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# New York Economic Handbook 1993

# AGRICULTURAL SITUATION AND OUTLOOK

Department of Agricultural Economics
College of Agriculture and Life Sciences
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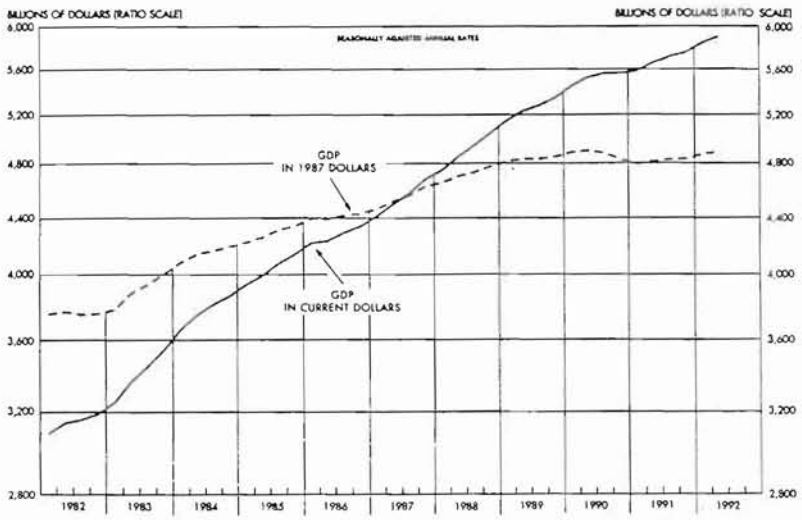
[1]Department of Agricultural Economics unless specifically indicated.
[2]Department of Agricultural Economics and Rural Sociology, The Pennsylvania State University.
[3]Extension Specialist, Statewide Milk Marketing, retired.

This publication contains information pertaining to the general economic situation and New York agriculture. It is prepared primarily for use of professional agricultural workers in New York State. USDA reports provide current reference material pertaining to the nation's agricultural situation.

"Current Economic Situation" is a monthly release that carries the latest figures for selected economic indicators and highlights current developments. This release is a supplement to the Economic Handbook and is available to anyone requesting to be on the mailing list by writing to the Department of Agricultural Economics, Cornell University, 445 Warren Hall, Ithaca, New York 14853-7801.

## NATIONAL OUTPUT, INCOME AND SPENDING
### Components of Gross Domestic Product




| | Gross domestic product | Personal consumption expenditures | Gross private domestic investment | Government purchases of goods and services | Net exports goods and services |
|---|---|---|---|---|---|
| | | | - billions of current dollars - | | |
| 1982 | 3150 | 2059 | 503 | 608 | -21 |
| 1983 | 3405 | 2258 | 547 | 652 | -51 |
| 1984 | 3775 | 2460 | 719 | 701 | -103 |
| 1985 | 4039 | 2667 | 715 | 772 | -116 |
| 1986 | 4269 | 2851 | 718 | 833 | -133 |
| 1987 | 4540 | 3052 | 749 | 881 | -143 |
| 1988 | 4900 | 3296 | 794 | 919 | -108 |
| 1989 | 5251 | 3523 | 832 | 975 | -80 |
| 1990 | 5522 | 3748 | 800 | 1043 | -69 |
| 1991 | 5678 | 3888 | 721 | 1091 | -22 |
| 1992 | (5940) | (4070) | (790) | (1110) | (-45) |

Rates of growth in Gross Domestic Product have been disappointing during the past 12 months. While most forecasts for economic growth one year ago were at best modest (annual rates of 2.0 to 3.0%) it was thought there would be more of an upswing during the summer and fall months of 1992. Slow growth, however, has been the general rule.

The lack of resilience in the economy can be traced to a number of key factors which are different from past recovery periods. First, federal expenditures for defense have been cut substantially. Second, low rates of economic growth means that personal income and thus expenditures also grow slowly. With consumer confidence about the future at low levels, installment credit is being reduced. Third, the industrial economies of the rest of the world are either in recession or growing slowly, which reduces the demand for U.S. exports. Increases in economic growth will be difficult to achieve in the winter and first two quarters of 1993.

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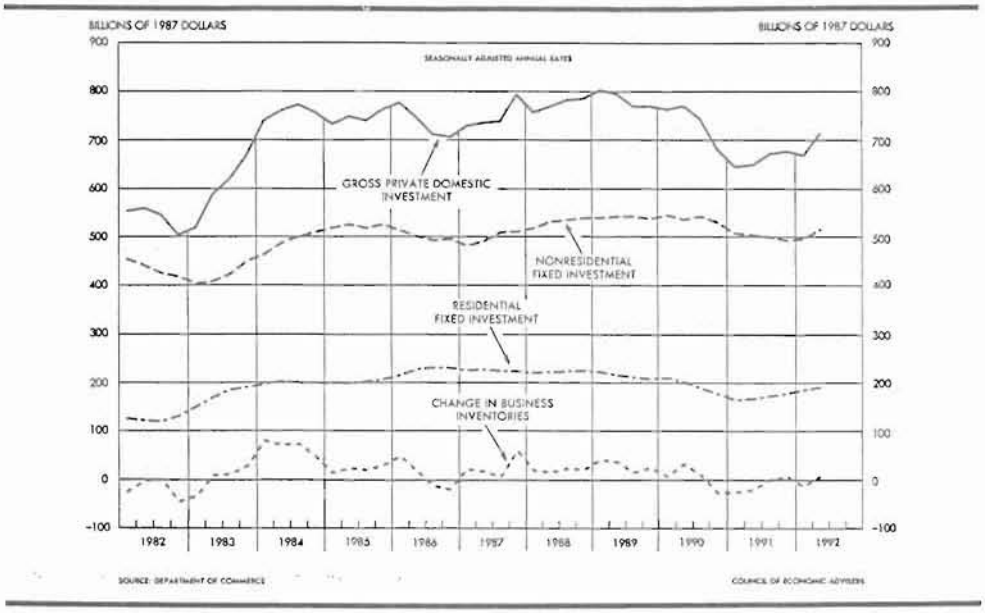
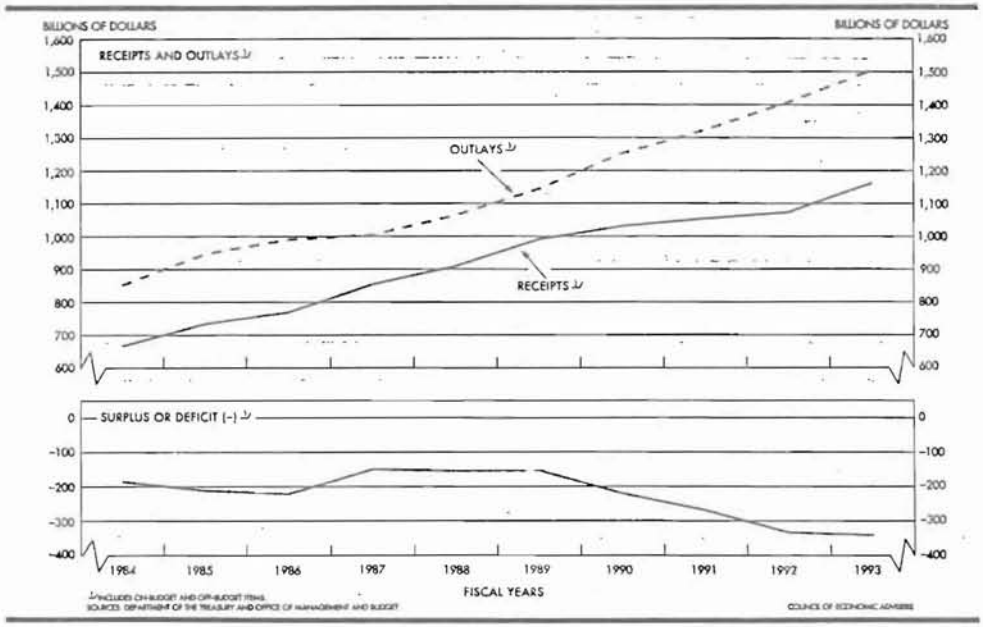
## GROSS PRIVATE DOMESTIC INVESTMENT




| | Gross private domestic investment | Residential fixed | Non-residential | | Changes in business inventories |
|---|---|---|---|---|---|
| | | | Structures | Durables equipment | |
| | | | - billions of 1987 dollars - | | |
| 1982 | 541 | 124 | 181 | 253 | -18 |
| 1983 | 600 | 174 | 160 | 261 | 4 |
| 1984 | 758 | 199 | 183 | 307 | 68 |
| 1985 | 746 | 202 | 197 | 324 | 22 |
| 1986 | 735 | 226 | 177 | 324 | 9 |
| 1987 | 749 | 225 | 171 | 327 | 26 |
| 1988 | 773 | 223 | 174 | 357 | 20 |
| 1989 | 784 | 214 | 178 | 363 | 30 |
| 1990 | 739 | 195 | 179 | 359 | 6 |
| 1991 | 661 | 170 | 158 | 343 | -9 |
| 1992 | (710) | (200) | (150) | (360) | (0) |

Investment in new housing, plant and equipment is fundamental to renewed growth in the economy. As the chart shows private investment fell dramatically in real terms in the second half of 1990 and then slowly began to recover during 1991. While investment has picked up during the first half of 1992 it has not returned to the levels of 1985-89. Interest rates are attractive but both lenders and potential borrowers remain cautious. If the economy is to grow again at real rates of 4 or 5 percent annually then important increases in the rate of investment in plant, equipment and new buildings will be required. A return to early 1990 levels of investment in real terms should be achieved in 1993.

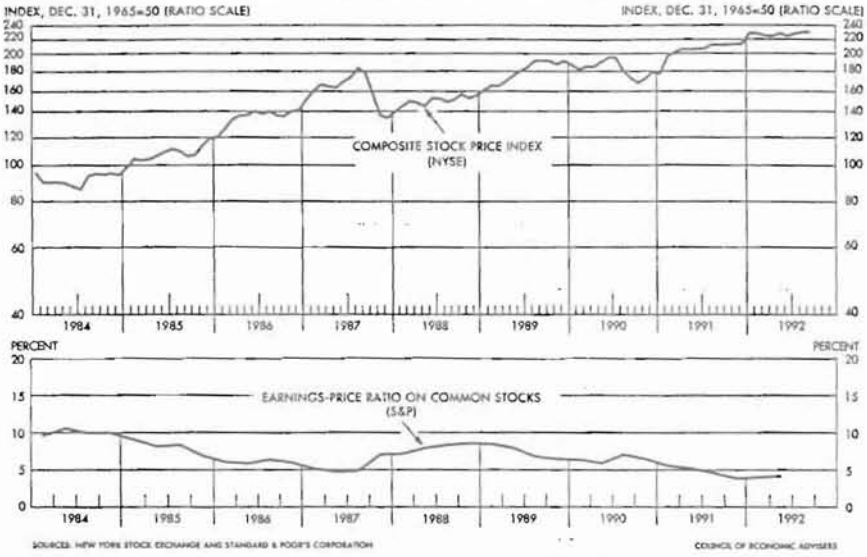
## FEDERAL FINANCE
### The Federal Deficit and Debt




The size of the federal deficit continues to grow at rates which have now caught the attention and concern of the American public. The current estimate of the deficit for 1992 is $290 billion and OMB's estimate for fiscal 1993 is $341 billion. The size of the vote for Perot is one more indication that ways must be found to reduce and control the excess of government spending over revenue. The federal debt grows even more rapidly than the deficit because of the "off-budget" items such as the bailout of the failed savings and loan institutions. Getting the deficit under control remains one of the nation's highest priorities.

| Fiscal year | Government Receipts | Government Outlays | Government Deficit | Gross federal debt |
|---|---|---|---|---|
| | | - billions - | | billions |
| 1975 | $ 279 | $ 332 | -53 | $ 544 |
| 1980 | 517 | 591 | -74 | 909 |
| 1985 | 734 | 946 | -212 | 1817 |
| 1986 | 769 | 990 | -221 | 2120 |
| 1987 | 854 | 1004 | -150 | 2346 |
| 1988 | 909 | 1064 | -155 | 2601 |
| 1989 | 991 | 1144 | -154 | 2868 |
| 1990 | 1031 | 1252 | -220 | 3206 |
| 1991 | 1054 | 1324 | -270 | 3599 |
| 1992 est. (OMB) | (1074) | (1364) | (-290) | (4009) |
| 1993 est. (OMB) | (1163) | (1504) | (-341) | (4463) |

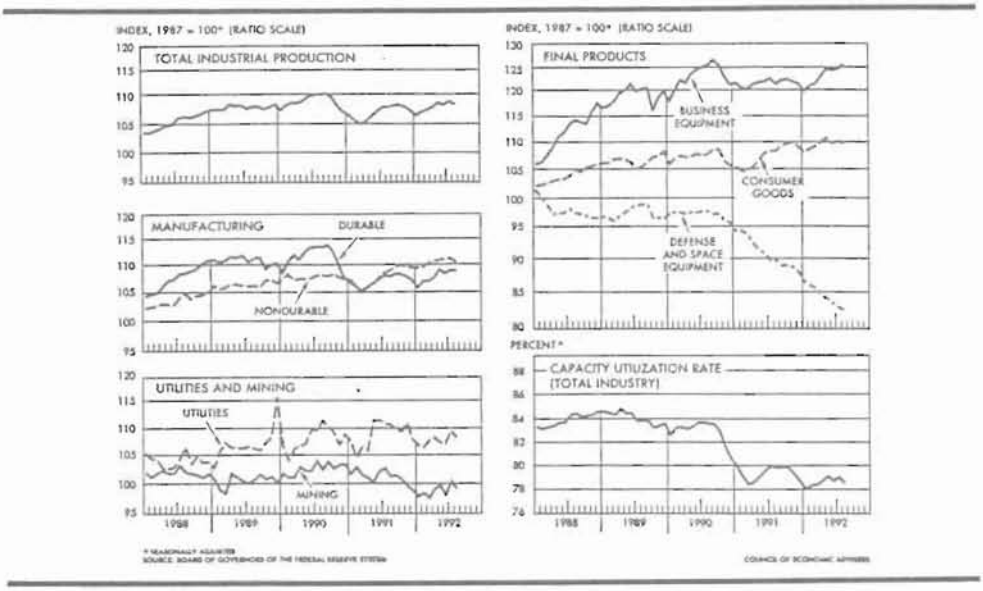
## COMMON STOCK PRICES AND YIELDS
New York Stock Exchange, 1984-1992




During 1992 the prices of common stocks have held relatively steady compared to most prior years. In general earnings relative to prices have improved modestly during the year from their low point in the fourth quarter of 1991. Profits before and after taxes have increased a bit each quarter when viewed in the aggregate. The auto, airline, and business equipment industries continue weak. The turn-around in the profitability of the commercial banking industry has been an important positive step forward in 1992. Important gains in productivity have been achieved in a number of industries, often associated with reductions in employment.

| | Profits BEFORE taxes | Profits AFTER taxes |
|---|---|---|
| | - billions - | |
| 1983 | $211 | $134 |
| 1984 | 241 | 146 |
| 1985 | 225 | 129 |
| 1986 | 218 | 111 |
| 1987 | 288 | 161 |
| 1988 | 348 | 211 |
| 1989 | 343 | 202 |
| 1990 | 355 | 219 |
| 1991 | 335 | 210 |
| 1992 I (rate) | 366 | 230 |
| II (rate) | 377 | 233 |

## INDUSTRIAL PRODUCTION

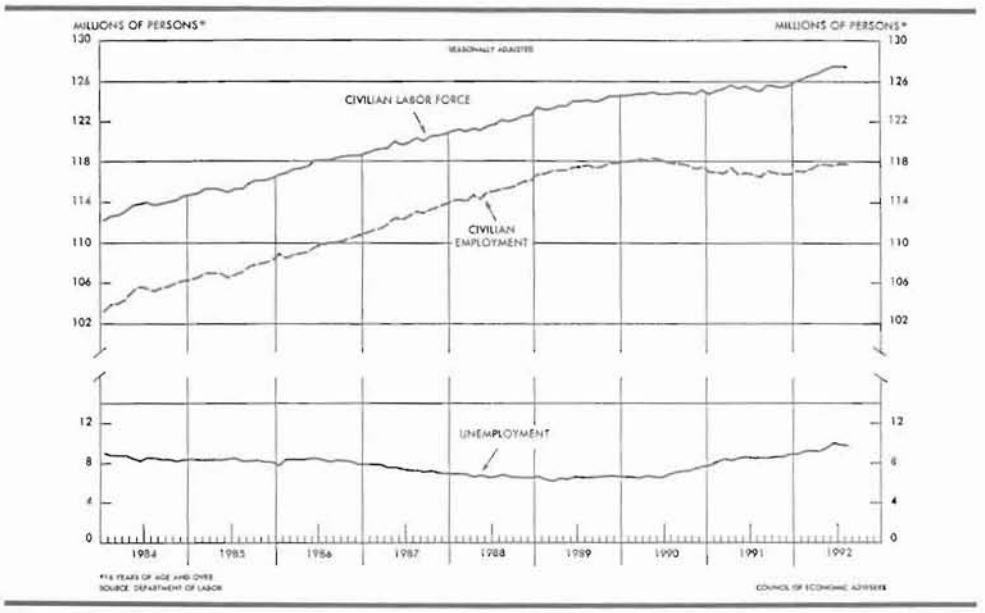



One of the most useful ways of studying changes in the economy is provided by the several components of the Federal Reserve's Index of Industrial Production. The composite index increased modestly during the first 5 months this year and then fluctuated around that level during the second half of the year. The several sectors show quite different trends. Defense and space equipment moved sharply downward during the year with further declines likely in 1993. In contrast, consumer goods and business equipment are holding steady or improving slightly.

| | Month | Index of Industrial Production | | Month | Index of Industrial Production |
|---|---|---|---|---|---|
| 1991 | October | 108.4 | 1992 | April | 108.1 |
| | November | 108.1 | | May | 108.9 |
| | December | 107.4 | | June | 108.5 |
| | | | | July | 109.2 |
| 1992 | January | 106.6 | | August | 108.8 |
| | February | 107.2 | | September | 108.6 |
| | March | 107.6 | | October | 108.9 |

Capacity utilization continues at levels below 80 percent indicating the inherent ability to increase production in a number of industries quite rapidly if there are increases in consumer demand. In manufacturing the durables sector has turned up from the January 1992 low and will be a good indicator of the rate of recovery for the economy in 1993.

## EMPLOYMENT AND THE LABOR FORCE




The civilian labor force continued to grow during 1992 at faster rates than civilian employment. Concern about jobs was a central point of discussion during the Presidential election campaign and will continue to absorb national attention in 1993. The rate of unemployment reached a peak of 7.7% in mid-summer and started downward in the fall months of 1992. Increases in consumer confidence and spending are essential if unemployment rates are to be reduced steadily in 1993.

The ratio of civilian employment to the eligible population as computed by the Bureau of Labor Statistics grew steadily during the 1980s as more and more women entered the labor force. That proportion has declined in the 1990s but held steady in 1992 between 61.3 and 61.6%:

| | Percent | | Percent |
|---|---|---|---|
| 1983 | 57.9 | 1988 | 62.3 |
| 1984 | 59.5 | 1989 | 63.0 |
| 1985 | 60.1 | 1990 | 62.7 |
| 1986 | 60.7 | 1991 | 61.5 |
| 1987 | 61.5 | 1992 | (61.4) |

Goods producing industries (construction, manufacturing, and agriculture) account for about 27 million full time jobs or about 23% of the labor force. The service producing industries have steadily grown in importance during the 1980s accounting for most new jobs.

CONSUMER AND PRODUCER PRICES

| Year | Consumer Price Index | | Producer Prices | | |
|---|---|---|---|---|---|
| | All items | Foods | All finished goods | All intermediate goods | All crude materials |
| | (1982-84 = 100) | | (1982 = 100) | | |
| 1982 | 96.5 | 97.4 | 100.0 | 100.0 | 100.0 |
| 1983 | 99.6 | 99.4 | 101.6 | 100.6 | 101.3 |
| 1984 | 103.9 | 103.2 | 103.7 | 103.1 | 103.5 |
| 1985 | 107.6 | 105.6 | 104.7 | 102.7 | 95.8 |
| 1986 | 109.6 | 109.0 | 103.2 | 99.1 | 87.7 |
| 1987 | 113.6 | 113.5 | 105.4 | 101.5 | 93.7 |
| 1988 | 118.3 | 118.2 | 108.0 | 107.1 | 96.0 |
| 1989 | 124.0 | 125.1 | 113.6 | 112.0 | 103.1 |
| 1990 | 130.7 | 132.4 | 119.2 | 114.5 | 108.9 |
| 1991 | 136.2 | 136.3 | 121.7 | 114.4 | 101.2 |
| 1991 | (140.0) | (137.0) | (123.3) | (114.8) | (100.0) |

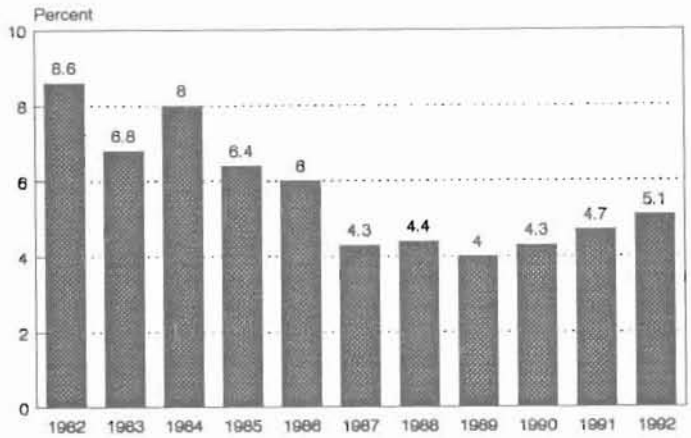
Sources: Department of Commerce; Council of Economic Advisers.

The slow growth in rates of inflation during 1992 are expected to continue in 1993. The Consumer Price Index increased at an annual rate of 3.0% during 1992 and can be expected to increase at similar rates at least for the next 6 months. One reason for this is that producer prices have held steady throughout the year. The prices of crude materials have fallen during the past two years of slow growth. The index numbers for intermediate goods suggest steady prices over the past two years. Price increases for finished goods have run between 1.5 and 2.0 percent. All of this indicates that inflationary pressures will not come from shortages of goods or services unless there is some unexpected development in the next six to nine months.

Major components of the Consumer Price Index are listed below. Housing is the most important component including all the associated costs of owning or renting a home. Food is the second most important category including both expenditures for consumption within and outside the home. Transportation is the third ranking item. Medical care continues to have the greatest annual rate of increase.

| Component | 1992 weights (percent) | September 1991 (1982-84 = 100) | % change from September 1991 (percent) |
|---|---|---|---|
| Housing | 42 | 133.5 | 2.7 |
| Transportation | 17 | 124.0 | 2.4 |
| Food | 18 | 136.2 | 1.9 |
| Apparel | 6 | 130.4 | 1.5 |
| Medical care | 6 | 178.9 | 7.0 |
| Entertainment | 4 | | 2.1 |
| All other | 6 | | 6.4 |
| Total | 100 | 141.3 | 3.0 |

## SAVINGS AS A PERCENT OF DISPOSABLE INCOME



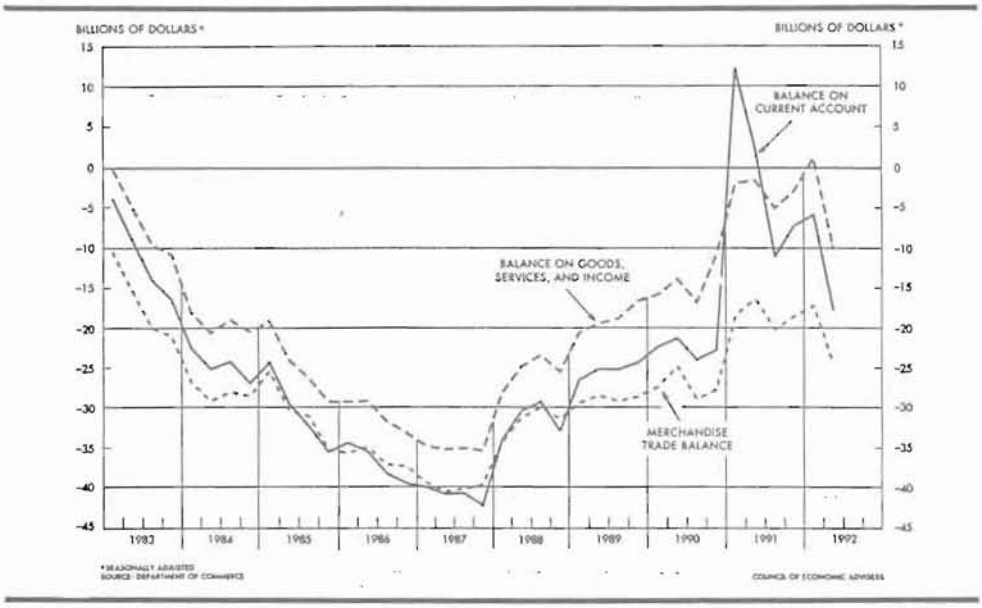

Personal savings as a percent of disposable income have increased modestly in each of the last three years. Compared with most Western countries our rate of saving is low and consumer expenditure high. Again in 1992 consumers have been paying off their installment loans especially those for cars. Auto loans are now down to about 35 percent of the total from the peak years when they made up 44% of credit outstanding. Levels of installment credit are expected to increase again in 1993 if there is an increase in consumer confidence.

CONSUMER INSTALLMENT CREDIT

| | Personal consumption expenditures[1] | Total credit outstanding | Auto loans | Auto loans as percent of total |
|---|---|---|---|---|
| | | - billions - | | (percent) |
| December 1982 | $2059 | $326 | $126 | 39 |
| December 1984 | 2460 | 443 | 174 | 39 |
| December 1985 | 2667 | 518 | 210 | 41 |
| December 1986 | 2851 | 572 | 248 | 43 |
| December 1987 | 3052 | 609 | 266 | 44 |
| December 1988 | 3296 | 663 | 285 | 43 |
| December 1989 | 3523 | 717 | 292 | 41 |
| December 1990 | 3748 | 735 | 285 | 39 |
| December 1991 | 3888 | 727 | 263 | 37 |
| December 1992 | (4065) | (715) | (252) | (35) |

[1] Annual totals.

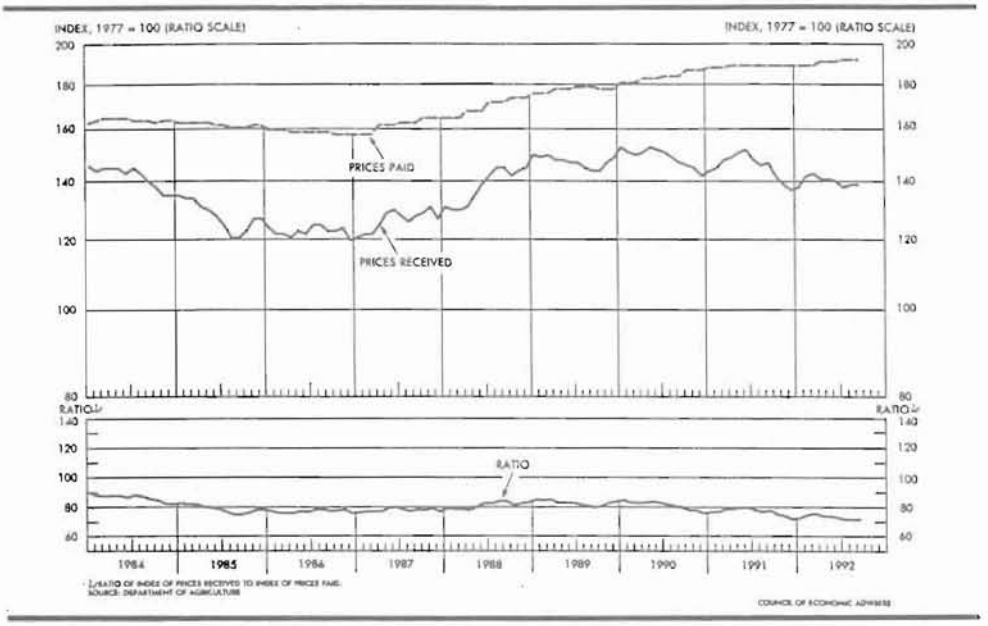
THE U.S. TRADE DEFICIT
International Transactions, 1983-1992
Quarterly Data




The steady progress made in reducing the size of our trade deficit from 1987 through the first quarter of 1992 has been interrupted with a decrease in exports in the second and third quarters of 1992. The gulf war in 1991 created substantial changes with the current account running positive for two quarters in 1991 when cash contributions for conducting the war were received from Japan and some EC countries. Outlook for the merchandise trade balance during the next year is for a continuation of the current, negative balances until there is an upturn in economic activity in Europe and the industrial countries of the Pacific. The positive agricultural trade balance in 1992 will be approximately $18 billion with a modest increase expected again in 1993.

| | Net balance (billions) | |
|---|---|---|
| Year | Goods and Services | Current Account |
| 1980 | $ 9.1 | $ 6.9 |
| 1982 | 5.6 | -11.4 |
| 1984 | -78.2 | -98.8 |
| 1986 | -123.3 | -147.5 |
| 1987 | -140.4 | -163.5 |
| 1988 | -101.8 | -126.7 |
| 1989 | -75.5 | -101.1 |
| 1990 | -57.5 | -90.4 |
| 1991 | -11.7 | -3.7 |
| 1992 | (-10.0) | (-21.0) |

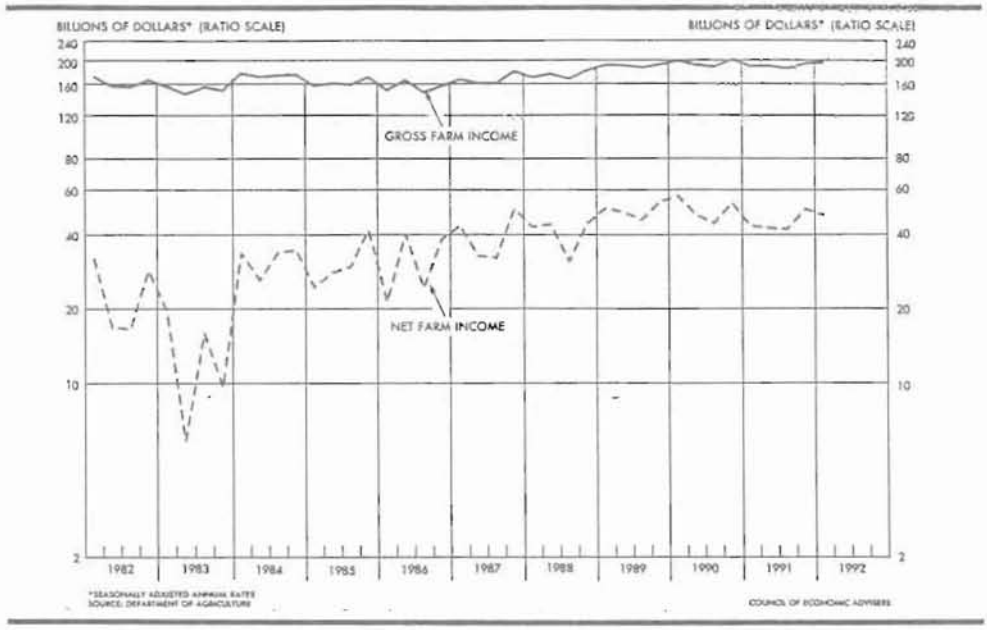
## PRICES RECEIVED AND PAID BY FARMERS




Prices received by farmers fell in 1992 for the second year in a row, while prices paid increased between one and two percent. Thus, the ratio of prices received to prices paid fell to 74, the lowest level in the past ten years. Both the prices received for livestock and crops fell from 1991 levels. The very large wheat, corn, and soybean crops have depressed prices in the second half of 1992, particularly because cash export demand is sluggish. With substantial world supplies of most agricultural commodities, the prospects for major increases in farm prices during the first half of 1993 are small. Prices paid should likewise hold steady or increase at less than the rate of inflation.

| Year | Prices Received | | | Prices paid | Ratio |
|---|---|---|---|---|---|
| | Crops | Livestock | All commodities | | |
| | | | (1977 = 100) | | |
| 1982 | 121 | 145 | 133 | 159 | 84 |
| 1983 | 128 | 141 | 135 | 161 | 84 |
| 1984 | 138 | 146 | 142 | 164 | 87 |
| 1985 | 120 | 136 | 128 | 162 | 79 |
| 1986 | 107 | 138 | 123 | 159 | 77 |
| 1987 | 106 | 146 | 127 | 162 | 78 |
| 1988 | 126 | 150 | 138 | 170 | 81 |
| 1989 | 134 | 160 | 147 | 178 | 83 |
| 1990 | 127 | 170 | 149 | 184 | 81 |
| 1991 | 130 | 161 | 146 | 189 | 77 |
| 1992 | (120) | (158) | (139) | (191) | (74) |

## FARM INCOME AND EXPENSES




Despite the decreases in prices received during 1992, gross farm income is expected to almost equal the levels of 1991 as larger output and increases in productivity make up for some of the decrease in prices. Net farm income is expected to be 6.7% less at $42 billion in 1992 compared to $45 billion in 1991. International markets and weather conditions will largely determine net returns in 1993.

| Year | United States | | | New York |
|---|---|---|---|---|
| | Gross farm income | Production expenses | Net farm income | net farm income |
| | | - billions - | | millions |
| 1982 | 164 | 140 | 24 | 386 |
| 1983 | 154 | 140 | 14 | 274 |
| 1984 | 168 | 142 | 26 | 408 |
| 1985 | 161 | 132 | 29 | 522 |
| 1986 | 156 | 125 | 31 | 532 |
| 1987 | 168 | 129 | 39 | 641 |
| 1988 | 175 | 134 | 41 | 618 |
| 1989 | 190 | 140 | 50 | 777 |
| 1990 | 195 | 144 | 51 | 770 |
| 1991 | 190 | 145 | 45 | 650 |
| 1992 | (188) | (146) | (42) | (725) |

Estimates of net farm income in New York State are made annually by USDA and the New York Agricultural Statistics Service. In 1991 aggregate net farm income fell by 16% percent from 1990 levels. An increase is expected in 1992 as milk prices improved from 1991 levels. With abundant supplies of milk now being produced nationally there may be some decline in net farm income again in 1993.

CARRYOVER STOCKS OF WHEAT AND CORN
AS PERCENT OF PRODUCTION IN U.S.

| Year | Production | Ending Stocks | Stocks as percent of production | Farm price per bushel |
|---|---|---|---|---|
| Wheat: | - million bushels - | | percent | |
| 1985-86 | 2424 | 1905 | 79 | 3.08 |
| 1986-87 | 2091 | 1821 | 87 | 2.42 |
| 1987-88 | 2108 | 1261 | 60 | 2.57 |
| 1988-89 | 1812 | 702 | 38 | 3.72 |
| 1989-90 | 2037 | 536 | 26 | 3.72 |
| 1990-91 | 2736 | 866 | 32 | 2.61 |
| 1991-92 | 1981 | 472 | 24 | 3.00 |
| 1992-93 | (2459) | (573) | (23) | (3.10) |
| Corn: | | | | |
| 1985-86 | 8876 | 4040 | 46 | 2.23 |
| 1986-87 | 8226 | 4882 | 59 | 1.50 |
| 1987-88 | 7131 | 4259 | 60 | 1.94 |
| 1988-89 | 4929 | 1930 | 39 | 2.54 |
| 1989-90 | 7526 | 1344 | 18 | 2.36 |
| 1990-91 | 7934 | 1521 | 19 | 2.28 |
| 1991-92 | 7474 | 1100 | 15 | 2.37 |
| 1992-93 | (9300) | (2000) | (21) | (2.00) |

Source: USDA.

Carryover stocks of both wheat and corn in the United States are modest by historical standards, especially compared with 1985-88. The important difference is that stocks in other countries of the world are now somewhat larger and the number of cash buyers on world markets has decreased. Further, export dumping by both the US and the EC has depressed international prices. The US wheat and corn crops in 1992 are among the largest on record; hence depressed cash prices this fall and winter.

WORLD PRODUCTION AND USE OF GRAINS
USDA Estimates, 1972-92

| Production Year | Production | Utilization | Exports | Ending Stocks | Stocks as percent of use |
|---|---|---|---|---|---|
| | | - million metric tons - | | | percent |
| 1972-73 | 1141 | 1179 | 135 | 180 | 15 |
| 1980-81 | 1429 | 1458 | 216 | 288 | 20 |
| 1984-85 | 1633 | 1572 | 218 | 366 | 23 |
| 1987-88 | 1594 | 1650 | 203 | 409 | 25 |
| 1988-89 | 1546 | 1639 | 209 | 316 | 19 |
| 1989-90 | 1668 | 1683 | 211 | 301 | 18 |
| 1990-91 | 1759 | 1719 | 195 | 342 | 20 |
| 1991-92 | 1690 | 1714 | 218 | 317 | 19 |
| 1992-93 | (1722) | (1711) | (202) | (328) | (19) |

FARM PROGRAMS AND PRICE SUPPORTS
United States, 1986-87 to 1993-94

| Year | Target price | Effective loan rate | Market price | Deficiency payment | Setaside requirement |
|---|---|---|---|---|---|
| | | - dollars per bushel - | | | percent |
| Wheat: | | | | | |
| 1986-87 | 4.38 | 2.40 | 2.42 | 1.98 | 22.5 |
| 1987-88 | 4.38 | 2.28 | 2.57 | 1.81 | 27.5 |
| 1988-89 | 4.23 | 2.21 | 3.72 | .69 | 27.5 |
| 1989-90 | 4.10 | 2.06 | 3.72 | .32 | 10 |
| 1990-91 | 4.00 | 1.95 | 2.61 | 1.28 | 5 |
| 1991-92 | 4.00 | 2.04 | 3.00 | 1.35 | 15 |
| 1992-93 | 4.00 | 2.21 | (3.10) | (0.09) | 5 |
| 1993-94 | 4.00 | 2.45 | | | 0 |
| Corn: | | | | | |
| 1986-87 | 3.03 | 1.92 | 1.50 | 1.11 | 17.5 |
| 1987-88 | 3.03 | 1.82 | 1.94 | 1.09 | 20 |
| 1988-89 | 2.93 | 1.77 | 2.54 | .36 | 20 |
| 1989-90 | 2.84 | 1.65 | 2.36 | .58 | 10 |
| 1990-91 | 2.75 | 1.57 | 2.28 | .53 | 10 |
| 1991-92 | 2.75 | 1.62 | 2.37 | .41 | 7.5 |
| 1992-93 | 2.75 | 1.72 | (2.00) | (0.75) | 5 |
| 1993-94 | 2.75 | | | | |

The Food, Agriculture, Conservation, and Trade Act of 1990 continues in effect through 1995. Major changes in this legislation are not anticipated as a result of the election either from Congress or from the Office of the President. The setaside requirements for program crops in 1993 can be expected to be at minimal levels. Direct government payments will be kept as small as possible. The provisions which allow payments for "crop disasters" provide more than adequate flexibility to assist farmers when political pressure is exerted. Funding of "disasters" may be one part of current legislation that will be reviewed in 1993 in efforts to reduce government expenditures.

