINESS SUMMARY DATA
Same 64 New York Dairy Farms, 1992 - 2001

Selected Factors	1992	1993	1994	1995
Milk receipts per cwt. milk	$13.67	$13.31	$13.58	$13.15
Size of Business				
Average number of cows	197	215	232	253
Average number of heifers	149	163	177	189
Milk sold, cwt.	38,366	42,035	48,823	53,916
Worker equivalent	5.15	5.31	5.74	6.21
Total tillable acres	478	496	515	546
Rates of Production				
Milk sold per cow, lbs.	19,486	19,595	21,032	21,337
Hay DM per acre, tons	2.9	2.9	3.2	2.8
Corn silage per acre, tons	14	14	16	14
Labor Efficiency				
Cows per worker	38	40	40	41
Milk sold per worker, lbs.	745,031	791,394	850,641	868,601
Cost Control				
Grain & concen. purchased as % of milk sales	28%	28%	27%	27%
Dairy feed & crop expense per cwt. milk	$4.93	$4.71	$4.66	$4.42
Operating cost of producing cwt. milk	$10.43	$10.10	$10.13	$10.48
Total cost of producing cwt. milk	$14.91	$14.36	$14.19	$14.33
Hired labor cost per cwt.	$1.56	$1.56	$1.54	$1.54
Interest paid per cwt.	$0.85	$0.83	$0.81	$0.91
Labor & machinery costs per cow	$1,024	$1,014	$1,032	$1,019
Replacement livestock expense	$6,410	$8,556	$8,948	$6,378
Expansion livestock expense	$19,549	$15,515	$14,652	$10,143
Capital Efficiency				
Farm capital per cow	$7,122	$7,051	$6,970	$6,847
Machinery & equipment per cow	$1,291	$1,280	$1,237	$1,224
Real estate per cow	$3,334	$3,274	$3,185	$3,102
Livestock investment per cow	$1,518	$1,525	$1,551	$1,525
Asset turnover ratio	0.49	0.48	0.50	0.47
Profitability				
Net farm income without appreciation	$85,431	$78,245	$106,361	$97,634
Net farm income with appreciation	$108,252	$98,784	$125,646	$109,887
Labor & management income per operator/manager	$35,779	$26,901	$41,723	$33,596
Rate return on:				
Equity capital with appreciation	5.7%	2.1%	7.6%	0.5%
All capital with appreciation	5.2%	4.8%	6.1%	4.3%
All capital without appreciation	3.2%	3.2%	4.8%	3.7%
Financial Summary, End Year				
Farm net worth	$789,569	$824,585	$892,732	$941,919
Change in net worth with appreciation	$59,677	$41,568	$66,952	$53,316
Debt to asset ratio	0.35	0.36	0.36	0.36
	$2,335	$2,370	$2,326	$2,304

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 64 New York Dairy Farms, 1992 - 2001

1996	1997	1998	1999	2000	2001
$15.10	$13.89	$15.86	$15.19	$13.66	$16.16
270	286	301	313	330	356
197	215	236	244	258	279
57,566	62,824	65,623	70,777	74,487	79,473
6.49	6.93	7.19	7.51	7.78	8.28
584	606	627	664	689	713
21,350	21,937	21,837	22,605	22,560	22,346
2.7	2.5	2.9	2.7	3.0	2.7
15	15	16	15	13	14
42	41	42	42	42	43
886,863	907,090	912,177	942,365	957,354	959,814
29%	31%	25%	23%	26%	24%
$5.35	$5.31	$5.04	$4.60	$4.57	$5.01
$11.76	$11.68	$11.06	$10.80	$10.65	$12.04
$15.68	$15.53	$14.96	$14.95	$14.83	$16.78
$1.63	$1.61	$1.64	$1.70	$1.80	$1.92
$0.86	$0.91	$0.86	$0.77	$0.86	$0.73
$1,088	$1,071	$1,131	$1,252	$1,274	$1,373
$7,852	$9,012	$14,092	$17,691	$17,590	$16,156
$15,633	$15,398	$11,382	$18,801	$33,340	$28,761
$6,835	$6,909	$6,904	$7,204	$7,377	$7,709
$1,253	$1,281	$1,297	$1,384	$1,445	$1,502
$3,046	$3,075	$3,014	$3,077	$3,119	$3,313
$1,500	$1,495	$1,502	$1,556	$1,619	$1,732
0.53	0.48	0.58	0.55	0.51	0.57
$125,807	$76,062	$210,794	$202,109	$52,865	$169,558
$137,788	$81,472	$240,403	$234,159	$100,099	$271,980
$55,057	$9,146	$93,342	$93,482	$-22,817	$54,493
3.3%	-22.2%	30.5%	11.2%	3.9%	11.6%
6.0%	2.3%	10.9%	9.0%	5.2%	9.0%
5.1%	2.0%	9.5%	7.2%	3.0%	5.2%
$1,012,873	$1,009,148	$1,164,560	$1,286,567	$1,275,901	$1,466,242
$77,414	$-7,357	$160,750	$120,482	$-10,811	$178,549
0.36	0.39	0.36	0.34	0.35	0.33
$2,342	$2,466	$2,296	$2,318	$2,331	$2,363

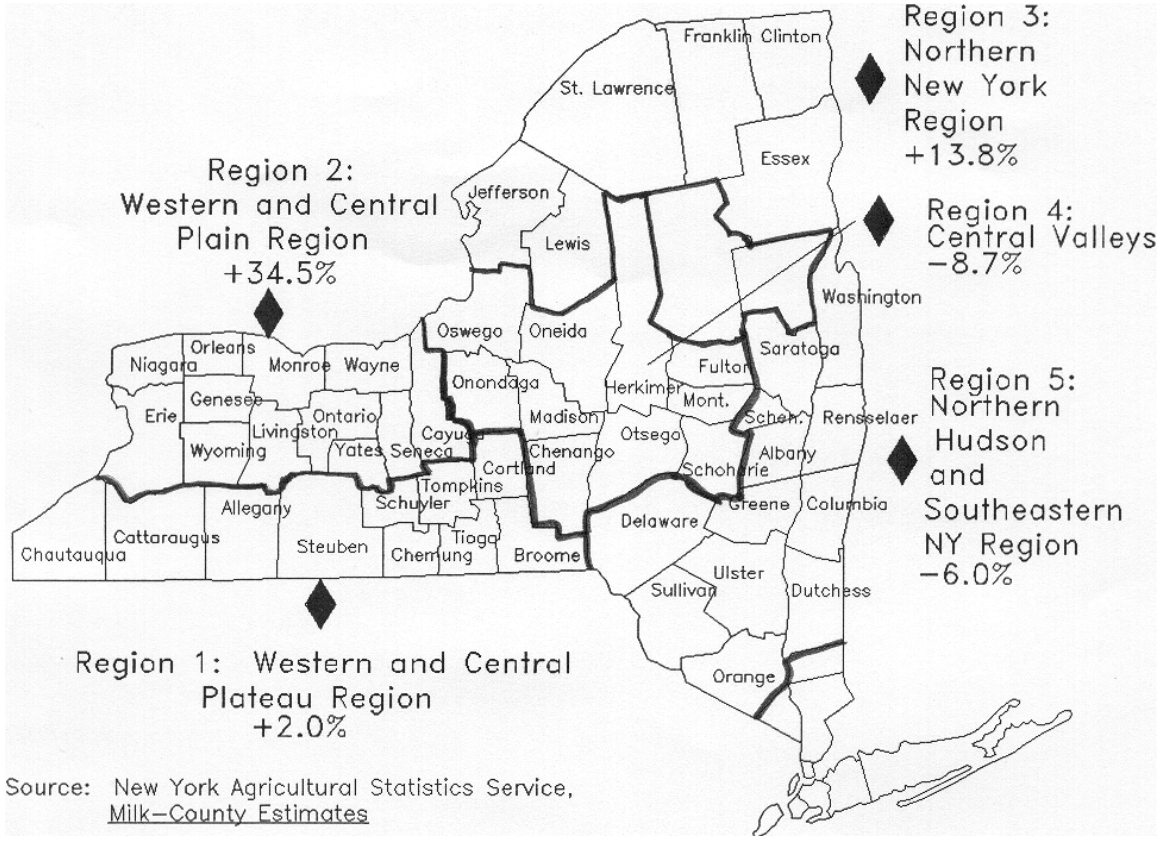
Debt to asset ratio and debt per cow have remained stable while farm net worth almost doubled. During this time, crop yields have fluctuated, largely due to weather. Purchased grain and concentrate as a percent of milk sales has varied only from 23 to 31 percent, with the high being in 1997 and the low in 1999.

TABLE 8-7. COMPARISON OF DAIRY FARM BUSINESS DATA BY REGION
228 New York Dairy Farms, 2001

Item	Western & Central Plateau Region	Western & Central Plain Region	Northern New York	Central Valleys	No. Hudson & South-eastern New York
Number of farms	35	63	36	22	72
ACCRUAL EXPENSES					
Hired labor	$74,115	$303,947	$112,914	$100,856	$70,495
Feed	136,468	490,806	239,806	185,730	138,885
Machinery	58,585	161,367	84,416	69,228	59,090
Livestock	82,829	331,421	136,387	146,534	96,510
Crops	26,713	82,780	44,170	35,560	30,634
Real estate	28,355	76,119	39,246	40,149	24,185
Other	51,599	172,075	76,423	76,448	43,711
Total Operating Expenses	$458,663	$1,618,513	$733,361	$654,507	$463,510
Expansion livestock	9,137	35,792	21,851	21,130	10,142
Machinery depreciation	28,847	76,344	44,125	48,817	22,061
Building depreciation	18,799	68,181	36,869	31,646	11,313
Total Accrual Expenses	$515,446	$1,798,830	$836,206	$756,100	$507,026
ACCRUAL RECEIPTS					
Milk sales	$539,001	$1,810,240	$893,460	$775,158	$522,055
Livestock	42,664	149,596	86,047	66,741	43,224
Crops	1,250	7,619	16,387	38,251	12,336
All other	17,419	61,969	22,546	33,963	18,955
Total Accrual Receipts	$600,334	$2,029,421	$1,018,439	$914,113	$596,569
PROFITABILITY ANALYSIS					
Net farm income (w/o appreciation)	$84,887	$230,591	$182,233	$158,013	$89,543
Net farm income (w/ appreciation)	$142,586	$404,631	$273,630	$251,475	$126,742
Labor & management income	$41,096	$140,146	$125,173	$109,045	$41,115
Number of operators	1.60	1.95	1.68	1.77	1.76
Labor & mgmt. income/operator	$25,685	$71,870	$74,508	$61,607	$23,361
BUSINESS FACTORS					
Worker equivalent	4.60	10.82	6.20	5.11	4.91
Number of cows	164	517	248	226	152
Number of heifers	129	385	191	164	112
Acres of hay crops[a]	225	388	372	244	246
Acres of corn silage[a]	117	364	224	154	130
Total tillable acres	432	944	661	532	429
Pounds of milk sold	3,325,138	11,461,798	5,540,995	4,721,669	3,233,027
Pounds of milk sold/cow	20,233	22,162	22,348	20,880	21,295
Tons hay crop dry matter/acre	2.7	3.4	2.3	3.1	2.3
Tons corn silage/acre	15.5	16.4	15.4	16.4	18.1
Cows/worker	36	48	40	44	31
Pounds of milk sold/worker	722,856	1,059,316	893,709	924,006	658,458
% grain & conc. of milk receipts	24%	25%	26%	22%	25%
Feed & crop expense/cwt. milk	$4.91	$5.00	$5.13	$4.68	$5.24
Fertilizer & lime/crop acre	$25.17	$33.27	$25.67	$41.23	$35.62
Machinery cost/tillable acre	$229	$281	$221	$248	$216

[a]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



Source: New York Agricultural Statistics Service, Milk–County Estimates

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

Item	Region[a] 1	2	3	4	5
Milk Production[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%
2001 Cost of Producing Milk[c]			($ per hundredweight milk)		
Operating cost	$12.22	$12.52	$11.37	$11.37	$12.35
Total cost	16.32	15.22	14.81	15.46	16.25
Average price received	16.21	15.79	16.12	16.42	16.15
Return per cwt. to operator labor, management & capital	$2.41	$1.97	$3.18	$3.28	$2.52

[a]See Figure 8-2 for region descriptions.
[b]Source: New York Agricultural Statistics Service, Milk-County Estimates. 2001 data were not available.
[c]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, 1991 - 2001

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)
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
2001	176	270	92.20	1.260	22,000	8.72

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 AND INDICES OF NEW YORK DAIRY FARM INVENTORY ITEMS, 1986 - 2001

	Dairy Cows		Machinery*	Farm Real Estate	
Year	Value/Head	1977=100	1977=100	Value/Acre	1977=100
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	1,250	253	301	1,410	240
2001	1,600	323	312	1,500	256

SOURCE: NYASS, New York Agricultural Statistics and New York Crop and Livestock Report. USDA, ASB, Agricultural Prices.
*United States average; 1995 - 2001 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 228 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
228 New York Dairy Farms, 2001

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
22.2	1,102	25,438,687	25,729	5.2	23	62	1,283,348
12.3	541	12,563,997	24,026	3.9	19	50	1,083,667
9.0	359	7,834,392	23,041	3.4	18	45	962,132
6.5	256	5,274,683	22,088	3.0	18	40	833,763
4.7	171	3,340,082	21,175	2.7	17	37	753,431
3.9	125	2,344,530	20,106	2.3	16	33	672,647
3.2	92	1,719,337	18,467	2.0	15	31	555,322
2.7	74	1,301,430	16,707	1.8	13	26	474,968
2.1	58	1,003,069	15,187	1.5	12	23	398,143
1.5	40	597,458	12,002	1.0	9	19	296,530

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
$379	14%	$308	$848	$513	$3.18
547	20	415	1,061	741	4.22
647	22	465	1,151	865	4.55
716	23	511	1,242	943	4.76
787	24	564	1,311	1,003	4.90
833	25	603	1,379	1,043	5.08
875	27	643	1,461	1,103	5.40
941	28	698	1,580	1,165	5.74
1,012	31	766	1,676	1,246	6.09
1,155	36	1.026	2,051	1,445	7.28

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.

