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DECEMBER 1989

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**NEW YORK  
ECONOMIC HANDBOOK  
1990**

**AGRICULTURAL SITUATION  
AND OUTLOOK**

**PREPARED BY  
EXTENSION STAFF**

**DEPARTMENT OF AGRICULTURAL ECONOMICS  
NEW YORK STATE COLLEGE OF AGRICULTURE AND LIFE SCIENCES  
A STATUTORY COLLEGE OF THE STATE UNIVERSITY  
CORNELL UNIVERSITY, ITHACA, NEW YORK 14853-7801**

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## TABLE OF CONTENTS

<u>Section</u>	<u>Prepared by</u> <sup>1</sup>	<u>Page</u>
Economic Situation	B.F. Stanton	2
Marketing Costs	G.A. German G.F. Hawkes	15
Finance	E.L. LaDue	19
Real Estate	G.L. Casler	27
Grain and Feed	G.L. Casler	31
Dairy	M. Keniston W.A. Knoblauch A.M. Novakovic L.D. Putnam W.C. Wasserman <sup>2</sup>	37
Fruit	G.B. White	63
Vegetables	E.E. Figueroa	75
Ornamentals	E.E. Figueroa	82
Poultry	P. W. Aho <sup>3</sup>	87
Livestock	Caroline Rasmussen <sup>4</sup> D.G. Fox <sup>4</sup>	91

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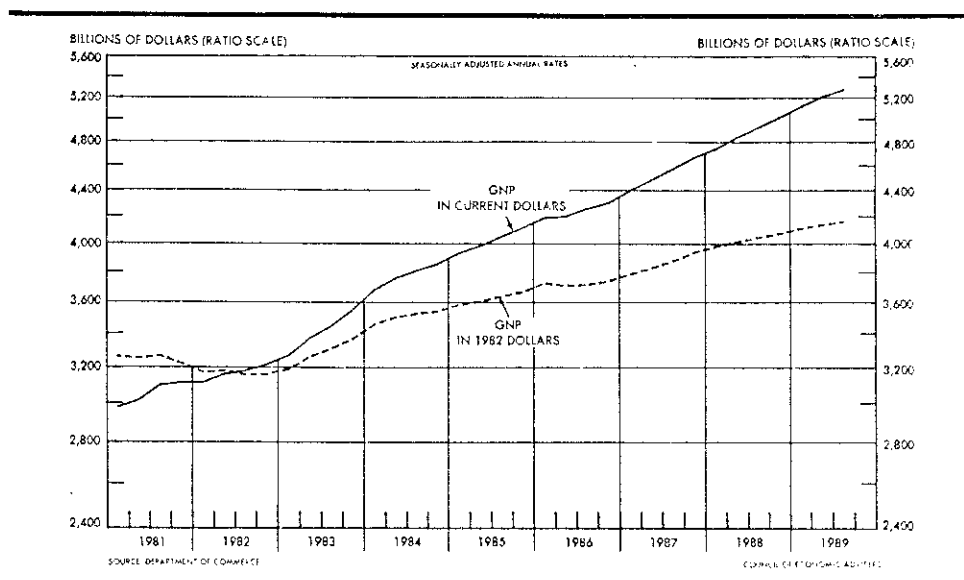
<sup>3</sup>Department of Poultry and Avian Science.

<sup>4</sup>Department of Animal Science.

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 two-page 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, 148 Warren Hall, Ithaca, New York 14853-7801.

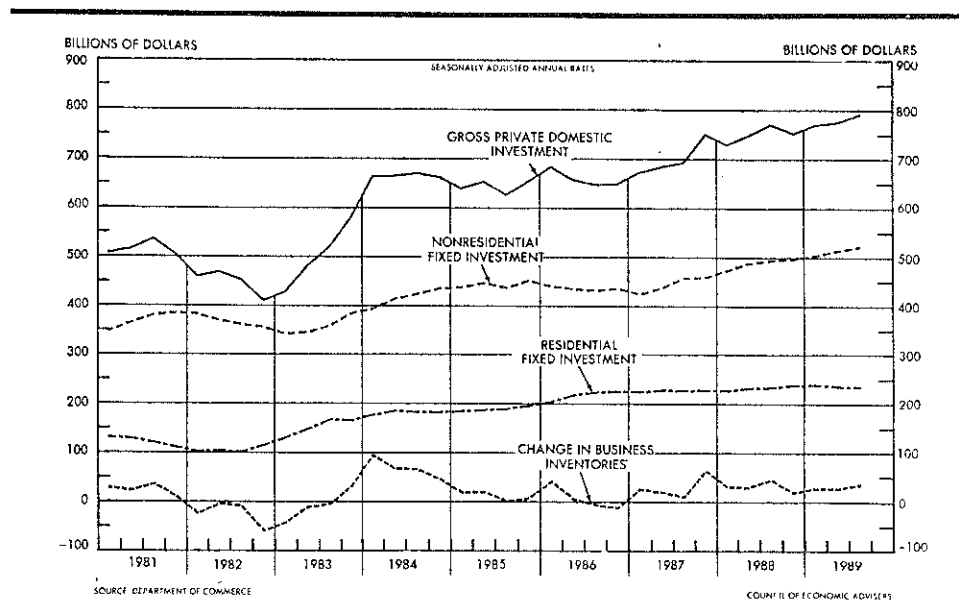
NATIONAL OUTPUT, INCOME AND SPENDING  
Components of Gross National Product