Direct government payments to farmers are relatively unimportant in New York compared to most states. Government payments in aggregate in 1991 equalled $41.24 million compared to cash receipts of $2.87 billion, or 1.4% of the total. In the average state government payments equalled 4.9% of cash receipts with the largest payments (10% or more of cash receipts) going to states in the Great Plains, Corn Belt and parts of the South.

## WHOLESALE CLUB STORES IN NEW YORK STATE

Over the past two decades several significant developments in the formats of U.S. food stores -- limited assortment stores, warehouse stores, super warehouse stores, hypermarkets, etc. -- have threatened traditional supermarkets. In general, supermarkets responded to these competitors by adapting their operations to thwart the advantage each new format presented. These alternate formats initially followed strategies of appealing to limited segments of consumers but ultimately were victims of "the wheel of retailing." That is, by succumbing to the temptation to add more features, they diluted their original strategy and in the process compromised much of their competitive advantage. The end of the 1980's, however, marked the expansion of still another in the parade of retail store formats: the wholesale club store.

The impact of wholesale club stores on food distribution varies greatly by region and market within the U.S. Until recently, New York State has experienced limited penetration by wholesale club stores. With the entry of Sam's Wholesale Club into the state of New York during the past 18 months, the pace of expansion of wholesale club stores into New York has accelerated dramatically. Other recent entrants into the state include Pace Membership Club (a division of K-Mart), Price Club, and Costco Membership Club. The company with the longest history (about seven years) of operating in New York State, BJ's Wholesale Club currently operates the most club stores in the state.

A "wholesale club" is defined as a retail store format which limits access to businesses and individuals who become members of the club. Membership typically requires consumers to be affiliated with established organizations such as credit unions, labor unions, large employers, government agencies, etc. and to pay a fee or premium to shop in the club. Businesses, too, pay annual membership fees and utilize the club as their wholesale supplier. In fact, initially, wholesale clubs were developed to service the needs of small businesses which are often too small to be serviced completely by traditional wholesale distributors. Small business operators are attracted to wholesale clubs for the economy and convenience of the club's "cash and carry" nature, enabling them to get products desired in quantities required at convenient times.

## WHOLESALE CLUBS VS. SUPERMARKETS

Although only in existence since 1976 and still growing, the wholesale club format has not been static. The format has evolved, changing as consumer acceptance, membership, and geographic coverage have expanded. One of the most important strategic advantages of wholesale clubs over traditional food stores is that club stores can be built in any suitable market without considering the logistics of an existing distribution system. Since, typically, a wholesale club will receive "drop shipments" directly from manufacturers, there is often no need for central warehouses, distribution centers, or transportation fleets. Whereas, most traditional supermarkets are tightly clustered in the proximity of their central wholesale distribution center, a wholesale club operator can open a store on the West Coast and another on the East Coast with comparable ease.

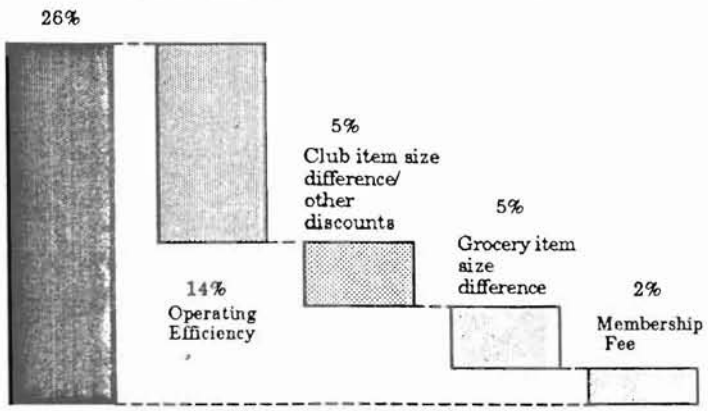
In fact, this flexibility in store site location allows clubs to enjoy other key operating and marketing advantages over supermarkets. By receiving "drop shipments" directly from manufacturers, the product mix in each club location can be tailored to suit local market demand.

Club stores are also able to adjust prices according to local market conditions without concern about a unified pricing program. By contrast, most supermarket operators with multiple store locations in a market area must offer a consistent pricing program in all those stores. One of the competitive advantages that wholesale clubs offer consumers is everyday low prices (EDLP). According to a recent Food Marketing Institute (FMI) study, when adjusted to a comparable product mix offered in both formats, the average wholesale club price level is 26 percent lower than the average supermarket (Figure 1).

**FIGURE 1**

**Source of Price Per Unit Advantage**
**Wholesale Clubs vs. Supermarkets**

Total Price Difference in Market Baskets = 26%*



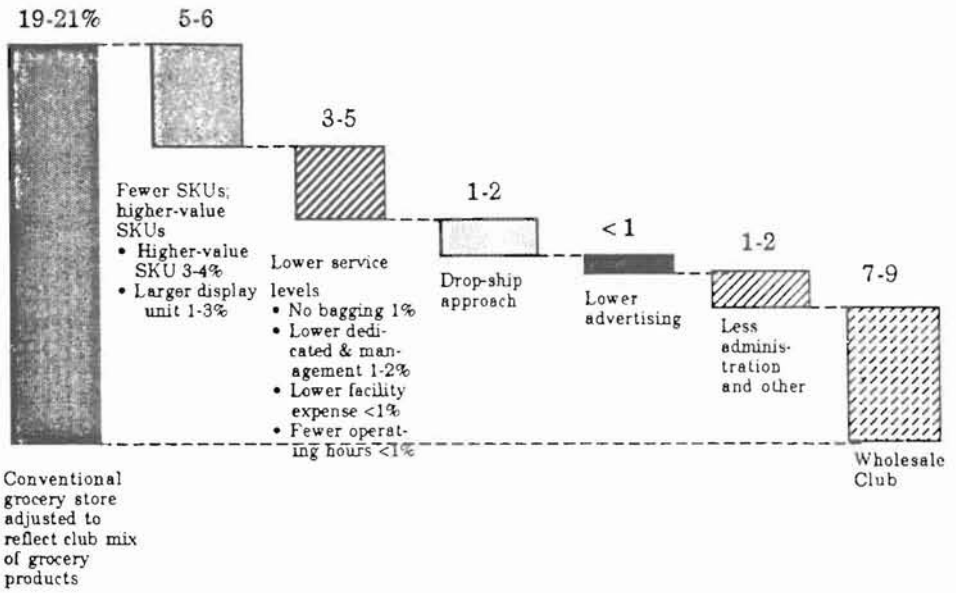

* Average supermarket price is 26% higher than average wholesale club prices

Source: FMI, 1992

The broad components from which the club's 26 percent price advantage accrues are operating efficiencies, item size differences, and membership fees. Operating efficiencies account for more than half (14%) of the 26 percent price difference between clubs and supermarkets. A closer look at the elements of club stores operating efficiencies reveals that typical supermarkets would have total operating expense ratios in the range of 19-21 percent of sales when their product mix is adjusted to reflect products also carried by wholesale clubs (Figure 2). Club stores, on the other hand, have total operating expense ratios in the range of 7-9 percent of sales. Therefore, wholesale clubs have an operating efficiency advantage over supermarkets in the range of 10-11 percent of sales.

**FIGURE 2**

**Operating Expense Differences between Wholesale Clubs and Supermarkets**




Source: FMI, 1992

Most of the operating efficiencies of wholesale clubs are traceable to the nature of the way club stores do business. Typically, wholesale clubs stock around 5,000 stock keeping units (SKU's) while supermarkets carry from around 14,000 SKU's for a "conventional" supermarket to as many as 60,000 SKU's in the larger "super combo" stores. In addition to handling fewer products, the SKU's themselves are large sizes and multi-pack sizes which have higher value per SKU than typical supermarket items. In addition, the receiving and merchandising aspects of club stores are often designed to utilize full pallets to minimize handling of individual packages. To further reduce operating costs, wholesale clubs rely on shelf price cards rather than individually pricing each package. These SKU efficiencies combined account almost half (5-6 percent) of the operating expense difference between club stores and supermarkets. The second largest efficiency difference reflects the lower customer service levels offered in the wholesale clubs. Club stores do not offer shopping bags or bagging. Store labor and management staffing requirements are much lower for club stores due to lower service levels and shorter operating hours than supermarkets. These operating characteristics also allow club stores to reduce expenses for equipment and rent.

The drop-ship approach mentioned earlier eliminates the warehousing and transportation expense which costs typical supermarkets 1-2 percent of sales. Part of the club store formula

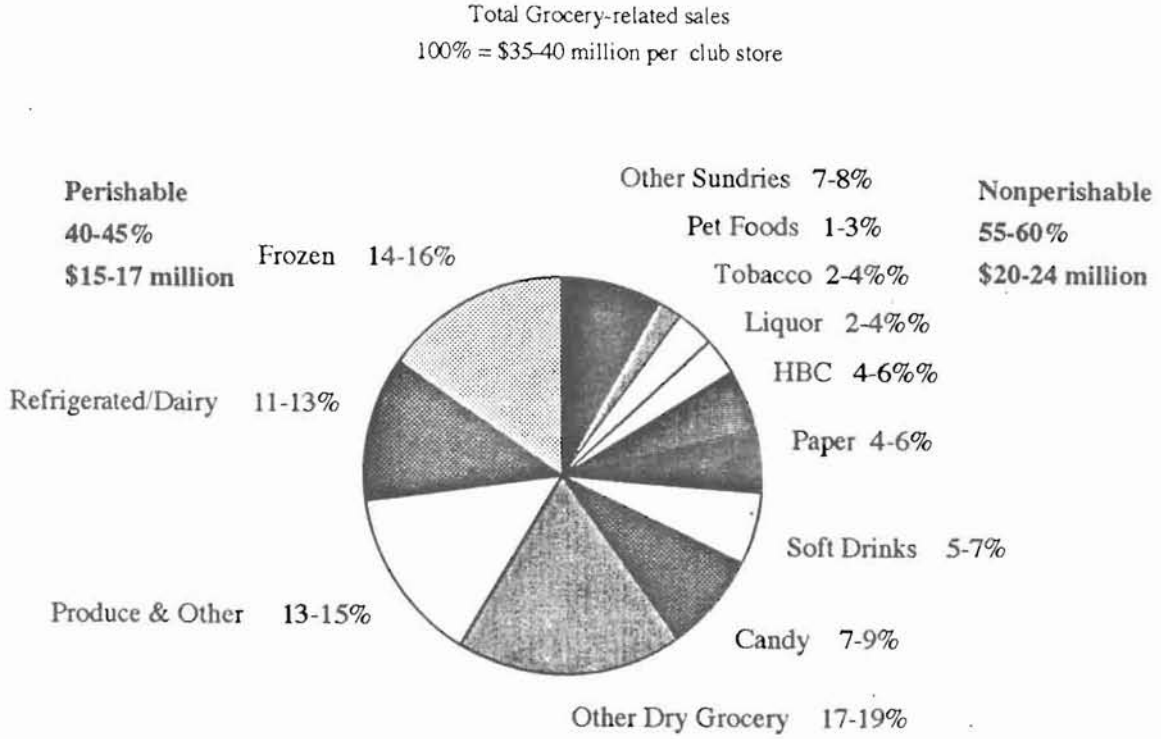
is minimal advertising and promotion. This approach flows from its "everyday low price" strategy and membership requirements. Club stores do not require high visibility or high traffic locations, two conditions that tend to command the higher rents which supermarkets typically must pay.

Moreover, club store operations require less administrative and general expense due to the simplicity of their operations: fewer levels of management, less staff training needed and less maintenance and repair. One key operating efficiency arises from the merchandising philosophy of club stores. In most cases, club stores have a negative net inventory investment; this greatly reduces working capital needs. In other words, club stores stock only items with high turnover so they literally sell product through their stores before they pay for it. Supermarket operators typically offer consumers enough variety and selection to achieve "one-stop" shopping. Hence they must stock many slow moving products and thus may have millions of dollars invested in each store's inventory at any time.

Total sales of wholesale club stores operated by the major club operators averaged $58 million per store in 1991. FMI estimates that 55-65 percent or about $32-$38 million of each club store's sales are from grocery-related products. Of these grocery related sales, approximately 40-45 percent are perishable products including produce, refrigerated and frozen foods products (Figure 3).

**FIGURE 3**

**Distribution of Grocery-Related Sales at Wholesale Clubs**




Source: FMI, 1992

The remainder of grocery-related wholesale club sales are non-perishable, dry grocery product. In New York state, wholesale clubs can sell liquor, wine and beer while supermarkets can sell only beer. Likewise, in New Jersey where supermarkets can only sell wine and beer, wholesale clubs may also sell liquor.

Nationwide, by the end of 1991, there were 495 wholesale clubs with total annual sales of $27.8 billion. However, sales were projected to grow to almost $35 billion in 1992 with over 90 new stores expected by year's end. To date the largest number of wholesale club stores have been developed on the West Coast (Table 1). Although the New England region experienced the highest growth rate in wholesale club stores and sales in 1991, the Middle Atlantic states of New York, New Jersey, and Pennsylvania registered the second fastest growth rates in wholesale club stores (31%) and sales (35%) between 1990 and 1991. Both growth rates were more than double those of the other 7 regions excluding New England.

**TABLE 1**
**Wholesale Club Growth by Region, 1988-1991**

| | NO. OF STORES | | | | SALES ($ BIL.) | | | |
|---|---|---|---|---|---|---|---|---|
| REGION | 1991 | 1990 | 1989 | 1988 | 1991 | 1990 | 1989 | 1988 |
| New England | 26 | 16 | 10 | 8 | 1.3 | 0.7 | 0.5 | 0.3 |
| Middle Atlantic | 38 | 29 | 20 | 17 | 2.0 | 1.5 | 0.9 | 0.7 |
| East North Central | 78 | 67 | 59 | 41 | 3.3 | 2.7 | 2.1 | 1.2 |
| West North Central | 27 | 23 | 24 | 16 | 1.2 | 1.0 | 0.9 | 0.5 |
| South Atlantic | 85 | 74 | 64 | 56 | 4.5 | 4.1 | 3.1 | 2.6 |
| East South Central | 21 | 19 | 18 | 19 | 1.0 | 0.8 | 0.7 | 0.7 |
| West South Central | 62 | 52 | 51 | 51 | 2.8 | 2.3 | 2.0 | 1.9 |
| Mountain | 33 | 30 | 25 | 26 | 2.0 | 1.9 | 1.5 | 1.4 |
| Pacific | 105 | 97 | 86 | 79 | 7.1 | 6.8 | 5.8 | 4.7 |

Source: The Discount Merchandiser, June 1992

## FUTURE PROSPECTS

In its recent report on alternative retail food formats, the Food Marketing Institute (FMI) projected approximately 950 wholesale clubs by the end of the decade (Table 2). While forecasting more than double the current number of clubs, the FMI report also predicts that grocery related sales will more than triple. These predictions reflect both anticipated increases in wholesale club sales and a greater emphasis on grocery related products in the wholesale club product mix.

**TABLE 2**
**Ten Year Growth Projections for Wholesale Clubs**

| | 1991 | 2001* | % INCREASE |
|---|---|---|---|
| **UNITED STATES** | | | |
| No. of Stores | 450 | 950 | + 111% |
| Grocery related sales | $11 bil. | $39 bil. | + 255% |
| **NEW YORK/NEW JERSEY** | | | |
| No. of stores | 30 | 152 | + 407% |
| Grocery related sales | $574 mil. | $5.9 bil. | + 935% |

Source: Food Marketing Institute, 1992.
Cornell University, 1992.

*Projected

FMI's projection of 950 wholesale clubs by the year 2001 is based on the assumption that wholesale club penetration across all major metro markets in the U.S. will reach the level of the current most saturated markets: about 1 club store for every 150,000 to 175,000 people. Applying this standard to the combined population of New York and New Jersey results in an estimated maximum of 152 club stores possible for the two state area. Compared with Cornell's estimate of 30 wholesale clubs in operating during 1991 in New York and New Jersey, 152 club stores by the year 2001 represents an increase of 407%.

Similarly, New York/New Jersey grocery related wholesale club sales in the year 2001 can be roughly estimated at $5.9 billion, an increase of 935% over the 1991 estimate of approximately $574 million. Comparing the New York/New Jersey projections of sales and stores for the year 2001 with FMI's projections for the nation reveals that almost a quarter (24.4%) of the total growth in wholesale clubs projected for the U.S. will occur in New York and New Jersey.

U.S. Situation

The most complete data available on U.S. agricultural cooperatives is collected through an annual survey of marketing, farm supply and selected service cooperatives conducted by the Agricultural Cooperative Service (ACS), USDA. Results of the most recent survey are summarized in Table 1.

Table 1. United States Agricultural Cooperative Numbers, Business Volume, and Net Income 1990-91

| Major Business Activity | Number | | Net Volume | | Net Income | |
|---|---|---|---|---|---|---|
| | 1990 | 1991 | 1990 | 1991 | 1990 | 1991 |
| | | | ($ billion) | | ($ million) | |
| Marketing | 2,519 | 2,378 | 57.8 | 56.2 | 816.0 | 810.3 |
| Supply | 1,717 | 1,689 | 17.1 | 17.9 | 525.6 | 639.0 |
| Service | 427 | 422 | 2.3 | 2.5 | 98.1 | 120.5 |
| TOTAL | 4,663 | 4,489 | 77.2 | 76.6 | 1,439.7 | 1,569.9 |

Source: Farmer Cooperative Statistics, 1989, Service Report No. 29, USDA, ACS, Washington, DC. (December, 1990) and preliminary 1991 statistics.

The number of cooperatives in the United States has continued to decline to a total of 4,489 in 1991, a net decrease of 174 associations. This is primarily due to the consolidation and merger of local marketing and supply cooperatives in the mid-west. Total net business volume which excludes intercooperative business amounted to $76.6 billion, down from the record $77.3 billion in 1990. Total net income for 1991 was $1.57 billion, up from $1.43 billion in 1990.

Preliminary data for 1991 shows combined assets for all cooperatives totaled $31.4 billion, a 4.6 percent increase from 1990. Net worth totaled $14.1 billion, up 4.9 percent. Total liabilities were $17.3 billion in 1991 up 4.4 percent from the previous year.

New York State Situation

Data for agricultural cooperatives headquartered in New York State were obtained from the ACS survey cited previously. State level data is collected every other year. The most current statistics available are for 1989 and 1991. Table 2 summarizes cooperative numbers and business volume for New York State.

Table 2. New York State Agricultural Cooperative Numbers and Business Volume by Major Business Activity, 1989 and 1991

| Major Business Activity | Number Headquartered in State | | Gross Volume | |
|---|---|---|---|---|
| | 1989 | 1991 | 1989 | 1991 |
| | | | ($ million) | |
| Marketing: | | | | |
| Dairy | 57 | 65 | 962.1 | 1,059.4 |
| Fruit & Veg. | 7 | 8 | 223.8 | 163.7 |
| Grains | NA[1] | NA | 27.1 | NA |
| Livestock | 4 | 5 | 58.9 | 61.3 |
| Other[2] | NA[1] | 4 | 16.0 | 42.8 |
| TOTAL MARKETING[3] | 72 | 82 | 1,287.9 | 1,327.3 |
| Supply: | | | | |
| Building Materials | | | 21.3 | NA |
| Containers & Packaging | | | 3.2 | NA |
| Farm Chemicals | | | 50.9 | 37.3 |
| Farm Machinery & Equip. | | | 34.1 | NA |
| Feed | | | 263.7 | 238.4 |
| Fertilizer | | | 68.2 | 110.5 |
| Meats & Groceries | | | 2.7 | NA |
| Petroleum | | | 519.6 | 305.4 |
| Seed | | | 27.3 | 26.5 |
| Misc. Supplies | | | 189.5 | 243.8 |
| TOTAL SUPPLYING | 91 | 82 | 1,180.5 | 962.1 |
| Related Services | 4 | 6 | 26.1 | 113.2 |
| TOTAL[3] | 168 | 170 | 2,494.5 | 2,402.5 |

Source: Farmer Cooperative Statistics, 1989, Service Report No. 29, USDA, ACS, Washington, DC. (December, 1990) and prelimary 1991 statistics.

[1] Not available to avoid disclosure of individual cooperative data.

[2] Other includes wool, poultry, dry bean, grains and miscellaneous.

[3] Totals may not add due to inclusion of cooperatives listed under not available and some cooperatives conducting two or more activities.

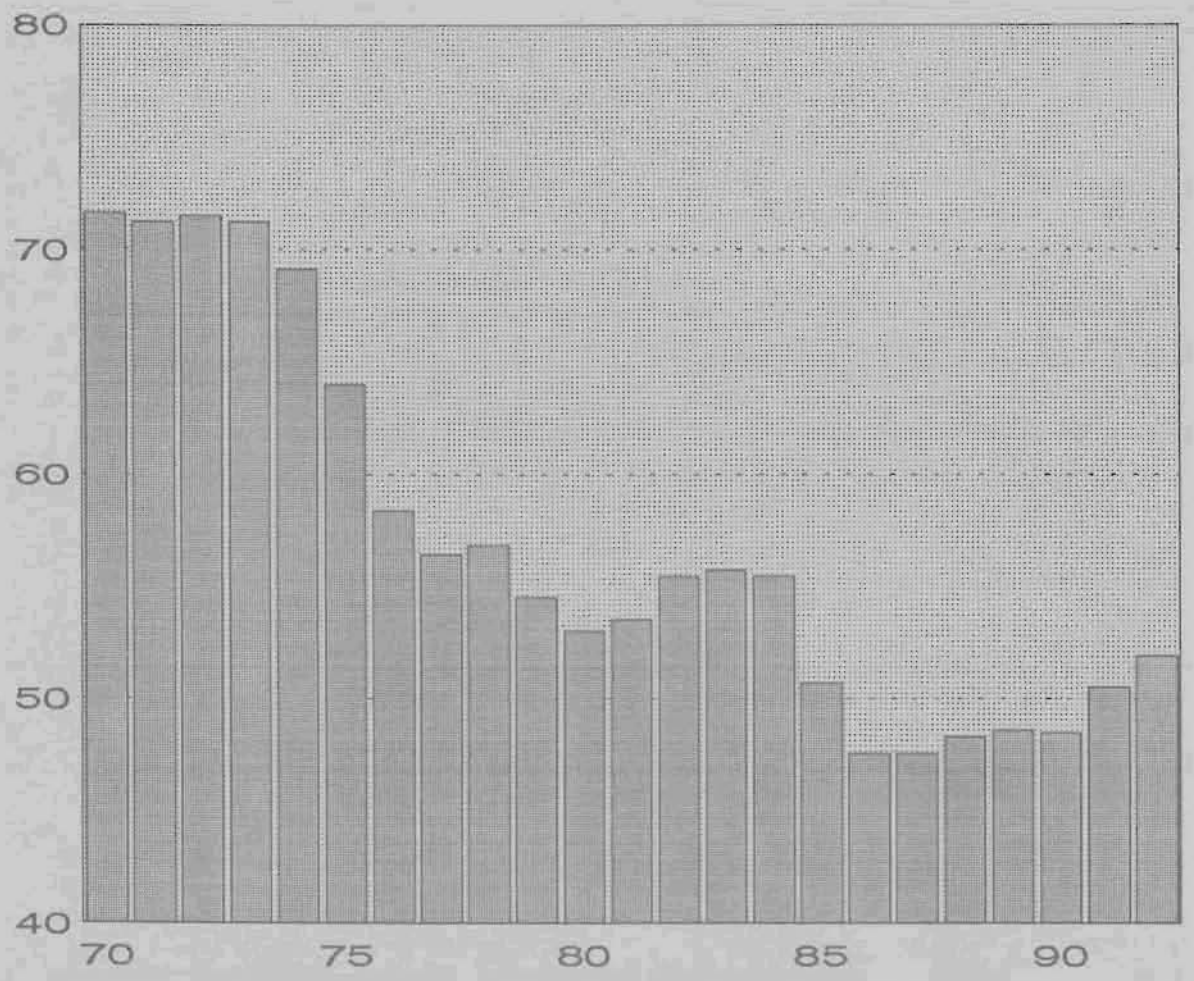
The number of agricultural cooperatives in New York State in 1991 showed a net increase of 2 cooperatives with an increase in dairy cooperatives and a decrease in the number of supply cooperatives. Total gross business volume declined by $92 million, a decrease of 3 percent from 1989. Supply cooperative volume decreased while cooperative service and marketing volume increased. Dairy cooperatives showed an increase in volume over the two year period. A reporting change for business categorized as related services contributed to the sharp increase in volume reported under related services.

New York Cooperative Performance

Most agricultural cooperatives operating in New York had stable to improved results in 1992, with a few very notable exceptions. Economic sluggishness in most sectors of the U.S. economy continued to pressure earnings, but most cooperatives adapted rather well. More troublesome was a late, wet, and cool growing season. The impact of poor weather conditions may show up in the 1992-93 economic performance of cooperatives.

Let's start with dairy marketing cooperatives. Figure 1 illustrates the proportion of Order 2 milk marketed by Northeast cooperatives. Cooperatives' market share has been increasing since early 1987 when it reached a low of approximately 47 percent. By early 1992 cooperative market share was over 52 percent.

Figure 1. Cooperative Share of Producer Milk Receipts, Federal Milk Marketing Order 2, 1970-92.




* 1992 based on first four months.

Source: Market Administrator Office, NY-NJ Federal Milk Marketing Order

The figure also offers an interesting historical lesson. In the early 1970's the cooperative share of producer milk receipts remained constant at about 71 percent. In the mid to late 1970's two major dairy cooperatives experienced financial difficulties. After bottoming out at 53 percent in 1980, cooperative market share began to increase. However, in the mid 1980's a third dairy cooperative encountered financial problems that cost farmers money and resulted in the organization's demise. Again, cooperative market share took a significant hit. The primary point of Figure 1 is that economic performance of dairy cooperatives is a key factor effecting cooperative membership and milk volume handled.

Sales by major dairy cooperatives were about the same in fiscal year 1992 as in 1991 with some organizations slightly higher and others lower. Milk volume and number of members were stable or up somewhat. Lower sales were due to slightly lower average milk prices for the cooperatives' 1991-92 fiscal years.

Northeast bargaining cooperatives slightly increased the volume of milk marketed and earnings. Organizations which perform balancing activities handled significantly higher volumes, but generally experienced reduced earnings due to low prices for butter and non-fat milk powder. In fact, one cooperative experienced a substantial loss from balancing operations. This problem has recently been addressed through a change in the milk marketing order pricing mechanism.

During the year a small New England dairy cooperative with a well-respected brand franchise merged with a larger dairy cooperative. The merger was driven by the capital needs required by the small cooperative's marketing program. The merger presents a very good geographic and product fit that should provide economic benefits to members of both cooperatives almost immediately.

A cooperative with fluid milk operations had a slight increase in sales and lower earnings. Earnings were probably impacted more by balancing operations than fluid milk activities. However, it is generally recognized that the fluid milk market in the Northeast continues to provide a difficult economic environment.

Dairy service cooperatives, such as dairy herd improvement, artificial insemination, and livestock auctions continued to experience the effects of declining cows numbers. However, the earnings of all three remained about the same as the previous year.

One dairy service cooperative with significant international sales continued to experience flat foreign sales despite a favorable exchange rate. Another dairy service cooperative continued to experience double digit sales increases from forage testing services. The livestock auction business continued to feel the effects of declining cattle numbers and excess capacity.

The major supply cooperative in the region experienced slightly lower sales and a very significant loss. The loss was due to a write-off from restructuring charges. Without the restructuring charge operating income would have been about equivalent to the prior year when it reported a minor loss. Compared to last year, net income was positively impacted by lower interest rates and a deferred payment from the prior sale of an operation. Most of the restructuring charge was assigned to the agribusiness unit. A new strategy for this segment was adopted and is designed to be more flexible and sensitive to the demands

of farmers, reduce cost structure, and result in more competitive prices. A significant component of the strategy is direct ordering, delivery and billing of farm supplies. While this removes one segment of the market channel, it also calls into question the future role of the cooperative's extensive store system. Consolidation of that system is likely.

The major New York fruit and vegetable cooperatives process and market consumer products themselves or in conjunction with a partner. Although these organizations faced extremely sluggish consumer demand, their total revenues and earnings increased significantly.

The major grape cooperative reported significantly increased sales and earnings. While the organization marketed the largest grape crop in history and payments per ton to growers were modesty lower, the larger crop resulted in higher total payment to growers. Probably no crop was more adversely effected by the 1992 weather than grapes. Late maturity combined with extremely low sugar content has the potential to impact product quality in the coming year.

The major fruit and vegetable cooperative in the state is in an arrangement with a company that processes and markets consumer products that uses member commodities. The cooperative's revenues experienced a modest increase, while net income increased significantly. In addition to an increase in the total amount paid for members' products in 1992, the cooperative was able to make a patronage distribution of 14.5 percent above competitive market prices compared to a 1.1 percent distribution in 1991.

Outlook

The 1992 outlook for major New York agricultural cooperatives will depend on four factors.

The first factor is the economic health of the dairy economy, which is directly correlated with the price of milk. The entire dairy industry, both cooperative and otherwise, is undergoing a gradual restructuring. Current indications are that milk prices will continue in their current range. This should encourage continuation of a systematic and conscientious restructuring. A sharp decrease in milk prices would speed the process as the industry must quickly adjust to fewer farmers and lower volumes of milk. This would not only impact dairy marketing cooperatives, but also dairy service and supply cooperatives. Higher milk prices may temporarily slow the restructuring.

The second factor impacting New York cooperatives is the state of the general economy. Demand for food products and the profitability of most agribusiness firms have been adversely affected by the sluggish economy. If a gradual and modest recovery occurs as is currently predicted, this should have a positive effect on New York cooperatives, especially those marketing consumer products.

The third factor of importance will be how the poor 1992 growing season will effect cooperatives in the coming months. Poor quality feeds and forages could reduce milk production, increase milk prices, and increase purchases of feed concentrates. Some cooperatives must deal with less quantity and/or commodities of lower quality. This could have an adverse effect on both revenues and earnings.

The final factor influencing the performance of New York cooperatives is the strategies pursued and the ability of management to implement those strategies. Over the last decade cooperatives have definitely adopted more realistic, aggressive, market oriented strategies that have enhanced sales and earnings. Moreover, there have been significant improvements in the quality of management. However, cooperatives can not relax. Changes in the agricultural economy require constant vigilance and adjustment in strategies. The pace of this change is only likely to increase.

**United States Farm Balance Sheet**
**Current Dollars, December 31**
**Including Operator Households**

| Item | 1970 | 1975 | 1980 | 1985 | 1989 | 1990 | 1991 |
|---|---|---|---|---|---|---|---|
| | | | --billion dollars-- | | | | |
| *Assets* | | | | | | | |
| Real Estate | 225 | 421 | 850 | 657 | 704 | 711 | 706 |
| Livestock | 24 | 29 | 61 | 46 | 66 | 71 | 68 |
| Machinery | 34 | 63 | 87 | 89 | 89 | 89 | 88 |
| Crops & Supplies[a] | 8 | 21 | 33 | 24 | 26 | 26 | 27 |
| Household | 10 | 14 | 19 | 28 | 42 | 46 | 50 |
| Financial Assets | 23 | 31 | 39 | 49 | 59 | 61 | 66 |
| Total | 324 | 579 | 1,089 | 893 | 986 | 1,004 | 1,005 |
| *Liabilities and Equity* | | | | | | | |
| RE Debt | 31 | 50 | 98 | 106 | 80 | 78 | 79 |
| NonRE Debt[b] | 22 | 41 | 81 | 82 | 66 | 67 | 68 |
| Total | 53 | 91 | 179 | 188 | 146 | 145 | 147 |
| Owner Equity | 271 | 488 | 910 | 705 | 840 | 859 | 858 |
| Total | 324 | 579 | 1,089 | 893 | 986 | 1,004 | 1,005 |
| % Equity | 84 | 84 | 84 | 79 | 85 | 85 | 85 |

**Changes in Structure, U.S. Farm Balance Sheet**
**Current Dollars, December 31**

| Item | 1970 | 1975 | 1980 | 1985 | 1989 | 1990 | 1991 |
|---|---|---|---|---|---|---|---|
| | | | --percent of total-- | | | | |
| *Assets* | | | | | | | |
| Real Estate | 69 | 73 | 78 | 74 | 71 | 71 | 70 |
| Livestock | 7 | 5 | 6 | 5 | 7 | 7 | 6 |
| Machinery | 10 | 11 | 8 | 10 | 9 | 9 | 9 |
| All Other[a] | 14 | 11 | 8 | 11 | 13 | 13 | 15 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| *Liabilities* | | | | | | | |
| RE Debt | 58 | 55 | 55 | 56 | 55 | 54 | 54 |
| NonRE Debt[b] | 42 | 45 | 45 | 44 | 45 | 46 | 46 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

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

*Source: Economic Research Service, USDA.*

**Distribution of United States Farm Debt by Lender**
**Current Dollars, December 31**
**Including Farm Households**

| Item | 1970 | 1975 | 1980 | 1985 | 1989 | 1990 | 1991 |
|---|---|---|---|---|---|---|---|
| | | | | *--billion dollars--* | | | |
| *Real Estate* | | | | | | | |
| Farm Credit System | 7.1 | 16.0 | 36.2 | 44.6 | 28.5 | 26.9 | 26.7 |
| Individuals & Others | 11.4 | 17.3 | 30.2 | 27.2 | 16.7 | 16.0 | 16.5 |
| Commercial Banks | 3.8 | 6.3 | 8.6 | 11.4 | 17.0 | 17.2 | 18.4 |
| Farmers Home Admin. | 2.4 | 3.4 | 8.2 | 10.4 | 8.7 | 8.1 | 7.5 |
| Insurance Companies | 5.6 | 6.7 | 12.9 | 11.8 | 9.6 | 10.2 | 10.0 |
| CCC - Storage | .2 | .2 | 1.4 | .3 | a | a | a |
| Total | 30.5 | 49.9 | 97.5 | 105.7 | 80.5 | 78.4 | 79.1 |
| *Nonreal Estate*[b] | | | | | | | |
| Commercial Banks | 11.1 | 20.2 | 31.6 | 35.5 | 30.8 | 32.9 | 34.6 |
| Farmers Home Admin. | .8 | 1.8 | 11.4 | 16.7 | 12.3 | 10.7 | 9.3 |
| Merchants & Dealers | 4.9 | 8.5 | 17.7 | 15.4 | 12.5 | 13.0 | 13.2 |
| Farm Credit System | 5.5 | 11.1 | 20.5 | 14.6 | 9.9 | 10.1 | 10.7 |
| Total | 22.3 | 41.6 | 81.2 | 82.2 | 65.5 | 66.7 | 67.8 |

**United States Farm Debt**
**Market Share by Lender**
**Current Dollars, December 31**

| Item | 1970 | 1975 | 1980 | 1985 | 1989 | 1990 | 1991 |
|---|---|---|---|---|---|---|---|
| | | | | *--percent of total--* | | | |
| Farm Credit System | 24 | 30 | 32 | 32 | 26 | 25 | 26 |
| Commercial Banks | 28 | 29 | 23 | 25 | 33 | 35 | 36 |
| Farmers Home Adm. | 6 | 6 | 11 | 14 | 14 | 13 | 11 |
| Ins. Companies | 11 | 7 | 7 | 6 | 7 | 7 | 7 |
| Indiv. & Merchants | 31 | 28 | 27 | 23 | 20 | 20 | 20 |
| Total[b] | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

[a] Less than .05 billion.
[b] Excludes CCC crop loans.

*Source: ERS, USDA.*

**New York Farm Balance Sheet**
**Current Dollars, December 31**
**Including Farm Households**

| Item | 1970 | 1975 | 1980 | 1985 | 1989 | 1990 | 1991 |
|---|---|---|---|---|---|---|---|
| | | | | --million dollars-- | | | |
| *Assets* | | | | | | | |
| Real Estate | 3,157 | 5,862 | 7,266 | 7,671 | 8,521 | 9,098 | 9,055 |
| Livestock | 536 | 653 | 1,527 | 983 | 1,291 | 1,258 | 1,263 |
| Machinery | 859 | 1,410 | 2,124 | 1,997 | 1,923 | 1,913 | 1,904 |
| Crops & Supplies[a] | 212 | 396 | 579 | 516 | 528 | 604 | 504 |
| Household | 289 | 306 | 313 | 521 | 678 | 823 | 898 |
| Financial Assets | 342 | 353 | 378 | 471 | 559 | 581 | 650 |
| Coop. Investments | 186 | 313 | 455 | 493 | 473 | 471 | 475 |
| Total | 5,581 | 9,293 | 12,642 | 12,652 | 13,973 | 14,748 | 14,749 |
| *Liabilities & Equity* | | | | | | | |
| Real Estate Debt | 430 | 758 | 1,217 | 1,225 | 1,117 | 971 | 918 |
| NonRE Debt[b] | 435 | 787 | 1,661 | 1,561 | 1,246 | 1,342 | 1,227 |
| Total Debt | 865 | 1,545 | 2,878 | 2,786 | 2,363 | 2,313 | 2,145 |
| Equity | 4,716 | 7,748 | 9,764 | 9,866 | 11,610 | 12,435 | 12,604 |
| Total | 5,581 | 9,293 | 12,642 | 12,652 | 13,973 | 14,748 | 14,749 |
| % Equity | 85 | 83 | 77 | 78 | 83 | 84 | 85 |

**Changes in Structure, New York Farm Balance Sheet**
**Current Dollars, December 31**

| Item | 1970 | 1975 | 1980 | 1985 | 1989 | 1990 | 1991 |
|---|---|---|---|---|---|---|---|
| | | | | --percent of total-- | | | |
| *Assets* | | | | | | | |
| Real Estate | 57 | 63 | 57 | 60 | 61 | 62 | 61 |
| Livestock | 10 | 7 | 12 | 8 | 9 | 8 | 9 |
| Machinery | 15 | 15 | 17 | 16 | 14 | 13 | 13 |
| All Other | 18 | 15 | 14 | 16 | 16 | 17 | 17 |
| Total[a] | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| *Liabilities* | | | | | | | |
| Real Estate Debt | 50 | 49 | 42 | 44 | 47 | 42 | 43 |
| NonRE Debt[b] | 50 | 51 | 58 | 56 | 53 | 58 | 57 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

[a] Excludes crops under CCC loan.
[b] Excludes CCC loans. All FmHA Emergency Loans are classified as nonreal estate. Total includes some nonreal estate loans made by New York City institutions to businesses outside New York State.