TABLE 8-11. (CONTINUED) FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
228 New York Dairy Farms, 2001

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.
$4,157	$18.09	$1,252	$8.04	$2,161	$13.06
3,791	16.78	1,736	9.81	2,747	14.22
3,632	16.49	1,970	10.63	2,940	14.92
3,512	16.24	2,182	11.11	3,110	15.48
3,362	16.03	2,320	11.58	3,251	15.99
3,193	15.90	2,462	12.22	3,392	16.53
3,005	15.77	2,608	12.85	3,517	17.32
2,755	15.61	2,800	13.37	3,676	18.27
2,470	15.36	3,012	14.16	3,872	19.95
1,953	14.77	3,314	16.33	4,261	24.40

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
$693,355	$1,291	0.34	$1,097,490	$1,848	$534,835	$317,764
298,284	955	0.25	456,774	1,386	203,177	117,915
192,627	796	0.22	301,923	1,190	127,620	65,914
118,119	694	0.18	200,348	1,021	68,113	42,908
84,504	595	0.16	142,381	895	38,822	29,023
61,836	507	0.14	97,721	785	25,205	18,332
43,582	397	0.11	70,737	662	12,709	8,845
31,429	274	0.08	49,884	558	-2,066	-1,574
13,639	135	0.04	35,789	394	-23,226	-19,328
-16,775	-150	-0.07	5,443	48	-77,610	-67,313

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
228 New York Dairy Farms, 2001

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
$103	$1,168	9.20	13.72	3%	$287	47%	27.49
233	819	2.21	2.67	7	963	28	3.78
324	730	1.69	2.21	10	1,551	22	2.80
401	663	1.40	1.79	12	1,889	17	2.14
448	586	1.22	1.53	14	2,255	13	1.72
510	524	1.09	1.27	16	2,670	10	1.52
572	455	0.92	1.05	17	3,126	7	1.31
610	387	0.77	0.84	19	3,528	2	1.08
680	267	0.51	0.60	23	3,968	-4	0.83
876	-95	-0.81	-0.27	32	5,122	-16	0.39

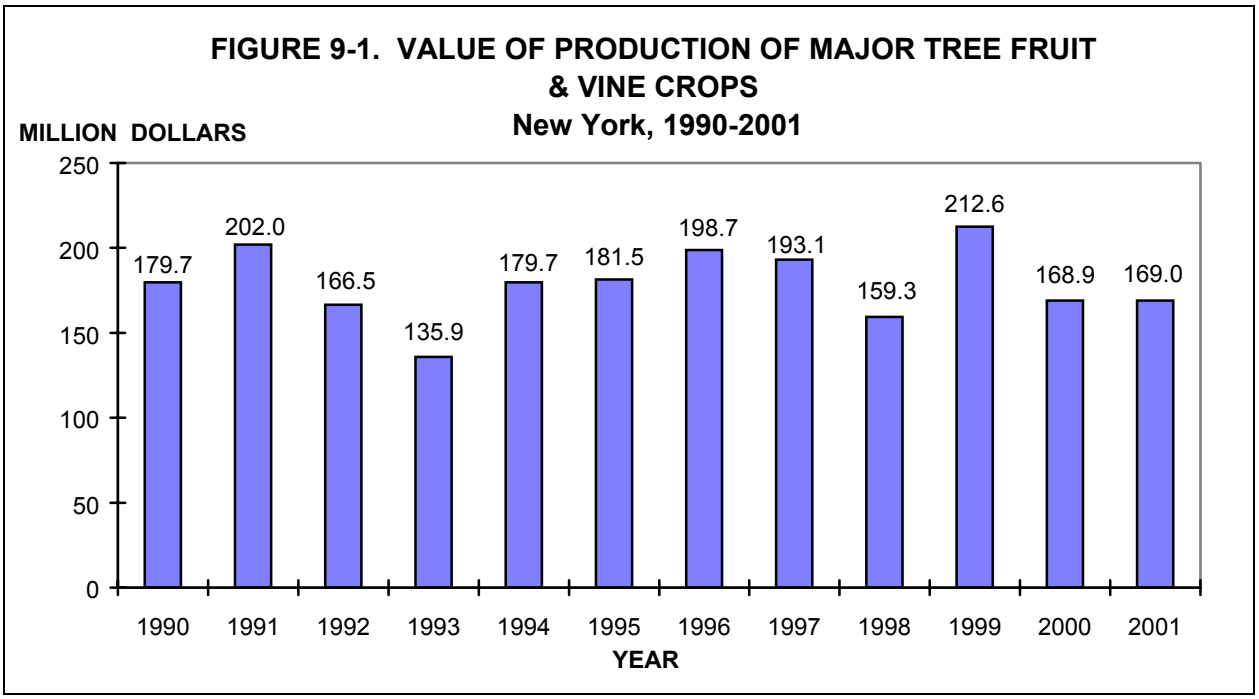
Solvency				Profitability	
		Debt/Asset Ratio		Percent Rate of Return with appreciation on:	
Leverage Ratio[a]	Percent Equity	Current & Intermediate	Long Term	Equity	Investment[b]
0.03	97%	0.03	0.00	43%	23%
0.13	89	0.11	0.00	28	18
0.25	80	0.17	0.05	21	15
0.35	75	0.25	0.16	15	12
0.46	69	0.32	0.27	12	10
0.62	63	0.38	0.34	9	8
0.81	56	0.43	0.42	6	6
1.01	50	0.50	0.53	3	4
1.30	44	0.59	0.70	-1	1
3.28	30	0.88	1.04	-14	-4

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
.89	$1,350	$548	$4,671	$819,759	$4,289,891
.75	1,960	830	5,616	318,049	2,064,561
.67	2,261	961	6,105	187,919	1,439,486
.62	2,486	1,102	6,448	125,567	1,131,698
.58	2,722	1,288	6,855	95,246	885,892
.53	2,985	1,422	7,359	65,194	701,899
.48	3,552	1,624	8,045	43,718	581,273
.43	4,057	1,916	8,808	28,624	433,461
.36	4,748	2,325	9,966	12,411	302,901
.27	7,714	3,251	13,321	-45,542	153,069

[a]Dollars of debt per dollar of equity, computed by dividing total liabilities by total equity.
[b]Return on all farm capital (no deduction for interest paid) divided by total farm assets.

Chapter 9. Fruit

Gerald B. White, Professor



Source: New York Agricultural Statistics, 2001-2002

Source: New York Agricultural Statistics, 2001-2002

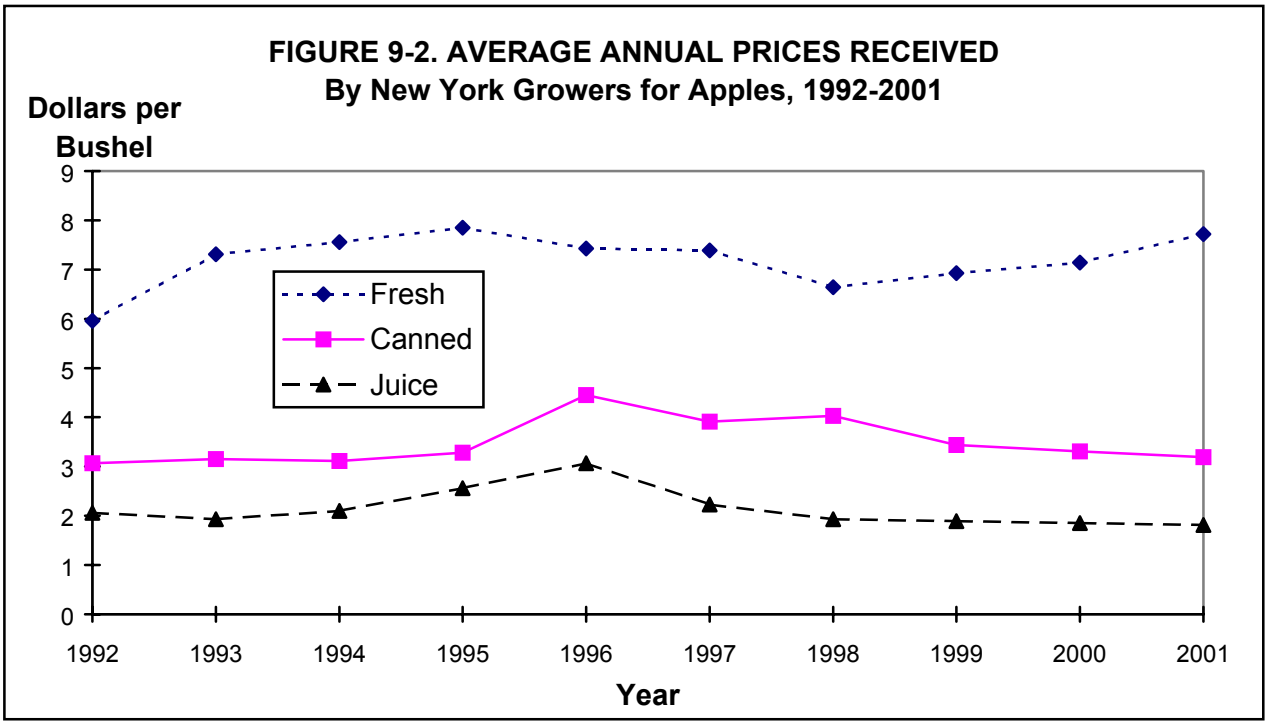


TABLE 9-1. COMMERCIAL NONCITRUS FRUIT PRODUCTION
New York and United States

Fruit	New York				United States			
	1999	2000	2001	2002*	1999	2000	2001	2002*
	thousand tons							
Apples	630	498	500	325	5,315	5,332	4,815	4,455
Grapes	205	154	149	145	6,236	7,688	6,553	7,097
Tart Cherries	9	8	7	6	128	144	178	30
Pears	13	15	11	10	1,015	967	1,006	946
Peaches	7	6	6	5	1,263	1,300	1,221	1,266
Sweet Cherries	1	1	1	1	216	207	230	204
Total New York's Major Fruit Crops	865	682	674	492	14,173	15,638	14,003	13,998

*indicated

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

Fruit	New York				United States			
	1998	1999	2000	2001	1998	1999	2000	2001
	dollars per ton							
Apples								
Fresh	316	330	340	368	346	426	356	458
Processed	160	134	130	133	95	128	102	106
All Sales*	228	228	234	238	244	300	254	314
Grapes	311	286	298	302	454	469	403	446
Tart Cherries	360	314	426	392	290	436	374	372
Pears	375	388	353	401	291	294	264	282
Peaches	832	908	800	622	384	380	390	424
Sweet Cherries	2,070	1,490	1,370	1,530	1,100	1,100	1,340	1,230