	Gross national product	Personal consumption expenditures	Gross private domestic investment	Government purchase goods and services	Net exports
- billions of current dollars -					
1980	2732	1733	437	530	32
1981	3053	1915	516	588	34
1982	3166	2051	447	642	26
1983	3406	2235	502	675	-6
1984	3772	2430	665	736	-59
1985	4015	2629	643	821	-78
1986	4232	2797	659	872	-97
1987	4524	3011	700	926	-113
1988	4881	3235	750	969	-74
1989	(5250)	(3475)	(780)	(1035)	(-50)

The economy continued to grow slowly but steadily throughout 1989. The expansion since the recession in 1982, readily evident on the diagram above when GNP is expressed in 1982 dollars, is the longest since World War II. Increasingly, forecasters are apprehensive that the long predicted downturn is likely in 1990. On the positive side, is the continued growth in GNP in 1989 despite the boost in interest rates in the late winter when the Fed worried about inflation. Some of the corrections in the fourth quarter of 1989, such as reductions in car sales and car output, may in fact be positive, a sign of sensitivity to consumers and market forces and an effort to avoid inventory accumulations. While recession may well be in the cards for 1990, most continue to see slow rates of growth for GNP averaging between 1.5 and 2.0 percent.

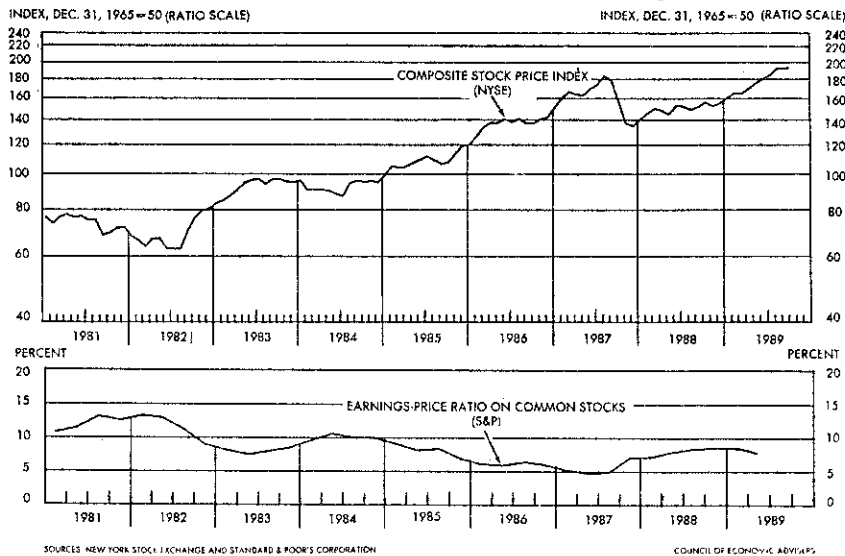
## GROSS PRIVATE DOMESTIC INVESTMENT



	Gross private investment	Residential fixed	<u>Non-residential</u> Structures	Durables Equipment	Changes in business inventories
- billions of current dollars -					
1981	516	122	139	231	24
1982	447	105	143	223	-24
1983	502	152	124	233	-7
1984	665	181	141	275	68
1985	643	189	153	290	11
1986	659	217	139	296	7
1987	700	226	134	311	29
1988	750	232	140	347	31
1989	(775)	(235)	(143)	(370)	(27)

One of the most important indicators of what is happening in the economy is the level of private domestic investment. The good news for a slowly expanding economy is continued new investment. Signs of a downturn are often associated with a quarterly downturn in these statistics. In 1989, none of the components for this total turned down in the first three quarters. Investment by business and individuals in new structures and housing was modest but steady in the aggregate. The strength was in durables and equipment or new investment in our capacity to produce. It is significant that growth in business inventories has been kept in check, expanding at about the same rate as the economy has grown annually.

COMMON STOCK PRICES AND YIELDS  
New York Stock Exchange, 1979-1989



One widely watched indicator of people's expectations about the state of the economy is the rise and fall of the stock market both here and abroad. After an abrupt correction in the fall of 1987, there was a rather steady rise in market averages for the next 24 months. In the fall of 1989, another selloff occurred, but of smaller proportions than 1987. Profits before and after taxes have trended downward in 1989. Expectations about the future are not clear. Analysts provide mixed signals about what can be expected in 1990. Corporate profit levels are an important indicator to watch on a quarterly basis.