*Source: ERS, USDA.*

**New York Farm Debt by Lender**
**Current Dollars, December 31**
**Includes Farm Households**

| | 1970 | 1975 | 1980 | 1985 | 1989 | 1990 | 1991 |
|---|---|---|---|---|---|---|---|
| | | | | *--million dollars--* | | | |
| *Real Estate* | | | | | | | |
| Farm Credit System | 120 | 315 | 432 | 489 | 462 | 436 | 367 |
| Individuals & Others | 174 | 257 | 439 | 396 | 247 | 233 | 240 |
| Commercial Banks | 85 | 121 | 126 | 96 | 220 | 125 | 146 |
| Farmers Home Admin. | 42 | 55 | 170 | 209 | 177 | 168 | 158 |
| Insurance Companies | 9 | 9 | 31 | 29 | 11 | 9 | 7 |
| CCC - Storage | a | 1 | 19 | 6 | a | a | a |
| Total | 430 | 758 | 1,217 | 1,225 | 1,117 | 971 | 918 |
| *Nonreal Estate* | | | | | | | |
| Commercial Banks | 164 | 281 | 665 | 629 | 402 | 439 | 352 |
| Farmers Home Admin. | 29 | 42 | 323 | 326 | 264 | 250 | 235 |
| Farm Credit System | 145 | 293 | 341 | 344 | 369 | 433 | 416 |
| Merchants & Dealers | 96 | 171 | 332 | 262 | 212 | 220 | 224 |
| Total | 434 | 787 | 1,661 | 1,561 | 1,247 | 1,342 | 1,227 |

**New York State Farm Debt**
**Market Share by Lender**
**Current Dollars, December 31**

| Lender | 1970 | 1975 | 1980 | 1985 | 1989 | 1990 | 1991 |
|---|---|---|---|---|---|---|---|
| | | | | *--percent of total farm debt--* | | | |
| Commercial Banks | 29 | 26 | 28 | 26 | 26 | 24 | 23 |
| Farm Credit System | 31 | 39 | 27 | 30 | 35 | 38 | 37 |
| Farmers Home Admin. | 8 | 6 | 17 | 19 | 19 | 18 | 18 |
| Insurance Companies | 1 | 1 | 1 | 1 | 1 | a | a |
| Indiv. & Merchants | 31 | 28 | 27 | 24 | 19 | 20 | 22 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

[a] Less than .5.

*Source: ERS, USDA.*

**Nonaccrual Farm Loans**
**Farm Credit System, December 31**

| Year | Total System | Springfield District |
|---|---|---|
| | *--percent of loan volume--* | |
| 1985[a] | 7.7 | .8 |
| 1986[a] | 12.9 | 2.4 |
| 1987 | 11.8 | 1.1 |
| 1988 | 8.0 | 0.6 |
| 1989 | 6.3 | 0.4 |
| 1990 | 6.3 | 1.5[b] |
| 1991 | 5.5 | 2.5 |

[a] Weighted average for PCA and FLB's for 1984-87.
[b] More conservative standards implemented.
*Source: Annual FCA and Quarterly FCCA Reports.*

**Nonaccrual Farm Nonreal Estate Loans**
**Commercial Banks, December 31**

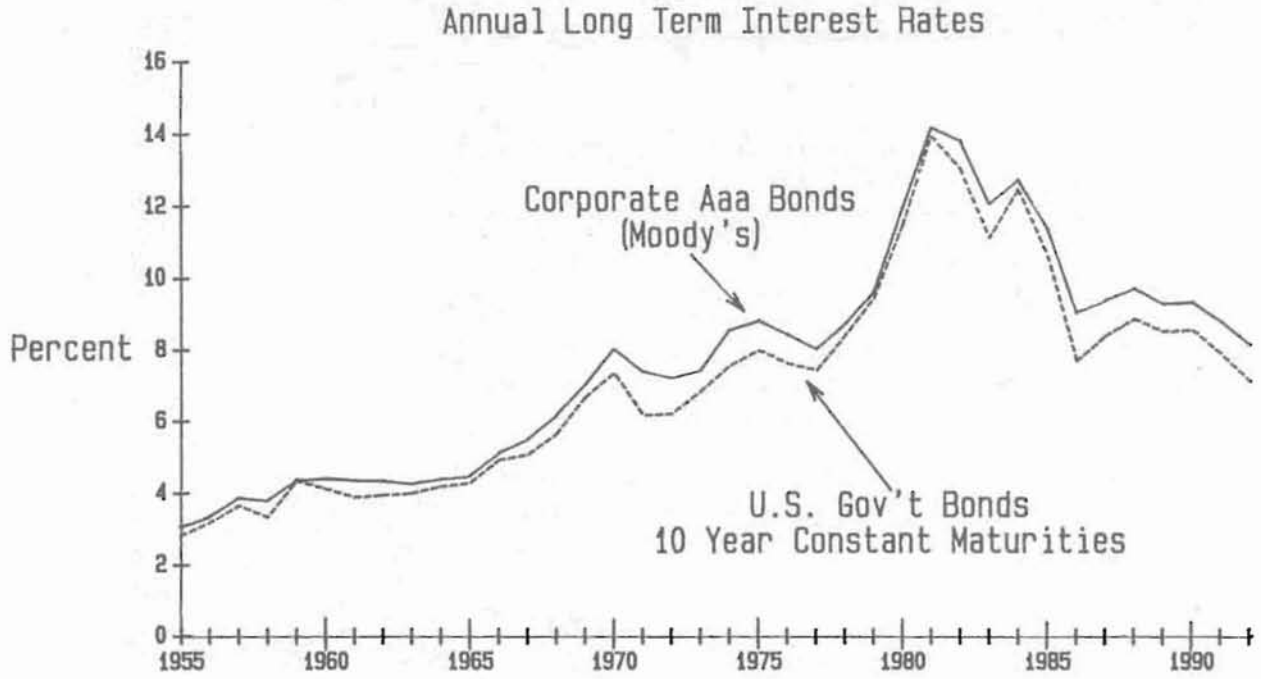
| Year | United States |
|---|---|
| | *-percent of loan volume-* |
| 1985 | 6.1 |
| 1986 | 5.9 |
| 1987 | 4.2 |
| 1988 | 2.9 |
| 1989 | 1.9 |
| 1990 | 1.6 |
| 1991 | 1.6 |
| 1992 (June 30) | 1.7 |

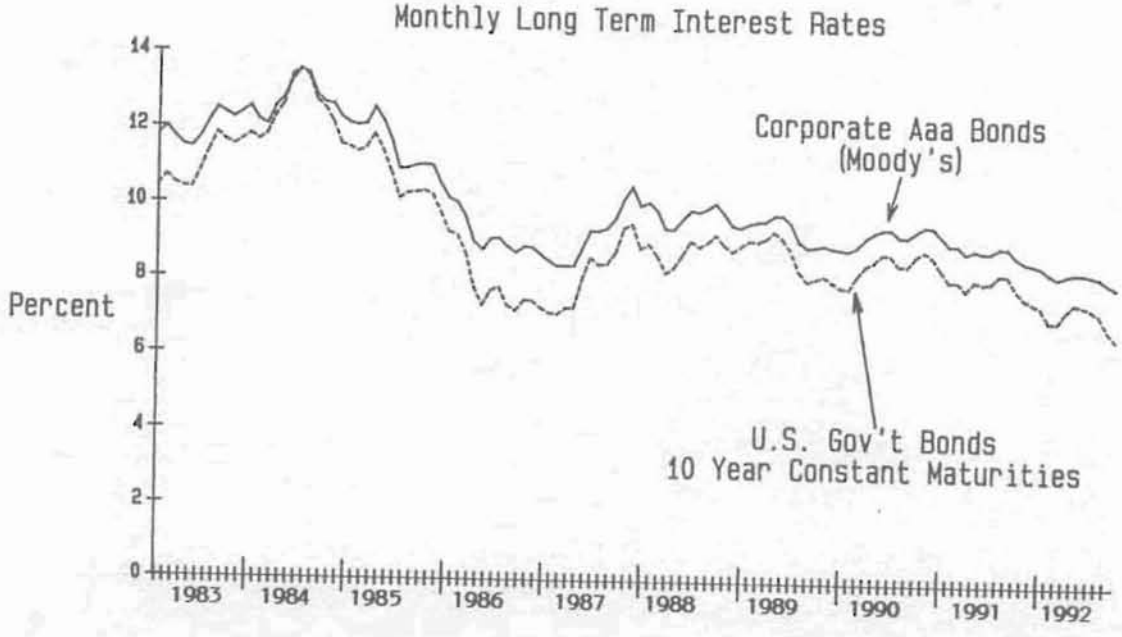
*Source: Agricultural Finance Databook. Reports of Condition and Income.*

**Delinquent[a] Major Farm Program Loans**
**Farmers Home Administration**

| | Farm Ownership | | Operating Loans | | Emergency Loans | | Economic Emergency | | Soil and Water | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | U.S. | N.Y. | U.S. | N.Y. | U.S. | N.Y. | U.S. | N.Y. | U.S. | N.Y. |
| | | | | | *--percent of loan volume--* | | | | | |
| 9/30/87 | 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 |

[a] Delinquent loans is a more encompassing definition then nonaccrual. As of 06/30/92 total delinquent loans were 3.3 percent for commercial banks and total high risk assets excluding accruing restructured loans for the total Farm Credit System were 10.0 percent.
*Source: FmHA Report Code 616.*

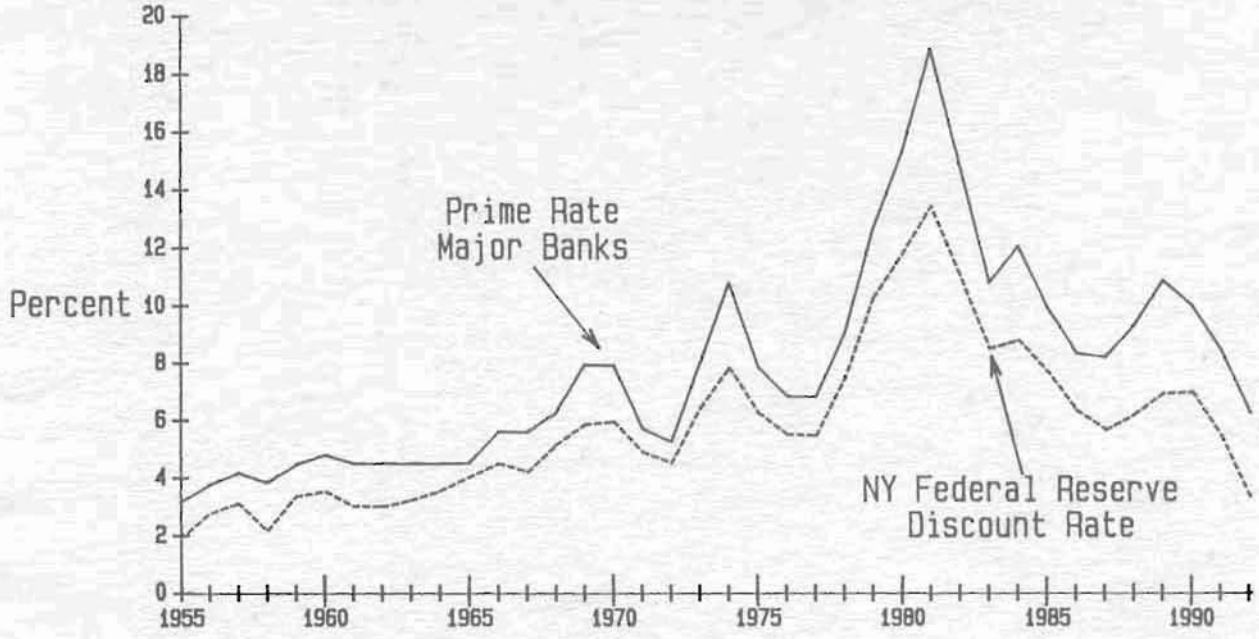


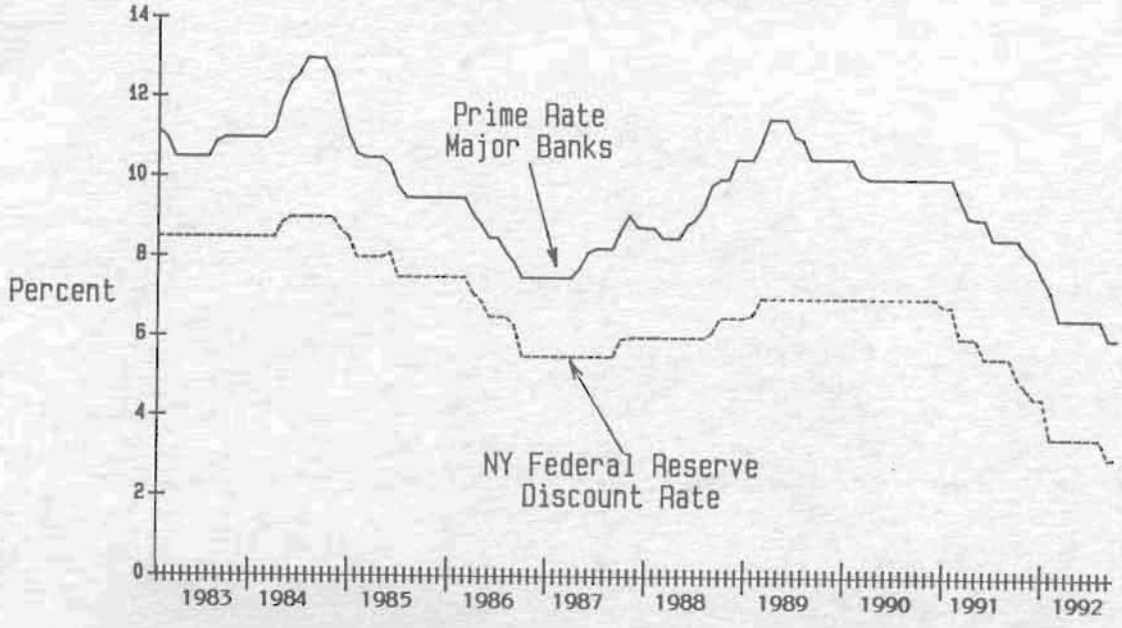

**U.S. Government Bonds**
**10 Year Constant Maturities**

| | *1991* | *1992* |
|---|---|---|
| JAN | 8.09 | 7.03 |
| FEB | 7.85 | 7.34 |
| MAR | 8.11 | 7.54 |
| APR | 8.04 | 7.48 |
| MAY | 8.07 | 7.39 |
| JUN | 8.28 | 7.26 |
| JUL | 8.27 | 6.84 |
| AUG | 7.90 | 6.59 |
| SEP | 7.65 | |
| OCT | 7.53 | |
| NOV | 7.42 | |
| DEC | 7.05 | |

## Annual Average Short Term Interest Rates




## Monthly Short Term Interest Rates




**Prime Rate Major Banks**

| | *1991* | *1992* |
|---|---|---|
| JAN | 9.52 | 6.50 |
| FEB | 9.05 | 6.50 |
| MAR | 9.00 | 6.50 |
| APR | 9.00 | 6.50 |
| MAY | 8.50 | 6.50 |
| JUN | 8.50 | 6.50 |
| JUL | 8.50 | 6.02 |
| AUG | 8.50 | 6.00 |
| SEP | 8.20 | |
| OCT | 8.00 | |
| NOV | 7.58 | |
| DEC | 7.21 | |


Short term interest rates bottomed out during 1992. Rates declined modestly until late in the year when they returned to near beginning of year levels. Although interest rate movement was modest during 1992, average rates for 1992 were about two percentage points below average 1991 levels. Interest rates were considerably higher until late in 1991. Short term rates are now at their lowest level in 20 years.

Long term interest rates fluctuated modestly during 1992. These rates may also have bottomed out during the Fall. Average rates for 1992 were about three-quarters of a percent below 1991 levels. Long term rates have been strongly influenced by inflationary expectations. Most investors believe that future inflation will be higher than current levels, and thus, long term rates have not declined with declining current inflation rates.

Interest rates will likely increase very modestly in 1993. Short term rates could increase by one-half to one percent. At least part of any increase in short term rates could be considered a correction to get short term rates in line with the rate of inflation. A normal relationship would have basic short term rates somewhat above the rate of inflation so that investors get some real return on their investment.

Long term rates should remain relatively constant or increase slightly. Long term rates continue to be relatively high compared to short term rates, primarily due to inflationary expectations. With continued low inflation rates and only modest loan demand, long term rates will likely change little.

CROP PRODUCTION
United States and New York
1990-92 a/

| Crop | Acres Harvested | | | Yield Per Acre | | | Production | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 1991 | 1992 | 1990 | 1991 | 1992 | 1990 | 1991 | 1992 |
| United States | (million) | | | (bu.) | | | (million bu.) | | |
| Corn grain | 67.0 | 68.8 | 72.1 | 118.5 | 108.6 | 129.3 | 7,933 | 7,474 | 9,329 |
| Sorghum | 9.1 | 9.8 | 12.3 | 62.9 | 59.0 | 71.2 | 571 | 579 | 878 |
| Oats | 5.9 | 4.8 | 4.5 | 60.1 | 50.7 | 65.6 | 357 | 243 | 295 |
| Barley | 7.5 | 8.4 | 7.3 | 55.9 | 55.2 | 62.4 | 419 | 464 | 456 |
| Wheat | 69.4 | 57.7 | 62.4 | 39.5 | 34.3 | 39.4 | 2,739 | 1,981 | 2,459 |
| Soybeans | 56.5 | 58.0 | 58.1 | 34.0 | 34.2 | 37.3 | 1,922 | 1,987 | 2,167 |
| New York | (thousand) | | | (bu.) | | | (thousand bu.) | | |
| Corn grain | 620 | 660 | 750 | 98 | 98 | 103 | 60,760 | 64,680 | 77,250 |
| Oats | 135 | 100 | 110 | 61 | 50 | 70 | 8,235 | 5,000 | 7,700 |
| Wheat | 145 | 110 | 110 | 49 | 49 | 56 | 7,105 | 5,390 | 6,160 |
| | | | | (tons) | | | (thousand tons) | | |
| Corn silage | 580 | 550 | NA | 15 | 14 | NA | 8,700 | 7,700 | NA |
| All hay | 1,980 | 1,950 | 1,950 | 2.21 | 2.10 | 2.45 | 4,377 | 4,102 | 4,780 |
| Alfalfa b/ | 860 | 760 | 800 | 2.55 | 2.50 | 3.10 | 2,193 | 1,900 | 2,480 |

Source: USDA Crop Production and New York Crop Reporting Service.

a/ All 1992 data are preliminary and subject to revision. Estimates for the United States are as of November 1, 1992. New York estimates are as of October 1992, except for corn which is November 1992.
b/ Includes alfalfa mixtures.

Grain production in the United States in 1992 is projected to be well above year-earlier levels. Corn for grain production of 9.3 billion bushels is 25 percent above the 1991 crop and is the largest crop ever produced. Corn harvest progress is well behind normal. Sorghum production is up 51 percent from the 1991 level.

The production of oats is up 21 percent from the 1991 level. Barley production is down 2 percent from last year. Total feed grain production is up 25 percent from the 1991 level.

The soybean crop is about 9 percent above the 1991 crop. Wheat production of nearly 2.5 billion bushels is up 24 percent from the 1991 crop.

The New York corn for grain crop is forecast at 77 million bushels, up 25 percent from 1991. New York corn yield is expected to be 103 bushels per acre, up from 98 in 1991. At the time this was written, little of the New York corn for grain had been harvested, and the moisture level was extremely high. Wheat production is up 14 percent from 1991. The production of oats is estimated to be up 54 percent from 1991. Hay production is up 17 percent from the 1991 level.

CORN AND FEED GRAIN BALANCE SHEETS

| Item | 1989/90 | 1990/91 | 1991/92 (Prelim.) | 1992/93 (Proj.) |
|---|---|---|---|---|
| Supply | ----- CORN (million bushels) ----- | | | |
| Beginning Stocks (Sept. 1) | 1,930 | 1,344 | 1,521 | 1,100 |
| Production | 7,525 | 7,933 | 7,474 | 9,329 |
| Imports | 2 | 3 | 20 | 10 |
| Total | 9,458 | 9,281 | 9,015 | 10,439 |
| Disappearance | | | | |
| Feed and Residual | 4,455 | 4,710 | 4,897 | 5,200 |
| Food, Ind. and Seed | 1,290 | 1,325 | 1,434 | 1,485 |
| Total Domestic | 5,745 | 6,035 | 6,331 | 6,685 |
| Exports | 2,369 | 1,725 | 1,584 | 1,600 |
| Total | 8,113 | 7,760 | 7,915 | 8,285 |
| Ending Stocks (Aug. 30) | 1,344 | 1,521 | 1,100 | 2,154 |
| Season average farm price | $2.36 | $2.28 | $2.37 | $1.85-2.15 |
| Supply | -- FEED GRAINS a/ (million metric tons) -- | | | |
| Beginning Stocks | 65.9 | 45.5 | 47.7 | 34.0 |
| Production | 221.0 | 230.4 | 218.2 | 273.5 |
| Imports | 1.3 | 1.4 | 2.1 | 1.3 |
| Total | 288.2 | 277.4 | 268.0 | 308.7 |
| Disappearance | | | | |
| Feed and Residual | 134.3 | 138.5 | 142.2 | 152.4 |
| Food, Ind. and Seed | 38.7 | 39.8 | 42.2 | 43.6 |
| Total Domestic | 173.0 | 178.3 | 184.4 | 195.9 |
| Exports | 69.7 | 51.4 | 49.7 | 50.7 |
| Total | 242.7 | 229.7 | 234.1 | 246.6 |
| Ending Stocks | 45.5 | 47.7 | 34.0 | 62.1 |

Source: Agricultural Supply and Demand Estimates, USDA, November 10, 1992.

a/ Marketing year beginning September 1 for corn and sorghum, June 1 for barley and oats.

The fall 1992 corn supply of 10.4 billion bushels is up 16 percent from the 1991 level and the largest since 1987. Feed use is projected to increase 6 percent. Exports are projected to increase 1 percent from the 1991/92 level but be smaller than in the late 1980s. Total utilization is expected to be nearly 5 percent greater than in 1991/92. Projected carryover in the fall of 1993 of 2.2 billion bushels is nearly double the fall 1992 carryover and the largest since 1988.

Feedgrain supplies are dominated by corn, so changes in supply and demand are similar. The total supply of feedgrains is 15 percent above last year. Domestic feed use in the 1992/93 marketing year is projected to increase about 7 percent. Exports are projected to increase 2 percent. Carryover stocks at the end of the 1992/93 marketing year are projected to be 62 million metric tons, up 83 percent from the 1992 level and the largest since 1989.

WHEAT AND SOYBEAN BALANCE SHEETS

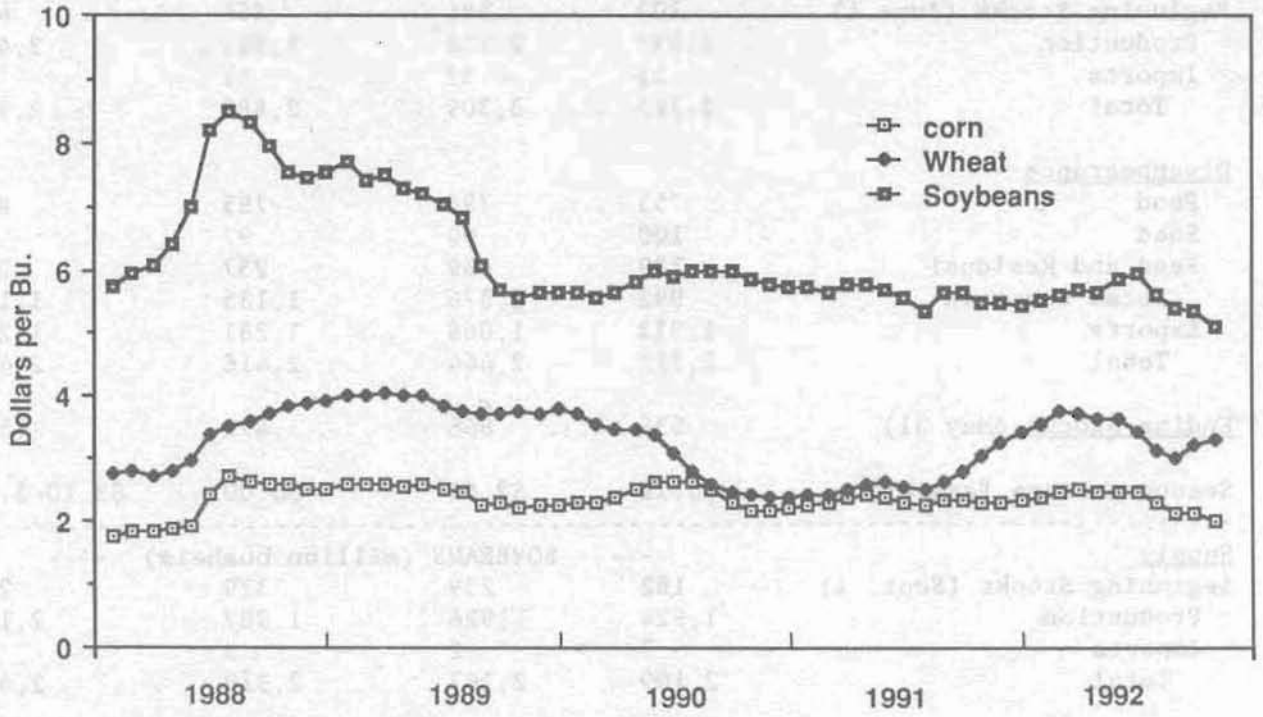
| Item | 1989/90 | 1990/91 | 1991/92 (Prelim.) | 1992/93 (Proj.) |
|---|---|---|---|---|
| Supply | ----- WHEAT (million bushels) ----- | | | |
| Beginning Stocks (June 1) | 702 | 536 | 866 | 472 |
| Production | 2,037 | 2,736 | 1,981 | 2,459 |
| Imports | 23 | 37 | 41 | 50 |
| Total | 2,762 | 3,309 | 2,888 | 2,981 |
| Disappearance | | | | |
| Food | 753 | 796 | 785 | 835 |
| Seed | 100 | 90 | 97 | 98 |
| Feed and Residual | 139 | 489 | 257 | 250 |
| Total domestic | 992 | 1,376 | 1,135 | 1,183 |
| Exports | 1,233 | 1,068 | 1,281 | 1,275 |
| Total | 2,225 | 2,444 | 2,416 | 2,458 |
| Ending Stocks (May 31) | 536 | 866 | 472 | 523 |
| Season average farm price | $3.72 | $2.61 | $3.00 | $3.10-3.30 |
| Supply | ----- SOYBEANS (million bushels) ----- | | | |
| Beginning Stocks (Sept. 1) | 182 | 239 | 329 | 278 |
| Production | 1,924 | 1,926 | 1,987 | 2,167 |
| Imports | 3 | 2 | 3 | 2 |
| Total | 2,109 | 2,167 | 2,319 | 2,447 |
| Disappearance | | | | |
| Crushings | 1,146 | 1,180 | 1,254 | 1,265 |
| Exports | 623 | 560 | 685 | 730 |
| Seed, Feed | 57 | 55 | 55 | 56 |
| Residual | 44 | 43 | 47 | 46 |
| Total | 1,870 | 1,838 | 2,041 | 2,097 |
| Ending Stocks (Aug. 30) | 239 | 329 | 278 | 350 |
| Season average farm price | $5.69 | $5.75 | $5.60 | $5.00-5.40 |

Source: Agricultural Supply and Demand Estimates, USDA, November 10, 1992.

The 1992 United States wheat supply of nearly 3 billion bushels is 3 percent above the 1991 level. Domestic food use is projected to increase 6 percent. Feed use is projected to drop slightly. Exports are projected to be about the same as in the previous year. Carryover on May 31, 1993 is projected to be 523 million bushels, up 11 percent from the 1992 level. This will be a relatively small carryover compared to those of a few years ago.

The total soybean supply is 2.4 billion bushels, up 5.5 percent from 1991. Crushings are projected to be up slightly and exports to increase 7 percent from year-earlier levels. Carryover in the fall of 1993 is projected to be about 350 million bushels, 26 percent above the 1992 carryover and the largest since 1987.

## PRICES RECEIVED FOR CORN, WHEAT AND SOYBEANS, 1988-1992




Source: USDA Agricultural Prices.

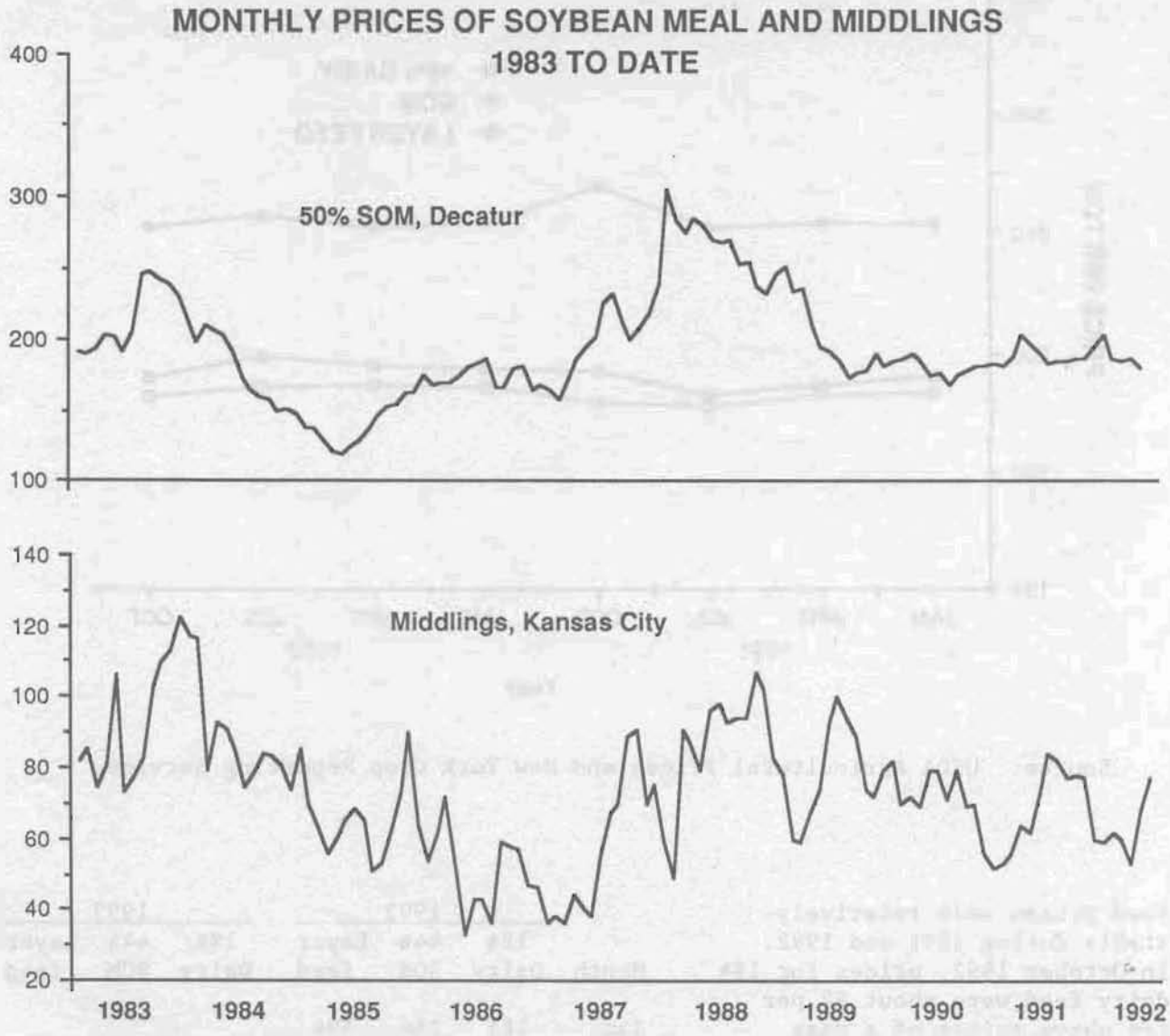
Soybean prices reached a peak of nearly $6.00 in mid-1992 and then declined to just over $5.00 in October. The October 1992 average price received by U.S. farmers was $5.12, $0.37 per bushel below the level of October 1991. USDA's projection for the season average price of 1992 crop soybeans is $5.00 to $5.40, with a mid point $0.40 below the average price for the 1991 crop.

Wheat prices increased quite steadily from mid-1991 to February 1992. Prices then declined until August 1992 due to higher production. Prices increased in the fall of 1992. The October 1992 price received by U.S. farmers was $3.31, $0.24 above the year-earlier price. The New York price of $2.43 was $0.67 below the October 1991 level.

The projected season average price for the 1992 U.S. wheat crop is $3.10 to $3.30. The mid point is $0.15 above the average price received by farmers for the 1991 crop.

Corn prices have declined from around $2.50 in February of 1992 to about $2.00 in October. The U.S. average price received by farmers in October 1992 was $1.99, $0.32 below the year-earlier level. The New York price in mid October was $2.70 per bushel, $0.22 above the average level for the entire month of October 1991.

The mid November USDA projection of the season average price received by U.S. farmers for the 1992 corn crop was $1.85 to $2.15 per bushel. The mid point is $0.37 below the season average price for the 1991 crop.

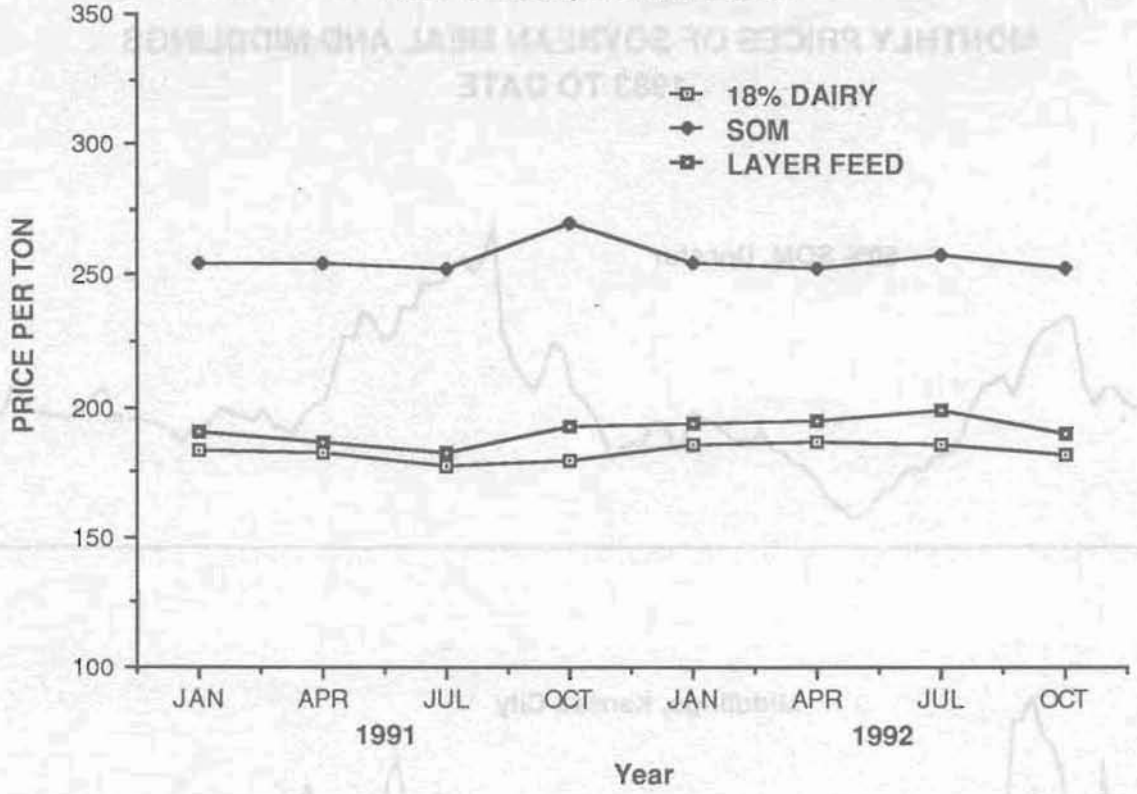



Source: USDA Feed Situation and Feedstuffs.

Prices for soybean oil meal (50%, Decatur) peaked at $204 per ton in June 1992 and declined to $180 per ton in October. October 1992 prices were about $15 below year-earlier levels. Prices are likely to rise seasonally and be slightly below year-earlier levels during the winter and spring of 1993.

Prices for byproducts such as middlings continue to fluctuate widely and are not closely related to the prices of the grains from which they are derived. Prices of these byproducts jumped in the fall of 1992 from a low in mid summer.

## PRICES OF 18% DAIRY, 44% SOM, AND LAYER FEED, 1991 & 1992, NORTHEAST




Source: USDA Agricultural Prices and New York Crop Reporting Service.

Feed prices were relatively stable during 1991 and 1992. In October 1992, prices for 18% dairy feed were about $2 per ton above prices of a year earlier. Layer feed prices were $3 below the levels of a year earlier. In October 1992, prices of 44% soybean meal were about $18 per ton below levels of a year earlier.

| | 1992 | | | 1993 | | |
|---|---|---|---|---|---|---|
| Month | 18% Dairy | 44% SOM | Layer feed | 18% Dairy | 44% SOM | Layer feed |
| Jan. | 185 | 254 | 194 | | | |
| Apr. | 186 | 252 | 195 | | | |
| July | 185 | 258 | 199 | | | |
| Oct. | 181 | 252 | 189 | | | |

Only quarterly data are available after February 1986, and those data are for New York and New England combined.