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

Fruit	New York				United States			
	1998	1999	2000	2001	1998	1999	2000	2001
	million dollars							
Apples								
Fresh	66.4	97.4	78.2	77.3	1,111	1,278	1,113	1,272
Processed	43.2	42.9	30.9	34.6	206	286	212	206
All Sales*	109.6	140.2	109.1	111.9	1,316	1,564	1,336	1,477
Grapes	38.9	58.4	45.9	45.0	2,640	2,927	3,096	2,921
Tart Cherries	2.2	2.7	3.5	2.8	44	56	52	57
Pears	3.8	4.4	4.6	4.0	282	298	250	273
Peaches	3.5	5.4	4.5	3.7	447	463	489	496
Sweet Cherries	1.3	1.5	1.2	1.6	213	235	274	270
Total New York's Major Fruit Crops*	159.3	212.7	168.8	169.0	4,942	5,543	5,497	5,494

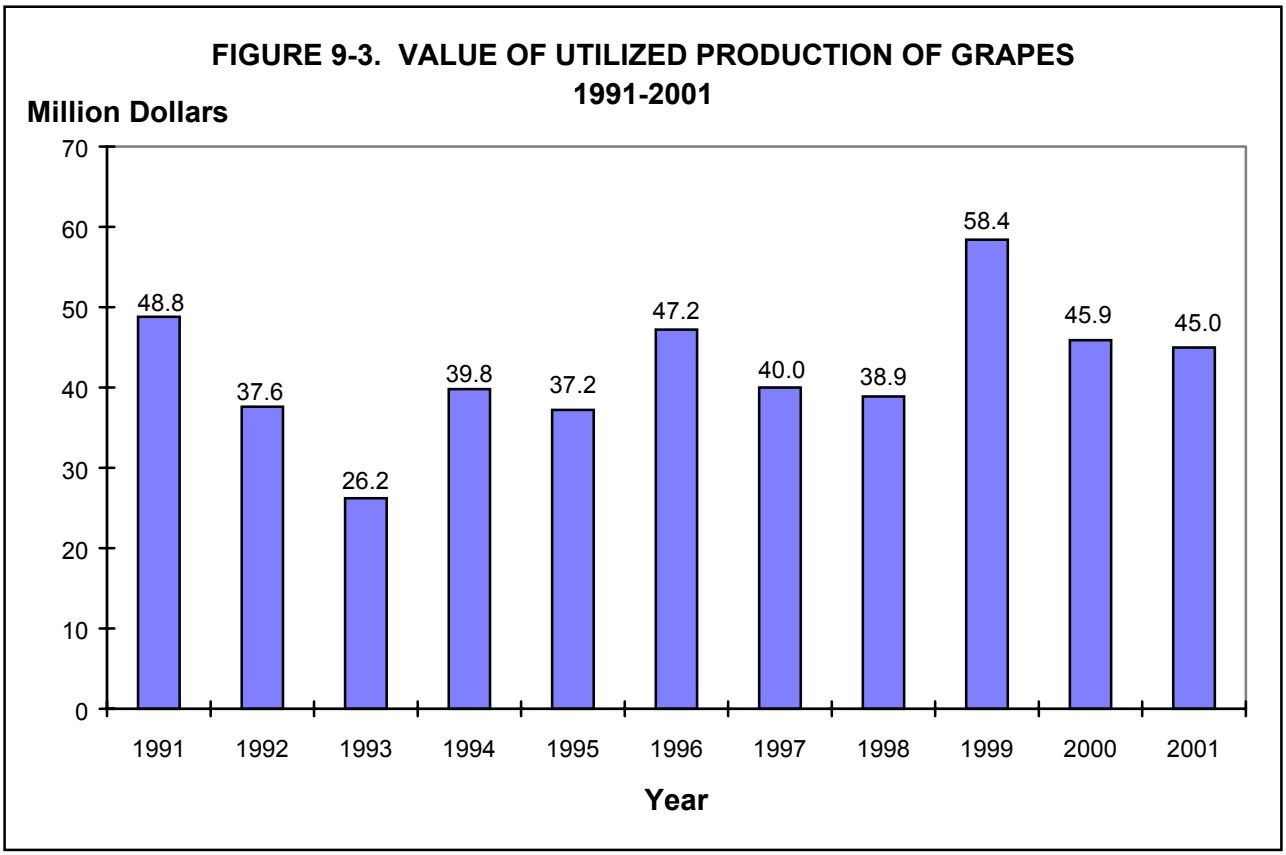
*May not add from total of fresh and processed due to rounding errors.
Source: NASS, USDA, Noncitrus Fruits and Nuts 2000 Summary, July 2002.

TABLE 9-4. APPLE PRODUCTION, UNITED STATES, 1997-2001, Five-Year Average Production, and 2002 Forecast 1,000 42-Pound Bushels

States/Regions	5-Year Average 1996-2000*	2001*	2002 USDA Estimate**	2002 Compared to USDA 5-Year Average % Change	2002 vs. 2001 % Change
Maine	1,269	1,119	1,143	-9.9	2.1
New Hampshire	795	714	548	-31.1	-23.3
Vermont	1,069	976	786	-26.5	-19.5
Massachusetts	1,171	929	762	-35.0	-17.9
Rhode Island	66	43	83	25.9	94.4
Connecticut	502	488	286	-43.1	-41.5
New York	25,929	23,810	15,476	-40.3	-35.0
New Jersey	1,262	1,310	952	-24.5	-27.3
Pennsylvania	11,381	11,429	9,286	-18.4	-18.8
Maryland	920	971	762	-17.1	-21.6
Virginia	7,333	7,381	5,952	-18.8	-19.4
West Virginia	2,690	2,738	2,262	-15.9	-17.4
North Carolina	3,986	2,857	3,571	-10.4	25.0
South Carolina	776	143	333	-57.1	133.3
Georgia	290	214	238	-18.0	11.1
Total East	**59,440**	**55,121**	**42,440**	**-28.6**	**-23.0**
Ohio	2,043	2,048	1,905	-6.8	-7.0
Indiana	1,249	1,262	952	-23.8	-24.5
Illinois	1,253	1,038	1,000	-20.2	-3.7
Michigan	23,238	20,952	12,381	-46.7	-40.9
Wisconsin	1,600	1,476	1,381	-13.7	-6.5
Minnesota	547	571	524	-4.2	-8.3
Iowa	233	210	193	-17.3	-8.0
Missouri	1,024	976	810	-20.9	-17.1
Kansas	111	95	107	-3.4	12.5
Kentucky	199	207	190	-4.1	-8.0
Tennessee	240	214	190	-20.8	-11.1
Arkansas	142	131	131	-7.7	0.0
Total Central	**31,879**	**29,181**	**19,764**	**-38.0**	**-32.3**
Total East & Central	**91,319**	**84,302**	**62,205**	**-31.9**	**-26.2**
Colorado	776	595	619	-20.2	4.0
New Mexico	148	143	NA	NA	NA
Utah	833	714	357	-57.1	-50.0
Idaho	2,643	1,905	1,667	-36.9	-12.5
Washington	131,905	121,429	128,571	-2.5	5.9
Oregon	3,805	3,381	3,333	-12.4	-1.4
California	19,371	16,667	14,286	-26.3	-14.3
Arizona	1,075	129	1,119	4.1	770.4
Total West	**160,556**	**144,962**	**149,952**	**-6.6**	**3.4**
TOTAL U.S.	**251,875**	**229,264**	**212,157**	**-15.8**	**-7.5**
TOTAL NORTHEAST	**47,055**	**44,526**	**32,345**	**-31.3**	**-27.4**

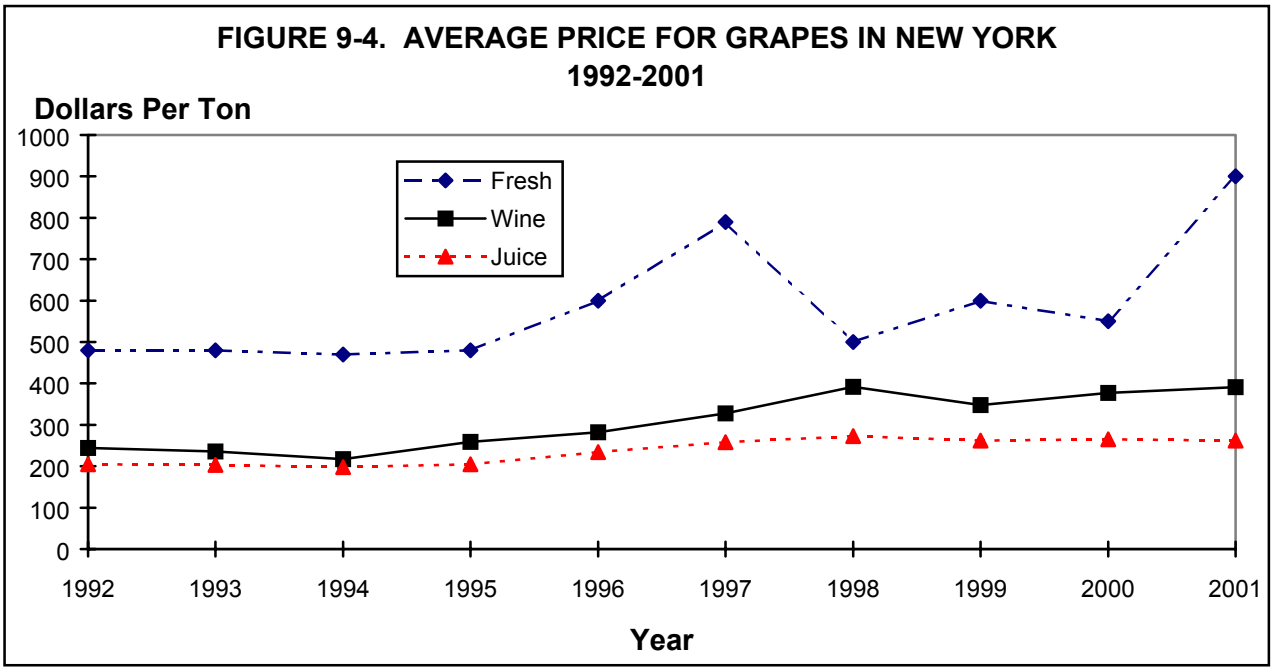
*2001 and 5-year average production from NASS, USDA, Non-Citrus Fruits and Nuts Summary July 2002.
**NASS, USDA, Crop Production, October 2002

FIGURE 9-3. VALUE OF UTILIZED PRODUCTION OF GRAPES
1991-2001



Source: New York Agricultural Statistics, 2001-2002.

FIGURE 9-4. AVERAGE PRICE FOR GRAPES IN NEW YORK
1992-2001



Source: New York Agricultural Statistics, 2001-2002.

TABLE 9-5. GRAPES: NEW YORK GROWN
Received By Wineries and Processing Plants, 1997-2001

Variety	1997	1998	1999	2000	2001	5-Year Avg.
	- tons -					
Concord	96,600	89,400	154,500	113,300	107,200	112,200
Niagara	12,800	10,000	17,200	13,900	15,100	13,800
Catawba	7,335	6,090	9,600	6,400	7,760	7,437
Elvira	4,110	3,080	4,540	3,660	3,950	3,868
Delaware	1,010	550	1.180	630	550	784
Dutchess	***	***	***	***	***	***
Ives	130	115	210	140	150	149
Aurora	3,295	4,080	4,240	4,060	2,880	3,711
de Chaunac	575	710	940	670	850	749
Baco Noir	670	890	730	720	990	800
Seyval Blanc	600	650	850	550	610	652
Cayuga White	630	840	860	740	670	748
Rougeon	585	420	660	540	680	577
Vitis Vin.(all)	3,650	4,015	4,030	4,670	4,410	4,155
Other varieties	2,010	2,160	2,460	2,020	2,200	2,170
Total, all varieties	134,000	123,000	202,000	152,000	148,000	151,800

SOURCE: New York Agricultural Statistics, 2001-2002.