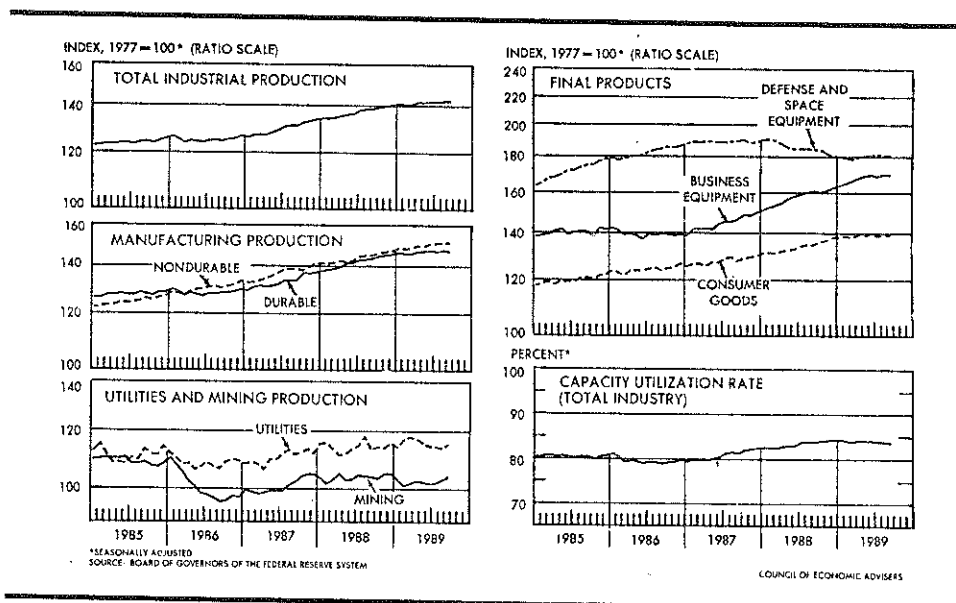
Profits before taxes

Profits after taxes

- billions -

1982	\$170	\$107
1983	208	130
1984	240	146
1985	224	128
1986	222	115
1987	267	142
1988	307	169
1989 I (rate)	318	174
II (rate)	296	161

## INDUSTRIAL PRODUCTION



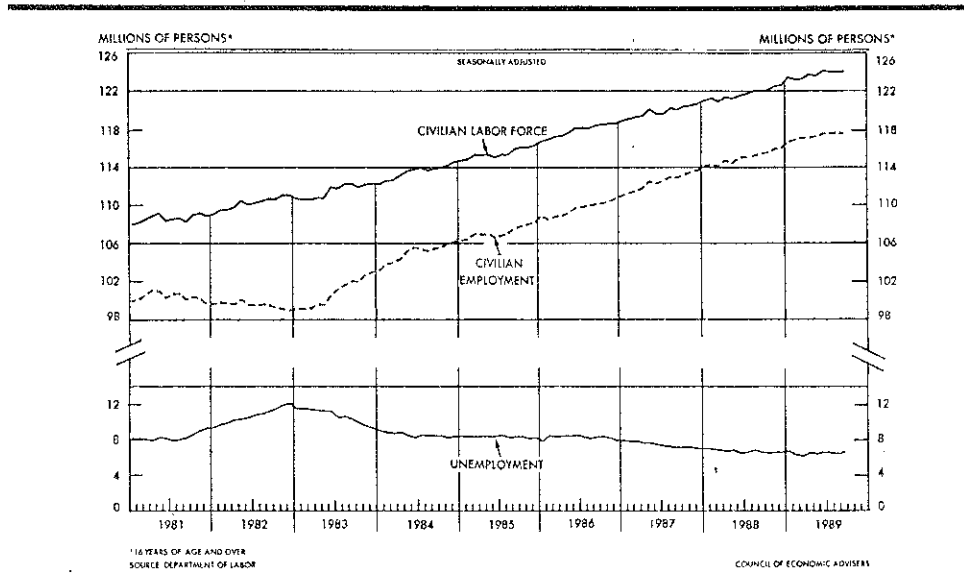
Industrial production continued to grow steadily during 1989 but the rate of growth has slowed since September of 1988. The month by month changes from year earlier levels in the index prepared by the Federal Reserve System tell the story.