Layer feed and 18% dairy prices in the first half of 1993 are likely to be slightly below the levels of the first half of 1992. Soybean meal prices in the first half of 1993 are likely to be below the levels of a year earlier.

# Livestock Outlook for 1993

Steve Ford
Penn State University

The 1993 livestock outlook will be similar to the 1992 situation because of the offsetting effects of various market factors. The supply of meat will increase because of low feed prices and rapid expansion in the hog and broiler markets. Certain characteristics of the demand for meat will be affected by the sluggish economy and fierce competition among meats. Increases in meat production will keep downward pressure on prices and total meat consumption will increase.

Low feed prices are expected to fuel continued increases in livestock and poultry production in 1993 as low feed grain prices widen slim profit margins. The record 1992 corn crop of over 9 billion bushels, a 20 percent increase from last year, is expected to keep feed prices low through next year. The soybean crop is also expected to be the largest in the last decade. Low feed prices resulting from these large crops provide great incentive for livestock producers to "market" their grain through their livestock rather than sell their crops on the cash market. Consequently, the expansion seen in the livestock sector last year will continue into 1993.

Expansion in the beef and pork markets will occur despite increases in poultry production which will continue to exert downward pressure on red meat markets as consumers increase poultry consumption because of their low prices relative to red meat and changes in eating habits or preferences. Per capita

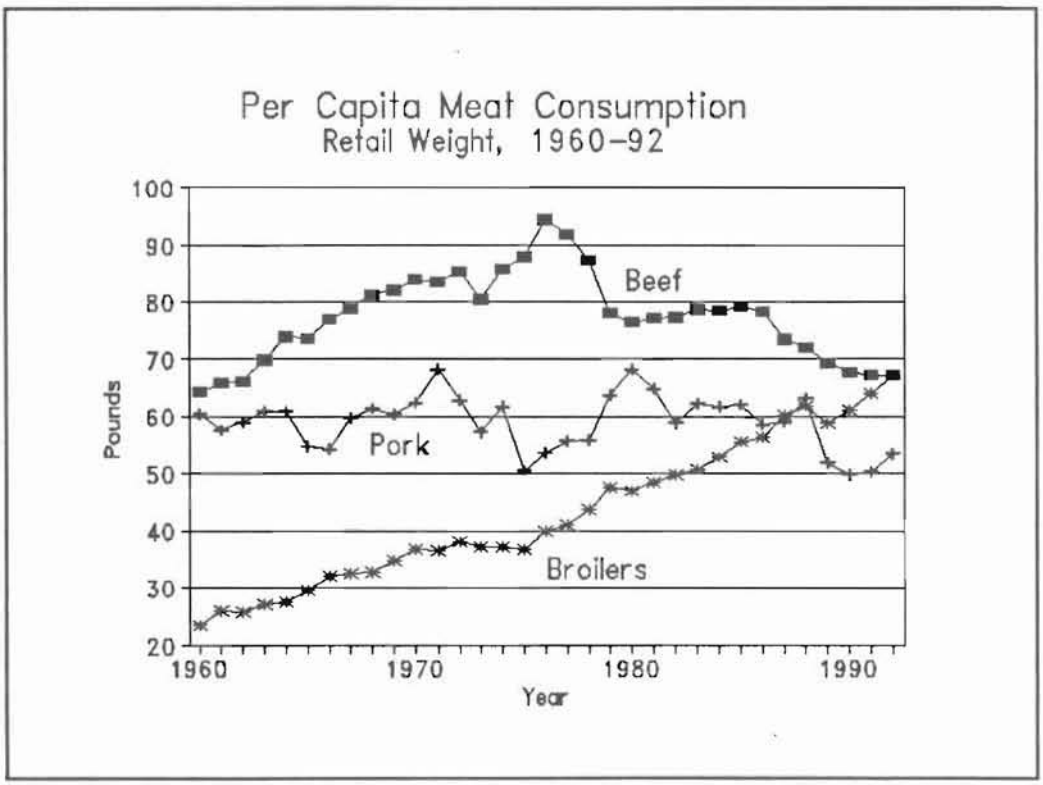



Figure 1

broiler consumption is expected to equal beef consumption for the first time ever in 1992. Annual per capita beef and broiler consumption are both expected to be 67.3 pounds retail weight compared to 53.5 pounds of pork (Figure 1). Total poultry consumption has increased significantly since 1970. In 1970, poultry comprised approximately 20 percent of total meat consumption. In 1992, poultry is expected to account for over 36 percent of total meat consumption. The trend of the declining importance of red meat in U.S. diets will certainly continue in the future.

The declining importance of red meats in the livestock and poultry sector can also be seen in Figure 2. In 1992, red meats (beef, pork, lamb, and veal) accounted for 61.2 percent of total meat production. This proportion represents a decrease in market share since 1970 when red meats accounted for 78.6 percent of total meat production. Poultry has almost doubled its share of the total meat market since 1970.

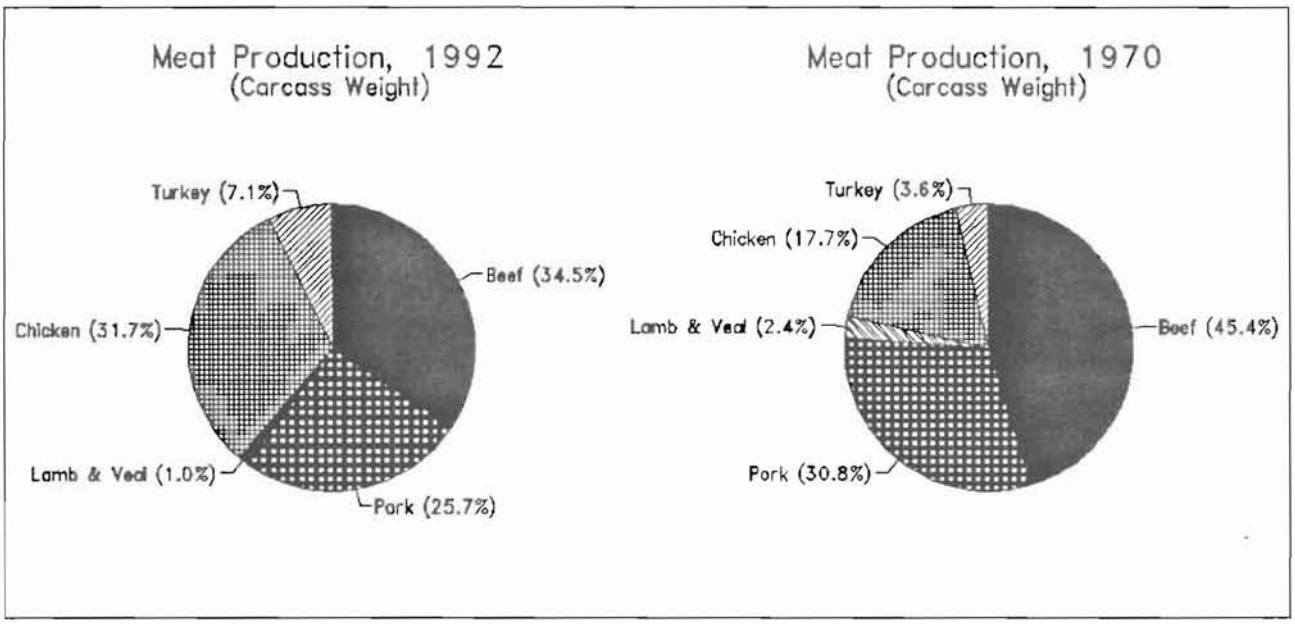



**Figure 2**

Continued stagnation in the U.S. economy may also prompt consumers to choose lower priced meat products such as poultry. However, food consumption is relatively inelastic in the U.S. economy and accounts for less than 12 percent of disposable personal income. Consequently, meat demand will remain somewhat stable, particularly if there is continued downward pressure on prices. Meat prices have not increased in the last ten years as rapidly as all food, as shown by the producer price indices presented in Figure 3. Meat prices have increased less than the average for all food since 1982. Approximately 35 percent of U.S. food expenditures are for food purchases consumed away from home (restaurants, etc.) and much of any effect that the economy may have on meat demand will be felt in this area.

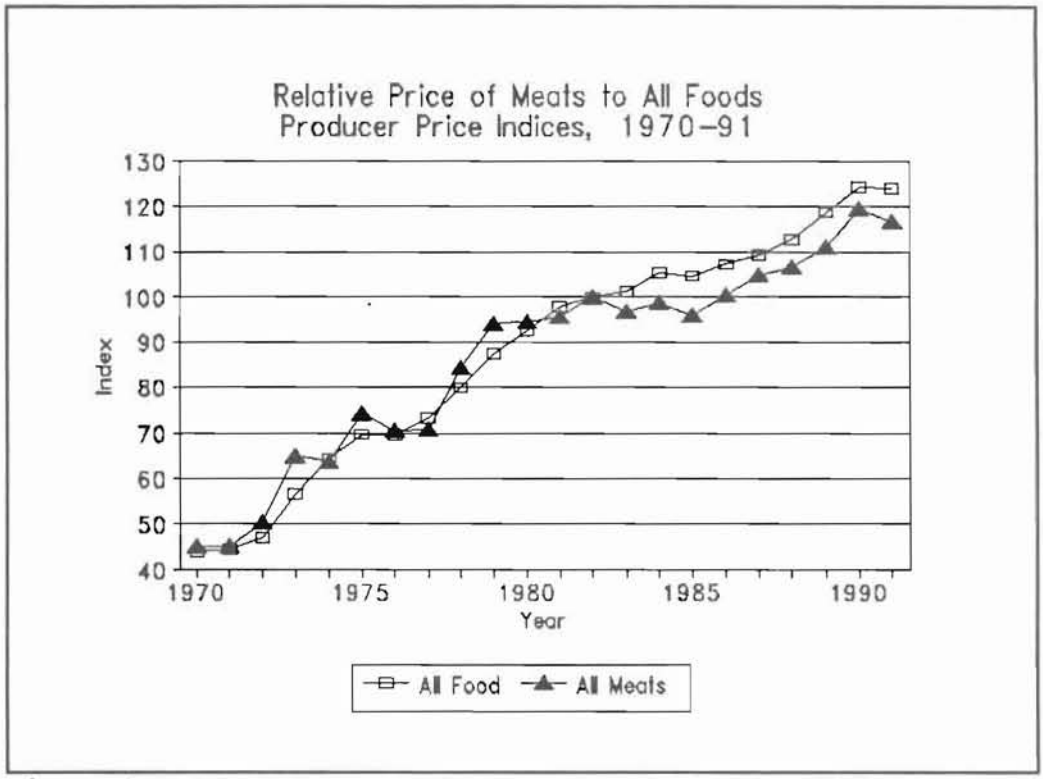



Figure 3

## Meat Production

Total meat production is expected to increase 4.4 percent in 1992 over 1991's levels. Production levels for individual commodities are presented in Table 1. Pork and broiler production expanded significantly in 1992 with 7.8 and 5.8 percent increases over the previous year's production, respectively. There was only a modest increase in beef production and a decrease in lamb production. Broilers are expected to continue expansion in 1993 at a faster pace than average. There will be a more modest increase in pork production and all other meats will increase at about the same rate as in 1992.

Table 1. Meat Production

| | 1991 | 1992 | Change in 1992 | Change in 1993 |
|---|---|---|---|---|
| | - - million lbs - - | | - - Percent - - | |
| Beef | 22,917 | 23,160 | +1.1 | +1 |
| Pork | 15,999 | 17,253 | +7.8 | +3 |
| Veal | 306 | 315 | +2.9 | +1 |
| Lamb | 363 | 358 | -1.4 | +3 |
| Broilers | 19,591 | 20,720 | +5.8 | +4 |
| Turkeys | 4,603 | 4,749 | +3.2 | +3 |

## Cattle

Low feed prices and increased competition from other meats will have offsetting effects in the cattle markets. Beef production is expected to increase to 23.1 billion pounds carcass weight in 1992, which is only about 1 percent over 1991's production. Although low feed prices would suggest that beef production will increase significantly in 1993, the increase for 1993 is again expected to be only about 1 percent. Part of the reason for a relatively stable beef market is the inability of the market to react quickly to market conditions because of the length of time to increase cow herds and the fed cattle crop. The number of calves shown in the mid-year cattle report is up only marginally, indicating that there are few additional calves available for feedlots. Cattle on feed are up about 3 percent in the fourth quarter over fourth quarter last year (Figure 4) after four quarters of declining numbers. Also, USDA's Cattle on Feed Report for October showed increases in lightweight steers and heifers of 19 percent and 35 percent over 1991, respectively (Table 2). Young animals will be fed out this year in response to the low feed prices rather than be kept to increase herd numbers. The implications of this strategy for the long run are good. Future supply may be tighter and prices higher as the cow herd decreases.

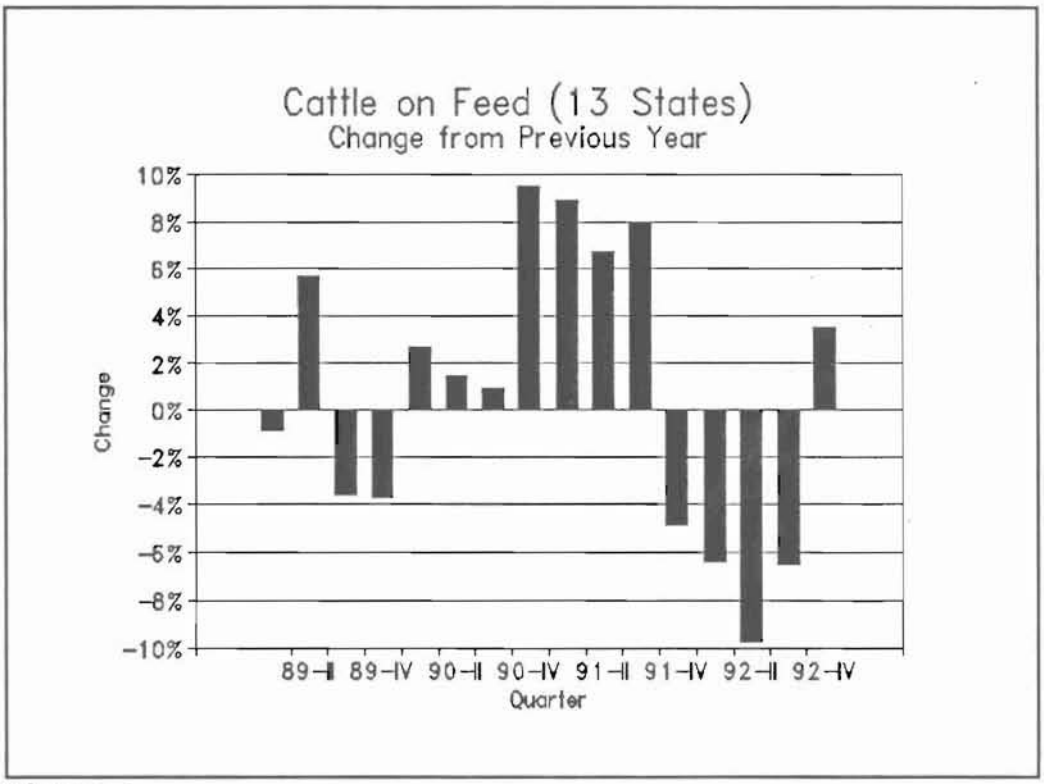



**Figure 4**

There are two other interesting developments in the cattle market. First, 1992 monthly cow slaughter weights have been heavier through July than for the same months in 1991. However, since August, slaughter weights have been lighter than last year and the trend should continue into 1993, reducing the effects of increases in cattle on feed. Second, milk cow numbers have been declining steadily in both Pennsylvania and New York since the mid 1980s. Continued decline in milk cow numbers will reduce the supply of animals available for local

slaughter cow, veal calf, and dairy beef markets. New York cattle and calf production statistics are shown in Table 3. There has been a 20 percent decline in the number of cattle marketed in New York since 1985. There has also been over a 30 percent decline in the number of calves marketed over that time period. Both of these trends are directly related to declining numbers of milk cows.

Table 2. Cattle on Feed, October 1 (percent of previous years)

| 1992 as a % of: | 1990 | 1991 |
|---|---|---|
| Steers | 100 | 104 |
| < 500 lbs | 71 | 119 |
| 500-699 | 75 | 100 |
| 700-899 | 99 | 110 |
| 900-1099 | 107 | 108 |
| 1100 + | 123 | 88 |
| Heifers | 93 | 102 |
| < 500 lbs | 67 | 135 |
| 500-699 | 88 | 127 |
| 700-899 | 92 | 104 |
| 900-1099 | 96 | 90 |
| 1100 + | 140 | 91 |
| Total | 98 | 103 |

Table 3. New York Livestock Marketings, 1982-91

| | Cattle | Calves | Swine | Sheep | Lambs |
|---|---|---|---|---|---|
| | | | thousands | | |
| 1982 | 235 | 505 | 193 | 16 | 27 |
| 1983 | 238 | 540 | 167 | 16 | 31 |
| 1984 | 257 | 575 | 177 | 12 | 31 |
| 1985 | 257 | 642 | 161 | 11 | 31 |
| 1986 | 250 | 583 | 142 | 9 | 22 |
| 1987 | 231 | 590 | 183 | 8 | 24 |
| 1988 | 230 | 611 | 188 | 10 | 30 |
| 1989 | 219 | 487 | 207 | 20 | 31 |
| 1990 | 205 | 459 | 176 | 23 | 32 |
| 1991 | 205 | 446 | 155 | 34 | 33 |

The bottom line for the cattle market is that all of the factors discussed will result in cattle prices that are roughly the same in 1993 as they were in 1992. National market prices should continue in the low to mid $70s range.

## Hogs

Hog producers continue to increase their competitive position in the livestock industry. The current expansion phase of the hog cycle has lasted longer than normally expected and low feed prices will provide incentive for continued expansion. 1992 pork production is expected to increase 7.8 percent over 1991 production to 17.3 billion pounds carcass weight. The hog breeding inventory increased about 3 percent in third quarter 1992 over the same quarter in 1991 and the fourth quarter hog breeding inventory increased 4 percent over 1991's level (Figure 5). In addition, farrowing intentions of producers indicate an expected 3 percent increase in farrowings between September and February. Consequently, pork production is expected to increase about 3 percent in 1993.

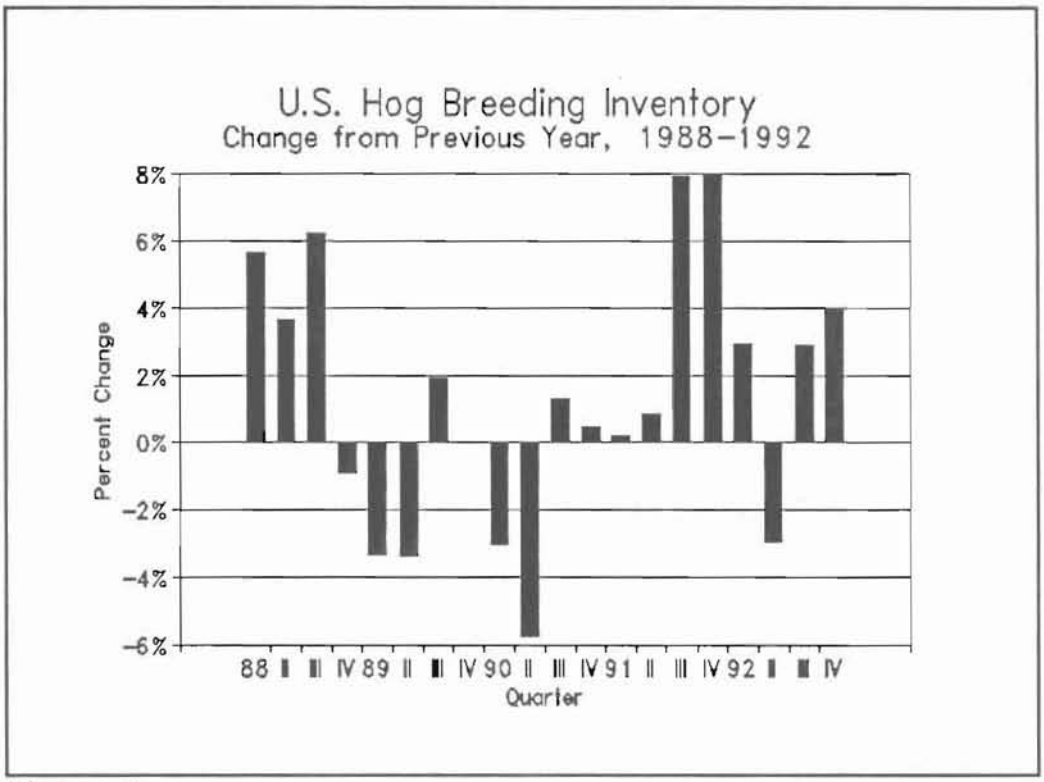



Figure 5

Current low feed prices offer significant relief to many hog producers. Total costs of production for North Central U.S. farrow to finish operations have averaged $43.82 per cwt over the past year while returns have only been $41.50 per cwt (Figure 6). Hog producers obviously cannot continue producing at a loss for very long. However, they can continue production in the short term as long as cash costs of production are covered. Cash costs have been in the $36 range over the last year and low feed prices will keep these costs even lower. Low feed prices will allow hog producers to cover more of their costs and will not encourage decreases in production. Hog prices in 1993 are also expected to be about the same as those in 1992, with national prices in the low $40s.

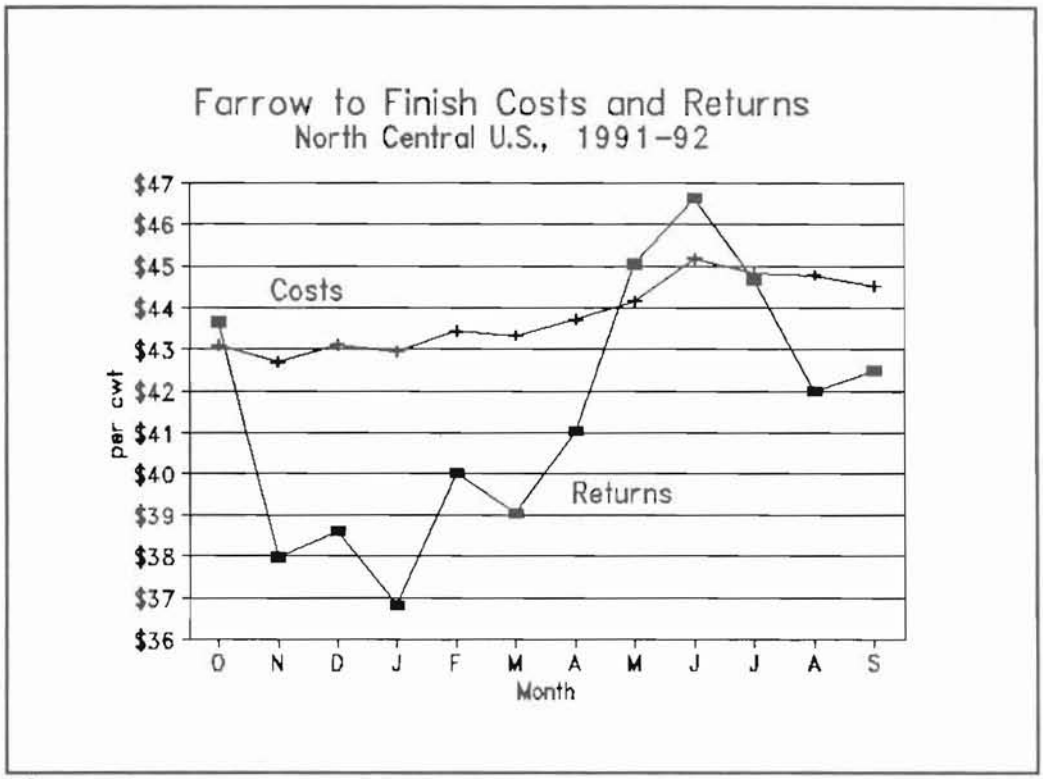



Figure 6

## Lamb and Veal

The number of sheep and lambs marketed in New York has increased significantly since the mid 1980s (Table 3). There has been a 50 percent increase in these marketings since 1986. Both lamb and veal, however, continue to be specialty meats since they account for only about one percent of total meat consumption. Per capita consumption of lamb and veal combined is less than consumption of such minor products as: coffee, canned corn, cantaloupe, broccoli, pickles, sweet potatoes, canned tuna, spices and herbs, fresh mushrooms, and raisins. Consequently, producers must market lamb and sheep products aggressively in non-traditional channels.

There has been some improvement in the lamb market, however. Lamb prices have been about 15 percent higher on the national market in 1992 than in 1991 which should help profit margins considerably. Also, U.S. wool production is at the lowest level since 1987 which increased wool prices in the first part of 1992 about 18 percent over the 1991. The outlook for lamb and wool is favorable, but profit margins will still be slim unless producers market directly to consumers and/or take advantage of seasonal price movements.

## Trade

Trade in all meat products looks promising, however exports account for less than 5 percent of total meat production. The current low value of the dollar relative to other currencies makes the purchase of U.S. products attractive to other countries. Several recent events will improve meat exports, but not enough to greatly influence the livestock markets. Pork sales to the former Soviet Union have been approved, but quantities are small and there will be little market effect until the sale is actually made and the meat is delivered and paid for. Pork has also been approved for distribution as U.S. international food aid, but again this will have little market impact. Finally, the North American Free Trade Agreement looks promising for meat trade with Mexico, but it will take time before the full benefits will be felt in the market.

In summary, livestock producers will face offsetting market effects in 1993 and meat production will increase slightly more than the increase in U.S. population. Consequently, livestock and poultry producers can expect prices in 1993 to be similar to those of 1992.

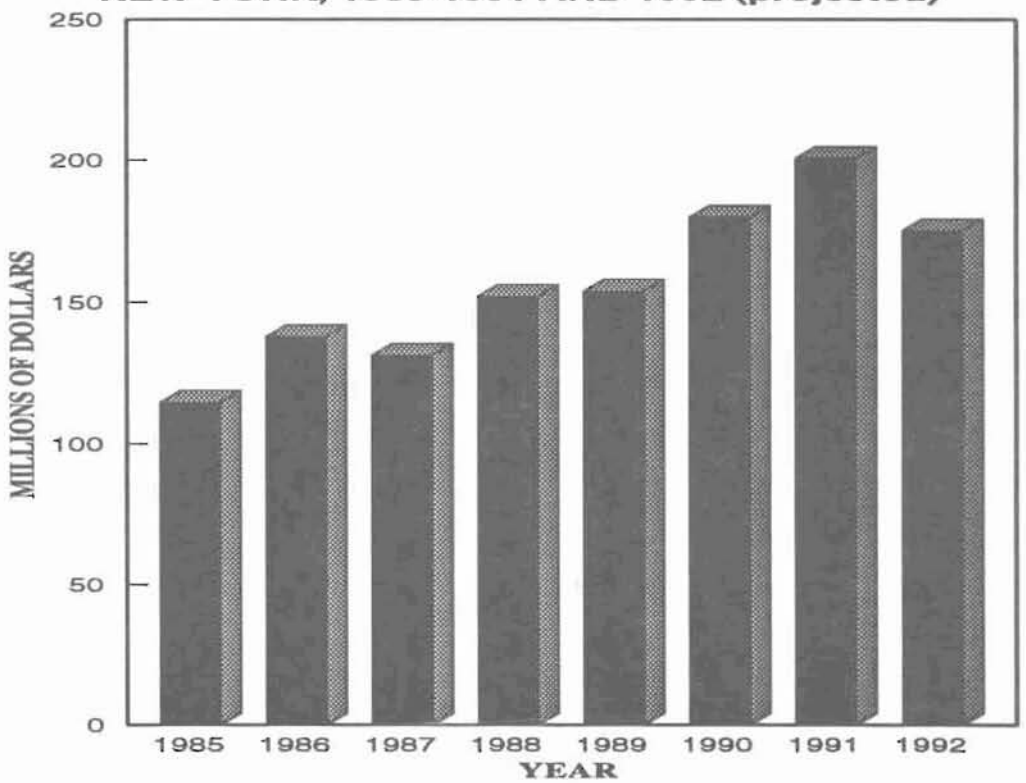
# HIGHLIGHTS OF THE 1992 FRUIT OUTLOOK

The total production of the six tree and vine crops which are important to New York's agricultural economy was projected to increase by six percent nationally. The national production of apples, grapes, tart cherries, pears and sweet cherries were forecast to increase compared with last year's production, while decreased production was forecast for peaches. The national production of apples was forecast at 245 million bushels, up four percent from 1991. Grape production was expected to total 6,138 thousand tons, an increase of 11 percent from last year.

In New York, apple production is indicated to be 27.4 million bushels, 10 percent above the 1991 output, and 20 percent above the average production of the last five years. Grape production of 160 thousand tons was estimated 17 percent below last year's large crop. Total production of the six major fruit and vine crops of 774 thousand tons is projected for the State, three percent above the previous year. Total production is the greatest since 1983.

The utilized value of the major fruit crops in New York for the past seven years is shown below. The value of production reached $200 million last year. In 1992, higher national production of noncitrus fruit and a large decidous fruit crop in Europe after last year's freeze-damaged crop are factors which exerted negative influences on prices for the State's growers. The value of production in New York is likely to be reduced to $175 million for the 1992 season.

**VALUE OF PRODUCTION OF MAJOR FRUIT CROPS, NEW YORK, 1985-1991 AND 1992 (projected)**



**COMMERCIAL NONCITRUS FRUIT PRODUCTION, NEW YORK AND UNITED STATES**

| Fruit | New York | | | | United States | | | |
|---|---|---|---|---|---|---|---|---|
| | 1989 | 1990 | 1991 | 1992* | 1989 | 1990 | 1991 | 1992* |
| | thousand tons | | | | | | | |
| Apples | 480 | 495 | 525 | 575 | 4,981 | 4,848 | 4,949 | 5,149 |
| Grapes | 152 | 144 | 192 | 160 | 5,931 | 5,660 | 5,556 | 6,138 |
| Tart Cherries | 16 | 8 | 13 | 12 | 132 | 104 | 95 | 131 |
| Pears | 17 | 15 | 15 | 19 | 917 | 964 | 905 | 942 |
| Peaches | 6 | 7 | 8 | 7 | 1,178 | 1,116 | 1,336 | 1,258 |
| Sweet Cherries | 1 | 1 | 1 | 1 | 193 | 157 | 152 | 193 |
| Total New York's Major Fruit Crops | 672 | 670 | 754 | 774 | 13,332 | 12,849 | 12,995 | 13,811 |

*indicated

**AVERAGE FARM PRICES OF NONCITRUS FRUITS, NEW YORK AND UNITED STATES**

| Fruit | New York | | | | United States | | | |
|---|---|---|---|---|---|---|---|---|
| | 1988 | 1989 | 1990 | 1991 | 1988 | 1989 | 1990 | 1991 |
| | dollars per ton | | | | | | | |
| Apples | | | | | | | | |
| Fresh | 306 | 296 | 356 | 402 | 348 | 278 | 418 | 502 |
| Processed | 143 | 133 | 150 | 153 | 123 | 107 | 144 | 176 |
| All sales | 216 | 208 | 258 | 254 | 254 | 208 | 302 | 362 |
| Grapes | 254 | 277 | 286 | 254 | 266 | 314 | 295 | 312 |
| Tart Cherries | 450 | 302 | 416 | 842 | 374 | 290 | 362 | 896 |
| Pears | 235 | 223 | 253 | 275 | 274 | 277 | 274 | 280 |
| Peaches | 544 | 588 | 552 | 548 | 312 | 328 | 348 | 316 |
| Sweet Cherries | 820 | 783 | 743 | 901 | 788 | 713 | 894 | 960 |

**VALUE OF UTILIZED PRODUCTION NONCITRUS FRUITS, NEW YORK AND UNITED STATES**

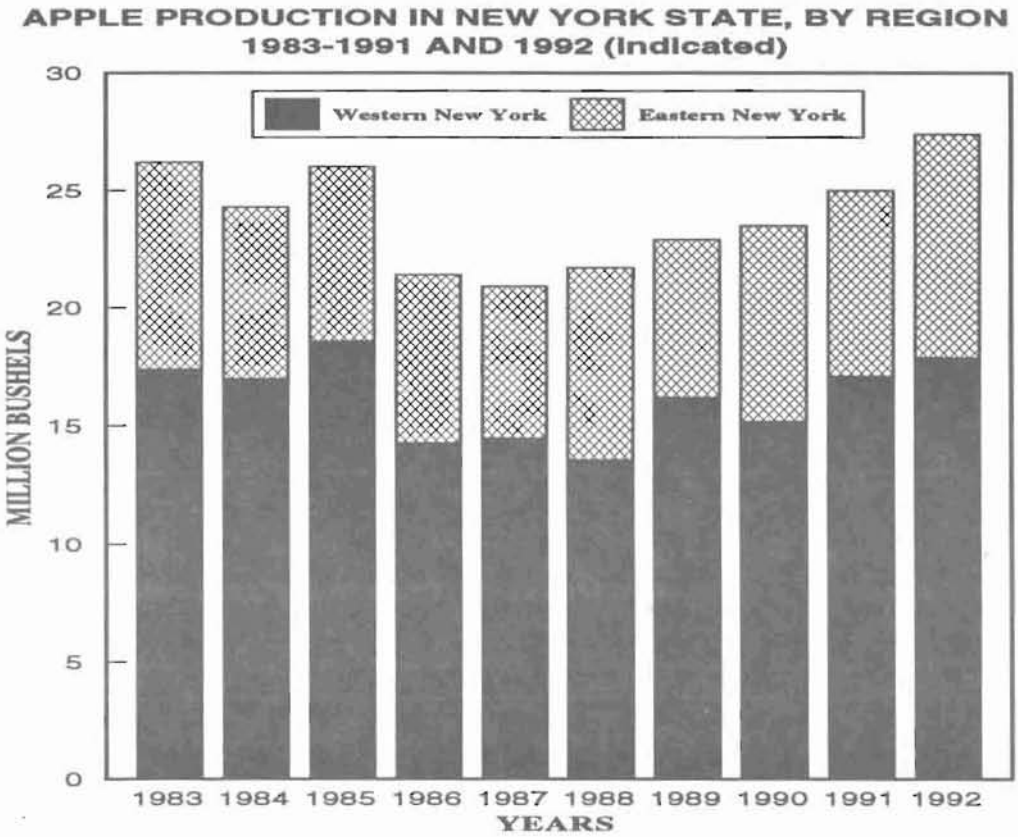
| Fruit | New York | | | | United States | | | |
|---|---|---|---|---|---|---|---|---|
| | 1988 | 1989 | 1990 | 1991 | 1988 | 1989 | 1990 | 1991 |
| | million dollars | | | | | | | |
| Apples | | | | | | | | |
| Fresh | 62.0 | 65.1 | 92.6 | 84.4 | 911 | 815 | 1,160 | 1,404 |
| Processed | 36.4 | 34.8 | 35.3 | 48.5 | 236 | 217 | 285 | 374 |
| All Sales* | 98.3 | 100.0 | 127.8 | 132.9 | 1,150 | 1,024 | 1,149 | 1,778 |
| Grapes | 39.9 | 42.1 | 41.2 | 48.8 | 1,607 | 1,863 | 1,662 | 1,732 |
| Tart Cherries | 4.8 | 3.4 | 2.8 | 10.7 | 44 | 35 | 37 | 85 |
| Pears | 4.1 | 3.6 | 3.7 | 4.0 | 235 | 254 | 264 | 274 |
| Peaches | 3.7 | 3.6 | 3.8 | 3.7 | 382 | 361 | 365 | 393 |
| Sweet Cherries | 1.0 | 0.9 | 0.5 | 1.1 | 145 | 136 | 119 | 138 |
| Total New York's Major Fruit Crops | 151.8 | 153.6 | 179.8 | 201.2 | 3,563 | 3,673 | 3,596 | 4,400 |

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

**APPLE PRODUCTION, UNITED STATES, 1987-1991, FIVE-YEAR AVERAGE PRODUCTION, AND 1992 FORECAST, 1,000 42-POUND BUSHELS**

| States/Regions | 5-Year Average 1987-91* | 1991* | 1992 USDA Estimate** | 1992 Compared to USDA 5-Year Average (% Change) | 1992 Compared to 1991 (% Change) |
|---|---|---|---|---|---|
| Maine | 1,967 | 2,071 | 2,167 | 10.2 | 4.6 |
| New Hampshire | 1,138 | 1,143 | 1,310 | 15.1 | 14.6 |
| Vermont | 1,072 | 1,143 | 1,119 | 4.4 | -2.1 |
| Massachusetts | 1,986 | 1,905 | 2,214 | 11.5 | 16.2 |
| Rhode Island | 136 | 131 | 143 | 5.2 | 9.1 |
| Connecticut | 767 | 643 | 833 | 8.7 | 29.6 |
| New York | 22,809 | 25,000 | 27,381 | 20.0 | 9.5 |
| New Jersey | 1,643 | 2,190 | 1,310 | -20.3 | -40.2 |
| Pennsylvania | 11,143 | 13,095 | 12,857 | 15.4 | -1.8 |
| Delaware | 486 | 595 | 476 | -2.0 | -20.0 |
| Maryland | 981 | 1,000 | 952 | -2.9 | -4.8 |
| Virginia | 8,738 | 10,000 | 8,810 | 0.8 | 11.9 |
| West Virginia | 4,095 | 4,762 | 5,000 | 22.1 | 5.0 |
| North Carolina | 6,905 | 6,190 | 5,000 | -27.6 | -19.2 |
| South Carolina | 914 | 952 | 1,071 | 17.2 | 12.5 |
| Georgia | 771 | 762 | 595 | -22.8 | -21.9 |
| **Total East** | 65,550 | 71,582 | 71,238 | 8.7 | -0.5 |
| Ohio | 2,905 | 2,857 | 2,738 | -5.7 | -4.2 |
| Indiana | 1,471 | 1,429 | 1,333 | -9.4 | -6.7 |
| Illinois | 1,943 | 1,643 | 1,810 | -6.9 | 10.1 |
| Michigan | 21,476 | 22,143 | 19,762 | -8.0 | -10.8 |
| Wisconsin | 1,348 | 1,429 | 1,500 | 11.3 | 5.0 |
| Minnesota | 554 | 605 | 738 | 33.2 | 22.0 |
| Iowa | 231 | 190 | 214 | -7.2 | 12.8 |
| Missouri | 1,167 | 952 | 881 | -24.5 | -7.5 |
| Kansas | 250 | 179 | 143 | -42.9 | -20.2 |
| Kentucky | 367 | 476 | 238 | -35.0 | -50.0 |
| Tennessee | 288 | 310 | 286 | -0.8 | -7.8 |
| Arkansas | 214 | 238 | 262 | 22.2 | 10.0 |
| **Total Central** | 32,214 | 32,451 | 29,905 | -7.2 | -7.8 |
| **Total East & Central** | 97,764 | 104,033 | 101,143 | 3.5 | -2.8 |
| Colorado | 1,762 | 1,786 | 2,143 | 21.6 | 20.0 |
| New Mexico | 176 | 55 | 286 | 62.1 | 419.5 |
| Utah | 1,157 | 1,310 | 1,476 | 27.6 | 12.7 |
| Idaho | 3,490 | 2,857 | 2,262 | -35.2 | -20.8 |
| Washington | 109,524 | 102,381 | 111,905 | 2.2 | 9.3 |
| Oregon | 4,214 | 2,857 | 3,929 | -6.8 | 37.5 |
| California | 16,833 | 19,048 | 20,000 | 18.8 | 5.0 |
| Arizona | 1,230 | 1,357 | 2,024 | NA | 49.1 |
| **Total West** | 137,895 | 131,651 | 144,024 | 4.4 | 9.4 |
| **TOTAL U.S.** | 235,659 | 235,684 | 245,167 | 4.0 | 4.0 |

*1991 and 5-year averages from NASS, USDA, Non-Citrus Fruits and Nuts Summary revised as of July 1, 1992.
**NASS, USDA, Crop Production, October 1, 1992.