TABLE 9-6. GRAPES: PRICES PAID FOR NEW YORK GROWN GRAPES PROCESSED 1997-2001

Variety	1997	1998	1999	2000	2001	5-Year Avg.
American Varieties						
Catawba	220	245	243	246	252	241
Concord	257	276	261*	263*	264*	264
Delaware	230	270	279	272	259	262
Dutchess	***	***	***	***	***	***
Elvira	215	240	238	244	250	237
Ives	300	370	384	385	381	364
Niagara	233	265	271*	248*	240*	251
French American Hybrid						
Aurore	220	245	248	240	244	239
Baco Noir	330	395	409	405	442	396
Cayuga White	335	390	401	412	398	387
de Chaunac	315	375	285	391	375	348
Rougeon	320	380	404	384	382	374
Seyval Blanc	335	360	346	392	377	362
Vitis Vinifera						
All varieties	1,240	1,230	1,290	1,310	1,316	1,277
TOTAL	281	308	283	295	298	293

*Preliminary estimates of future payments by cooperatives have been included based upon historical data.
SOURCE: Fruit, 975-2-02 NY Agricultural Statistics Service.

GRAPE AND WINE SITUATION

Reprinted from "Finger Lakes Vineyard Notes, Newsletter No. 11, November 1, 2002, Finger Lakes Grape Program."

Grape Production

The national grape crop is expected to be 7.1 million tons. If realized, this would be nine percent above last year's crop and about six percent above the average of the last five years. (Note: The second estimate, released in October, was 7.3 million tons.) California, which accounts for over 90 per cent of US production, is up about nine per cent from last year. The eastern US crop was hit hard by freeze damage; Michigan's vineyards were decimated by freeze damage for the second straight year, and the crop is expected to be only 20 thousand tons (normal production is 60 thousand tons). Pennsylvania's estimated production fell by 27 percent. There are, however, ample supplies in the western United States, and continued increase in bearing acreage in California, Washington, and other large producers in the world such as Australia, hangs over the marketplace as grapes planted in the last five years come into production.

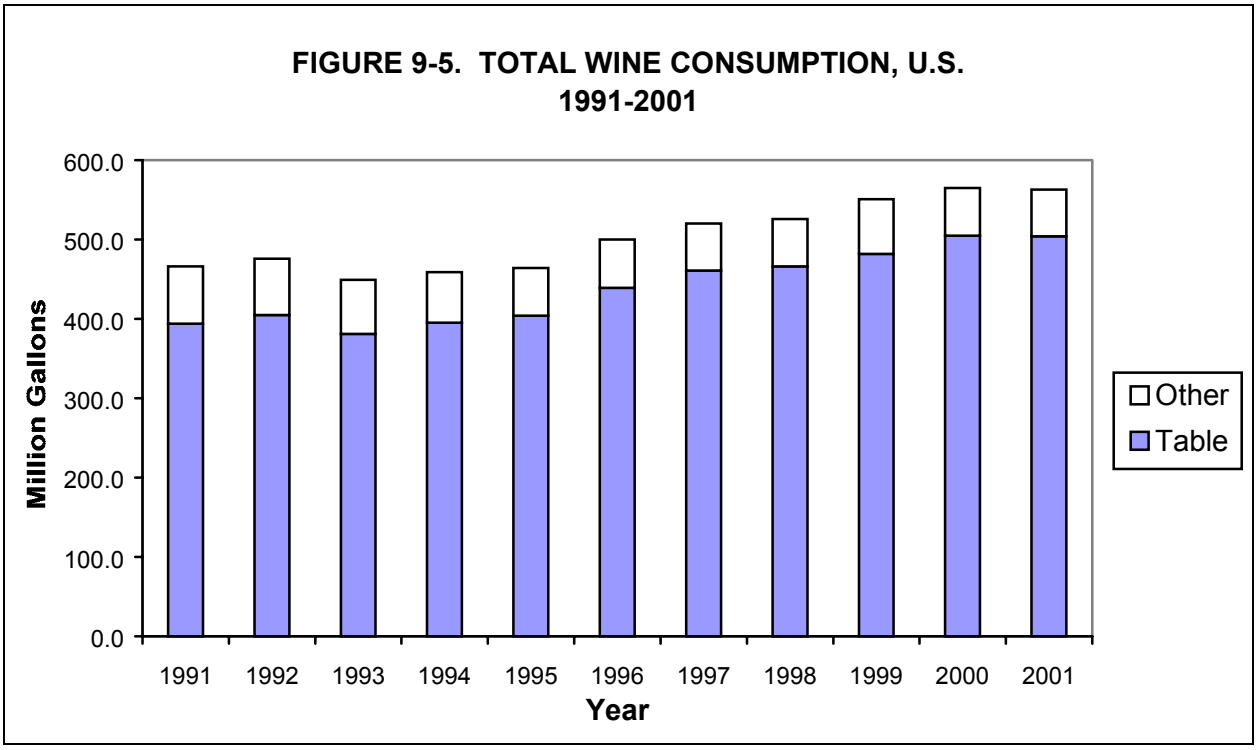
There is a glut in California. At the time this article was written, industry estimates of wine grapes to be unharvested in California ranged as high as 75,000 tons. (As a point of reference, the New York industry utilizes on average about 42,000 tons of its grapes annually for wine.)

New York's grape crop was estimated at 135 thousand tons, down nine per cent from last year's modest crop and 13 per cent below the average of the last five years. (Note: The second estimate, released in October, was 145 thousand tons.) Unseasonably warm temperatures in April followed by a series of freezes resulted in a short crop, especially in parts of the Chautauqua-Erie grape belt. The state's production has been highly variable in the last five years, ranging from 128 thousand tons in '98 to 205 thousand tons in '99. This year's weather was a good reminder of the importance of risk management. Growers should be taking a close look at crop insurance. About 55 per cent of the grape acreage in New York is now covered by crop insurance policies, including over a third of the acreage that is covered by buy up policies.

The Big Picture - The US Wine Market

Performance in the US wine market is being driven by increased table wine consumption (Figure 9-5), which now accounts for 90 percent of wine consumed. From 1995 to 2000, wine consumption grew at the rate of four percent a year. Consumption actually grew in 2001, but wine shipments slowed due to the recession and reduced orders resulting from the events of 9/11, increasing just one percent for the year.

Coming into 2002, the effects of a weak economy and the decline in on-premise consumption were factors of concern to wineries nationally as consumers stayed home more, hurting the travel and restaurant trade. Price resistance was evident at the ultra premium level; luxury priced products in general were in trouble in this economy. Very competitive pricing from imports and from non-premium production areas in California (where there is a glut of wine grapes) made ample supplies available to consumers at lower price points.

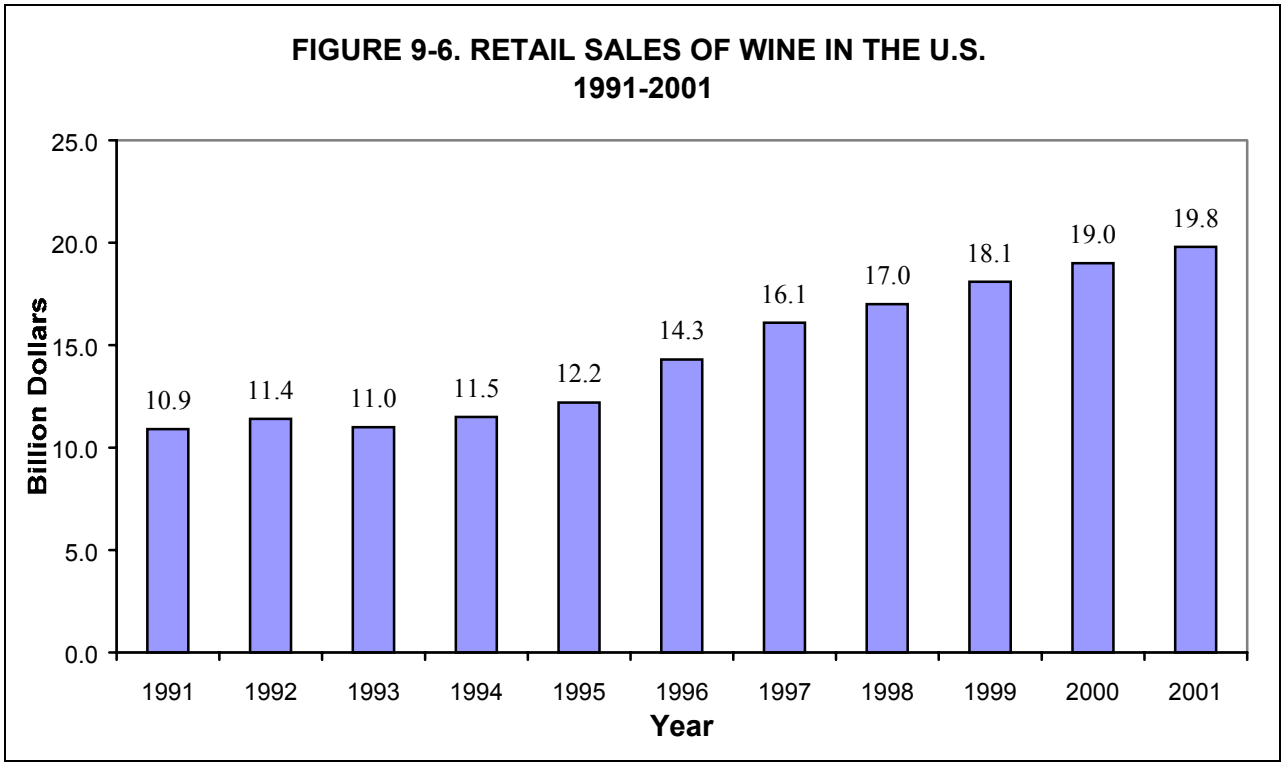


Source: Wine Institute/Department of Commerce/Gomberg, Fredrickson and Associates

Wine imports are running far above last year, and most of this growth is in the $7 to $10 per bottle category. Fortunately, restaurants and retailers began ordering more wine in the first quarter of this year as the economy improved and the travel and restaurant trade began to recover. Competitive retail prices meant bargains were available to consumers. These factors helped to boost consumption and shipments in 2002. However continued economic uncertainty (the threat of a double dip recession, the decline of the stock market this summer, and the potential for war in the Middle East) means that consumers are still wary. The year will probably end with improved shipments for 2002, above the level for 2001 but below the growth rates seen in the last half of the 90's. Shipments for 2002 will probably increase by about 2.5 percent. Imported wines grew by about six percent in 2001 and accounted for about 22 percent of the US market. The increase in imports was fueled by a strong dollar which made imported wines a real buy for consumers, and totaled 126 million gallons in 2001. The value of imports is $2.2 billion, much more than exports, because of relatively high valued imports from France, Italy, and Australia.

Retail wine sales for the US reached $19.8 billion in '01, (Figure 9-6). With the price cutting that occurred this year, retail sales will probably barely reach $20 billion in 2002.

Exports have been an exceedingly bright story for the US industry. Exports account for about 11 percent of total California wine shipments. Washington state has a growing presence in export markets, especially in the United Kingdom and Japan, and now accounts for about $15 million in sales, mainly premium and super premium categories. Growth in exports was 67 percent over the five year period ending in 2000, totaling 78 million gallons for a value of $547 million. Growth slowed in the two most recent years and the value of exports actually declined by one per cent in 2001 because of the strong US dollar and intense competition from Chile and Australia. More than 90 percent of exports originate in California.



Source: Wine Institute/Gomberg, Fredrickson and Associates

Exports of US wines are expected to increase slightly in 2002. Import growth for the year is likely to show an increase of about 15 percent.

Finger Lakes Grape Prices and Implications for Growers

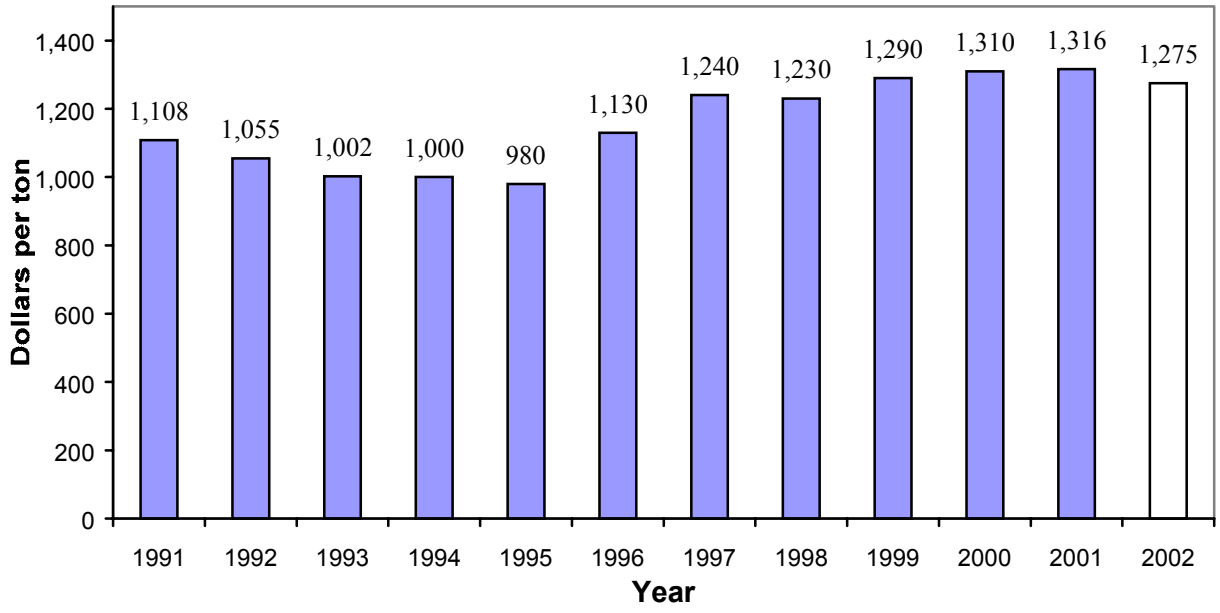
For growers selling to large wineries, prices for grapes on contract ranged from slightly higher to considerably lower than last year, depending upon the variety. Canandaigua Wine Company, the major buyer of wine grapes in New York, listed a $5 per ton increase for Aurore, and a $10 increase for Elvira. Catawba, Delaware, white hybrids, and Niagara listings were unchanged. Large decreases were listed for red hybrids and Concord. The most notable price offering was for non-contracted grapes which hardly paid for the cost of harvesting ($50 for most varieties and $100 for non-contracted red hybrids). Thus the overall average price for native varieties and hybrids, when weighted by volume of purchases, will be down significantly from last year, reflecting the glut of non-premium grapes nationally.

Prices offered by Finger Lakes wineries for *vinifera* grapes were slightly lower than last year. Price offerings for Chardonnay led the decline with a nine percent decrease. Riesling prices declined slightly. Red *vinifera* varieties such as Merlot, Cabernet Franc, Cabernet Sauvignon, and Pinot Noir were down slightly or unchanged. Prices for these red varieties had been increasing in prior years. Lower prices probably reflect the effects of the weak economy and the effects of 9/11 on shipments in the past year. The average prices for all *vinifera* in the state of New York will decrease for the 2002 crop year to about $1,275 per ton, a significant decrease from last year, and the first decrease in average *vinifera* prices since 1998 (Figure 9-7).

For the fourth year in a row, more buyers offered premiums (i.e. there were two sets of prices, regular grade and premium) for higher quality grapes this year. Slightly higher prices were listed for premium Chardonnay and Riesling grapes. This reflects the efforts of some wineries to step up the quality ladder to higher price points. **Growers who can meet the demand for premium quality will likely be**

rewarded for their extra expenses, especially as the Finger Lakes region continues to gain greater recognition as a premium wine producing region.

FIGURE 9-7. AVERAGE PRICE OF V. VINIFERA GRAPES, NEW YORK STATE, 1991-2001 AND 2002 (PROJECTED)



Source: New York Agricultural Statistics Service, Fruit Series

While the state's growers experienced lower yields, much of the decrease came in the Concord and Niagara varieties in the Lake Erie region. Finger Lakes growers had yields similar to last year's, or about average. Slightly lower yields were experienced for some Native American varieties, particularly those located on cooler sites with moderate frost injury. Most growers' revenues (assuming a mix of American, hybrid, and *vinifera* varieties), will be below last year. This is the third consecutive year of modest production, and this year prices are down as well. Several factors suggest the situation will be somewhat unfavorable in the next few years for native varieties and for the less desirable French American varieties. The glut of grapes in the west, with still sizable non-bearing *vinifera* acreage in the Central Valley, cheap off-shore and California concentrate and bulk wine, and an excess of wine grapes worldwide are factors placing stress on those selling to large processors.

The outlook for high quality *V. vinifera* grapes remains favorable for the long run. There is considerable optimism about the Finger Lakes small premium wine grape industry, and growers who can grow premium grapes to sell to the growing small premium winery segment have reason to be positive despite the softness of the current economic situation.

Implications of the economic slowdown for small wineries

Small wineries with quality wines and good marketing skills experienced only modest sales growth in 2001, and for the first half of the current year. Winery visitation leveled off and in some areas decreased slightly. Some relatively new wineries reported strong sales increases, but larger wineries reported that traffic was not increasing**. One positive development was the increasing sales through wholesalers that several wineries experienced**. **While the profit to the winery is not nearly as great as for direct sales, increasing**

sales though wholesale channels is a necessary step for the Finger Lakes to gain more national and international recognition and to increase growth potential for the future.

Small premium wineries in the Fingers Lakes have been in their "comfort zone" with heavy reliance on direct sales. Certainly, they have been insulated from the ups and downs that larger wineries with national distribution face, especially when the economy is soft as in the past year. And profit per bottle is certainly higher, as noted above. Nevertheless, breaking out of the barrier of reliance on direct sales will be a huge plus for the region. As the industry is currently configured, sales growth is constrained by the growth in local population and growth in personal disposable income of local residents, as well as growth in tourism. The upstate New York economy, although perhaps showing some improvement in recent years until the current slowdown, cannot be relied on for strong growth potential. To increase visibility, reputation, and ultimately sales potential, wholesale distribution must be increased. Marketing out of state, as well as to the New York City market, are alternatives that should be evaluated carefully by those larger, more established wineries who want to grow their businesses.

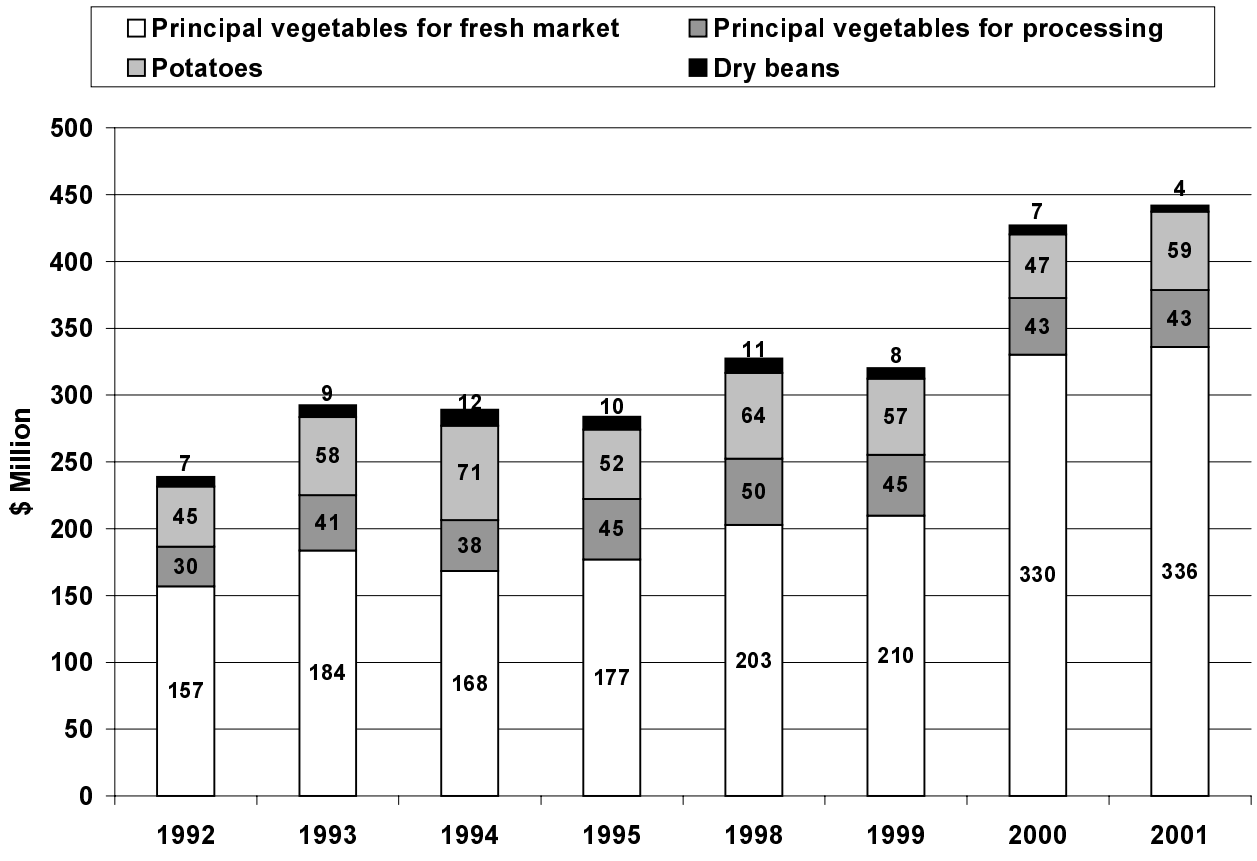
Wineries will have to be selective with which wines they market in these channels; Finger Lakes Riesling would seem to be the best varietal for most wineries to launch into expanded distribution. A window of opportunity is presented by the fact that price resistance to high end, luxury wines in restaurants is now being experienced. Restaurants are looking to offer some new choices on their wine lists, but at somewhat lower prices (but still attractive prices to New York wineries).

Chapter 10. Vegetables

Wen-fei L. Uva, Senior Extension Associate

The value of all New York vegetable production in 2001 totaled $442 million, an increase of about 3.5 percent from 2000 (Figure 10-1). New York ranked sixth in the nation for the value of principal fresh market vegetable production and seventh for the value of principal processed vegetable production in 2001. The value of New York's principal fresh market vegetables totaled $336 million this year, a 2 percent increase from 2000. Fresh market production in 2001 was estimated at 17.7 million hundredweight (cwt.). Processing vegetables were valued at $42.5 million in 2001, which is similar to the value of $42.6 million in 2000, and production totaled 377 thousand tons in 2001. The acreage used for vegetable production in 2001 increased about 3 percent from a year before to 197,000 acres. This increase mainly is due to growth in fresh market vegetable production. As processing acreage declines, many growers are taking advantage of fresh market opportunities.

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



Source: New York Agricultural Statistics, 2001-2002.

Cabbage, sweet corn, potatoes, onions and snap beans are again the top five vegetable crops produced in New York in 2001 (Table 10-1). With 13 percent of the nation's production acreage in 2001, New York is the second leading summer-season producer for fresh market vegetables, trailing only California. New York ranked first in the nation for fresh market cabbage production in 2001. Although the 2001 fresh market cabbage production in New York, estimated at 5.52 million cwt., is down 3 percent from last year, the value of $83.3 million is 4.6 percent higher than it was in 2000. Both acreage and total value of fresh market sweet corn harvested in 2001 were up 21 percent from a year ago. The 2001 New York fresh market snap bean crop was ranked second highest in the nation and was valued at $40.2 million. Pumpkins produced in New York had a value of $3.9 million, the highest value in the nation in 2001. Table 10-2 shows that all major fresh market vegetables in New York had lower values per acre in 2001 compared with 2000. Mainly this is due to lower yield, except for sweet corn and pumpkins which received lower average prices in 2001 compared with 2000.

TABLE 10-1. NEW YORK VEGETABLE CROPS WITH THE HIGHEST PRODUCTION VALUE IN 2001

2000 Ranking	Crop	2001 Ranking	2001 Value of Production ($ million)
1	Cabbage[1]	1	87.1
2	Sweet Corn[1]	2	80.2
4	Potatoes	3	58.8
3	Snap Beans[1]	4	51.7
5	Onions	5	38.3
6	Tomatoes	6	28.5
7	Pumpkins	7	23.9
8	Cucumbers	8	20.1
9	Squash	9	14.9
10	Bell Peppers	10	6.0

[1] Processed and fresh market combined. Source: New York Agricultural Statistics, 2001-2002.