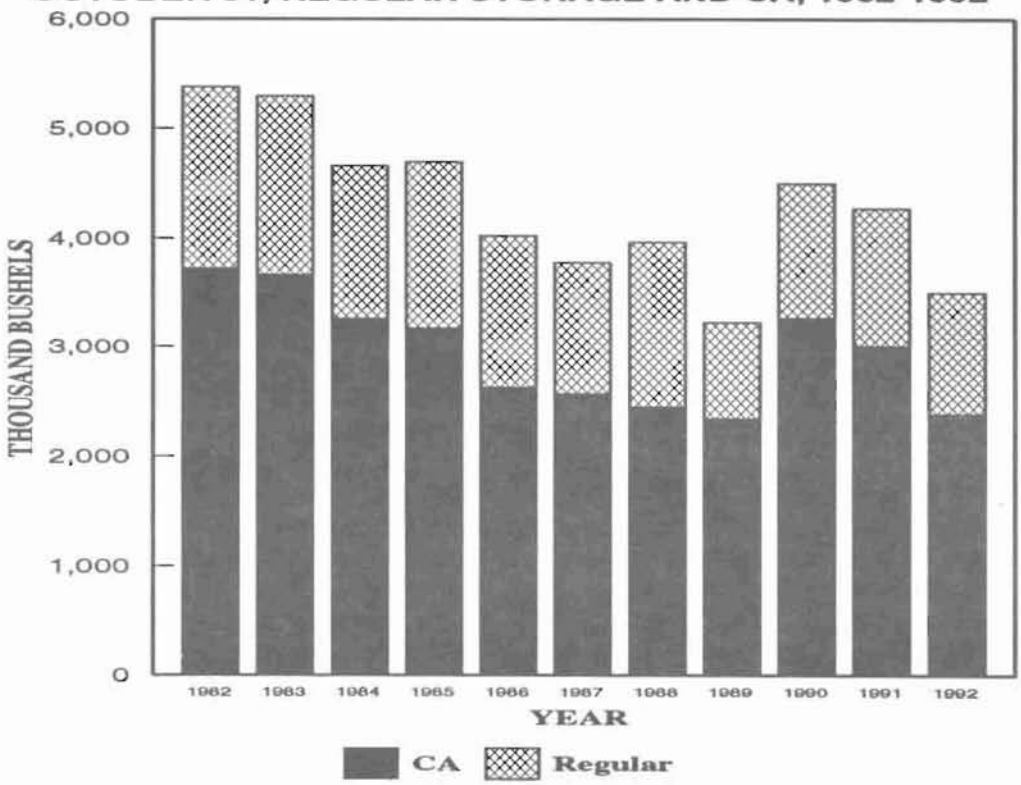



Of the projected 27.4 million bushel crop for 1992, a 9.5 million bushel crop is indicated for eastern New York and a 17.9 million bushel crop is indicated for western New York. The indicated production in eastern New York is 21 percent above 1991 while the crop in western New York is expected to be four percent above last year. The total crop is 10 percent above 1991, and 20 percent above the average of the past five years.

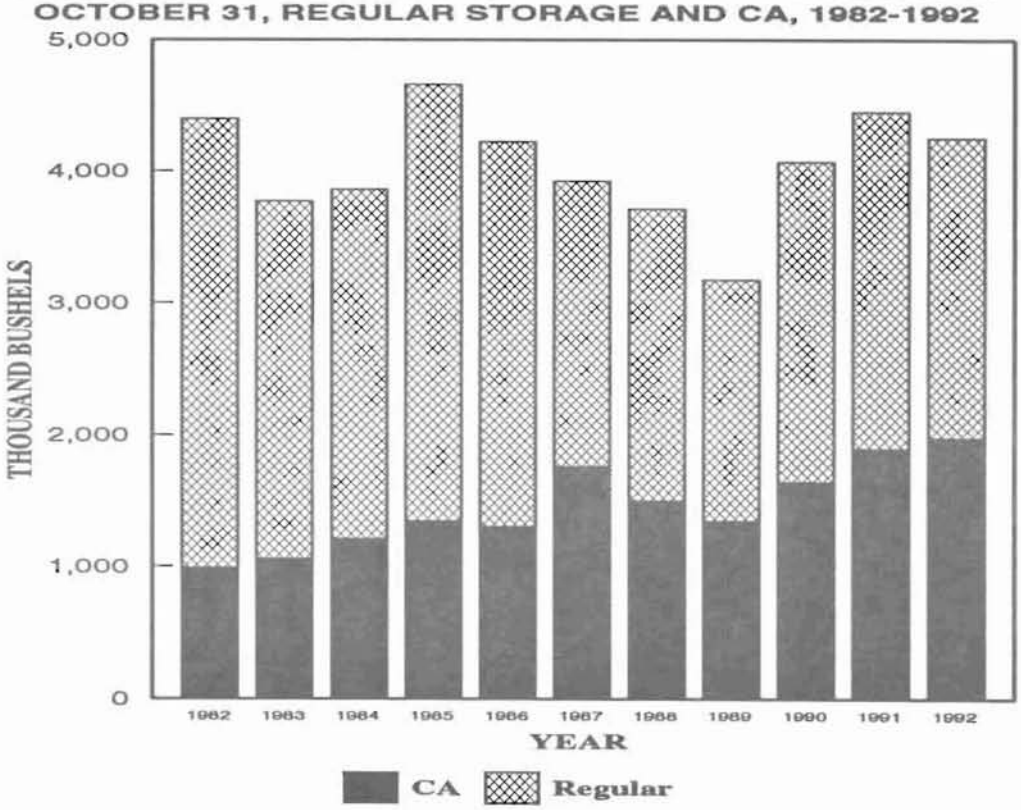
Lower production in 1986-1988 occurred due to (1) three consecutive years of poor weather conditions, especially in western New York, and (2) orchard removal. The potential productive capacity has increased due to plantings of higher density, more productive systems which are currently nonbearing or in early bearing years, and production has steadily increased since 1987.

Cold storage holding patterns, shown on the following page, indicate that eastern New York is the primary fresh fruit production area in New York. However, western New York is becoming more important as a fresh fruit producer, as indicated in the increased emphasis on controlled atmosphere storage. Cold storage holdings, including CA holdings, are below the normal pattern for the last two years; however, harvest is extremely late this year. The October 31 holdings this year do not reflect the total amount of apples to be in storage because of the late harvest.

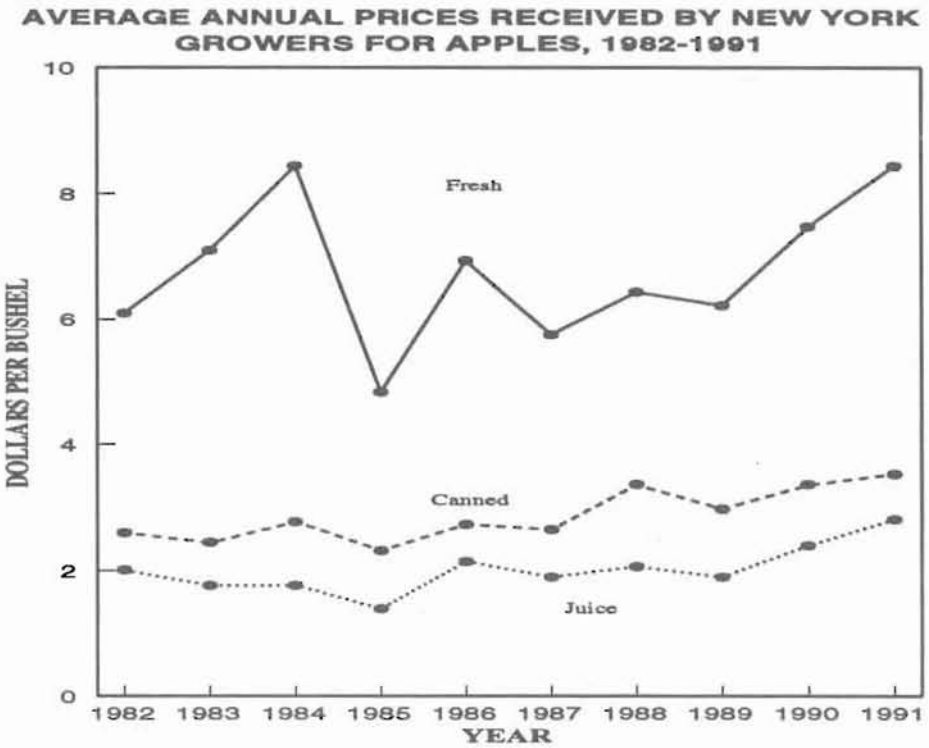
**APPLES IN COLD STORAGE, EASTERN NEW YORK AS OF OCTOBER 31, REGULAR STORAGE AND CA, 1982-1992**




**APPLES IN COLD STORAGE, WESTERN NEW YORK AS OF OCTOBER 31, REGULAR STORAGE AND CA, 1982-1992**




SOURCES: New York Agricultural Statistics, 1991-1992 and Apples in Cold Storage No. 983-7-92.




SOURCE: New York Agricultural Statistics, 1991-1992.

Over the past 10 years, prices for processed apples have been fairly constant, while fresh apple prices have more pronounced fluctuations due to particular supply and demand conditions in a given year. (Note: Beginning in 1985, the price of fresh apples was reported based on a packinghouse door equivalent rather than "as sold". Therefore, the 1985-91 prices are not directly comparable to the fresh prices prior to 1985.)

In October 1992, the average price of fresh apples sold in New York averaged 38 percent below last year. Prices of McIntosh apples in November were $6-8 per box for bagged apples and $10-14 for boxes of cell packed apples. Prices last year for McIntosh were about $8-11 for bagged apples and $16-18 for cell packs. Prices are generally two to five dollars per box lower than a year ago. Due to the large crop and the late harvest, prices are unusually variable this year.

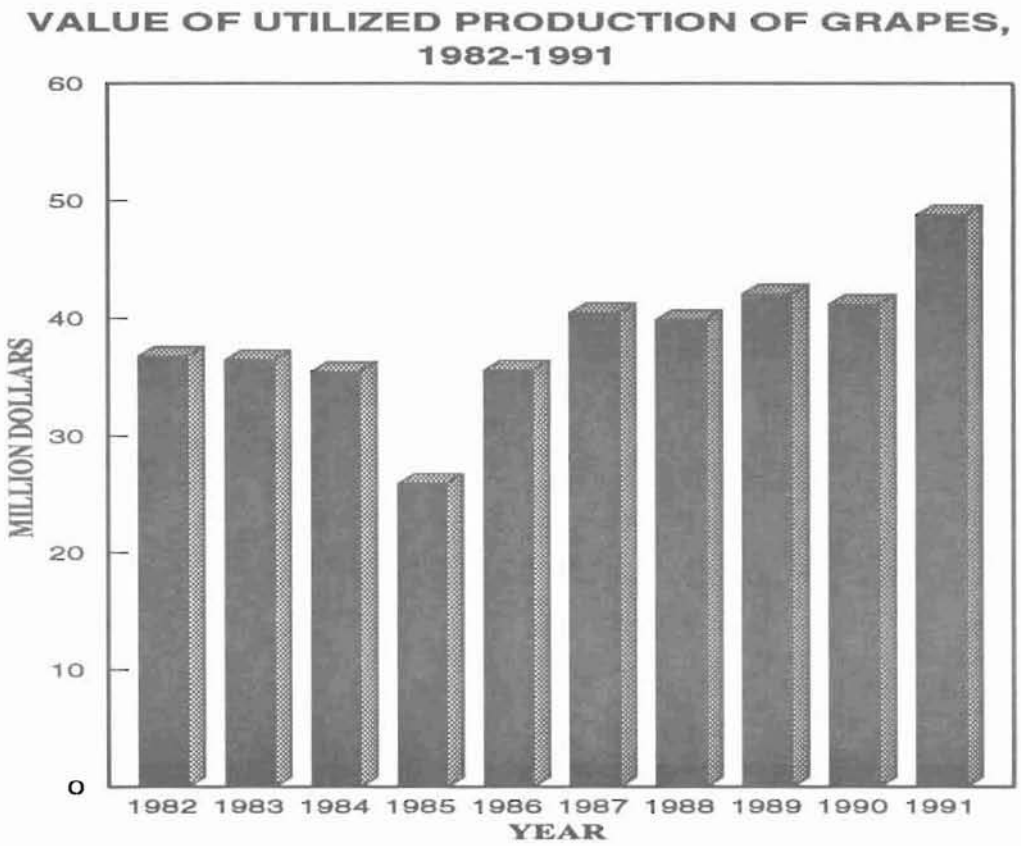
Packout was lower in western New York, but quite high in eastern New York with good color on most varieties and good size for some varieties. The price situation may improve in February and March as CA storage apples take over and more orderly marketing occurs. Fresh apple exports are expected to be down - both from the U.S. and from New York.

Processed apple prices were also substantially lower than a year ago. Major processors generally were paying 8 to 22 percent less than a year ago. Juice apples were bringing about 20 percent less than last year. In a year when the surplus supply of apples might have reduced prices even further, juice prices have been held up by the unusually high price of foreign concentrate - the result of the short European crop in 1991 and the weak U.S. dollar. As the season progresses, juice prices may be reduced further as the 1992 crop in Europe is processed, especially if the dollar should strengthen.

## Grapes

The value of utilized production for grapes in New York increased rapidly during the 1960's and early 1970's, reaching a peak of $45.9 million in 1978. For several years after 1978, the value was generally declining and reached a low of $25.9 million in 1985. In the past six seasons, the State's industry has recovered, fueled by a lower-valued dollar which increased the prices of competing imports of wine and juice; and new product development, promotion, and development of export markets in the grape juice sector. These positive factors have been somewhat offset by the continued erosion of the nonpremium wine sector. Wine cooler volume sold dropped 30 percent in 1991. The additional federal excise tax levy of 90¢ per gallon at the producer level also affected sales in 1991, particularly for less expensive wines. Nevertheless, the value of utilized production in 1991 reached a record level of $48.8 million, fueled by a large, high quality grape crop.

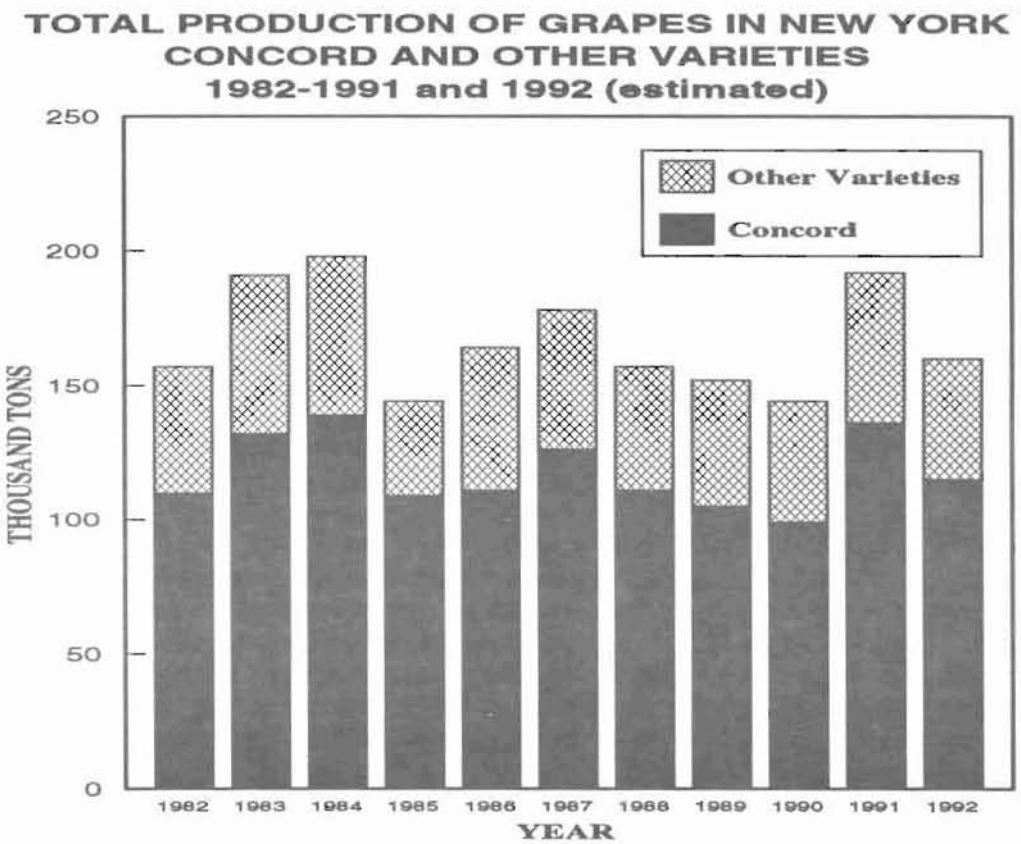
Prospects for the utilized value of the State's 1992 grape crop are diminished from a year ago. The indicated crop of 160 thousand tons is an average crop, but well below the 1991 harvest of 192 thousand tons. A May frost resulted in a crop loss of more than 2,000 tons in the Naples area. Some grapes were unharvested because of the late season, and growers faced unusual ripening problems. The value of the 1992 crop will probably fall to about $42 million, similar to the 1989 and 1990 crop values.




SOURCE: New York Agricultural Statistics, 1991-1992.

With strong demand for juice and nonfermented products and the use of Concords in wine coolers and other fermented products, Concords have continued to account for about 70 percent of New York's grape production.

Total production of grapes in 1991 is expected to total 160 thousand tons. The Concord crop is projected at 115 thousand tons, a decrease of 17 percent for the total crop and 15 percent for Concords.




Sources: New York Agricultural Statistics, 1991-1992 and New York Agricultural Statistics Service, Fruit, No. 975-8-92.

## Wine

Changes have occurred in the market for wine which have serious implications for New York's growers. These are shown in the next chart.

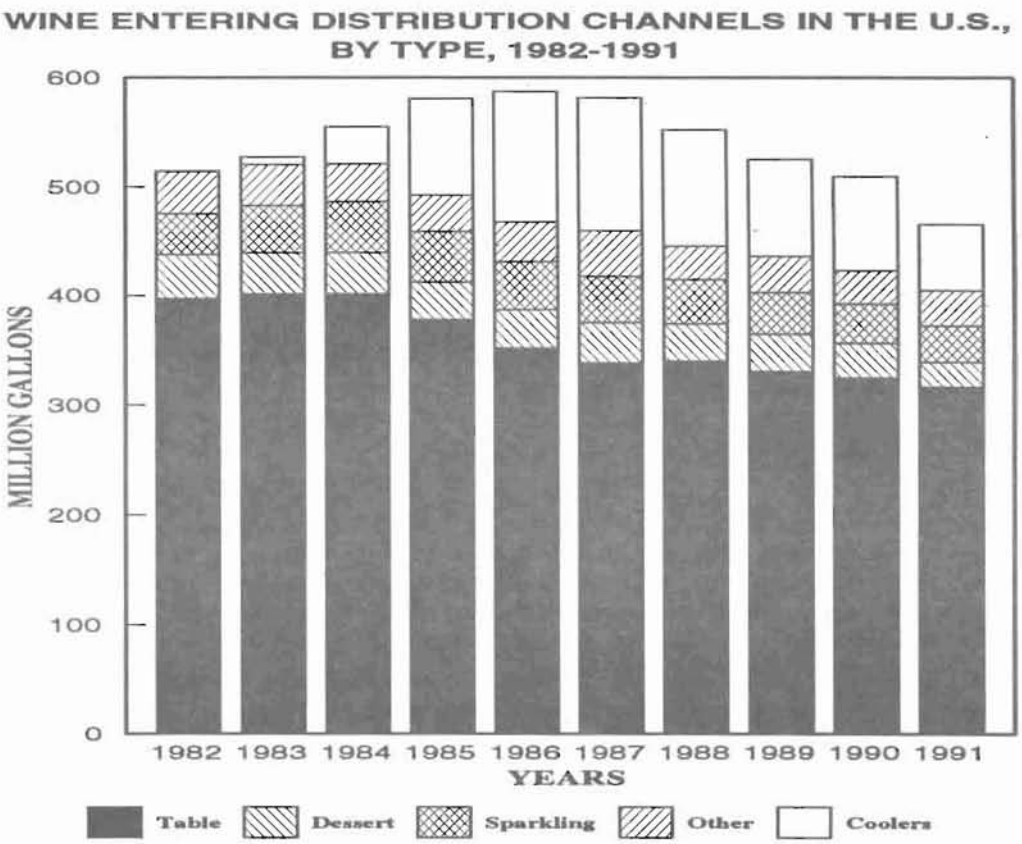
1) The total consumption of all wine declined during each of the last five years. The U.S. wine market decreased 8.6 percent in 1991.

2) Table wine consumption decreased in seven of the last eight years. Imports have shown a declining market share. [Note: New York makes up about one-half of the volume of "other states".] After a modest one-half percent increase in 1988, table wine consumption again decreased 2.8 percent in 1989; 1.8 percent in 1990; and 2.5 percent in 1991.

3) In 1988, wine cooler consumption decreased after several years of spectacular growth. "Other states", again primarily New York, had been a strong beneficiary of the growth in the cooler market. In 1991, the volume of wine coolers consumed was down 30 percent. Coolers were heavily impacted by the federal tax increase which gave malt-based coolers a considerable price advantage.

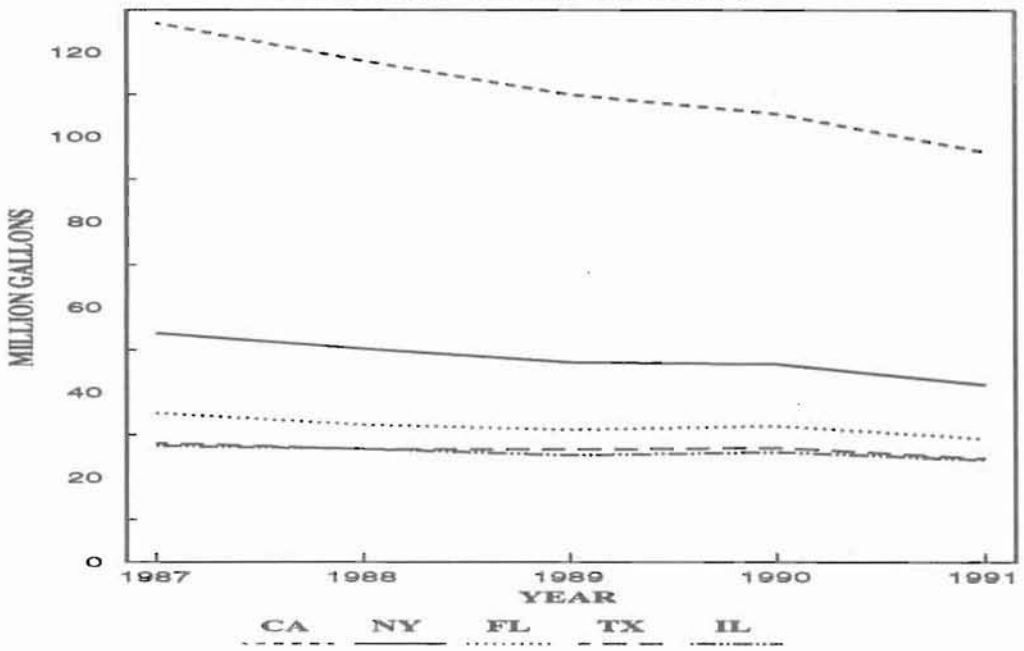
4) Dessert wine volume again dropped significantly in 1991, falling 28 percent. This category was affected by the excise tax increase and a long-term consumer shift away from these wines.

Considered together, these trends have spelled a decreased demand for New York grapes used for nonpremium wines.




Source: Wines and Vines, July 1992.

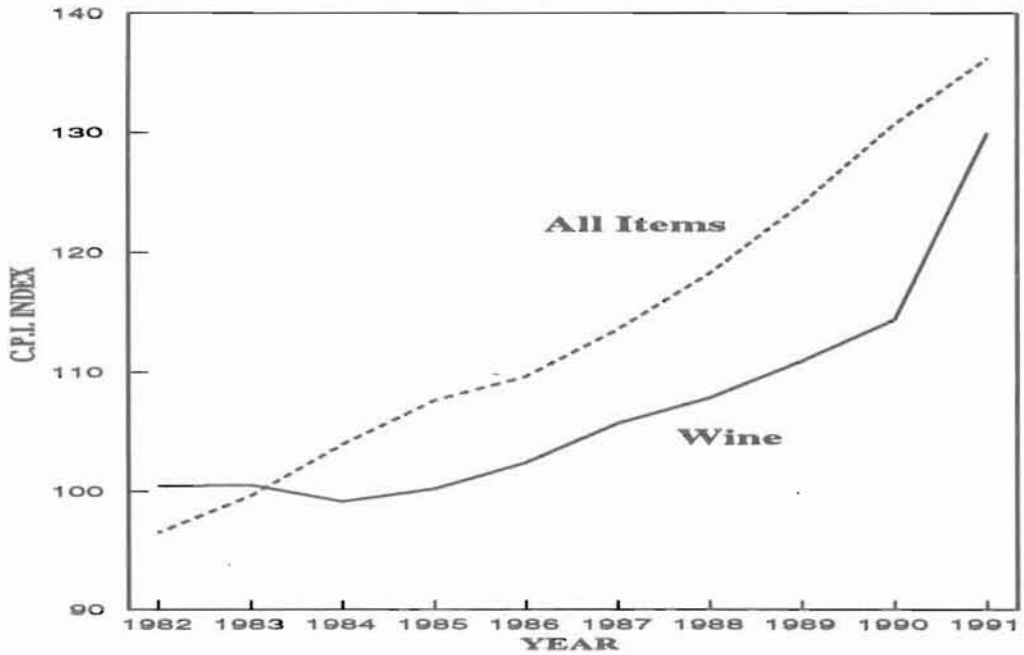
## WINE CONSUMPTION IN HIGH CONSUMING STATES, 1987-1991 (MILLION GALLONS)




Source: Economics Services Department, California Wine Institute

Wine consumption for the five leading states is shown in the figure above. Total consumption declined nearly 24 percent from 1987 to 1991 in California, and 23 percent in New York. During this time period, consumption in the entire U.S. declined by 18 percent.

## CONSUMER PRICE INDEX FOR WINE AND FOR ALL ITEMS, FOR URBAN CONSUMERS,1982-1991




Source: Economic Research Department, Wine Institute.

During the last 10 years, the C.P.I. increased by 30 percent for wine, considerably less than the 41 percent increase for all items. The increase for the wine index in 1991, however, was a hefty 14 percent due to the additional federal excise tax levied in January 1991.

**GRAPES: NEW YORK GROWN, RECEIVED BY WINERIES AND PROCESSING PLANTS, 1987-91**

| Variety | 1987 | 1988 | 1989 | 1990 | 1991 | 5-Year Avg. |
|---|---|---|---|---|---|---|
| | | | tons | | | |
| Concord | 122,688 | 108,278 | 100,150 | 97,551 | 134,357 | 112,605 |
| Catawba | 12,939 | 11,740 | 7,887 | 9,855 | 13,252 | 11,135 |
| Niagara | 10,243 | 8,262 | 11,962 | 9,188 | 9,934 | 9,918 |
| Elvira | 3,496 | 2,518 | 4,227 | 3,662 | 4,501 | 3,681 |
| Delaware | 4,722 | 3,879 | 3,237 | 2,741 | 4,051 | 3,726 |
| Dutchess | 587 | 658 | 571 | 461 | 550 | 565 |
| Aurore | 8,189 | 6,359 | 8,538 | 6,754 | 7,963 | 7,561 |
| de Chaunac | 2,664 | 1,949 | 2,484 | 2,010 | 2,611 | 2,344 |
| Baco Noir | 1,148 | 801 | 1,202 | 1,141 | 1,695 | 1,197 |
| Seyval Blanc | 1,278 | 1,259 | 1,185 | 1,311 | 1,361 | 1,279 |
| Cayuga White | 784 | 1,124 | 1,311 | 895 | 1,107 | 1,044 |
| Rougeon | 788 | 800 | 586 | 783 | 1,046 | 801 |
| Vitis Vin.(all) | 1,637 | 1,863 | 1,946 | 2,064 | 2,919 | 2,086 |
| Other varieties | 2,337 | 2,610 | 2,714 | 2,584 | 3,653 | 2,780 |
| Total, all varieties | 173,500 | 152,100 | 148,000 | 141,000 | 189,000 | 160,720 |

SOURCE: New York Agricultural Statistics, 1991-1992.

**GRAPES: PRICES PAID FOR NEW YORK GROWN GRAPES PROCESSED, 1987-91**

| Variety | 1987 | 1988 | 1989 | 1990 | 1991 | 5-Year Avg. |
|---|---|---|---|---|---|---|
| American Varieties | | | | | | |
| Catawba | 233 | 211 | 234 | 225 | 203 | 221 |
| Concord | 208 | 245 | 268* | 287* | 246* | 251 |
| Delaware | 266 | 234 | 255 | 222 | 199 | 235 |
| Dutchess | 275 | 259 | 265 | 214 | 180 | 239 |
| Elvira | 216 | 204 | 210 | 208 | 199 | 207 |
| Niagara | 195 | 225 | 258* | 262* | 223* | 233 |
| French American Hybrids | | | | | | |
| Aurore | 244 | 232 | 237 | 220 | 192 | 225 |
| Baco Noir | 283 | 273 | 256 | 251 | 293 | 271 |
| Cayuga White | 272 | 281 | 347 | 272 | 262 | 287 |
| de Chaunac | 192 | 183 | 203 | 203 | 229 | 202 |
| Rougeon | 241 | 187 | 215 | 201 | 223 | 213 |
| Seyval Blanc | 289 | 270 | 325 | 259 | 273 | 283 |
| Vitis Vinifera | | | | | | |
| All varieties | 1,008 | 990 | 1,131 | 1,050 | 1,108 | 1,057 |
| Average of all varieties | 222 | 248 | 272 | 282* | 251* | 255 |

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

SOURCE: Fruit, New York Crop Reporting Service, 975-2-89, 975-2-90, 975-2-91, and 975-2-92.

Concords are the predominant variety grown and processed in New York. There were 134,357 tons of Concords from New York processed in 1991 reflecting a large crop. Over the past five years, Concords have comprised 70 percent of total tonnage utilized. The second leading variety is Catawba with 6.9 percent of tonnage followed by Niagara with 6.2 percent.

Prices for most American and French-American hybrid varieties rebounded in the late 1980's from the disastrous 1985 season of low prices and low production. Prices for grapes used for juice (mainly Concord and Niagara, as well as some Catawba) improved until the very large 1991 crop. Varieties used mainly in nonpremium table wine, such as Delaware and Dutchess, while higher than in 1985, have declined in recent years. Most French-American Varieties, with the exception of Aurore, have held their own. Red varieties, such as Baco Noir and deChaunac, benefitted in 1991 from depleted inventories and a general increase in interest in red wine among consumers.

The prices of grapes utilized for fresh use, wine, and juice are shown below. In the early 1980's, the price of grapes utilized for wine generally exceeded the price of grapes utilized for juice by $100 or more per ton. Since 1985, the price for grapes utilized in juice has been about equal to the price of grapes utilized for wine.

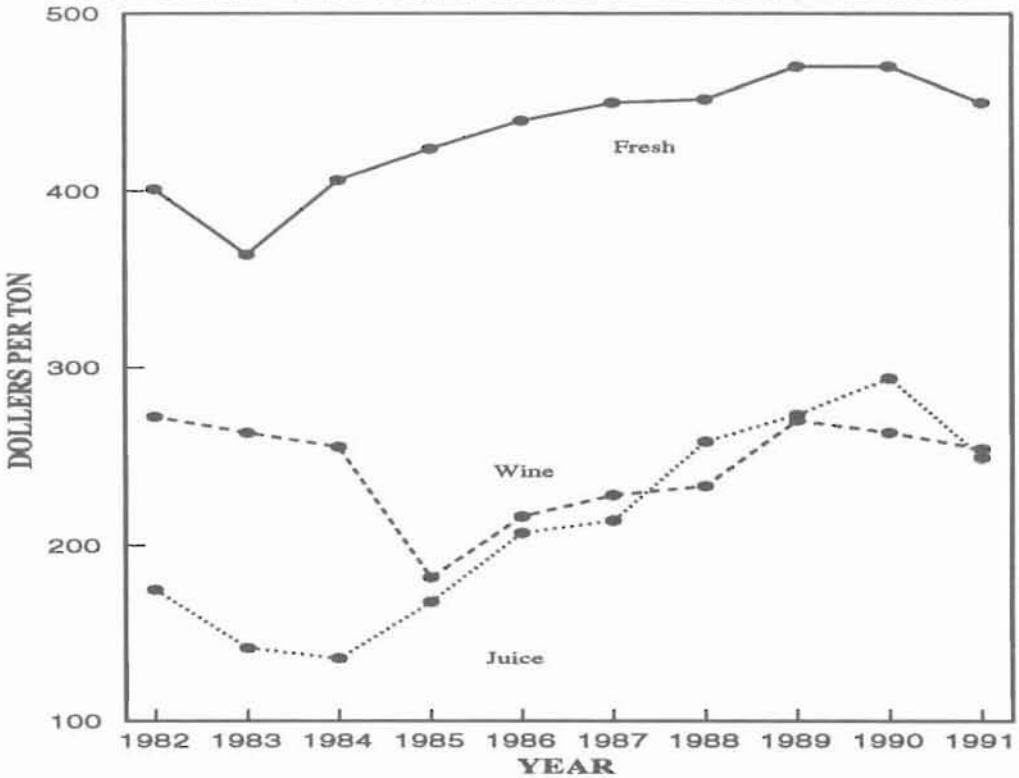
In 1992, prices were generally softer than in 1991 for most varieties. First there is a very large national crop, including a large crop of Concords in Washington State. Inventory carryover was relatively high in the wine sector and there were some concerns over quality of the 1992 crop, given the cool, wet weather over the summer.

National Grape Cooperative, Inc., which processes over 25 percent of New York's total grape crop, paid a harvest cash advance of $95 this year vs. $90 in 1991. The cooperative reported net proceeds per ton in fiscal year 1992 of $247, considerably below the $300 of 1991. Nevertheless, cash flow in 1992 was improved for most members because of the large crop the previous year.

Prices for both large and small wineries were relatively unchanged. One exception was for Chardonnay, which was in surplus for the second year in a row. Major plantings of this variety in the 1980's are now in production, and marketing has not kept up with the increased production.

With lower yields, relatively unchanged prices, and higher operating costs in 1992, cash flow for most growers was considerably lower in 1992 than for the previous year.

**AVERAGE PRICE FOR GRAPES IN NEW YORK UTILIZED FOR FRESH GRAPES, WINE, AND JUICE, 1982-1991**



**--SITUATION**

There is little to say about the Ornamentals industry in New York because little information is readily available. In fact, figures that have been reported in the past have significantly been changed by the United States Department of Agriculture (USDA). The reader will notice these changes when the figures presented in Tables I and II are compared to the same tables in last year's publication. For example, last year the wholesale value of the nation's 1990 floriculture crop was estimated to be $2.77 billion dollars. This year, the 1990 crop has been re-estimated to a value of $2.509 billion--almost a 10% difference in estimates.

Given the uncertainly of the figures reported this year, it makes little sense to make inferences and/or analyze the data because next year's estimates may change significantly. However, it is imperative that industry participants make their wishes and/or concerns known to the various data reporting entities within New York and the USDA. The USDA has an advisory committee with a mandate to recommend what and how ornamental crops should be covered by the USDA's statistical gathering division. No doubt they are aware of some of these problems and are working to correct them.

Table I does present the latest figures for the wholesale value floriculture crops in the U.S. and Table II presents more detailed figures for New York. To the author, the 1990-to-1991 national decline in cut flower value was the first such decline for many years. For New York, the number of growers that reported figures for 1991 is substantially lower than those reporting during 1990. Consequently, the figure 26.5% decrease in cut flower production value for New York does not reflect the true changes between 1990 and 1991. National and New York production and value of bedding plants continues to increase at a healthy pace. The same can be said for potted flowering plant production value. However, the figures for New York are not directly comparable to the previous year because the items reported has changed. Nonetheless, New York production of potted flowering plants increased significantly.

TABLE I.....SUMMARY OF U.S. FLORICULTURE CROPS WHOLESALE VALUE OF SALES, 1990 AND 1991 -- MILLIONS OF DOLLARS

| | 1990 | | 1991 | | |
|---|---|---|---|---|---|
| | Value | Percent of Total | Value | Percent of Total | De/Increase Over 1990 (%) |
| Cut Flowers | 467.0 | 18.6% | 449.0 | 17.5% | - 4.0% |
| Potted Flowering | 633.0 | 25.2 | 671.0 | 26.2 | +6.0 |
| Foliage Plants | 474.5 | 18.9 | 446.0 | 17.4 | -6.0 |
| Bedding Plants | 827.1 | 33.0 | 885.0 | 34.6 | +7.0 |
| Cut Greens | 106.8 | 4.3 | 110.0 | 4.3 | +3.0 |
| Total Value | 2,509.1 | 100.0% | 2,561.0 | 100.0% | +2.0 |

Source: Floriculture Crops - 1991 Summary, U.S. Department of Agriculture, National Agricultural Statistics Service, Agricultural Statistics Board, April 1992.

TABLE II. COMMERCIAL PRODUCERS, QUANTITIES SOLD, AND WHOLESALE VALUE OF SELECTED FLORICULTURE CROPS, NEW YORK, 1991

| | Reporting Producers[1] | Quantity Sold | | Wholesale Value |
|---|---|---|---|---|
| | Number | | | $1,000 |
| Cut Flowers | | | | |
| Carnations - Standard | 3 | 360,000 | blooms | 21 |
| Chrysanthemums | | | | |
| Standard | 14 | 400,000 | blooms | 309 |
| Pompon | 13 | 56,000 | bunches | 104 |
| Roses | | | | |
| Hybrid Tea | 16 | 17,647,000 | blooms | 10,553 |
| Sweetheart | 15 | 6,423,000 | blooms | 2,588 |
| Other Cut Flowers | 21 | - - - - | | 1,992 |
| Total | | | | 15,567 |
| | | | | (-26.5%)[2] |
| Potted Flowering Plants | | | | |
| African Violets | 25 | 1,491,000 | pots | 1,724 |
| Chrysanthemums | 70 | 1,527,000 | pots | 3,506 |
| Finished Florist Azaleas | 44 | 3,255,000 | pots | 8,420 |
| Easter Lilies | 64 | 511,000 | pots | 1,860 |
| Other Lilies | 34 | 91,000 | pots | 417 |
| Other Potted Flowering | 75 | 20,775,000 | flats | 117,781 |
| Poinsettias | 107 | 2,676,000 | pots | 8,201 |
| Total | | | | 141,909 |
| Foliage For Indoor/Patio Use | | | | |
| Potted Foliage | 38 | | - - - - | 2,594 |
| Foliage Hanging Baskets | 75 | 368,000 | baskets | 1,873 |
| Total | | | | 4,467 |
| | | | | (-14.9%) |
| Bedding Garden Plants | | | | |
| Geraniums (flats) | 51 | 200,000 | flats | 2,102 |
| Other Flowering and Foliar Plants | 137 | 2,475,000 | flats | 17,662 |
| Vegetable Type Plants | 122 | 428,000 | flats | 3,064 |
| Hardy Garden Chrysanthemums | 103 | 1,861,000 | pots | 4,748 |
| Geraniums (cuttings) | 115 | 4,346,000 | pots | 5,872 |
| Geraniums (seed) | 49 | 2,953,000 | pots | 2,570 |
| Other Potted and Foliar Plants | 86 | 3,314,000 | pots | 5,349 |
| Vegetable Plants | 43 | 2,573,000 | pots | 2,957 |
| Foliage Hanging Baskets | 147 | 1,167,000 | baskets | 6,500 |
| Total | | | | 50,824 |
| Total of Reported Floriculture Crops | | | | 206,300 |

[1] More than $10,000 in gross sales of all floriculture crops.
[2] Percentage change from 1990 sales.
Source: Floriculture Crops 1990 Summary, USDA, National Agriculture Statistics Service, Agricultural Statistics Board, April 1991.

**--OUTLOOK**

The outlook for the ornamentals industry in New York is mixed. For producers of landscaping plants, the demand for product is closely tied to the macroeconomic developments in the economy--be they national or regional. When the recession abates, then the demand for landscape products will pick-up again. Long Island nursery producers have a large market close-by and are positioned to take advantage of increased demand when the economy picks up. The difficult question is when the Northeast economy will pick-up and if it does, will the growth be similar to the 80s? Most likely not.

With regards to flowering plants, continued growth is anticipated--particularly for bedding and potted flowering plants. Another development in the near future is the entry of vegetable farmers in New York into the greenhouse business. Farmers that historically been vegetable growers have established greenhouse operations to produce bedding plants, hanging baskets, and potted flowering plants. Not only have they been motivated by potential profits, but also because it allows them to keep their seasonal labor for vegetable production employed. Further entry into the greenhouse production business by vegetable farmers bodes well for the industry if quality and distribution is maintained.

**NOTES**

# 1993 DAIRY OUTLOOK

## Overview

POSITIVE FACTORS

- Stable Feed Costs
- Low Interest Rates
- Moderate Economic Recovery Helps Demand, especially for Cheese

NEGATIVE FACTORS

- Lower Federal Order Milk Prices During First Half of 1993
- Refundable Assessment of at least 11.25 cents/cwt - probably 16¢/cwt
- Poor Forage Quality in early 1993

UNCERTAINTIES

- Milk Production in Major Producing Regions
- Global Demand for Manufactured Dairy Products, Especially Butter and NDM
- Replacement of M-W Price Mover in Federal Orders

NEW YORK DAIRY SITUATION AND OUTLOOK
1990, 1991, Preliminary 1992, and Projected 1993

| Item | Year | | | | Percent Change | |
|---|---|---|---|---|---|---|
| | 1990 | 1991 | 1992 | 1993 | 91-92 | 92-93 |
| Number of milk cows (thousand head) | 768 | 756 | 749 | 745 | -0.9 | -0.5 |
| Milk per cow (lbs.) | 14,410 | 14,675 | 15,495 | 15,762 | +5.6[b] | +2.0[b] |
| Total milk production (million lbs.) | 11,067 | 11,094 | 11,606 | 11,743 | +4.6[b] | +1.5[b] |
| Blended milk price ($/cwt.)[a] | 13.44 | 11.76 | 12.80 | 12.24 | +8.6 | -4.4 |
| Index of prices paid by dairy farmers | 170 | 172 | 173 | 174 | +0.5 | +0.5 |

[a] New York-New Jersey blend price, 201-210 mile zone, 3.5 percent fat, this price excludes any premiums or assessments. The effective blend price after milk price assessments is $13.43 for 1990; $11.71 for 1991; and $12.67 for 1992, assuming no refund.

[b] Adjusted for leap year in 1992.

Table 1. U.S. Milk Supply and Utilization, 1985-1993.

| | 1985[a] | 1986[a] | 1987[a] | 1988[a] | 1989 | 1990[a] | 1991[b] | 1992[c e] | 1993[d] |
|---|---|---|---|---|---|---|---|---|---|
| Supply | | | | | | | | | |
| Cow Numbers (thous.) | 10,981 | 10,773 | 10,327 | 10,262 | 10,126 | 10,127 | 9990 | 9823 | 9780 |
| Production/Cow (lbs.) | 13,024 | 13,285 | 13,819 | 14,145 | 14,244 | 14,646 | 14,868 | 15,454 | 15,712 |
| | | | | | (billion pounds) | | | | |
| Production | 143.0 | 143.1 | 142.7 | 145.2 | 144.2 | 148.3 | 148.5 | 151.8 | 153.7 |
| Farm Use | 2.5 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 | 2.0 | 2.0 | 1.9 |
| Marketings | 140.6 | 140.7 | 140.5 | 142.9 | 142.2 | 146.3 | 146.5 | 159.8 | 151.8 |
| Beginning Commercial Stocks | 4.8 | 4.5 | 4.1 | 4.6 | 4.3 | 4.1 | 5.1 | 4.5 | 4.5 |
| Imports | 2.8 | 2.7 | 2.5 | 2.4 | 2.5 | 2.7 | 2.6 | 2.6 | 2.6 |
| TOTAL SUPPLY | 148.2 | 148.0 | 147.0 | 149.9 | 148.9 | 153.1 | 154.3 | 156.9 | 158.9 |
| Utilization | | | | | | | | | |
| Commercial Disappearance[a] | 130.4 | 133.1 | 135.6 | 136.6 | 135.4 | 139.0 | 139.3 | 142.6 | 144.9 |
| Ending Commercial Stocks | 4.5 | 4.1 | 4.6 | 4.3 | 4.1 | 5.1 | 4.5 | 4.5 | 4.7 |
| Net Government Removals[a] | 13.3 | 10.8 | 6.8 | 9.1 | 9.4 | 9.0 | 10.5 | 9.8 | 9.3 |
| TOTAL USE | 148.2 | 148.0 | 147.0 | 149.9 | 148.9 | 153.1 | 154.3 | 156.9 | 158.9 |

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

[a] Revised.
[b] Preliminary.
[c] Based on preliminary USDA data and Cornell estimates.
[d] Projected by Andrew Novakovic.
[e] Leap year.

## The U.S. Dairy Situation and Outlook

### Milk Supplies

**National milk production** will total nearly 152 billion pounds for 1992, exceeding 150 billion pounds for the first time. Discounting for the extra day in 1992, this represents a 1.9% increase. In interpreting this, it is probably well to remember that milk production grew by only 0.1% in 1991.

The increase in **production per cow** of 3.7% (adjusted for leap year) is more than double the offsetting decline of 1.7% in the **national dairy herd**. Milk yields increase about 275 to 300 pounds per year on average; thus the 1992 increase is nearly double the norm.

Milk production, especially in the Upper Midwest, got off to a very sluggish start; in fact, during the first 5 months of 1992, milk production was just even with 1991 levels when the extra day in February is taken into account. Unusually cool and wet weather in the northern dairy states during the summer months resulted in verdant pastures and exceptionally strong milk yields, pushing milk production to nearly 4% over 1991 between June and October. As dairy farmers head into the winter barn-feeding season in the North, it is clear that there is an abundance of corn silage, haylage, and baled hay. Moreover, there was a large national harvest of corn and soybeans. Nevertheless, the quality of home-grown and purchased feeds appears to be well below normal due to late and wet harvest conditions in many important milk producing states (including New York and Wisconsin) and the Corn Belt. This is expected to take some of the steam out of milk production per cow and in total during the end of 1992 and early 1993.

Milk production patterns are always different from one state to the next, and this year is no exception. Milk production has been strong along the West Coast for many years, but it appears that persistent drought and dry and fairly hot summer weather, in contrast to conditions east of the Rockies, has caught up with **California** milk production. Production in the number two milk producing state increased about 1.5% in 1992, a third or less of its historical rate for the second year in a row.[1] This occurred despite rather favorable milk prices in California. Milk production growth has typically been rather strong in **Washington**, but it's nearly 8% growth rate this year is unusually high. Part of the reason may be that the State of Washington has been discussing and developing a regional marketing order plan that would involve payments to producers on the basis of a quota system; hence there may be some "race-for-base" effect.

**Texas** milk production grew at about the national average rate in 1992. A few years of spectacular growth in the late 1980s moved Texas to the number six position in milk production, but since then production growth has generally been more moderate. Stringent water quality controls have been an important factor in moderating growth in Texas.

Milk production in the important Upper Midwest region was hard hit in 1992. At just over -1.5%, the decline in **Minnesota** was actually a bit less than last year, and milk production in that state has been lagging for several years. What was especially significant this year was the basically level production in **Wisconsin**. Although Wisconsin was down in 1991, a weak year all around, the number one dairy state more typically has grown at a rate at least as great as the national average. Unusually tight production early in the year was a major factor in the strong and early seasonal rise in the M-W price, and consequently milk prices across the U.S.

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[1] As with earlier numbers, percentage changes in all 1992 quantities are adjusted for leap year. In effect, the percentages are expressed on a daily average basis. The unadjusted percentage changes are usually about 0.3% higher.

Outside of Washington, the most aggressive production growth among the leading dairy states occurred in the Northeast. **New York** increased at about a 4% rate. **Pennsylvania** solidified its rise to the number 4 spot on the total milk production list by posting a 5% gain. **Vermont** paced the rest of **New England** with growth at 4.5% to 5%.

Milk Utilization

Sales of dairy products have been getting mixed reports. USDA estimates of **commercial disappearance of all dairy products** indicate that sales were up almost 2% in 1992.[1] Improved sales are reported in all major categories except cottage cheese. Although natural cheese sales are up, it is noteworthy that they are not increasing as fast as in other recent years.

When reviewing USDA's commercial disappearance data, it is always good to keep two characteristics of this estimate in mind. First of all, USDA has to express dairy product sales on some kind of milk equivalent basis and the standard measure continues to be a milkfat equivalent. Thus, the commercial disappearance estimates essentially measure aggregate milkfat sales. Not surprisingly, sales on a skim solids basis have shown greater growth rates in recent years. Sales on a dollar basis, which are a combination of growth in volume and inflation, would also show a somewhat different growth pattern.

Second, commercial disappearance is not directly estimated from product sales data. Rather, USDA estimates production, imports, changes in commercial inventories, and sales to the government under the price support program to determine how much of the nation's milk supply ended up in commercial channels after changes in inventories are taken into account. An error in any one of the component parts will also cause an error in the estimate of commercial disappearance. Of the several variables estimated, the one that is most suspect is commercial inventories. Many analysts in 1992 have suggested that USDA's estimates of commercial stocks, particularly of cheese, may be especially low this year. To the extent, USDA has underestimated commercial stocks, it overestimates commercial sales. *It may well be that, as the data are reviewed and revised, we will find that sales in 1992 were not as strong as originally reported.* Many processors have been saying just that all along.

The Dairy Price Support Program

Of all the data in Table 1, the most accurate is net removals, i.e., how much dairy products are sold to the USDA under the price support program. Even this number bears some interpretation though. First, like the other numbers, it is a milkfat based milk equivalent. As has been true for the last three years, sales to USDA have been almost exclusively of butter. These butter sales of in excess of 400 million pounds aggregate to 9 to 10 billion pounds of milk on a milkfat basis; but this aggregate measure fails to reflect the fact that skim solids are not in surplus.

Another item to remember is that USDA net removals data may include sales made to USDA <u>at market prices</u> for dairy products used in domestic programs, principally the School Lunch Program, and usually include dairy products that are used in export subsidy programs, such as the Dairy Export Incentive Program. In the fiscal year which ended on 30 September 1992, USDA reported net removals of 460 million pounds of butter, 10 million pounds of cheese, and 118 million pounds of nonfat dry milk--*10.3 billion pounds of milk on a milkfat basis and 1.7 billion pounds on a skim solids basis.* Of these quantities, 57 million pounds of butter (12.4%), 10 million pounds of cheese (100%), and 109 million pounds of nonfat dry milk (92%) were exported under DEIP. In addition, 55 million pounds of cheddar and mozzarella were purchased for domestic food programs, all at market prices through a competitive bid process.

Thus, the 9 to 10 billion pounds of net removals reported in Table 1, while accurate in one sense, suggest a far larger surplus than exists in a broader sense.

Milk Prices

As shown in Table 2, milk and dairy product prices were generally up in 1992. The national average milk price is estimated to be up 7%, or 86¢/cwt. Most of that price growth came in the middle of 1992, as monthly prices began declining earlier in the fall than is normal.

The cheese market continues to be one of, if not the most critical subsector in determining the overall tone of dairy product markets. Wholesale prices of cheese were much reduced in 1991 but almost fully recovered in 1992. For the year, an average price for 40# blocks of cheddar cheese on the National Cheese Exchange is estimated at $1.28 per pound. Despite the substantial drop in wholesale prices in 1991, retail prices showed modest growth that year. In 1992, retail prices are estimated to have increased about 2.1%, or one-third the rate of wholesale price increases.

Cuts in the USDA's purchase price for butter continue to be reflected in declining wholesale and retail prices. The price of block, grade A butter on the Chicago Mercantile Exchange is estimated at about 82¢/lb for 1992, about a penny above the average USDA purchase price and 16¢ below the 1991 market average. Retail prices for grade AA butter dropped about 4.4% in 1992, or 8.5¢ from the 1991 average.

As USDA has pushed its purchase price for butter down, the price for nonfat dry milk has increased. Wholesale market prices for nonfat dry milk averaged almost 14% higher in 1992, a level 12¢ above the USDA purchase price. Some analysts believe that the sales of nonfat dry milk through the Dairy Export Incentive Program were an important factor in putting the market price so far above the support level.

Department of Labor data indicate that, overall, retail dairy product prices increased a little less than the 3% inflation rate estimated for all consumer products. Fluid milk prices increased at a somewhat greater rate and cheese prices at a somewhat lesser rate. Reversing the pattern of the late 1980s and early 1990s, retail food prices in general increased at half the rate of dairy product price inflation.

Dairy Policy in 1992 and Beyond

Federal dairy policy has three major components--the Dairy Price Support Program (DPSP), Dairy Import Quotas (DIQ), and Federal Milk Marketing Orders (FMMOs).

Legislation passed in 1990 establishes the parameters of the DPSP and related programs. Existing policy requires that USDA charge farmers 11¼¢/cwt of milk marketed beginning on January 1, 1993. Just as was the case in 1992, in early 1993 farmers will be able to claim a refund of their 1992 assessment if their 1992 marketings do not exceed their 1991 marketings. Once USDA calculates the total refund, the 1993 assessment will be increased. Probably on April 1, the 1993 assessment will be increased to recoup the refunds of 1992 money. In essence, the producers who increase marketings in 1993 will pay for the refunds of those who cut back in 1992. The average assessment for 1993 is estimated at about 16¢/cwt.

Beyond this, no other changes in the DPSP are mandated; however there are two further possibilities. First, USDA may make further cuts in its purchase price for butter, with a compensating increase in the nonfat dry milk price. If so, this would move the U.S. butter price very close to prevailing average prices for butter sold in international markets. Second, there is some possibility that Congress will pass legislation to increase the support price 50¢. This idea has been discussed off and on in 1992 and came to be taken seriously toward the end of the year. Whether or not the 1993 Congress will actually agree to even a modest increase remains to be seen.

Although no unilateral changes in U.S. quota policy are expected, the likelihood of some kind of North American Free Trade Agreement (NAFTA) and perhaps a new, world-wide General Agreement on Tariffs and Trade (GATT) in 1993, raise the possibility of changes in trade policy at some point in the not too distant future. The basic thrust of these changes would be to replace quotas with comparable tariffs, guarantee certain minimal levels of access to all participating countries initially, and then phase out tariffs over an extended period.

Several significant changes to federal milk marketing orders are in process and further proposals may well be offered for additional changes.

In recent years, a number of order areas have adopted multiple component pricing. Two areas are in the process of requesting such a change and other areas are likely to join in later, including the New England and New York-New Jersey markets.

Although it faces legal opposition, a new system of class IIIa pricing has been proposed for three orders, including New England and Middle Atlantic FMMOs, and this system could be adopted in most of the rest of the FMMO system. Under this system, processors of nonfat dry milk would be required to pay a minimum price for milk based on the price and yield of nonfat dry milk, generally a lower price than the existing class III price.

Indeed, all class prices will be calculated from a new basic formula price once USDA completes its decision on a replacement for the M-W price. The hearing to replace the M-W has been completed and all that remains is for USDA to issue a recommended decision and, ultimately, a final decision.

The 1990 national hearing covering several system-wide issues resulted in a recommended decision in 1992, but a final decision has yet to be released. The recommended decision offers a new way to calculate prices for reconstituted milk, which could have implications for intermarket prices and competition; however the decision did not change class I differentials. Further proposals for change through the administrative process or legal and legislative challenges to the existing class I differentials are a distinct possibility.

Finally, there is much speculation about the implications of a new President and a substantially different Congress for dairy policy, indeed for all aspects of federal policy. Little can be predicted with certainty; however several things are likely. First, dairy policy is not likely to get much attention; in the grand scheme of things it is simply not that important and few political careers will rise on the basis of dairy policy. Second, the new President and Congress is likely to be more sympathetic to federal programs aimed at economic growth, economic security, and family farmers; however they are also likely to be concerned about environmental and health issues which make for other challenges to the dairy industry. Third, although the new President and his advisers profess to be more concerned about the economy than the national defecit, *per se*, the fact remains that the federal budget is tight. Policy proposals that result in greater federal expenditures will still face strong opposition, unless they can be shown to lead to economic growth in the future or have other vert strong and broad offsetting qualities.

Outlook

As shown in Table 1, for 1993 we estimate milk production to increase about 1.5% and commercial disappearance to grow almost 2% (both adjusted for leap year), resulting in a small reduction in net removals. Despite this apparent tightening in the market, we expect milk prices to decline about 50¢/cwt on average. Many factors could lead to a different outlook; however, we anticipate that the generally favorable prices in 1992 will spur production just enough and perhaps some overly optimistic enthusiasm about the economy and sales growth will lead to enough of a surplus situation toward the end of 1993 to hold farm prices down in 1993 and early 1994.

Table 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, 1985-1992.

| | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991[a] | 1992[b] |
|---|---|---|---|---|---|---|---|---|
| Farm Milk ($/cwt.): | | | | | | | | |
| All Milk (ave. fat) | 12.76 | 12.51 | 12.54 | 12.26 | 13.56 | 13.74 | 12.24 | 13.10 |
| M-W (3.5%) | 11.48 | 11.30 | 11.23 | 11.03 | 12.37 | 12.21 | 11.05 | 11.86 |
| Support (3.5%) | 11.69 | 11.31 | 11.00 | 10.33 | 10.47 | 9.89 | 9.92 | 9.95 |
| Milk Price:Concentrate Value | 1.74 | 1.79 | 1.84 | 1.58 | 1.65 | 1.72 | 1.58 | 1.70 |
| Assessment | .13 | .36 | .19 | .03 | .00 | .01 | .05 | .13 |
| Cheddar Cheese, Blocks ($/lb.): | | | | | | | | |
| CCC Purchase | 1.279 | 1.250 | 1.219 | 1.1525 | 1.166 | 1.111 | 1.110 | 1.116 |
| Wholesale, National Cheese Exchange | 1.248 | 1.260 | 1.213 | 1.210 | 1.350 | 1.315 | 1.204 | 1.280 |
| Butter ($/lb.): | | | | | | | | |
| CCC Purchase, Grade A or higher, Chicago | 1.415 | 1.398 | 1.373 | 1.320 | 1.263 | 1.017 | .983 | .807 |
| Wholesale, Gr. A, Chicago Merc. Ex. | 1.402 | 1.437 | 1.393 | 1.316 | 1.269 | 1.006 | .983 | .817 |
| Retail, Grade AA, sticks (1 lb.) | 2.121 | 2.151 | 2.170 | 2.158 | 2.133 | 1.992 | 1.935 | 1.850 |
| Nonfat Dry Milk, | | | | | | | | |
| Extra Grade, Unfortified ($/lb.): | .843 | .808 | .783 | .728 | .774 | .831 | .850 | .948 |
| Wholesale, Central States | .841 | .806 | .793 | .802 | 1.055 | 1.006 | .942 | 1.072 |
| Retail Price Indices (1982-84=100.0): | | | | | | | | |
| Whole Milk | 102.3 | 101.7 | 103.6 | 106.0 | 114.3 | 126.7 | 122.4 | 126.7 |
| Cheese | 103.2 | 103.5 | 105.9 | 109.2 | 117.6 | 131.2 | 132.8 | 135.6 |
| All Dairy Products | 103.2 | 103.3 | 105.9 | 108.3 | 115.6 | 126.5 | 125.1 | 128.6 |
| All Food | 105.6 | 109.0 | 113.5 | 118.2 | 125.1 | 132.4 | 136.3 | 138.1 |
| All Consumer Prices | 107.6 | 109.6 | 113.6 | 118.3 | 124.0 | 130.7 | 136.2 | 140.3 |

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

[a] Revised.
[b] Estimated by Andrew Novakovic from federal data for part of the year.

Number of Producers Delivering Milk
Northeast Federal and State Marketing Orders*
1986-1992

| Markets | 1986 | 1987 | 1988 | 1989 | 1990 | 1991[a] | 1992[b] |
|---|---|---|---|---|---|---|---|
| New York-New Jersey | 15876 | 14731 | 13954 | 13570 | 13261 | 12730 | 12130 |
| New England | 5891 | 5412 | 5182 | 4934 | 4893 | 4795 | 4678 |
| Middle Atlantic | 6586 | 6406 | 6196 | 5741 | 5509 | 5458 | 5516 |
| E. Ohio-W. Pennsylvania | 5885 | 5605 | 5478 | 5175 | 4889 | 4685 | 4535 |
| Western New York | 1161 | 1088 | 997 | 919 | 853 | 838 | 820 |
| Regional Total | 35399 | 33242 | 31807 | 30339 | 29405 | 28506 | 27682 |

Source: Annual Federal Milk Order Market Statistics and Annual Statistical Reports for State Orders.

*Simple average for 12 months.

[a]Revised.

[b]Projected.

Producer numbers in the northeast federal and state order markets declined by 816, or 2.9 percent in 1992 following a 3.1 percent drop in 1991. For the period from 1986 to 1992, producer numbers in the northeast orders have declined by 7717 or 22 percent, thus giving an average annual attrition rate of 3.7 percent over that period.

Over the last three years, declines in producer numbers have averaged closer to 3.0 percent, which more nearly follows the longer term trend.

A further decline of 3.0 percent in producer numbers is expected for northeast markets in 1993.

Receipts of Milk from Producers by Regulated Handlers, Million Pounds
Northeast Federal and State Marketing Orders
1986-1992

| Markets | 1986 | 1987 | 1988 | 1989 | 1990 | 1991[a] | 1992[b] |
|---|---|---|---|---|---|---|---|
| | | | | (million pounds) | | | |
| New York-New Jersey | 11729 | 11339 | 11222 | 11096 | 11125 | 11075 | 11282 |
| New England | 5341 | 5173 | 5118 | 4975 | 5114 | 5309 | 5482 |
| Middle Atlantic | 6412 | 6281 | 6199 | 5908 | 5899 | 6222 | 6598 |
| E. Ohio-W. Pennsylvania | 3884 | 3842 | 3920 | 3687 | 3547 | 3517 | 3636 |
| Western New York | 1334 | 1304 | 1283 | 1207 | 1199 | 1228 | 1281 |
| Regional Total | 28603 | 27838 | 27742 | 26897 | 26884 | 27351 | 28279 |

Source: Annual Federal Milk Order Market Statistics and Annual Statistical Reports for State Orders.

[a]Revised.

[b]Projected (adjusted for leap year).

In 1992, total receipts from northeast order producers increased substantially more than expected following a year of modest increases in 1991.

A smaller milking herd and winter feed supply shortages in early 1992 were expected to keep producer receipts near previous year levels. However, higher than expected milk prices, moderate summer temperatures and favorable feed prices provided the stimulus for sharp increases in production per cow which resulted in a 3.4 percent increase in producer receipts for the five northeast order markets, following a 1.2 percent increase in 1991.

The Middle Atlantic order again led the way with a 6 percent increase in producer receipts, following a 5.4 percent increase the previous year. The New England and E. Ohio-W. Pennsylvania orders each registered sizeable increases of 3.3 and 3.4 percent, respectively. The Western New York order responded with a 4.3 percent increase, while the New York-New Jersey market had a more moderate 1. percent increase.

For 1993, receipts in the five market orders are expected increase by only 1 to 1.5 percent due to winter feed supplies that are lacking in nutritional value as a result of a wet growing and harvest season in many areas.

Producer Milk Used in Class I by Regulated Handlers, Million Pounds
Northeast Federal and State Marketing Orders
1986-1992

| Markets | 1986 | 1987 | 1988 | 1989 | 1990 | 1991[a] | 1992[b] |
|---|---|---|---|---|---|---|---|
| | | | | (million pounds) | | | |
| New York-New Jersey | 4665 | 4606 | 4607 | 4587 | 4487 | 4477 | 4416 |
| New England | 2814 | 2813 | 2815 | 2811 | 2810 | 2746 | 2675 |
| Middle Atlantic | 2986 | 3152 | 3084 | 3109 | 3131 | 3155 | 3129 |
| E. Ohio-W. Pennsylvania | 1985 | 2023 | 2052 | 2033 | 1927 | 1872 | 1877 |
| Western New York | 437 | 427 | 495 | 513 | 501 | 492 | 472 |
| Regional Total | 12887 | 13021 | 13053 | 13053 | 12856 | 12742 | 12569 |

Source: Annual Federal Milk Order Market Statistics and Annual Statistical Reports for State Orders.

[a]Revised.

[b]Projected (adjusted for leap year).

In 1992, fluid milk sales declined 1.4 percent or 173 million pounds in the northeast order markets following a drop of 0.8 percent the previous year.

Fluid sales in the E. Ohio-W. Pennsylvania order were up fractionally in 1992 following two years of declines due to plant shifts. The Western New York state order experienced the largest percentage decline (-4.1%) due to a loss of sales to out of state handlers.

Class I sales were down 2.6, 1.4, and 0.8 percent, respectively, in the New England, New York-New Jersey, and Middle Atlantic federal orders.

In 1993 fluid sales are expected to decline by 2 to 3 percent in the New England and Middle Atlantic federal orders due to anticipated plant shifts into the New York-New Jersey order. Fluid sales in the New York-New Jersey and E. Ohio-W. Pennsylvania order are expected to increase 1 to 2 percent from this year's levels.

Producer Milk Used in Class I as Percentage of All Producer Milk Received by Regulated Handlers
Northeast Federal and State Marketing Orders
1986-1992

| Markets | 1986 | 1987 | 1988 | 1989 | 1990 | 1991[a] | 1992[b] |
|---|---|---|---|---|---|---|---|
| | | | | (percent) | | | |
| New York-New Jersey | 40 | 41 | 41 | 41 | 40 | 40 | 39 |
| New England | 53 | 54 | 55 | 56 | 55 | 52 | 49 |
| Middle Atlantic | 47 | 50 | 50 | 53 | 53 | 51 | 47 |
| E. Ohio-W. Pennsylvania | 51 | 53 | 52 | 55 | 54 | 53 | 52 |
| Western New York | 35 | 36 | 39 | 42 | 42 | 40 | 37 |

Source: Annual Federal Milk Order Market Statistics and Annual Statistical Reports for State Orders.

[a]Revised.

[b]Projected.

Class I fluid utilization is affected by the volume of fluid milk sales and total receipts of milk in a market.

In 1992, fluid utilization declined in all of the northeast orders. Declines in fluid milk sales in all but the E. Ohio-W. Pennsylvania order, combined with substantially higher total receipts to drop fluid utilization below 50 percent in the New England and Middle Atlantic orders and below 40 percent in the New York-New Jersey and Western New York orders.

Fluid utilization for all the northeast orders is expected to decline fractionally in 1993.

Minimum Class I Prices for 3.5% Milk
Northeast Federal and State Marketing Orders
1986-1992

| Markets | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992[a] |
|---|---|---|---|---|---|---|---|
| | | | | ($/cwt) | | | |
| New York-New Jersey[1] | 13.63 | 13.89 | 13.41 | 14.49 | 15.52 | 13.16 | 14.41 |
| New England[2] | 13.62 | 13.86 | 13.38 | 14.46 | 15.49 | 13.23 | 14.52 |
| Middle Atlantic[3] | 14.13 | 14.37 | 13.89 | 14.97 | 16.00 | 13.74 | 15.02 |
| E. Ohio-W. Pennsylvania[3] | 13.20 | 13.34 | 12.86 | 13.94 | 14.97 | 12.71 | 13.99 |
| Western New York[3] | 14.09 | 14.35 | 13.45 | 14.24 | 15.27 | 13.00 | 14.29 |

Source: Annual Federal Milk Order Market Statistics and Annual Statistical Reports for State Orders.

[a]Projected.

[1]201-210 mile zone.

[2]21st zone.

[3]Priced at major city in the marketing area.

Minimum Class I fluid milk prices in northeast federal order markets increased an average of $1.28 or 9.7 percent in 1992, following a year-to-year decline of nearly 15 percent in 1991.

The normal seasonal declines in the Minnesota-Wisconsin basic formula price, the mover for federal order prices, were curtailed at the end of the first quarter in 1992 as tight milk supplies in much of the Upper Midwest resulted in a $1.00 per hundredweight counter-seasonal increase between April and June. A summer recovery in milk production caused the M-W to peak in July, and subsequently decline counter-seasonally during the remainder of the year as milk production outpaced demand in the fall months.

As a result, fluid milk prices peaked in September and declined approximately 50 cents per hundredweight during the last quarter of the year.

In 1993, fluid milk prices in the northeast order markets are expected to decline between 40 and 50 cents per hundredweight from 1992 levels.

Minimum Class II/III Prices for 3.5% Milk
Northeast Federal and State Marketing Orders
1986-1992

| Markets | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992[a] |
|---|---|---|---|---|---|---|---|
| | | | | ($/cwt) | | | |
| New York-New Jersey[1] | 11.30 | 11.23 | 11.03 | 12.37 | 12.21 | 11.06* | 11.89 |
| New England[2] | 11.30 | 11.23 | 11.03 | 12.37 | 12.21 | 11.06* | 11.89 |
| Middle Atlantic[3] | 11.32 | 11.25 | 11.05 | 12.39 | 12.23 | 11.08* | 11.92 |
| E. Ohio-W. Pennsylvania[4] | 11.30 | 11.23 | 11.03 | 12.37 | 12.21 | 11.06 | 11.89 |
| Western New York[3] | 11.25 | 11.18 | 10.98 | 12.32 | 12.16 | 11.01 | 11.84 |

Source: Annual Federal Milk Order Market Statistics and Annual Statistical Reports for State Orders.

*Class II price prior to April 1, 1991, Class III price effective April 1, 1991.
[a]Projected.
[1]201-210 mile zone.
[2]21st zone.
[3]Class II in a two-price system, priced at major city in the marketing area.
[4]Class III.

On April 1, 1991, the New York-New Jersey, New England, and Middle Atlantic federal marketing orders changed to a three-class price system. Under three-class pricing, Class I remains the fluid class, Class II includes "soft products" such as cottage cheese and sour cream and Class III includes the "hard products," butter, nonfat dry milk, and cheese.

The Class II (soft product) price that became effective April 1, 1991, for the northeast federal orders averaged $12.12 per hundredweight in 1992, an increase of 7.5 percent from the previous year's average. A 3 to 4 percent decline in the Class II price is expected in 1993.

In 1992, the Class III manufacturing milk price averaged $11.89 in the five northeast orders, an increase of 83 cents or 7.5 percent.

Class III manufacturing milk prices in the northeast orders are expected to decline between 3 and 4 percent in 1993.

Minimum Blend Prices for 3.5% Milk
Northeast Federal and State Marketing Orders
1986-1992

| Markets | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992[a] |
|---|---|---|---|---|---|---|---|
| | | | | ($/cwt) | | | |
| New York-New Jersey[1] | 12.09 | 12.18 | 11.83 | 13.10 | 13.44 | 11.79 | 12.80 |
| New England[2] | 12.43 | 12.56 | 12.20 | 13.45 | 13.95 | 12.07 | 13.10 |
| Middle Atlantic[3] | 12.66 | 12.84 | 12.44 | 13.75 | 14.27 | 12.45 | 13.55 |
| E. Ohio-W. Pennsylvania[3] | 12.32 | 12.37 | 11.97 | 13.24 | 13.84 | 11.95 | 13.03 |
| Western New York[3] | 12.25 | 12.22 | 11.94 | 13.04 | 13.46 | 11.77 | 12.84 |

Source: Annual Federal Milk Order Market Statistics and Annual Statistical Reports for State Orders.

[a]Projected.
[1]201-210 mile zone.
[2]21st zone.
[3]Priced at major city in the marketing area.

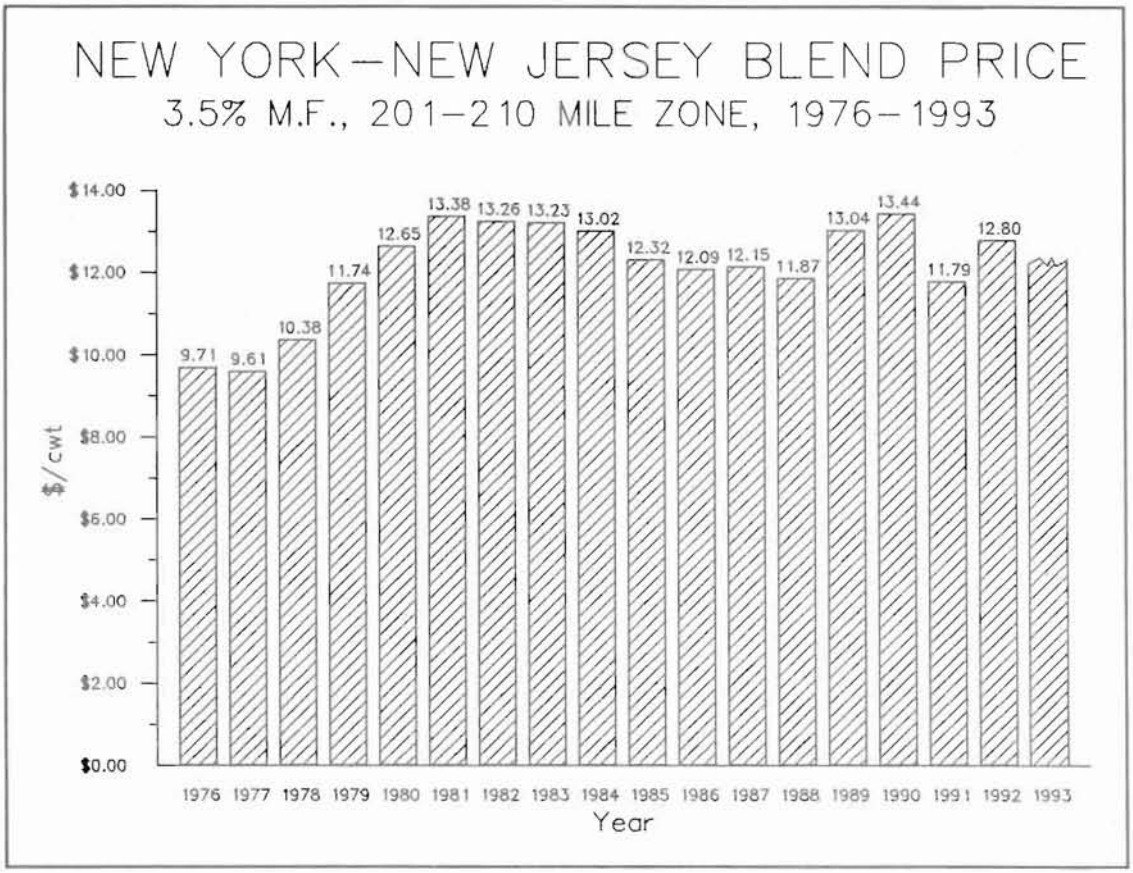
Minimum blend prices in the northeast order markets increased an average of $1.05 per hundredweight or 8.7 percent in 1992, following a decline of 13 percent in 1991.