TABLE 10-2. VALUE PER ACRE OF PRODUCTION FOR SELECTED VEGETABLE CROPS IN NEW YORK, 1999-2001

	1999	2000	2001	Change 2000-2001
		--- $/acre ---		*%*
Vegetables for Fresh Market				
Sweet Corn	1,548.8	2,052.4	2,047.0	-10.2%
Cabbage	4,602.6	6,721.9	6,034.6	-0.3%
Snap Beans	3,250.5	4,149.6	3,525.9	-21.8%
Onions	3,013.2	3,852.4	3,012.8	-15.0%
Cucumbers	4,680.0	5,333.9	4,675.1	-12.4%
Tomatoes	3,973.2	10,224.0	9,504.0	-7.0%
Pumpkins	N/A	4,620.0	3,738.0	-19.1%
Squash	N/A	5,213.9	3,807.9	-27.0%
Bell Peppers	N/A	9,193.5	9,393.8	2.2%
Vegetables for Processing				
Sweet Corn	389.7	400.0	405.1	1.3%
Snap Beans	654.4	650.4	515.8	-20.7%
Green Peas	668.7	410.6	708.3	72.5%
Cabbage for Kraut	1,392.1	1,451.4	1,452.3	0.1%
Fall Potatoes	2,237.6	2,226.1	2,523.6	4.3%
Dry Beans	266.0	277.6	200.9	13.4%

Source: New York Agricultural Statistics, 2001-2002.

Tables 10-3 to 10-5 show production values, production levels, and average farm prices for major vegetable crops produced in New York from 1999 to 2001 and compare them with U.S. production.

Fresh Vegetables

The 2001 value of fresh market vegetable production in New York was about 6 percent of U.S. total, the same as in 2000. The only two crops that had increases in production value in New York between 2000 and 2001 were snap beans (up 27 percent) and sweet corn (up 21 percent). Among fresh market vegetables produced in the U.S., sweet corn, cabbage and snap beans had an increase in production value between 2000 and 2001. During the summer quarter of 2001 (July to September), prices received by growers and shippers of fresh market vegetables and melons averaged about 5 percent above a year earlier.

During the first 6 months of 2002 shipping-point prices averaged 22 percent above a year earlier as unusually cool winter weather in California and Arizona interfered with the production and marketing of cool-season vegetables. After reaching a record high in March, shipping-point prices declined in April, May and June as ideal growing weather brought larger supplies into the market. With production area up in California and average yields higher in other States, market volume for fresh market vegetables this summer was slightly above that of a year ago. As a result, summer-season fresh market vegetable prices are about 10 percent below those of the previous year.

U.S. fresh market onion production was down in 2001 as both area harvested and yield declined. Production of storage onions is again expected to decline 2 percent in 2002 to about 46 million cwt. The shipping-point price for fresh market onions during July to September averaged $14.33/cwt. – up 14 percent from a year earlier. The outlook for the October to December quarter suggests onion prices could average well above the low price ($8.87/cwt.) of more than a year ago. New York's onion crop for 2002 is estimated at 3.03 million cwt., down 18 percent from last year's crop of 4.22 million cwt. Hot, dry conditions caused low yields and pushed the maturity of the crop ahead of schedule, resulting in a higher percentage of small onions.

Processed Vegetables

The production of New York processing vegetables was valued at about 3 percent of U.S. total in 2001, the same as in 2000. Among the top four processing vegetables in New York, green peas had a large increase in production value in 2001, up 84 percent from 2000, and snap beans had the greatest reduction in production value during the same period (down 33 percent).

Processors of five major vegetables (tomatoes, sweet corn, snap beans, green peas, and cucumbers for pickles) contracted for 1.26 million acres in the U.S. in 2002, up 3 percent from a year ago. Most of the increase comes from tomatoes (up 10 percent from 2001). Contract areas were also greater for green peas (up 3 percent), cucumbers for pickles (up 22 percent), and snap beans (up 2 percent). Continued weak wholesale prices prompted processors of both freezing and canning sweet corn to cut contact area. New York sweet corn for processing is expected to decrease again this year, with production estimated to be down 42 percent from last year. Processors contracted less acres of sweet corn, and yields are lower because of drought. As in 2001, wholesale prices for both canned and frozen vegetables are higher this year.

Potatoes

The 2001 value of potato production in New York was $58.8 million, 24 percent higher than in 2000. The increase in production value is mainly from higher prices due to lower fall potato production nationwide. With higher prices in the U.S. market, import volume of fresh market potatoes (excluding seeds) from Canada in 2001 increased 42 percent from a year earlier. U.S. fall-season potato growers expect to harvest 5 percent more acres in 2002 reflecting higher potato prices at planting time. With higher acreage and yields that should match or exceed those of a year earlier, potato production this fall will be up from fall of 2001. In combination with production from other seasons, total 2002 U.S. production is expected to range 4 to 7 percent above last year. Prices will most likely be at least slightly below the previous year level.

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

	New York				United States				NY as % of U.S.
	1999	2000	2001	% Change 2000-2001	1999	2000	2001	% Change 2000-2001	2001
	---($ million)---			*%*	*---($ million)---*			*%*	*%*
Vegetables for Fresh Market									
Sweet Corn	52.2	56.4	68.4	21%	443.3	474.0	542.6	13%	13%
Cabbage	55.7	86.7	83.3	-4%	240.9	332.4	364.9	12%	23%
Onions	38.0	47.4	38.3	-19%	635.1	732.3	702.9	-5%	5%
Snap Beans	19.8	31.5	40.2	27%	260.9	251.4	273.2	9%	15%
Tomatoes	12.3	30.7	28.5	-7%	951.0	1,160.1	1,117.0	-4%	3%
Pumpkins	N/A	26.3	23.9	-9%	N/A	101.6	N/A	N/A	N/A
Cucumbers	16.8	20.3	20.1	-1%	216.7	234.5	212.5	-3%	9%
Squash	N/A	17.2	14.9	-14%	N/A	207.7	N/A	N/A	N/A
Bell Peppers	N/A	7.1	6.0	-15%	483.8	614.4	420.7	-20%	1%
Total Principal Fresh Market Vegetables[1]	*209.9*	*335.4*	*336.1*	*2%*	*4,742.6*	*5,487.0*	*5,422.9*	*0%*	*6%*
Vegetables for Processing									
Sweet Corn	12.7	11.6	11.8	2%	234.4	231.6	229.2	-1%	5%
Snap Beans	13.8	17.2	11.5	-33%	134.5	142.5	112.7	-21%	10%
Green Peas	10.0	6.7	12.3	84%	126.9	131.7	102.4	-22%	12%
Cabbage for Kraut	3.3	4.1	3.8	-7%	7.8	9.9	8.5	-14%	44%
Total Principal Processing Vegetables[1]	*45.3*	*42.6*	*42.5*	*0%*	*1,680.1*	*1,453.0*	*1,276.3*	*-12%*	*3%*
Fall Potatoes	57.1	47.4	58.8	24%	1,994.0	2,064.6	1,910.8	-7%	3%
Dry Beans	8.0	6.8	4.5	-34%	215.0	209.0	392.9	-5%	1%

[1] Totals include additional principal crops not listed.
Sources: ERS, USDA, Vegetable Specialties – Situation and Outlook Yearbook, July 2002.
New York Agricultural Statistics, 2001-2002.

TABLE 10-4. PRODUCTION OF SELECTED VEGETABLE CROPS
NEW YORK AND UNITED STATES, 1999-2001

	New York				United States				NY as % of U.S.
	1999	2000	2001	% Change 2000-2001	1999	2000	2001	% Change 2000-2001	2001
	---(Million cwt)---			%	---(Million cwt)---			%	%
Vegetables for Fresh Market									
Sweet Corn	3.2	2.6	3.8	47%	25.8	26.4	27.7	5%	14%
Cabbage	5.0	5.7	5.5	-3%	21.8	26.0	26.2	1%	21%
Onions	3.5	4.7	4.0	-13%	73.6	71.7	67.1	-6%	6%
Snap Beans	0.4	0.5	0.6	23%	5.6	5.9	6.0	2%	11%
Cucumbers	0.6	0.8	0.7	-8%	11.9	11.0	10.9	-1%	7%
Tomatoes	0.4	0.5	0.5	-11%	36.7	37.7	37.0	-2%	1%
Pumpkins	N/A	1.1	1.3	18%	N/A	9.0	N/A	N/A	N/A
Squash	N/A	0.7	0.6	-14%	N/A	8.7	N/A	N/A	N/A
Bell Peppers	N/A	0.2	0.1	-9%	15.6	17.0	14.8	-13%	1%
Total Principal Fresh Market Vegetables[1]	*13.6*	*17.2*	*17.7*	*3%*	*291.7*	*287.6*	*286.8*	*0%*	*6%*
Vegetables for Processing	---(1,000 tons)---				---(1,000 tons)---				
Sweet Corn	179.4	154.7	160.6	4%	3,297.4	3,155.5	3.1	0%	5%
Snap Beans	72.5	89.3	66.1	-26%	778.4	833.5	0.7	-16%	9%
Green Peas	31.7	32.8	39.5	20%	461.6	530.1	0.4	-27%	10%
Cabbage for Kraut	68.2	76.1	73.3	-4%	177.9	208.3	0.2	-16%	42%
Total Principal Processing Vegetables[1]	*420.8*	*389.3*	*377.3*	*-3%*	*18,711.3*	*16,651.4*	*14.7*	*-12%*	*3%*
	---(1,000 cwt)---				---(1,000 cwt)---				
Fall Potatoes	6,758	5,964	5,942	0%	429.8	470.5	400.7	-14%	1%
Dry Beans	414	358	194	-46%	33.1	26.4	19.5	-26%	1%

[1] Totals include additional principal crops not listed.
Sources: ERS, USDA, Vegetable Specialties – Situation and Outlook Yearbook, July 2002.
New York Agricultural Statistics, 2001-2002.

Dry Beans

In 2001, lower dry bean plantings and drought losses reduced area harvested by 23 percent to 1.24 million acres in the U.S., the lowest since 1983. With yields down 4 percent, dry bean production fell 26 percent to 19.5 million cwt. Dry bean production continued to decrease in New York as well, down 46 percent in 2001 from a year before. With output down, stocks for most classes dwindled, and grower and dealer prices rose. The large rise in prices (25 percent and more) during the 2001 marketing year encouraged dry bean growers to increase planted area 36 percent to 1.69 million acres in 2002. Given increased area plus higher yield trends, production for the 2002 dry edible bean crop is estimated at 27.6 million cwt. – a 41 percent increase from a year ago. In anticipation of sharp increases in production this season and expected weak export demand from Mexico, prices for many bean classes have begun to weaken. The 2002/03 season opened with the preliminary industry aggregate grower price of $17.80/cwt., 2 percent below a year earlier.

Although prices have dropped for most classes, the greatest downward price pressure has been on black, navy, and pinto beans because output for these classes is expected to rise substantially.

TABLE 10-5. AVERAGE FARM PRICES OF MAJOR VEGETABLE CROPS NEW YORK AND UNITED STATES, 1999-2001

	New York				United States			
	1999	2000	2001	% Change 2000-2001	1999	2000	2001	% Change 2000-2001
Vegetables for Fresh Market		*---($/cwt)---*		%		*---($/cwt)---*		%
Sweet Corn	16.3	21.6	17.8	-18%	17.2	17.2	19.6	0%
Cabbage	12.6	17.5	16.8	8%	11.0	12.6	14.2	14%
Onion	12.2	13.5	10.7	-21%	13.8	9.8	11.4	-29%
Snap Beans	53.3	61.0	63.0	3%	46.5	42.7	45.4	-8%
Cucumbers	26.0	25.4	27.5	8%	18.2	20.4	19.5	12%
Tomatoes	34.5	56.8	59.4	5%	25.9	31.4	30.2	21%
Pumpkins	N/A	23.1	17.8	-23%	N/A	11.4	N/A	N/A
Squash	N/A	23.7	23.8	0%	N/A	23.9	N/A	N/A
Bell Peppers	N/A	43.7	40.9	-6%	31.1	31.5	28.4	1%
Vegetables for Processing		*---($/ton)---*		%		*---($/ton)---*		%
Sweet Corn	70.6	75.0	73.7	-2%	71.1	73.4	72.9	-1%
Snap Beans	190.0	193.0	174.0	-10%	172.8	171.0	161.0	-6%
Green Peas	314.0	204.0	312.0	53%	275.0	248.5	265.0	7%
Cabbage for Kraut	49.0	53.4	51.5	-4%	43.7	47.4	48.7	3%
		---($/cwt)---		%		*---($/cwt)---*		%
Fall Potatoes	9.0	8.9	9.9	-4%	5.1	5.3	4.6	-14%
Dry Beans	19.4	19.0	N/A	N/A	16.4	15.3	19.4	25%

Sources: ERS, USDA, Vegetable Specialties – Situation and Outlook Yearbook, July 2002.
New York Agricultural Statistics, 2001-2002.