Blend prices in the five order markets ranged from $13.55 (f.o.b. city) in the Middle Atlantic order to $12.80 (201-210 mile zone) in the New York-New Jersey order. An f.o.b. city price for the New York-New Jersey and New England orders would be 72 cents per hundredweight higher.

Seasonal declines in the blend price during the first quarter of the year prompted a request for a further suspension of the seasonal pricing provision in Orders 1, 2 and Western New York. The suspension became effective in April with the March deduction being reimbursed in the April milk check.

Blend prices in the northeast orders are expected to decline between 50 and 60 cents or 4 to 5 percent in 1993. It is expected that the seasonal pricing provisions in the New England and New York-New Jersey orders will be permanently eliminated.

Supply-demand uncertainties are the major factors affecting the price outlook.




N.Y.-N.J. Blend Price, 3.5% M.F., 201-210 Mile Zone, 1986-1992

| Month | 1986 | 1987 | 1988 | 1989 | 1990 | 1991* | 1992* |
|---|---|---|---|---|---|---|---|
| January | $11.92 | $12.76 | $12.03 | $12.95 | $15.17 | $11.11 | 12.97 |
| February | 11.84 | 12.42 | 11.80 | 12.55 | 14.22 | 10.99 | 12.52 |
| March | 11.50 | 11.92 | 11.29 | 11.95 | 13.45 | 10.90 | 11.88 |
| April | 11.31 | 11.55 | 10.92 | 11.59 | 12.75 | 10.81 | 12.27 |
| May | 11.25 | 11.30 | 10.71 | 11.42 | 12.83 | 10.84 | 12.36 |
| June | 11.27 | 11.35 | 10.66 | 11.62 | 13.25 | 11.04 | 12.93 |
| July | 11.86 | 11.96 | 11.31 | 12.38 | 14.02 | 11.59 | 13.16 |
| August | 12.46 | 12.44 | 12.03 | 13.29 | 14.43 | 12.04 | 13.36 |
| September | 12.79 | 12.75 | 12.50 | 14.00 | 14.27 | 12.45 | 13.46 |
| October | 13.05 | 12.80 | 12.94 | 14.67 | 13.10 | 13.01 | 13.24 |
| November | 13.05 | 12.69 | 13.18 | 15.28 | 12.52 | 13.32 | 12.93** |
| December | 12.78 | 12.21 | 13.07 | 15.47 | 11.23 | 13.34 | 12.56** |
| Average | 12.09 | 12.18 | 11.87 | 13.10 | 13.44 | 11.79 | 12.80** |

*The seasonal incentive plan was suspended for 1992; the amount withheld in March was repaid in April and the plan was suspended for the remainder of the year.

**Projected

Source: Price Announcements, Office of the Administrator, New York-New Jersey Milk Marketing Area.

MILK PRICE PROJECTIONS
New York-New Jersey Blend Price, 3.5 Percent, 201-210 Mile Zone
Last Quarter 1992 - First Half 1993

| Month | 1991 | 1992 | Difference |
|---|---|---|---|
| | (dollars per hundredweight) | | |
| October | 13.01 | 13.24a | +0.23 |
| November | 13.33 | 12.93p | -0.40 |
| December | 13.34 | 12.56p | -0.78 |
| Annual Average | 11.79 | 12.80p | +1.01 |

| | 1992a | 1993f | |
|---|---|---|---|
| | (dollars per hundredweight) | | |
| January | 12.97 | 12.26 | -0.71 |
| February | 12.52 | 11.85 | -0.67 |
| March | 11.88 | 11.52 | -0.36 |
| April | 12.27 | 11.30 | -0.97 |
| May | 12.36 | 11.34 | -1.02 |
| June | 12.93 | 11.57 | -1.36 |
| Six Month Average | 12.49 | 11.64 | -0.85 |
| Annual Average Blend Price | 12.80p | 12.24 | -0.56 |
| Annual Effective Price* | 12.67 | 12.08 | -0.59 |

*=blend price less government assessment
a=actual; p=projected; f=forecasted.

Assumptions Associated With These Projections

A 1993 support price of $9.99 per hundredweight for manufacturing grade milk at 3.5% fat test.

Seasonally low M-W prices throughout early 1993.

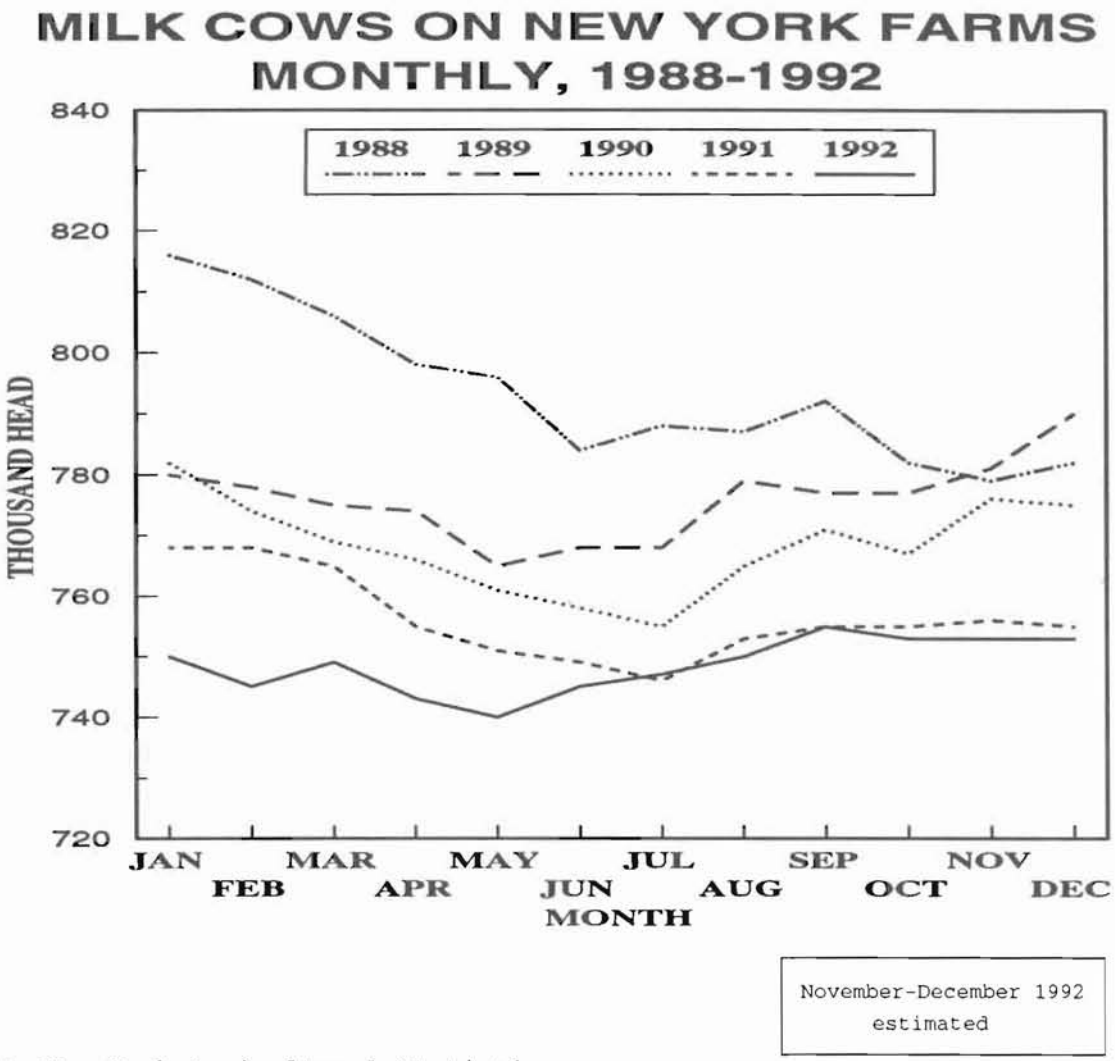
An average 16-cent per hundredweight budget reconciliation assessment for calendar year 1993.

National milk production up 1.0 to 1.5 percent.

Commercial sales up 1.0 to 2.0 percent.

CCC purchases between 9 and 10 billion pounds (milk equivalent, fat solids basis), primarily in butter.

Forecast by W. C. Wasserman, 12/92




**SOURCE:** New York Agricultural Statistics.

During 1992, monthly cow numbers have been below 1991 (except July) as well as the entire period from 1985 through 1991. Monthly cow numbers in New York increased during 1985, followed by a steady decline that began in January 1986 and continued uninterrupted through June 1987. Cow numbers stabilized the second half of 1987, declined through 1988 and stabilized again in 1989. In May 1992, the number of cows totaled 740,000, which was the lowest number for any month in New York since monthly records began in 1930. The number of cows in the State is projected to be stable through the remainder of the year.

The U.S. quarterly milk cow numbers have decreased in the first three quarters of 1992 compared to 1991. In the third quarter of 1992, the number of cows in the U.S. averaged 9,845,000. That is 95,000 head less than a year earlier. The Northeast[1] comprised 18.5 percent of total U.S. milk cows or 1,824,800 head in the third quarter of 1992. This is 17,600 head less than a year earlier. The Northeast accounted for 19 percent of the 1991 to 1992 third quarter U.S. decrease in cow numbers.

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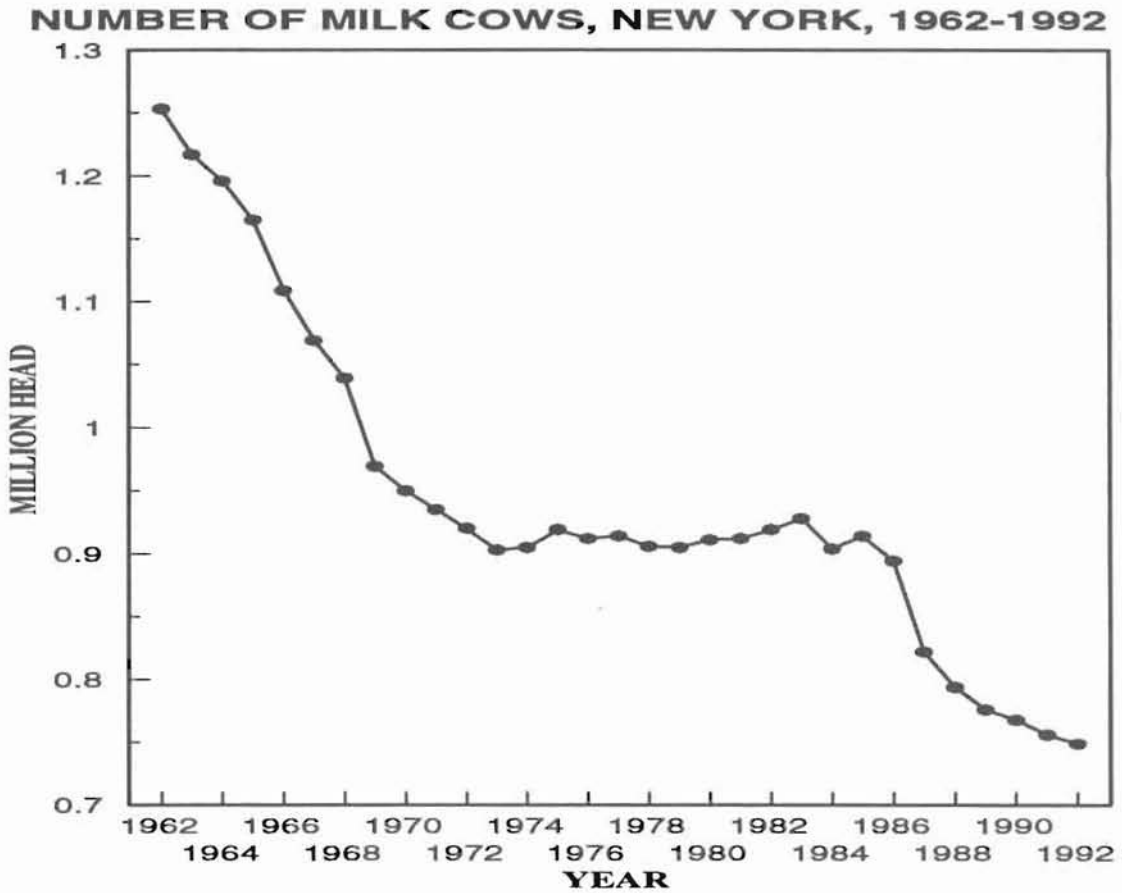
[1]Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.




**SOURCE:** New York Agricultural Statistics.

The average number of milk cows on New York farms for 1992 is estimated at 749,000 head, which is 0.9 percent lower than in 1991. The projected average number of cows for 1993 is 745,000, or down 0.5 percent from 1992.

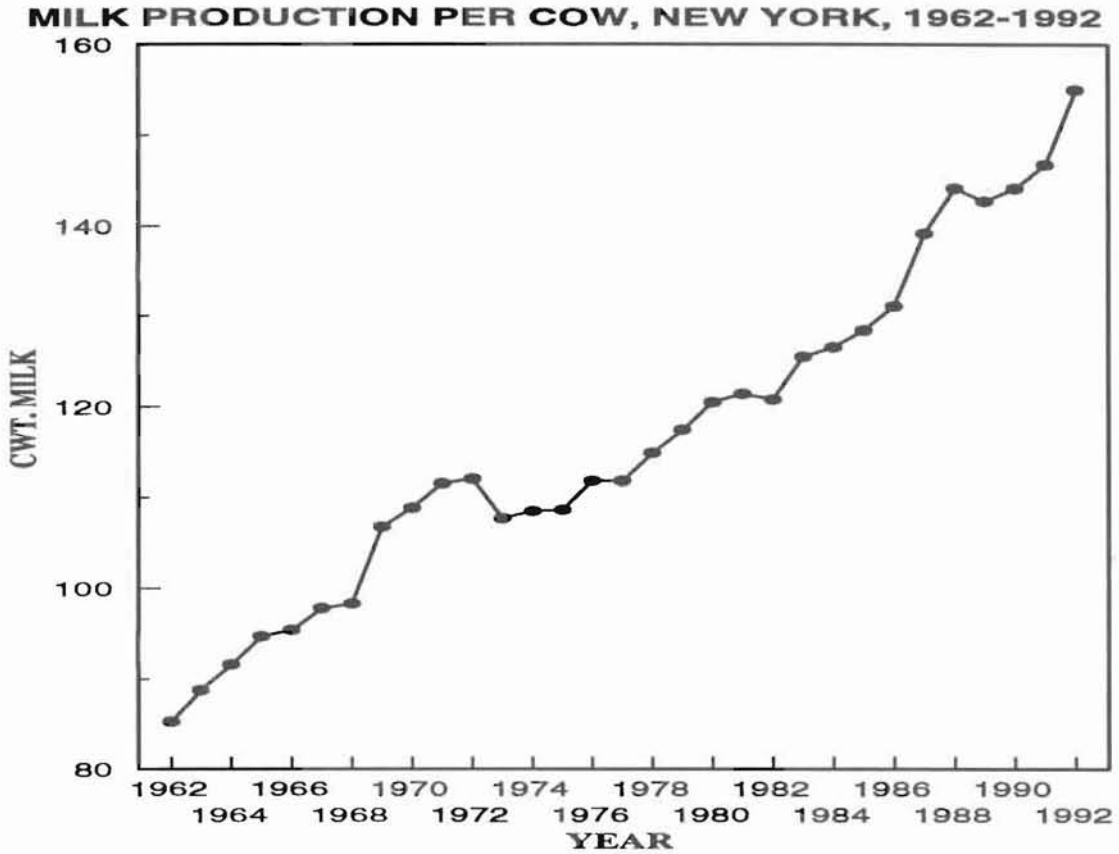
Heifers on New York farms as a percent of cow numbers on January 1, 1992 decreased 0.2 percentage points from 1991, to 41.3 percent. At 312,000 head, milk cow replacement heifers were at the third lowest level in 24 years.

Heifers on U.S. farms as a percent of cow numbers was 42.4 percent in January 1992, a 0.8 percentage point increase from 1991. July 1992 U.S. heifers as a percent of cow numbers was 42.6 percent, 0.6 percentage points above July 1991.

| Year | New York Milk Cows, Annual Average | New York Milk Cows, January | New York Heifers, January | Heifers as Percent of Cow Numbers |
|---|---|---|---|---|
| | thousand head | | | percent |
| 1982 | 919 | 920 | 403 | 43.8 |
| 1983 | 928 | 932 | 435 | 46.7 |
| 1984 | 904 | 925 | 420 | 45.4 |
| 1985 | 914 | 910 | 425 | 46.7 |
| 1986 | 894 | 925 | 388 | 41.9 |
| 1987 | 822 | 855 | 355 | 41.5 |
| 1988 | 794 | 816 | 290 | 35.5 |
| 1989 | 776 | 780 | 302 | 38.7 |
| 1990 | 768 | 790 | 319 | 40.4 |
| 1991 | 756 | 775 | 322 | 41.5 |
| 1992[1] | 749 | 755 | 312 | 41.3 |
| 1993[2] | 745 | 753 | -- | -- |

[1]Preliminary [2]Projected

**SOURCE:** New York Agricultural Statistics




**SOURCE:** New York Agricultural Statistics.

Pounds of milk produced per cow in 1991 was up 1.8 percent from 1990. Milk per cow is expected to average 15,495 pounds in 1992, an increase of 5.6 percent, adjusted for leap year, over 1991. This can be attributed to such factors as moderate summer temperatures, good pasture conditions, higher milk prices and relatively low feed prices. Milk production per cow has increased steadily since 1960 with the exception of 1973 and 1974, and small declines in 1982 and 1989.

Milk production per cow is projected to increase by 1.7 percent in 1993 to 15,762 pounds. However, forage quality and the ability to purchase feeds with lower milk prices will be critical to milk production through the first half of the year.

| Year | N.Y. Milk Production Per Cow | Mixed Dairy Feed 16% Protein[1] | New York Milk-Feed Price Ratio[1] | New York All Hay, Baled[2] | U.S. Milk Production Per Cow |
|---|---|---|---|---|---|
| | pounds | $/ton | | $/ton | pounds |
| 1982 | 12,075 | 177 | 1.56 | 77.00 | 12,306 |
| 1983 | 12,552 | 193 | 1.47 | 82.00 | 12,585 |
| 1984 | 12,658 | 194 | 1.37 | 81.50 | 12,503 |
| 1985 | 12,836 | 164 | 1.59 | 75.50 | 12,994 |
| 1986 | 13,107 | 163 | 1.56 | 70.50 | 13,260 |
| 1987 | 13,916 | 153 | 1.68 | 72.00 | 13,819 |
| 1988 | 14,413 | 181 | 1.39 | 75.50 | 14,145 |
| 1989 | 14,267 | 189 | 1.50 | 75.50 | 14,244 |
| 1990[3] | 14,410 | 177 | 1.68 | 77.00 | 14,642 |
| 1991[3] | 14,675 | 172 | 1.47 | 77.00 | 14,867 |
| 1992[4] | 15,495 | 174 | 1.53 | -- | 15,454 |
| 1993[5] | 15,762 | -- | -- | -- | 15,712 |

[1]1980-1985 is New York, 1986-1992 is Northeast. [2]Season average, June through May. [3]Revised [4]Preliminary [5]Projected


**SOURCE:** New York Agricultural Statistics.

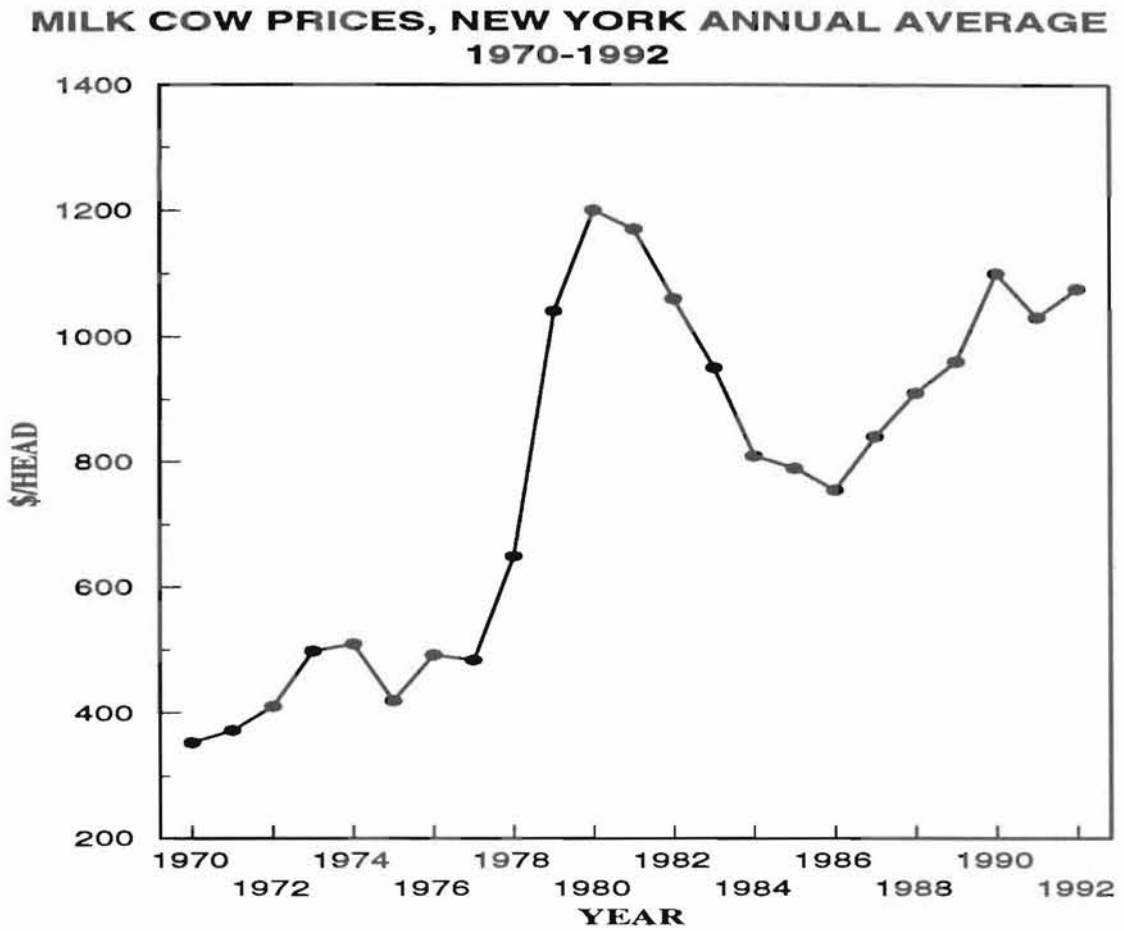
Total New York milk production in 1992 is estimated at 11,606 million pounds, up 4.6 percent from 1991. This increase is due to the 5.6 percent increase in production per cow, as cow numbers are down 0.9 percent.

Total milk production is projected to increase 1.2 percent, adjusted for leap year, in 1993 to 11,743 million pounds. This is a result of the factors discussed on the previous two pages in regard to cow numbers and production per cow.

United States total milk production was 148,526 million pounds in 1991. It is estimated that 1992 production will be 151,800 million pounds, and 1993 production will be 153,700 million pounds.

| Year | Total Milk Prod. New York | Total Milk Prod. U.S. | NY as % of U.S. | Year | Total Milk Prod. New York | Total Milk Prod. U.S. | NY as % of U.S. |
|---|---|---|---|---|---|---|---|
| | million pounds | | | | million pounds | | |
| 1982 | 11,097 | 135,795 | 8.2 | 1988 | 11,444 | 145,152 | 7.9 |
| 1983 | 11,648 | 139,588 | 8.3 | 1989 | 11,071 | 144,239 | 7.7 |
| 1984 | 11,443 | 135,351 | 8.5 | 1990[1] | 11,067 | 148,313 | 7.5 |
| 1985 | 11,732 | 143,012 | 8.2 | 1991[1] | 11,094 | 148,526 | 7.5 |
| 1986 | 11,718 | 143,124 | 8.2 | 1992[2] | 11,606 | 151,800 | 7.6 |
| 1987 | 11,439 | 142,709 | 8.0 | 1993[3] | 11,743 | 153,700 | 7.6 |

[1]Revised [2]Preliminary [3]Projected

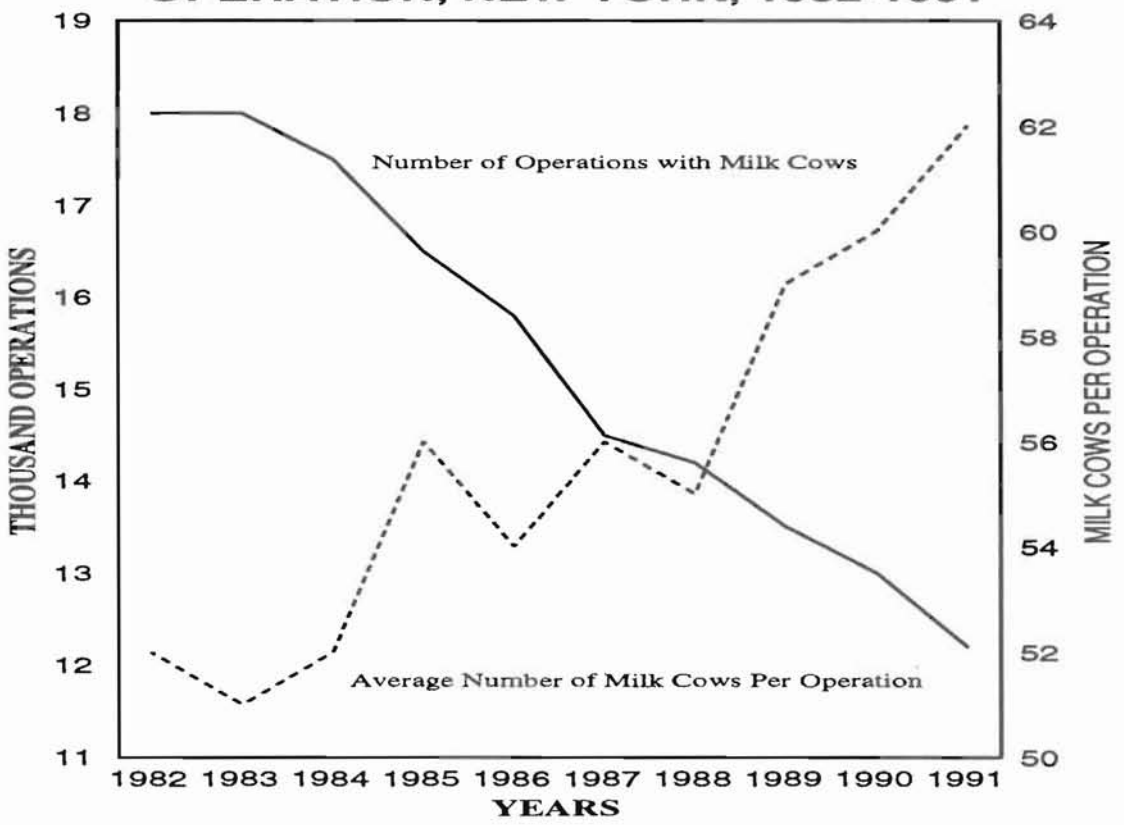



**SOURCE:** New York Agricultural Statistics.

Milk cow prices decreased the first quarter of 1991 to $1,000 per head in March and increased to $1,050 in September. In 1992, milk cow prices fluctuated in the first two quarters, and increased to $1,090 per head in October. Monthly prices for milk cows averaged $40 a head higher than a year earlier. Slaughter cow prices averaged $2.92 per hundredweight lower than a year earlier. Calf prices averaged about $14 per hundredweight lower in 1992 compared to 1991.

| | Milk Cows, $/Head | | Slaughter Cows, $/Cwt | | Calves, $/Cwt | |
|---|---|---|---|---|---|---|
| Month | 1991 | 1992 | 1991 | 1992 | 1991 | 1992 |
| January | $1,030 | $1,050 | $46.60 | $43.20 | $ 93.80 | $102.00 |
| February | 1,010 | 1,060 | 48.30 | 45.30 | 94.70 | 110.00 |
| March | 1,000 | 1,050 | 47.50 | 44.70 | 110.00 | 107.00 |
| April | 1,020 | 1,060 | 48.50 | 44.30 | 125.00 | 115.00 |
| May | 1,030 | 1,070 | 51.30 | 47.00 | 147.00 | 107.00 |
| June | 1,040 | 1,070 | 50.70 | 46.20 | 142.00 | 106.00 |
| July | 1,040 | 1,080 | 47.50 | 45.60 | 124.00 | 104.00 |
| August | 1,050 | 1,090 | 48.40 | 45.50 | 116.00 | 90.20 |
| September | 1,050 | 1,090 | 46.50 | 44.40 | 112.00 | 100.00 |
| October | 1,040 | 1,090 | 44.60 | 44.50 | 113.00 | 100.00 |
| November | 1,030 | | 43.20 | | 96.90 | |
| December | 1,040 | | 43.90 | | 92.50 | |

## NUMBER OF OPERATIONS WITH MILK COWS AND AVERAGE NUMBER OF MILK COWS PER OPERATION, NEW YORK, 1982-1991




**SOURCE:** NYASS, New York Agricultural Statistics, 1991-1992

As the number of milk cow operations decreases, the average number of milk cows per operation increases as shown by the above chart. There were 5,800 less milk cow operations in 1991 than there were in 1982. The average number of milk cows per operation has increased by 10 cows, or 19 percent over the same period. On January 1, 1992, 43 percent of the total milk cows were in herds with 50-99 head, 39 percent were in herds with over 100 milk cows, and 18 percent were in herds with less than 50 head.

MILK COW OPERATIONS: BY HERD SIZE, 1982-1991

| | Number of Milk Cows in Herd | | | | | |
|---|---|---|---|---|---|---|
| Year | 1-9 | 10-29 | 30-49 | 50-99 | 100 plus | Total |
| | number of operations | | | | | |
| 1982 | 3,150 | 2,500 | 4,900 | 5,800 | 1,650 | 18,000 |
| 1983 | 3,100 | 2,400 | 5,000 | 5,750 | 1,750 | 18,000 |
| 1984 | 3,050 | 2,350 | 4,900 | 5,350 | 1,850 | 17,500 |
| 1985 | 2,700 | 2,300 | 4,550 | 5,100 | 1,850 | 16,500 |
| 1986 | 2,300 | 2,000 | 4,300 | 5,300 | 1,900 | 15,800 |
| 1987 | 1,700 | 1,600 | 4,300 | 5,000 | 1,900 | 14,500 |
| 1988 | 1,650 | 1,550 | 3,850 | 5,300 | 1,850 | 14,200 |
| 1989 | 1,300 | 1,400 | 3,400 | 5,400 | 2,000 | 13,500 |
| 1990 | 1,350 | 1,300 | 3,150 | 5,300 | 1,900 | 13,000 |
| 1991 | 1,300 | 1,200 | 2,900 | 5,000 | 1,800 | 12,200 |

MILK COWS JANUARY 1: INVENTORY BY HERD SIZE, 1983-1992

| | Number of Milk Cows in Herd | | | | | |
|---|---|---|---|---|---|---|
| Year | 1-9 | 10-29 | 30-49 | 50-99 | 100 plus | Total |
| | thousand head | | | | | |
| 1983 | 9 | 52 | 205 | 410 | 256 | 932 |
| 1984 | 7 | 48 | 208 | 398 | 264 | 925 |
| 1985 | 8 | 48 | 203 | 369 | 282 | 910 |
| 1986 | 8 | 49 | 196 | 371 | 301 | 925 |
| 1987 | 5 | 37 | 168 | 355 | 290 | 855 |
| 1988 | 3 | 29 | 171 | 332 | 281 | 816 |
| 1989 | 3 | 27 | 144 | 335 | 271 | 780 |
| 1990 | 3 | 27 | 126 | 334 | 300 | 790 |
| 1991 | 3 | 25 | 120 | 330 | 297 | 775 |
| 1992 | 3 | 22 | 113 | 320 | 297 | 755 |

INDEX OF PRICES PAID BY NEW YORK DAIRY FARMERS
(1977=100)

| Item | Weight | 1987 | 1988 | 1989 | 1990 | 1991 | 1992[1] | 1993[2] |
|---|---|---|---|---|---|---|---|---|
| Feed | .31 | 112 | 133 | 139 | 128 | 126 | 127 | 124 |
| Purchased animals | .03 | 173 | 188 | 198 | 227 | 214 | 222 | 220 |
| Fuel & energy | .05 | 176 | 184 | 193 | 220 | 222 | 221 | 225 |
| Fertilizer | .05 | 128 | 139 | 144 | 140 | 145 | 139 | 142 |
| Seed | .02 | 166 | 171 | 181 | 184 | 187 | 186 | 187 |
| Machinery | .18 | 189 | 198 | 208 | 217 | 227 | 237 | 242 |
| Building & fencing supplies | .08 | 137 | 138 | 141 | 144 | 146 | 150 | 153 |
| Farm services & rent | .08 | 146 | 147 | 158 | 166 | 172 | 171 | 172 |
| Agricultural chemicals | .01 | 124 | 127 | 132 | 139 | 150 | 159 | 167 |
| Interest rates | .07 | 125 | 126 | 141 | 135 | 125 | 101 | 106 |
| Farm wage rates | .09 | 195 | 209 | 221 | 235 | 250 | 246 | 250 |
| Property taxes | .03 | 175 | 181 | 186 | 190 | 190 | 194 | 200 |
| Prices Paid, Not Including Assessment | | 149 | 159 | 168 | 170 | 172 | 173 | 174 |

[1]Preliminary [2]Projected
**SOURCE:** New York Agricultural Statistics Service

The preliminary 1992 index of prices paid by New York dairy farmers is 173, a 0.6 percent increase from the 1991 index of 172. All component items in the index, except fuel and energy, fertilizer, seed, farm services and rent, interest rates, and farm wage rates increased in 1992. Agricultural chemicals showed the largest increase at six percent, followed by machinery with a 4.4 percent increase, and purchased animals with a 3.7 percent increase. The feed component increased one percent. The index had been very stable from 1985 through 1987; but every component item increased in both 1988 and 1989.

The 1993 index of prices paid is projected at 174, up one-half percent from 1992. Feed prices are projected to be down 2.4 percent, with all other prices, except purchased animals, increasing in comparison to 1992. Fertilizer prices are projected to increase, despite reduced expected usage, as a result of increasing natural gas prices and devastation to manufacturing caused by hurricanes in the Southeast. Chemical prices are projected to increase as a result of manufacturers' costs increasing because of the need for additional data to reregister older products, and to research and develop new products. Chemical dealers' costs have also risen, especially for liability insurance and to meet environmental regulations.

**RECEIPTS, EXPENSES, AND RETURNS PER HUNDREDWEIGHT OF MILK SOLD**
**New York and Ontario Dairy Farms, 1990**

| Item | New York[1] 40 to 54 Cows | New York[1] 55 to 69 Cows | Ontario[2] ODFAP[2] Average |
|---|---|---|---|
| | ($ per hundredweight)[3] | | |
| Receipts | | | |
| Milk | 14.74 | 14.80 | 17.75 |
| Subsidy | 0.00 | 0.00 | 1.17 |
| Levies & penalties | 0.00 | 0.00 | (0.60) |
| Cull cows & calves | 1.55 | 1.55 | 2.46 |
| Total Dairy | 16.29 | 16.35 | 20.77 |
| Nondairy | 0.86 | 0.69 | 2.42 |
| Total Receipts | 17.16 | 17.05 | 23.19 |
| Costs of Milk Production | | | |
| Operating cost[4] | 10.96 | 10.74 | 11.49 |
| Depreciation: | | | |
| Machinery | 1.04 | 1.04 | 1.30 |
| Buildings | 0.53 | 0.51 | 0.40 |
| Unpaid family labor | 0.64 | 0.33 | 0.80[5] |
| Total Costs Excluding Operator's Resources | 13.17 | 12.62 | 13.99 |
| Interest on Equity Capital[6] | 1.53 | 1.61 | 4.97 |
| Value of Operator's Labor & Management | 2.97 | 2.68 | 3.73[7] |
| Total Costs of Producing Milk | 17.67 | 16.90 | 22.68 |
| Total Milk Receipts Less Milk Costs Excluding Operator's Resources | 1.57 | 2.18 | 4.33 |
| Total Milk Receipts Less Total Milk Costs | -2.93 | -2.10 | -4.36 |

[1]New York Dairy Farm Business Summary.

[2]Ontario Dairy Farm Accounting Project.

[3]Canadian dollars converted to U.S. dollars at 1990 average exchange rate of $1.00 Canadian equals $0.87 U.S.

[4]Calculated using nonmilk accrual receipts equals costs of nonmilk production.

[5]Uses the same cost for unpaid family labor as that for New York farms with 40-54 cows, $4,838.

[6]Calculated from the cost of using equity capital (excluding appreciation) at a real interest rate of five percent. The interest charge reflects the long-term average rate of return above inflation that a farmer might expect to earn in comparable risk investments.

[7]Uses the same value of operator's labor and management as that for New York farms with 40-54 cows, $22,486.

**COMPARISON OF FARM BUSINESS SUMMARY DATA**
**New York Dairy Farms, 1961, 1971, 1981, & 1991**

| Selected Factors | 1961 | 1971 | 1981 | 1991 |
|---|---|---|---|---|
| Number of farms | 490 | 569 | 553 | 407 |
| Size of Business | | | | |
| Average number of cows | 38 | 67 | 79 | 111 |
| Average number of heifers | 23 | 44 | 59 | 92 |
| Milk sold, cwt. | 3,787 | 8,617 | 11,420 | 20,060 |
| Worker equivalent | 1.8 | 2.2 | 2.75 | 3.38 |
| Total tillable acres | 99 | 185 | 257 | 330 |
| Rates of Production | | | | |
| Milk sold per cow, lbs. | 9,965 | 12,900 | 14,456 | 18,027 |
| Hay DM per acre, tons | 2.3 | 2.4 | 2.5 | 2.4 |
| Corn silage per acre, tons | 12 | 16 | 14.9 | 13.7 |
| Labor Efficiency | | | | |
| Cows per worker | 21 | 30 | 29 | 33 |
| Milk sold per worker, lbs. | 210,380 | 391,700 | 415,273 | 593,297 |
| Cost Control | | | | |
| Grain & concentrate purchased as % of milk sales | 28% | 24% | 26% | 29% |
| Dairy feed & crop expense per cwt. milk | $1.53 | $1.95 | $4.67 | $4.67 |
| Labor & machinery costs per cow | $256 | $350 | $800 | $976 |
| Oper. cost of producing cwt. milk | $2.79 | $3.28 | $10.05 | $10.35 |
| Total cost of producing cwt. milk | $4.54 | $5.85 | $14.82 | $14.55 |
| Milk receipts per cwt. milk | $4.47 | $6.21 | $13.66 | $12.95 |
| Capital Efficiency | | | | |
| Farm capital per cow | $1,450 | $2,290 | $5,676 | $6,688 |
| Machinery & equipment per cow | $291 | $480 | $1,078 | $1,267 |
| Real estate per cow | $680 | $1,125 | $2,693 | $3,063 |
| Livestock investment per cow | $375 | $527 | $1,500 | $1,455 |
| Capital turnover, years | 2.4 | 2.4 | 2.4 | 2.3 |
| Profitability | | | | |
| Net farm income w/o apprec. | -- | -- | $23,458 | $26,391 |
| Net farm income w/apprec. | $6,380 | $20,600 | $31,951 | $41,074 |
| Labor & management income per operator/manager | $3,352 | $10,646 | $5,402 | $-955 |
| Rate return on: | | | | |
| Equity capital w/apprec. | -- | -- | 3.6% | 1.4% |
| All capital w/apprec. | 4.5% | 9.2% | 5.6% | 3.8% |
| All capital w/o apprec. | -- | -- | 3.7% | 1.8% |
| Financial Summary, End Year | | | | |
| Farm net worth | $37,000[1] | $101,000[2] | $301,975 | $486,215 |
| Change in net worth w/apprec. | -- | -- | $14,566[3] | $12,169 |
| Debt to asset ratio | 0.41[1] | 0.37 | 0.37 | 0.36 |
| Farm debt per cow | $530[1] | $909 | $2,212 | $2,327 |

[1] Average of 74 farms submitting data.
[2] Average of 319 farms.
[3] Average of 416 farms.

## TEN YEAR COMPARISON: SELECTED BUSINESS FACTORS
### New York Dairy Farms, 1982 to 1991

| Item | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 |
|---|---|---|---|---|---|---|---|---|---|---|
| Number of farms | 572 | 510 | 458 | 404 | 414 | 426 | 406 | 409 | 395 | 407 |
| Cropping Program | | | | | | | | | | |
| Total tillable acres | 262 | 272 | 280 | 280 | 288 | 305 | 302 | 316 | 325 | 330 |
| Tillable acres rented | 83 | 91 | 94 | 93 | 100 | 105 | 104 | 117 | 121 | 124 |
| Hay crop acres | 135 | 139 | 143 | 142 | 147 | 153 | 156 | 164 | 166 | 169 |
| Corn silage acres | 70 | 72 | 76 | 69 | 67 | 67 | 74 | 81 | 82 | 88 |
| Hay crop, tons DM/acre | 2.6 | 2.5 | 2.7 | 2.7 | 2.7 | 2.7 | 2.6 | 2.6 | 2.7 | 2.4 |
| Corn silage, tons/acre | 14.0 | 13.5 | 14.0 | 14.3 | 14.3 | 16.2 | 14.1 | 13.4 | 14.4 | 13.7 |
| Fert. & lime exp. /tillable acre | $33 | $31 | $32 | $32 | $26 | $27 | $29 | $29 | $29 | $25 |
| Machinery cost/cow | $432 | $413 | $433 | $426 | $400 | $413 | $398 | $425 | $483 | $438 |
| Dairy Analysis | | | | | | | | | | |
| Number of cows | 82 | 88 | 89 | 89 | 95 | 101 | 102 | 104 | 107 | 111 |
| Number of heifers | 67 | 72 | 76 | 73 | 77 | 79 | 82 | 83 | 87 | 92 |
| Milk sold, cwt. | 12,105 | 13,432 | 13,735 | 14,001 | 15,374 | 16,498 | 17,200 | 17,975 | 19,005 | 20,060 |
| Milk sold/cow, lbs. | 14,762 | 15,264 | 15,433 | 15,679 | 16,237 | 16,351 | 16,882 | 17,259 | 17,720 | 18,027 |
| Purchased dairy feed/cwt. milk | $3.27 | $3.44 | $3.28 | $3.04 | $3.10 | $3.21 | $3.71 | $3.99 | $4.27 | $3.87 |
| Purc. grain & conc. as % milk receipts | 24% | 25% | 24% | 23% | 24% | 24% | 28% | 27% | 28% | 29% |
| Purc. feed & crop exp./cwt. milk | $4.53 | $4.62 | $4.53 | $4.13 | $4.00 | $4.11 | $4.62 | $4.92 | $5.21 | $4.67 |
| Capital Efficiency | | | | | | | | | | |
| Farm capital/cow | $5,517 | $5,421 | $5,520 | $5,801 | $5,792 | $5,894 | $6,133 | $6,407 | $6,556 | $6,688 |
| Real estate/cow | $2,664 | $2,668 | $2,731 | $2,726 | $2,758 | $2,805 | $2,902 | $2,977 | $2,977 | $3,063 |
| Mach. invest./cow | $1,047 | $1,038 | $1,057 | $1,083 | $1,062 | $1,057 | $1,083 | $1,154 | $1,233 | $1,267 |
| Capital turnover, yrs. | 2.5 | 2.4 | 2.3 | 2.5 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 | 2.3 |
| Labor Efficiency | | | | | | | | | | |
| Worker equivalent | 2.83 | 3.00 | 3.08 | 3.17 | 3.17 | 3.19 | 3.17 | 3.30 | 3.37 | 3.38 |
| Operator/manager eq. | 1.30 | 1.32 | 1.31 | 1.34 | 1.33 | 1.32 | 1.35 | 1.39 | 1.39 | 1.37 |
| Milk sold/worker, lbs. | 427,739 | 447,733 | 445,942 | 442,125 | 497,555 | 516,728 | 542,708 | 544,598 | 563,349 | 593,297 |
| Cows/worker | 29 | 29 | 29 | 28 | 31 | 32 | 32 | 32 | 32 | 33 |
| Labor cost/cow | $352 | $344 | $366 | $387 | $385 | $400 | $426 | $469 | $541 | $538 |
| Profitability & Financial Analysis | | | | | | | | | | |
| Labor & mgmt. income/oper. | $3,451 | $5,514 | $2,262 | $2,850 | $3,837 | $11,042 | $11,911 | $18,004 | $14,328 | $-955 |
| Farm net worth | $306,589 | $322,001 | $336,210 | $325,664 | $348,909 | $398,209 | $426,123 | $468,848 | $471,322 | $480,131 |
| Percent equity | 63% | 63% | 64% | 63% | 62% | 65% | 66% | 68% | 66% | 64% |

## TEN YEAR COMPARISON: AVERAGE COST OF PRODUCING MILK PER HUNDREDWEIGHT
### New York Dairy Farms, 1982 to 1991

| Item | 1982 | 1983 | 1984 | 1985[1] | 1986[1] | 1987[1] | 1988[1] | 1989[1] | 1990[1] | 1991[1] |
|---|---|---|---|---|---|---|---|---|---|---|
| Cash Operating Expenses | | | | | | | | | | |
| Hired labor | $ 1.29 | $ 1.25 | $ 1.39 | $ 1.38 | $ 1.38 | $ 1.49 | $ 1.46 | $1.62 | $ 1.77 | $ 1.74 |
| Purchased feed | 3.40 | 3.59 | 3.46 | 3.09 | 3.15 | 3.26 | 3.73 | 4.02 | 4.28 | 3.88 |
| Machinery repairs & rent | .81 | .77 | .80 | .78 | .75 | .88 | .83 | .92 | 1.06 | .89 |
| Auto expenses (farm share) | .04 | .04 | .03 | .03 | .04 | .04 | .04 | .04 | .05 | .04 |
| Fuel, oil & grease | .59 | .49 | .50 | .48 | .34 | .35 | .34 | .33 | .41 | .37 |
| Replacement livestock | .19 | .16 | .10 | .10 | .13 | .13 | .11 | .17 | .20 | .15 |
| Breeding fees | .19 | .19 | .20 | .20 | .19 | .19 | .18 | .18 | .19 | .18 |
| Veterinary & medicine | .29 | .28 | .29 | .27 | .28 | .28 | .28 | .30 | .32 | .33 |
| Milk marketing | .50 | .93 | 1.03 | .80 | .84 | .74 | .52 | .49 | .53 | .58 |
| Other dairy expenses | .52 | .54 | .55 | .53 | .52 | .53 | .56 | .60 | .68 | .65 |
| Lime & fertilizer | .71 | .63 | .66 | .63 | .49 | .50 | .51 | .50 | .50 | .40 |
| Seeds & plants | .23 | .21 | .22 | .23 | .21 | .21 | .21 | .22 | .22 | .20 |
| Spray & other crop expense | .18 | .19 | .20 | .22 | .20 | .19 | .19 | .21 | .22 | .20 |
| Land, building, fence repair | .21 | .18 | .18 | .17 | .16 | .20 | .22 | .27 | .32 | .19 |
| Taxes | .34 | .34 | .33 | .34 | .33 | .35 | .35 | .36 | .37 | .38 |
| Insurance | .23 | .21 | .20 | .22 | .22 | .22 | .23 | .23 | .24 | .23 |
| Telephone & elec. (farm share) | .35 | .36 | .36 | .37 | .39 | .38 | .38 | .39 | .39 | .39 |
| Interest paid | 1.54 | 1.40 | 1.40 | 1.25 | 1.18 | 1.04 | 1.02 | 1.06 | 1.05 | 1.07 |
| Misc. (including rent) | .43 | .44 | .44 | .40 | .41 | .45 | .41 | .43 | .47 | .43 |
| Total Operating Expenses | $12.04 | $12.20 | $12.34 | $11.50 | $11.22 | $11.43 | $11.57 | $12.34 | $13.27 | $12.30 |
| Less: Nonmilk cash receipts | 1.47 | 1.49 | 1.74 | 1.58 | 1.52 | 1.84 | 1.86 | 1.75 | 1.75 | 1.73 |
| Increase in feed & supplies[2] | .03 | .26 | .18 | .05 | .01 | .16 | .16 | .02 | .26 | .04 |
| Increase in livestock | .35 | .24 | .16 | .18 | .12 | .10 | .08 | .12 | .15 | .18 |
| OPERATING COST OF MILK PRODUCTION | $10.19 | $10.21 | $10.26 | $ 9.69 | $ 9.57 | $ 9.33 | $ 9.47 | $10.45 | $11.11 | $10.35 |
| Overhead Expenses | | | | | | | | | | |
| Depreciation: mach. & bldgs. | $ 1.60 | $ 1.56 | $ 1.65 | $ 1.64 | $ 1.54 | $ 1.43 | $ 1.31 | $ 1.31 | $ 1.35 | $ 1.28 |
| Unpaid labor | .14 | .12 | .12 | .12 | .13 | .10 | .11 | .12 | .19 | .18 |
| Operator(s) labor[3] | .93 | .89 | .87 | .97 | .86 | .87 | .95 | .98 | 1.10 | 1.06 |
| Operator(s) mgmt. (5% of cash rec.) | .75 | .76 | .76 | .72 | .71 | .74 | .74 | .81 | .85 | .73 |
| Interest on farm eq. cap. (5%) | 1.27 | 1.20 | 1.22 | 1.16 | 1.10 | 1.15 | 1.19 | 1.24 | 1.24 | 1.20 |
| Total Overhead Expenses | $ 4.69 | $ 4.53 | $ 4.62 | $ 4.61 | $ 4.34 | $ 4.28 | $ 4.30 | $ 4.46 | $ 4.73 | $4.45 |
| TOTAL COST OF MILK PRODUCTION | $14.88 | $14.74 | $14.88 | $14.30 | $13.91 | $13.61 | $13.77 | $14.91 | $15.84 | $14.80 |
| AVERAGE FARM PRICE OF MILK | $13.56 | $13.64 | $13.49 | $12.90 | $12.65 | $12.89 | $13.03 | $14.53 | $14.93 | $12.95 |
| Return per cwt. to operator labor, capital, & management | $1.63 | $1.75 | $1.46 | $1.45 | $1.41 | $2.04 | $2.14 | $2.65 | $2.28 | $1.14 |
| Rate of return on farm eq. cap. | -0.2% | 0.4% | -0.7% | -1.0% | -0.7% | 1.9% | 1.8% | 3.3% | 1.3% | -2.7% |

[1]Accrual receipts and expenses. [2]Increase in grown feeds, 1985-1991. [3]1980-1984 = $750/month, 1985 = $800/month, 1986 = $850/month, 1987 = $900/month, 1988 = $1,000/month, 1989 = $1,050/month , 1990 = $1,250/month, 1991 = $1,300/month of operator labor.

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.

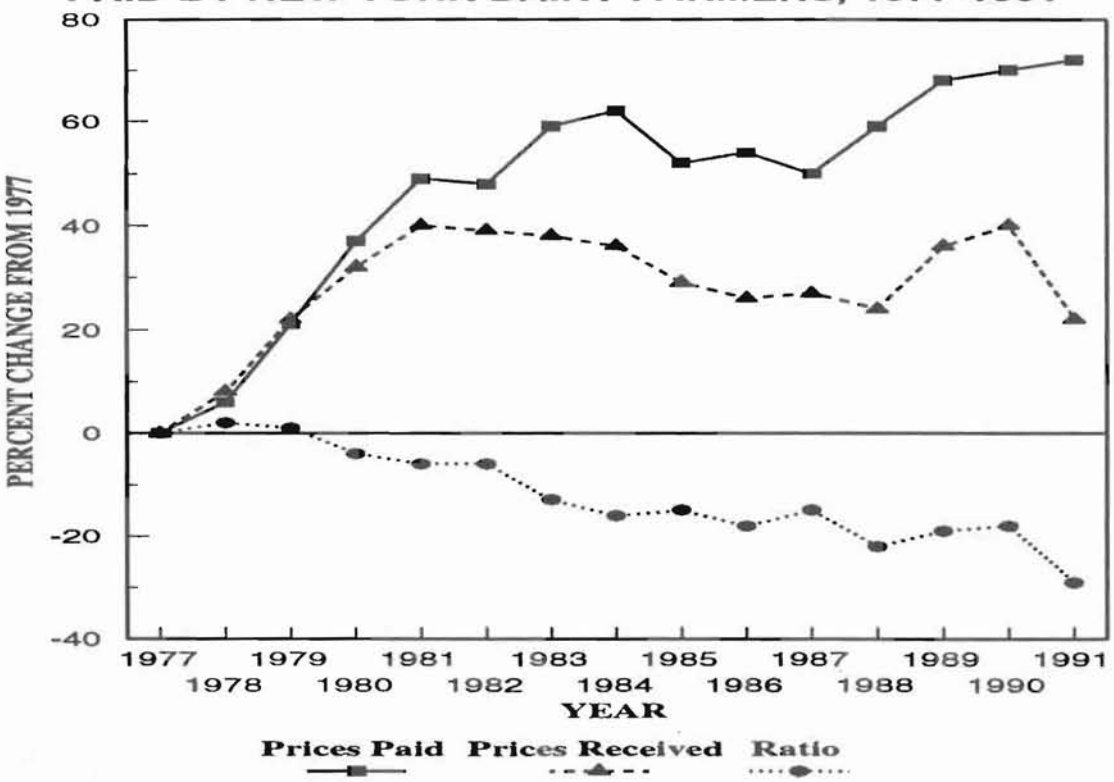
**PRICES PAID BY NEW YORK FARMERS FOR SELECTED ITEMS, 1981-1991**

| Year | Mixed Dairy Feed 16% Protein ($/ton) | Fertilizer, Urea, 45-46%N ($/ton) | Seed Corn, Hybrid[1] ($/80,000 kernels) | Diesel Fuel ($/gal) | Tractor 50-59 PTO[1] ($) | Wage Rate All Hired Farm Workers ($/hr) |
|---|---|---|---|---|---|---|
| 1981 | 193.70 | 275 | 60.00 | 1.310 | 14,900 | 3.26 |
| 1982 | 176.60 | 278 | 63.70 | 1.240 | 16,000 | 3.26 |
| 1983 | 192.60 | 249 | 64.60 | 1.140 | 17,200 | 3.52 |
| 1984 | 194.30 | 250 | 70.20 | 1.140 | 17,400 | 3.60 |
| 1985 | 164.20 | 238 | 67.30 | 1.080 | 16,800 | 4.01[3] |
| 1986 | 162.90 | 200[2] | 65.60 | 0.840[2] | 16,550 | 4.41[3] |
| 1987 | 152.80[2] | 190[2] | 64.90 | 0.765[2] | 16,650 | 4.60[3] |
| 1988 | 180.80[2] | 208[2] | 64.20 | 0.810[2] | 17,150 | 5.02[3] |
| 1989 | 188.50[2] | 227[2] | 71.40 | 0.828[2] | 17,350 | 5.25[3] |
| 1990 | 176.75[2] | 215[2] | 69.90 | 1.080[2] | 17,950 | 5.51[3] |
| 1991 | 171.75[2] | 243[2] | 70.20 | 0.995[2] | 18,650 | 5.79[3] |

SOURCE: NYASS, New York Agricultural Statistics. USDA, ASB, Agricultural Prices. [1]United States average. [2]Northeast region average. [3]New York and New England combined.

The table above shows average prices of selected goods and services used on New York dairy farms. The chart below shows the ratio of prices received for milk and prices paid by New York dairy farmers as a percent change from 1977. The ratio has been on a downward trend since 1978 except for slight increases in 1985, 1987, 1989, and 1990.

**RATIO OF PRICES RECEIVED FOR MILK AND PRICES PAID BY NEW YORK DAIRY FARMERS, 1977-1991**




SOURCE: NYASS, New York Agricultural Statistics.

--SITUATION

New York potato and vegetable producers went from drought conditions in 1991 to a 'too wet' situation in 1992. As can be seen from Table I., 1992 was a very good year for fresh vegetable producers--a 20.6% increase in farm gate over 1991--, but processing vegetable producers saw a 9.3% decline over 1991. The value of potato production was also up--3.5%-- and total New York potato and vegetable farm value of production reached $300 million, a 12.8% over 1991.

TABLE I....POTATOES AND VEGETABLES: NEW YORK STATE FARM VALUE OF PRODUCTION, 1986-1991.

| | 1986 | 1987 | 1988 | 1989 | 1990 | 1991[1] | Five-Year Average (1987-1991)[2] |
|---|---|---|---|---|---|---|---|
| | millions of dollars | | | | | | |
| Potatoes: | | | | | | | |
| Long Island | 21.0 | 12.5 | 16.1 | 16.8 | 13.3 | 14.9 | 14.72 |
| Upstate | 41.2 | 38.4 | 44.9 | 40.9 | 43.1 | 43.5 | 42.16 |
| Subtotal | 62.2 | 50.9 | 61.0 | 57.7 | 56.4 | 58.4 | 56.88 |
| Vegetables: | | | | | | | |
| Fresh Market | 167.4 | 166.8 | 165.7 | 176.3 | 172.8 | 208.4 | 178.40 |
| Processing | 26.5 | 30.9 | 24.1[2] | 32.3 | 36.4 | 33.0 | 31.34 |
| Subtotal | 193.9 | 197.7 | 189.8 | 208.6 | 209.2 | 241.4 | 209.34 |
| TOTAL | 256.1 | 248.6 | 250.8 | 266.3 | 265.8 | 299.8 | 266.26 |

[1] Preliminary.
[2] Includes tomatoes as of 1988.
Sources: New York Agricultural Statistics 1991-1992, New York State Agriculture and Markets, Division of Statistics, July 1992.

Table II. indicates significant increases--18.6% increase in past four years--in total U.S. production of fall potatoes. Unfortunately, over the same four years, the value of fall potato production has declined 15.6%. Once again the trend New York is different than what is taking place in the country as a whole. New York's production only increased 1.8% and the value of production declined only 1.1% over the past four years. The picture that emerges is that New York producers are obtaining a smaller slice of an expanding pie in volume terms, but are achieving a larger piece of a shrinking pie in value terms.

TABLE II....U.S. FALL POTATOES: PRODUCTION AND CROP VALUE

| | Production | | | | Crop Value | | | |
|---|---|---|---|---|---|---|---|---|
| | 1988 | 1989 | 1990 | 1991 | 1988 | 1989 | 1990 | 1991 |
| | - - - - - - - - 1,000 cwt. - - - - - - - - | | | | - - - - - - million dollars - - - - - - | | | |
| New York: | | | | | | | | |
| L.I. | 1,992 | 1,898 | 1,950 | 1,650 | 16.14 | 16.37 | 13.65 | 14.77 |
| Upstate | 4,800 | 4,730 | 5,950 | 5,267 | 44.88 | 38.02 | 44.85 | 45.56 |
| California | 6,105 | 6,640 | 6,630 | 5,390 | 49.76 | 49.89 | 37.79 | 22.37 |
| Colorado | 19,040 | 20,603 | 22,750 | 23,800 | 139.94 | 150.18 | 101.24 | 47.60 |
| Idaho | 102,610 | 102,475 | 119,070 | 122,175 | 554.09 | 655.85 | 595.35 | 488.70 |
| Maine | 22,200 | 22,000 | 20,520 | 18,170 | 160.60 | 149.11 | 124.15 | 105.39 |
| Michigan | 7,820 | 7,350 | 9,240 | 8,840 | 59.04 | 54.53 | 61.45 | 53.48 |
| Minnesota | 12,075 | 13,860 | 14,280 | 17,160 | 74.87 | 72.36 | 79.97 | 68.64 |
| North Dakota | 15,525 | 15,070 | 16,675 | 30,030 | 98.58 | 84.86 | 95.05 | 118.62 |
| Oregon | 20,735 | 23,308 | 23,450 | 22,170 | 99.64 | 122.18 | 129.56 | 87.81 |
| Pennsylvania | 3,690 | 4,715 | 5,400 | 3,500 | 28.04 | 38.30 | 40.77 | 26.25 |
| Washington | 63,250 | 64,310 | 67,980 | 75,435 | 284.63 | 308.54 | 353.50 | 286.65 |
| Wisconsin | 20,000 | 23,120 | 23,075 | 23,275 | 128.0 | 159.80 | 126.91 | 97.76 |
| Other | 13,916 | 14,794 | 15,547 | 14,868 | 89.19 | 78.48 | 104.80 | 79.6 |
| Total Fall | 313,558 | 324,673 | 352,507 | 371,730 | 1,827.4 | 1,999.1 | 1,909.4 | 1,543.2 |

Source: Potatoes, Agricultural Statistics Board, National Agricultural Statistical Service, United States Department of Agriculture. September 24, 1992.

For the onion industry in New York, two distinct outcomes took place during 1992. For Orange county growers the effect of 'too much water' was not as severe as for central and western New York onion growers. For Orange county producers production was up 29% while for central and western producers production was down 12.4%. The early season prices are not as good this year as those during the 1991 and therefore the value of the 1992 will probably not be as high as in 1991. With regards to 1991, even though total New York production was down 23.2% over 1990, the value of the crop was up 16%. It looks as though we cannot get a season where we obtain both high production and high value.

National fall storage onion production has been flat over the past three years, but the value of the crop showed a sharp increase in value during 1991--a 17.8% increase. New York's share of fall storage onion production was 9.3% in 1992 and that compares to a 11.55 share in 1990, a high production year for New York.

TABLE III...NEW YORK ONION PRODUCTION BY AREA, 1987-1992.

| | 1987 | 1988 | 1989 | 1990 | 1991 | 1992[1] | Five-Year Average 1988-1992 |
|---|---|---|---|---|---|---|---|
| | - - - - - - - - - - - - - - - - - - - - 1,000 hundredweight - - - - - - - - - - - - - - - - - - - - | | | | | | |
| Orange* | 1,652 | 1,050 | 1,500 | 2,340 | 1,674 | 2,160 | 1,745 |
| Orleans-Genesee* | 660 | 648 | 315 | 930 | 608 | 600 | 620 |
| Oswego* | 458 | 448 | 504 | 760 | 722 | 522 | 591 |
| Madison* | 144 | 140 | 182 | 126 | 110 | 132 | 138 |
| Steuben-Yates-Ontario | 135 | 156 | 288 | 360 | 298 | 300 | 280 |
| Wayne and Other | 83 | 88 | 123 | 120 | 128 | 81 | 108 |
| TOTAL | 3,132 | 2,808 | 2,912 | 4,636 | 3,540 | 3,795 | 3,538 |

* Includes seed and set onions.

[1] October 14, 1992 estimate.

Source: New York Agriculture and Markets, "Vegetables," New York Agricultural Statistics, Division of Statistics, October 14, 1992.

TABLE IV....U.S. STORAGE ONIONS: PRODUCTION AND CROP VALUE

| | Production | | | | Crop Value | | | |
|---|---|---|---|---|---|---|---|---|
| | 1989 | 1990 | 1991 | 1992[1] | 1989 | 1990 | 1991[1] | 1992 |
| | - - - - - - - - 1,000 cwt. - - - - - | | | | - - - - - - - million dollars - - - - - - | | | |
| New York | 2,912 | 4,636 | 3,540 | 3,795 | 36.8 | 49.4 | 57.3 | 45.5[2] |
| Colorado | 5,520 | 5,130 | 4,953 | 5,460 | 58.4 | 42.7 | 52.2 | |
| Idaho & Malheur Co. | 9,288 | 10,296 | 10,590 | 11,712 | 91.2 | 79.4 | 113.0 | |
| Michigan | 2,212 | 2,442 | 2,044 | 2,220 | 17.8 | 15.4 | 17.9 | |
| Oregon | 1,418 | 1,365 | 1,216 | 1,722 | 15.1 | 11.8 | 12.7 | |
| Washington | 2,790 | 2,992 | 3,619 | 3,600 | 26.7 | 21.1 | 34.0 | |
| Other | 1,618 | 1,948 | 2,897 | 2,051 | 13.1 | 12.6 | 14.6 | |
| Subtotal | 25,826 | 28,809 | 28,895 | 30,560 | 258.9 | 232.7 | 301.7 | |
| California | 10,512 | 11,590 | 10,582 | 10,038 | 74.9 | 85.1 | 73.5 | |
| TOTAL | 35,495 | 40,399 | 39,441 | 40,598 | 338.9 | 318.4 | 375.2 | |

[1] Preliminary.

[2] Based on fall prices.

Source: Vegetables, 1991 Summary. Agricultural Statistics Board. National Agricultural Statistics Service. United States Department of Agriculture. June 1991.

Table V. presents the value of production of the vegetable industry in New York. The seventeen vegetables listed on Table V. represent 99% of the total value of all vegetables produced in New York. Over the past 16-years, the statistical trend for total vegetable value has been a positive $6.48 million per year (column 5 on Table V). Only beets show a negative trend over the time period and potatoes, processing green beans, lettuce, celery, and kraut cabbage show no trend. All other vegetables have a positive trend with sweet corn indicating the largest annual growth--$1.29 million. Overall, a fairly good picture emerges for most vegetables over the past 16-years.

In 1991, the value of production of New York onions almost surpassed the value of production of potatoes. It was the first year where the commodities came this close in value. Also, the value of cucumber production showed a significant increase and 1991 was the highest value year for cucumber production in the state (Column 3 on Table V). in fact, 1991 was the high value year for strawberries, carrots, and celery.

Table VI. shows the per capita consumption figures for some of the major vegetables produced in New York. The figures are different from previous year's publication because the United States Department of Agriculture updated these figures this past year.

Table VI. presents national per capita consumption figures for four major vegetables and their various forms. The only real sustained growth has been for fresh market onions--almost a 50% increase over 20 years. Fresh market potato consumption has been flat since 1974, but last year was a record consumption year for all forms of potatoes--126 lbs. Frozen snap bean consumption has substituted for canned consumption with little change in total consumption. The same is true for sweet corn consumption.

**--OUTLOOK**

What, if anything, can we deduce and thereafter infer for the future of vegetable production in the New York? In addition, how will recent developments in the industry affect these trends?

First, note that increases take place because the pie is getting bigger and/or the slice of the pie got bigger. Also, value increases can occur through increases in production and/or increase in output product price. The good news in that the pie has gotten bigger and most likely will continue to get bigger. The bad news is that the slices of the pie have generally tended to decrease. More good news is that prices have tended to increase while volume of production has been flat or slightly declining. The two important unknowns for the future is what will happen to prices and Northeast production--i.e. the slice of the expanding pie.

One obvious development with significant potential impacts is the **North American Free Trade Agreement**--NAFTA. Though it appears that the new Administration is not as eager as the former to sign the agreement, changes have already begun. No doubt production of vegetables will increase in Mexico, but so will the costs of producing and marketing them--particularly post-harvest handling and transportation costs. Processing

TABLE V...COMMODITY RANKING OF VALUE OF NEW YORK STATE VEGETABLE PRODUCTION IN 1991

| Commodity | Value of 1991 Production | 1987-1991 Avg. Value | Highest Value In Past 16 Yrs. | 16 Year Value Trend Per Year | Value Share in 1991 (percent) |
|---|---|---|---|---|---|
| | millions of dollars | | | | |
| Potatoes | 58.303 | 56.890 | (1980) 97.628 | zero | 19.6 |
| Onions | 57.282 | 47.391 | (1980) 62.612 | 1.112 | 19.2 |
| Cabbage | 41.372 | 33.997 | (1983) 48.828 | 0.916 | 13.9 |
| Sweet Corn (fresh) | 28.230 | 25.834 | (1989) 29.958 | 1.290 | 9.5 |
| Green Beans (fresh) | 17.002 | 12.825 | (1989) 18.603 | 0.602 | 5.71 |
| Tomatoes | 14.591 | 15.152 | (1988) 17.434 | 0.619 | 4.90 |
| Strawberries | 14.421 | 11.626 | (1991) 14.421 | 0.599 | 4.84 |
| Green Beans (processed) | 14.005 | 12.029 | (1980) 19.134 | zero | 4.70 |
| Cauliflower | 9.379 | 8.820 | (1984) 11.677 | 0.292 | 3.15 |
| Cucumbers | 8.665 | 6.901 | (1991) 8.665 | 0.321 | 2.91 |
| Sweet Corn (processed) | 8.296 | 8.251 | (1987) 11.005 | 0.329 | 2.79 |
| Carrots | 7.558 | 4.947 | (1991) 7.558 | 0.217 | 2.54 |
| Lettuce | 6.965 | 7.835 | (1981) 13.412 | zero | 2.34 |
| Green Peas (processed) | 4.995 | 4.516 | (1985) 8.564 | 0.234 | 1.68 |
| Celery | 2.940 | 2.963 | (1991) 4.569 | zero | 0.99 |
| Cabbage (Kraut) | 2.128 | 2.229 | (1981) 3.199 | zero | 0.72 |
| Beets | 1.642 | 1.777 | (1979) 2.950 | -0.058 | 0.55 |
| TOTAL | 297.774 | 263.990 | | 6.482 | 100.00 |

Source: New York Agricultural Statistics 1991-1992. New York Agricultural Markets, Division of Statistics. July 1992.

TABLE VI....PER CAPITA UTILIZATION, IN POUNDS - 1970-1991

| Year | Onions[1] (Fresh ) | Potatoes[2] (Fresh) | Snap Beans | | Sweet Corn[3] | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Canned | Frozen | Canned | Frozen | Fresh | Total |
| 1970 | 12.4 | 62.3 | 4.7 | 1.2 | 14.3 | 5.8 | 7.8 | 27.9 |
| 1971 | 13.1 | 56.1 | 4.6 | 1.3 | 14.8 | 5.5 | 7.5 | 27.8 |
| 1972 | 12.6 | 57.9 | 4.6 | 1.4 | 15.0 | 5.4 | 7.8 | 28.2 |
| 1973 | 12.6 | 52.4 | 4.9 | 1.7 | 14.5 | 6.0 | 7.9 | 28.4 |
| 1974 | 13.9 | 49.4 | 4.9 | 1.5 | 13.5 | 5.9 | 7.7 | 27.1 |
| 1975 | 13.4 | 52.6 | 4.4 | 1.2 | 12.0 | 6.3 | 7.8 | 26.1 |
| 1976 | 13.2 | 49.4 | 4.9 | 1.5 | 13.1 | 5.9 | 8.0 | 27.0 |
| 1977 | 13.7 | 50.1 | 4.8 | 1.4 | 14.1 | 7.4 | 7.6 | 29.1 |
| 1978 | 13.3 | 46.0 | 4.8 | 1.4 | 13.4 | 6.3 | 6.6 | 26.3 |
| 1979 | 14.4 | 49.3 | 4.7 | 1.4 | 12.7 | 6.8 | 6.5 | 26.0 |
| 1980 | 13.3 | 51.1 | 4.6 | 1.4 | 13.0 | 6.4 | 6.5 | 25.9 |
| 1981 | 12.8 | 45.8 | 4.6 | 1.7 | 12.1 | 6.0 | 6.2 | 24.6 |
| 1982 | 15.4 | 47.1 | 4.2 | 1.5 | 11.6 | 5.8 | 6.0 | 23.4 |
| 1983 | 15.0 | 49.8 | 4.1 | 1.5 | 11.6 | 6.6 | 6.1 | 24.3 |
| 1984 | 15.9 | 48.3 | 3.7 | 1.8 | 10.2 | 8.0 | 6.4 | 24.6 |
| 1985 | 16.4 | 46.3 | 3.8 | 1.9 | 11.9 | 7.9 | 6.4 | 26.2 |
| 1986 | 16.7 | 48.8 | 3.9 | 1.5 | 12.1 | 7.6 | 6.1 | 25.8 |
| 1987 | 16.3 | 47.9 | 3.8 | 1.7 | 10.6 | 7.8 | 6.3 | 24.7 |
| 1988 | 17.6 | 49.6 | 3.8 | 1.7 | 10.4 | 8.7 | 5.7 | 24.8 |
| 1989 | 17.9 | 50.1 | 3.9 | 1.9 | 9.5 | 8.4 | 6.4 | 24.3 |
| 1990 | 18.6 | 47.5 | 3.7 | 1.9 | 11.0 | 8.6 | 6.5 | 26.1 |
| 1991[4] | 18.8 | 47.1 | 4.5 | 1.8 | 11.1 | 9.4 | 5.6 | 26.1 |

[1] Includes California production, which is primarily for processing.
[2] Crop year not calendar year.
[3] On cob basis.
[4] Preliminary.
Source: Vegetables and Specialties: Situation and Outlook Report, USDA, Economic Research Service, TVS-257, July 1992.

vegetable production is more likely to move to Mexico than is fresh market vegetable production. Not only is the Mexican market substantial--90 million individuals--, but is also growing faster than the U.S. market and is substantially younger--similar to where the U.S. population was at the end of WWII. Therefore, the increases in demand for canned vegetables from the Mexican market will encourage producers to move to Mexico as will relatively lower processing costs. Mexican production of fresh market vegetables may not have as large a comparative advantage as most think--particularly is harmonization of pesticide labels is achieved. The harmonization of labels is a longer term goal, but if achieved the Mexicans would be limited to the same set of chemicals available the American producers. Also, because of the 'snap-back' provisions of the pact, the Mexicans will be precluded from flooding the market and adversely affecting American producers. Lastly, the phytosanitary provisions of the pact will also serve to curtail fresh market vegetable exports. In short, the NAFTA will increase the supply of vegetables into the U.S. market, but the magnitude of the increase may not be as large as some may believe.

Another important future development for the vegetable industry will the relationship between immigration law and agricultural labor supply. As most are aware, the **Immigration Reform and Control Act of 1986 (IRCA)** established substantial regulations affecting the vegetable industry. Part of the Act called for the creation of an Agricultural Workers Commission and for the Commission to report to Congress as to the impact of the legislation. The Commission will submit its' report to Congress in February 1993 and it appears significant changes will be recommended. For example, farm labor contracting will be subject to more scrutiny and regulation, the Replenishment Agricultural Workers (RAW) program will be repealed, farm workers will have same rights--unemployment and health insurance, collective bargaining, workers compensation, etc.-- as other employees, and a national I.D. card. To what extent these recommendations are adopted by Congress is unknown, but significant implications to the vegetable industry lie ahead if some or all are adopted. This is not to say that all the implications will be negative, but rather that innovative and 'up-to-the-challenge' growers will emerge more successfully than others. The grower community needs to be prepared to voice their opinion in 1993 regarding this important development and possible reconsideration by Congress.

The **Five-a-Day** program will no doubt be a net gain to the fresh vegetable industry. It will also be a positive influence on the processing vegetable industry, but probably not at the same level. The program encourages the consumption of five daily servings of fruits and vegetables. This change in diet will lead to better health. The program is supported by government and industry, but the industry needs to be cognizant of the fact that with increased consumption will come closer scrutiny. Consumers will be allocating a greater share of their food bill to fruits and vegetables and therefore will become more price conscious. In addition, consumers will expect better health from the consumption of five servings and therefore any negative health connotations--i.e. pesticide residues--from the increased consumption of fruits and vegetables will take on greater meaning and potential impact. Careful attention and analysis will be required of the program so that the industry can respond to questions about the program's impact on the health and well-being of the American public.

The last topic covered is the **'globalization of the marketplace'**. It is both an opportunity to expand ones' markets, but also a threat from the many potential suppliers of vegetables to the American market. The key is for producers and/or marketers of vegetables to become educated and aware of how to evaluate and synthesize developments in international markets. The level of understanding and therefore appreciation of world markets by the New York vegetable industry is not as advanced as it could be. This is more a call to Cornell Cooperative Extension than to the industry itself--for it is the Extension Service that has the responsibility of providing the educational needs to the agriculture sector. Markets will continue to expand and therefore be influenced by factors unfamiliar to many of us. It behooves the industry and the extension service to gear up for this emerging challenge.

The future for the New York vegetable industry will depend on how well the industry prepares for some of the developments outlined above. There is little doubt that the 'pie' will expand and therefore the challenge is what slice of the pie New York will savor.

## OTHER AGRICULTURAL ECONOMICS EXTENSION PUBLICATIONS

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