Consumption Trends

In 2001, per capita use of vegetables and melons totaled 449 pounds, a 1 percent decline from a year earlier. Fresh market use was stable, while freezing and canning uses were lower. Per capita use of potatoes increased 1 percent to 140 pounds, reflecting lower prices stemming from the record high 2000 fall potato crop. Record-high per capita use was reported for fresh market sweet corn and tomatoes. On the other hand, the canning sweet corn market continued its long-term decline, and processing tomato use reached its lowest point since 1988. In 2002, per capita vegetable and melon consumption is forecast to rise 1 percent. Increased use of fresh, canning, and freezing vegetables is expected to outweigh reduced use of potatoes and sweet potatoes. Potato use in 2002 is expected to decline due to higher retail prices caused by smaller storage supplies from the short 2001 crop.

Sales in the food industry are up 2.9 percent from last year, despite the fragile economy and continued aftershocks from the terrorist attack of September 11. Expenditures on away-from-home food continued to grow (47 percent of total domestic food expenditures), and the National Restaurant Association projects away-from-home food expenditures will exceed at-home food expenditures by 2010. Economic prosperity and smaller households are driving America's demand for away-from-home foods. Although the growth in expenditures on away-from-home food has outpaced at-home food expenditures in the past, people are eating at home more. At-home food consumption was 0.6 percent higher in 2002 than a year ago.

Consumers are making more of their food purchases from nontraditional outlets, accounting for 24.5 percent of at-home food expenditures in 2000. These nontraditional outlets include warehouse club stores, supercenters, mass-merchandisers, drug stores, and mail order outlets which offer consumers low prices and convenience. According to the Institute of Food Technologists, convenience, freshness, and sophistication are the principal trends in consumer food demand shaping the look of new food products. Consumers also favor new foods that are "clean, pure, natural, and safe." Three main areas of emphasis in today's produce market are: the growing minority market, the increasing significance of the older generation in the market, and understanding new consumer demands such as changing tastes, organics, soy and tropical products.

Market Situation and Outlook

- ***Market Structure Changes***

Companies that have built their businesses around large discount stores and supercenters continued to build those gargantuan stores at a rapid pace. The nationwide market share of the four largest grocery retail chains reached 30.9% in 2001, compared with 17.0% in 1987 (Table 10-6). As Wal-Mart continues to spread its price dominance across the land, conventional supermarket chains are picking their spots, and wholesalers are trimming their retail operations in an effort to compete with greater focus and efficiency. Several large retail operations, such as Winn-Dixie, Supervalu and A&P, are undergoing internal consolidation and shakeouts as they determine the size and scope of the supermarket industry and their strategic position in the food chain in the early 21st century.

TABLE 10-6. TOP 10 GROCERS IN THE U.S., 2001

Company	% Market Share
Wal-Mart Supercenters	9.6
Kroger Co.	7.3
Albertson's, Inc.	5.6
Safeway, Inc.	5.0
Ahold USA Retail	3.4
Supervalu, Inc.	3.1
Costco Wholesale Corp.	3.0
Sam's Club	2.7
Fleming Cos.	2.3
Publix Super Markets	2.2

Source: Supermarket News.

The food retail landscape continues to change. Despite strong competition, chains that cater to special niches – such as health food (Whole Foods) or limited assortment value (Aldi) – have increased their presence in the market. Moreover, in the past few years, the grocery giants are venturing into a new retail

arena. They have started building smaller, niche stores more closely related to the traditional grocery format. Wal-Mart opened its first Neighborhood Market Store in 1998, and now there are more than 30 of them. In 2000, H.E. Butt Grocery Co., San Antonio, followed suit and opened its first Central Market store patterned after a European market, and the Costco Wholesale Group also announced plans to build a Costco Fresh store.

Many retail chains now operate their own distribution centers. In 1999, 47 of the largest 50 food retailers, including Kroger, Wal-Mart, and Safeway, operated distribution centers. To meet the new buying practices and demands, traditional wholesalers are consolidating, adopting new technology, or providing services and specialty foods to cater to niche markets' needs.

Distributors are also consolidating and changing. They are getting bigger as well as adding specialty and systems operations. The market share of the 10 largest foodservice distributors increased from 17 percent in 1990 to 28 percent in 2000. However, this figure understates the extent of consolidation among broadline distributors. Broadline distributors accounted for almost 50 percent of all foodservice distributor sales in 2000, and the top four firms (Sysco, U.S. Foodservice, Alliant, and Performance Food Group) accounted for almost 50 percent of these sales. The owner of U.S. Foodservice (Ahold) acquired Alliant Foodservice in November 2001.

More coordination effort such as contracting is occurring at the production level. Since the 1960s, more than half of all citrus fruits and processed vegetables in the U.S. have been produced under contract. More recently, contracting arrangements have increased in the fresh produce industries. Growth of fast food restaurants increased potato contracting to assure supplies of frozen potato products, and volume requirements of supermarket chains and other large fresh produce buyers, such as suppliers of branded fresh packaged salads, have increased already-growing interest in contracting as a means of procuring the desired volume, size, variety, quality, and consistency of product. Another means of coordinating farm production involves third-party verification or certification of a product's quality attributes. For example, third parties certify or verify products that will carry eco-labels such as "dolphin-safe", "environmentally friendly" or "fair trade." Moreover, in response to changing consumer demands for food and to capture the food dollar from value-added products, some farmers are turning to "new generation cooperatives". These cooperatives allow farmers to control food production through more than one stage of production and marketing, usually through some level of processing.

- ***Organic and Natural Marketing***

Perhaps the best news for produce comes in the organic and natural food sector. Organic food sales climbed from $1 billion to $9.3 billion in 2001 and are expected to enjoy continued growth (Table 10-6). The biggest gainer in organic is fresh produce, sales of which climbed 14.4 percent from $833 million to $953 million between 1999 and 2000. With more households (43 percent of U.S. households) now buying organic, and the 20 to 50 percent price premium received by organic products, retailers will continue to promote, stock and merchandise organic in the future. As the USDA Organic National Standards became reality on October 21, 2002, consumer confidence in organic claims is expected to increase, and consumer demand for these products is expected to continue. Moreover, the shopper who buys organic is a "very desirable consumer" for supermarkets. These shoppers typically have higher household incomes, buy more per shopping trip and buy more expensive, premium items like wine and imported cheeses.

TABLE 10-6. ORGANIC FOOD SALES IN THE UNITED STATES					
Year	1990	1995	2000	2001	2005 (est.)
Sales ($ billion)	$1	$2.8	$7.8	$9.1	$20

Source: The Packer, August 19, 2002

Demand for organic food is changing. In the beginning, organic meant fresh vegetables, grains and beans – and the time it took to cook them. The new shopper wants convenience with an organic label. Growth is expected in products such as organic TV dinners, frozen organic pizzas, and instant organic meals in a bag. The organic industry is also affected by the consolidation trend. Organic stalwarts such as Cascadian Farm (cereals, frozen fruits, vegetables and entrees), Muir Glen (canned tomatoes, pasta sauces and salsa) and Small Planet Foods are now owned by General Mills; Knudsen (fruit juices) is owned by Smuckers; and Kashi (cereals) belongs to Kellogg's.

As the market share of natural and organic products increases, reduced-fat and low-fat products are seeing a rebound. The number of new food products labeled "reduced-fat" and "low-fat" in 2000 was 49% lower than in 1996. However, the number of these new products more than doubled between 1999 and 2000. This increase may reflect the food industry's use of fat replacement ingredients that consumers find more acceptable. Developers of new products have not overlooked the area of new "functional foods." These products are enriched with calcium and other nutrients specifically targeted toward health-conscious consumers. Calcium-fortified and soy products are new functional foods that are popular with consumers. Consumers are also demanding more foods enriched with vitamin A, vitamin C, and fiber.

- ***Value-Added Marketing***

The fresh-cut market is maturing. Companies are refining products, creating niches and battling tight supplies. Packaged salad marketers are creating new blends to energize product lines, regional processors are producing custom blends, and food security is taking a high profile throughout the supply chain. Shelf-life battles continue. Technology helps extend shelf life, but some suppliers opt to use just-in-time delivery of high quality products that have remained at the proper temperature through the supply chain to deliver a quality eating experience to consumers. Retailers vary in choosing in-house processing vs. outsourced fresh-cut. Food safety, labor and cost were three factors considered when chains decide whether to prepare fresh-cut produce in-store or outsource it. Small chains often prepare fresh-cut produce themselves; large chains typically find it more cost effective to go through a fresh-cut supplier. Food service operators continue to be big fresh-cut buyers, particularly in the face of competitive chains and tight labor markets. The International Fresh-cut Produce Association, Alexandria, Va., estimated that 60 percent to 65 percent of fresh-cut sales are to the food service industry.

New convenience foods reflect the response of manufacturers and retailers to the loss of sales due to the rising popularity of dining out. These products contribute significantly to the number of new product introductions, particularly handheld or prepackaged entrees and other products that offer convenience and require little preparation. Products that require some amount of preparation by the consumer, such as complete meal kits or packaged sauces, are also important new convenience products that help retailers diversify and compete by making the produce department a one-stop shop for hungry consumers. In 1999, the top new products introduced in this category were sauces (610), pizza and entrees (432), soups (254), seasonings (238), pasta (231), and vegetables (158).

The 2002 Farm Act amends the Agricultural Marketing Act of 1946 to require retailers to inform consumers of the country of origin for certain commodities. On October 8, 2002, the USDA issued guidelines

for voluntary country-of-origin labeling. The USDA's list of voluntary labeling for retail commodities includes: fresh and frozen fruits and vegetables; peanuts; and fresh and frozen muscle cuts of meat (beef, veal, lamb, pork and fish). However, excessive record-keeping requirements and the threat of PACA labeling violations and fines likely will keep most retailers from complying with newly released voluntary country-of-origin labeling guidelines. Foodservice establishments are not covered by the regulations, but they are scheduled to come into compliance when the USDA promulgates requirements for mandatory labeling by September 2004.

Industry Outlook

Consumer pressures placed on agriculture for variety, quality, and safety are affecting how the industry is organized, including the types of buying and selling arrangements within the food supply chain and the application of information technologies. Some controversial issues exist among developments in the food industry. Firms' efforts to respond to demands for increasingly differentiated food products and productivity through biotechnology raise ethical, food safety, and environmental debates among different sectors. Contracting is also an issue of contention, especially among small farmers that may not have the output volume necessary to warrant contracts with large processors. Also, spot-market prices become more vulnerable to manipulation and volatility as fewer buyers and sellers account for a larger percentage of the trade.

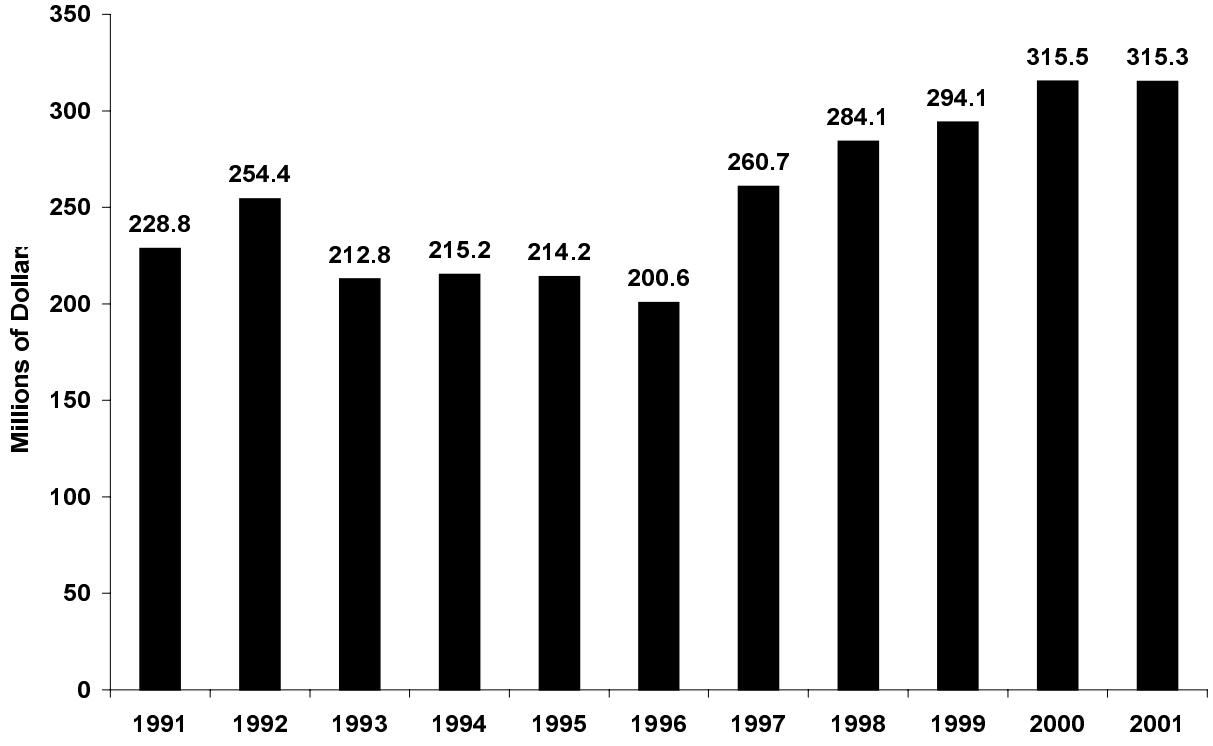
Domestic demand for food products is expected to grow slowly over the next 20 years. In this situation, a food company's growth depends on lowering production and operating costs, differentiating its products, producing higher quality products at economical prices, or expanding international trade and investments. Consumers will dictate the future course of the food system. In the year ahead, successful firms in the food system will adapt to the changing tastes of consumers and capitalize on changes in their demographic makeup. Farm production will become more capital intensive, with emphasis placed on adding value to commodities. Product differentiation and quality control are becoming more essential at the farm level. These market developments will likely require farmers to become more interdependent participants in the food supply chain, perhaps giving rise to contracting and other forms of organization in agriculture.

Chapter 11. Ornamentals

Wen-fei L. Uva, Senior Extension Associate

In 2001, New York greenhouse and nursery production was valued at $315.3 million (Figure 11-1). This figure includes floriculture, nursery, Christmas trees and other greenhouse crops. It should be noted that nursery sales data were only available for 2000 and were valued at $50.6 million. Floriculture crop had the highest value of $172.4 million in 2001, down 4 percent from a year before. Other greenhouse crops generated $125.0 million, up 63 percent from 2000. New York floriculture production ranked seventh in the nation for total commercial sales in 2001. The number of commercial growers of floriculture crops decreased for the fourth consecutive year to 731 growers in 2001. The area used to produce floriculture crops in the state was down approximately 10 percent. Greenhouse space decreased 2.73 million ft^2 from 2000 to a total of 23.7 million ft^2 in 2001. Value of sales increased from a year earlier for potted flowering plants and herbaceous perennial plants. Although the value of bedding and garden plants decreased 1 percent from 2000 to $96.8 million, this category continued to account for the highest share of the total value of floriculture crop sales. Potted flowering plants were second with sales value of $40.2 million, an increase of 7 percent from 2000. Cut flowers ranked third at $4.51 million, a decrease of 27 percent over the same period (Table 11-1). Drought conditions this summer forced consumers to demand more drought-tolerant plants and flowers, as more communities restricted water usage for gardening. But what hurt the outdoor plant market may be what improved indoor plant sales.

FIGURE 11-1. VALUE OF PRODUCTION OF GREENHOUSE AND NURSERY CROPS NEW YORK, 1991-2001



Source: New York Agricultural Statistics, various years.

TABLE 11-1. VALUE OF FLORICULTURE PRODUCTION BY PLANT CATEGORY, NEW YORK 1995-2000

Crop	1996	1997	1998	1999	2000	2001	5-year average 1996-2000	2001 vs. 5-year average	2001 vs. 2000
				--- $ million ---				% change	% change
Bedding/Garden Plants[1]	60.3	77.0	93.4	97.5	94.7	96.8	85.1	14%	-1%
Potted Flowering Plants[1]	24.2	37.1	35.0	34.1	37.2	40.2	33.6	20%	7%
Cut Flowers[1]	6.8	6.1	6.0	5.0	6.0	4.5	6.0	-25%	-27%
Total Foliage for Indoor or Patio Use[1]	1.6	1.9	2.2	2.3	3.4	2.5	2.3	5%	-33%
Total of Reported Crops[1, 2]	93.0	122.1	137.0	139.0	152.9	149.9	129.6	16%	-4%
Grower Sales $10,000-$99,999 (Unspecified Crops)	15.6	25.4	21.8	24.0	22.1	22.4	21.8	3%	1%
Total	108.6	147.5	158.8	162.9	178.8	172.4	151.3	14%	-4%

[1] Sales by operations with annual sales of $100,000 or more.
[2] Total includes categories not listed – cut cultivated greens and propagative materials.
Source: New York Agricultural Statistics, 1999-2000 and 2000-2001; and USDA Floriculture Crop 2001 Summary.

The total wholesale value of floriculture crops grown by U.S. operations exceeding the $100,000 annual sales level reached $4.44 billion in 2001, up 4 percent from 2000's total. The top five states -- California, Florida, Texas, Michigan and Ohio -- accounted for $2.52 billion, 53 percent of the total value. Values for each crop category, compared with 2000, were mostly up except cut flowers (down 1 percent) and cut cultivated greens (down 12 percent). The number of growers totaled 10,965 in 2001, a decline of 6 percent compared with the 2000 count of 11,624. The number of growers with sales of $100,000 or more dropped to 4,722 for 2001 from 4,851 in 2000. Every size group experienced a drop in members from the previous year.

Potted Geraniums (from both cuttings and seed) and Impatiens flats are still the best-selling bedding plants. Impatiens, Pansy/Violas and Petunias were the top three items in the bedding and garden flats category. Potted bedding and garden plants continue to capture more consumer interest. Petunias, *I. wallerana* Impatiens, Geraniums (from cuttings), Begonias, and Marigolds recorded increased sales in 2001. The value of herbaceous perennials in 2001 increased 12 percent from last year. Hardy Garden Mum value was down, and the most popular herbaceous perennials were Hosta, Daylily, Coreopsis, Ornamental Grass and Salvia. Potted flowering plants that recorded sales increases in 2001 include Poinsettias, spring flowering bulbs, orchids, florist Azaleas, and Easter lilies. Domestic cut flower growers continue to be acquired by larger businesses or forced out of business altogether. In 2001, the number of U.S. cut flower growers fell to 615 from 667 a year ago. Domestic cut growers are diversifying into nontraditional flowers, houseplants and particularly bedding plants.

Floriculture Industry Situation and Outlook

Total consumer spending on lawn and garden goods rose a dramatic 11.5 percent to $37.74 billion in 2001 from 2000's $33.4 billion, according to the latest National Gardening Survey by the National Gardening Association. The largest sales category for 2001 was lawn care, which rose from $9.79 to $12.67 billion. Other strong performers were insect control ($2.06 billion) and water gardening ($1.2 billion). The sharpest decrease was seen in vegetable gardening, down to $1.54 billion from $2.17 billion in 2000. Flower gardening also saw decreased sales. Although container gardening declined slightly to $1.2 billion in 2001 from $1.3 billion in 2000, this category still shows a great deal of consumer interest given that container gardening accounted for only $387 million in sales just five years ago.

Although the value of cut flowers produced in the United States has continued to decrease, when considering only purchases of floriculture products consumers still spent the highest portion of their dollar on fresh cut flowers. According to the Society of American Florists, fresh cut flowers claimed 38.8 percent of consumer floral dollars in 2001, down from 42 percent in 2000. Another 35.8 percent of consumers' floral dollar went to outdoor bedding and garden plants in 2001, followed by potted plants (10.8 percent) and foliage plants (6.6 percent). Floriculture products are available from many types of retail outlets. Consumers are changing where they purchase and how much they spend on floriculture products. Consumers are spending more money per transaction at traditional retail outlets (retail florists and garden centers), but increasingly, they are purchasing flowers and plants at mass marketing outlets. Table 11-2 shows that in 2001 retail florist shops captured 27.1 percent of the overall consumer dollars spent on floriculture products, followed by garden centers (21.4 percent), while mass marketers including supermarkets, discount stores, home centers, and warehouse clubs captured 32 percent of the consumer floral dollar. On the other hand, more than half (52.2 percent) of the transactions for floriculture products occurred with mass marketers.

TABLE 11-2. WHERE FLORICULTURE PRODUCTS WERE BOUGHT IN 2001

Channel	% of Purchase Occasions	% of Consumer Expenditures
Supermarkets	26.0	14.1
Garden Centers	15.9	21.4
Discount Stores	14.2	7.5
Florist Shops	12.7	27.1
Home Centers	10.1	8.9
Craft/Art/Specialty Stores	1.9	2.3
Warehouse Clubs	1.9	1.5
Internet Retailers	1.0	3.3
Others	16.2	13.8

Source: IPSOS-NPD Market Research.

Interest in outdoor living is still strong. Homeowners want to expand their home's square footage by creating outdoor living areas. Vegetable plant and fruit tree sales usually increase when facing economic uncertainties. It makes consumers feel more secure to grow their own food when they need to pinch pennies. Add the growing interest in container and time- and labor-saving gardening, vegetable container gardening might have a back-to-basics appeal for consumers in the coming year. Internet buying will become even more prevalent. According to the U.S. Department of Commerce, as of September 2001, 143 million Americans, about 54 percent of the population, were using the Internet, and new users were adopting the technology at a rate of more than 2 million per month. Moreover, 90 percent, or 47.4 million, of children between

the ages of 5 and 17 now use computers at home and at school, and 75 percent of 14 to 17-year-olds use the Internet.

Despite the year being too cold and wet early in the spring and too hot and dry later in the season, independent garden centers were showing some positive numbers in the first half of the year. Average sale per customer (or per transaction) was up. The good news is that customers did not switch to smaller or cheaper staples (nursery stock, basic annuals, etc.), which would be the first sign of economic concerns. Sales of larger plants, such as 5-gallon vines, and more expensive options, such as bigger perennials, antique roses or branded production (i.e., Proven Winners color), were stronger than cheaper options. However, the bad news is that traffic or register transactions continued to decline for the third year in a row. As national chains are opening stores at a faster pace, the customer base for floriculture and nursery products continued to polarize as all shopping becomes destination shopping. Retailers are not only competing with each other for consumer dollars and time, they are also competing with other leisure pastimes such as golfing, boating or eating out.

The dramatic change in the retail environment for floriculture and nursery products has a strong impact on the production sector. As aggressive retail chains add more stores, they often expect suppliers to grow with them and would rather not complicate their vendor base. To retain status as primary suppliers, some growers have expanded faster than they planned. Growers who based their growth on serving regional and national chains have found themselves almost entirely dependent on a few giant retailers – The Home Depot, Lowe's, Wal-Mart, and Kmart. Regional supermarket and wholesale club chains help round out the mix, but they also continue to consolidate. In some cases, letting large customers dominate the business has made growers more vulnerable to changes in the retail sector. These chains demand more frequent deliveries over a much vaster distribution area and a higher level of service at each store while holding prices level. Some chains have started implementing centralized order systems. Furthermore, to protect themselves, mass merchandisers are steadily pushing "ownership" of the live product back on the producers. Producers selling to various big box mass merchandisers were encouraged to take responsibility for maintaining and replenishing their product. In the case of the Chapter 11 bankruptcy protection filed by Kmart in January 2002, the retailer's financial trouble has left some growers to operate in an unknown situation with few options to protect themselves.

To respond to these challenges, about five-to-seven years ago, several grower groups got bigger by launching their own consolidation movement and selling to venture capitalists to gain access to cash and a big-business mentality instead of a farmer's perspective. These include Color Spot Nursery, Hines Horticulture, Floral Plant Growers, and Powell Plant Farms. An alternative to consolidation that has worked for many growers without sacrificing ownership is contract growing. The ultimate example is the Kalamazoo Valley Plant Growers Cooperative with about 60 grower members. Individual growers also have established contract-growing networks to increase their ability to serve large chains. In addition to building alliances, it is also important for growers to consider other risk management strategies, such as insurance (liability, credit, etc.) and market or product diversification.

As more retailers with the ability to buy in volume see "farm direct buying" as an option and continued pressuring of growers to lower prices, there is an opportunity for more upscale merchants to upgrade value-added product and secure a market niche. Many growers and wholesalers are maintaining their niche, especially among small- to mid-sized florists and garden centers, by providing personal service, by their ability to provide immediate solutions for problem orders, and by meeting last-minute needs and unique product requirements. Branded floriculture products – both domestic and foreign – are increasingly being advertised in the media, at the local as well as regional levels. Gardening appears to be more popular among consumers, but it is driven not so much by the desire "to keep up with the Joneses next door," but by favorable demographics, economics and a touch of patriotism.