	<u>Month</u>	<u>Percent Change</u>		<u>Month</u>	<u>Percent Change</u>
1988	September	5.7	1989	March	4.4
	October	5.2		April	4.7
	November	5.1		May	4.1
	December	4.9		June	4.0
1989	January	4.8		July	2.9
	February	4.5		August	2.8
				September	2.7

The Federal Reserve System has sought to keep inflation under control by seeking slow but steady growth in the economy. The concern is that the slowdown over the past year not turn to negative growth during 1990. This is another of the key indicators which will be carefully watched during 1990. Defense and space equipment has recovered somewhat from the downturn of 1988 readily evident in the panel above; the consumer goods sector has been flat in much of 1989.



EMPLOYMENT AND THE LABOR FORCE



One of the bright spots in the economy has been the continued growth in the number of jobs for the civilian labor force. The monthly figures throughout 1989 have moved steadily upward with expectations that 118 million jobs would be filled by year-end or early in 1990. The service sector continues to grow while manufacturing jobs do well to hold steady. In the second half of 1989, there was a loss of 100,000 manufacturing jobs, an important concern moving into 1990.

Unemployment rates often receive more attention than the number of jobs added to the national total. The percent unemployed continues to hold slightly above 5.0 percent. There are important differences between regions of the country and among individual regions. The Northeast has done well compared to many regions, but the outlook for new jobs in this region is less optimistic than at this time a year ago. Slow growth suggests fewer new jobs. The service sector in this region is growing at the expense of manufacturing.

## 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)		
1980	82.4	86.8	88.0	90.3	95.3
1981	90.9	93.6	96.1	98.6	103.0
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	(124.2)	(125.5)	(113.0)	(111.9)	(102.8)

Sources: Department of Commerce; Council of Economic Advisers.

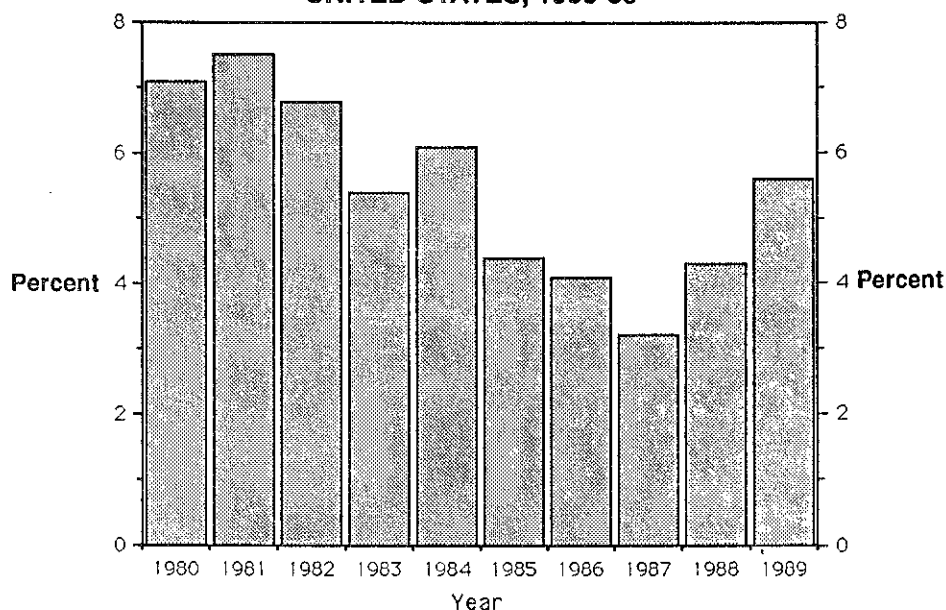
Inflation was kept in check during 1989 after substantial fears early in the year that the combination of the drought and a substantial jump in energy prices would develop into an inflationary spiral. By late spring and early summer, the rates of increase in both the Producer Price Index and the CPI had moderated so that the increase in both index numbers for the year would approximate a little less than 5.0 percent.

The Producer Price Index numbers for crude materials and intermediate goods often provide some guidance for potential change in the future for finished goods and consumer prices. Since May 1989, the monthly index numbers for both crude materials and intermediate goods have trended downward implying that rapid increases in prices are unlikely in the immediate future unless energy prices are pushed upward during the winter months.

Major components of the Consumer Price Index are listed below with weights as of December 1988 and changes from year earlier levels. Food costs are likely to rise a little more rapidly than the general rate of inflation during 1990.

<u>Component</u>	<u>Weight</u>	<u>October 1989</u>	<u>Percent change</u>
	<u>(percent)</u>	<u>(1982-84=100)</u>	<u>from October 1988</u>
			<u>(percent)</u>
Housing	42.3	119.8	3.8
Transportation	17.2	110.2	2.7
Food	16.2	120.6	5.2
Apparel	6.4	117.9	4.6
Medical care	6.0	141.4	6.7
All other	<u>11.9</u>		
Total	100.0	120.2	4.2

**SAVING AS PERCENT OF DISPOSABLE INCOME  
UNITED STATES, 1980-89**



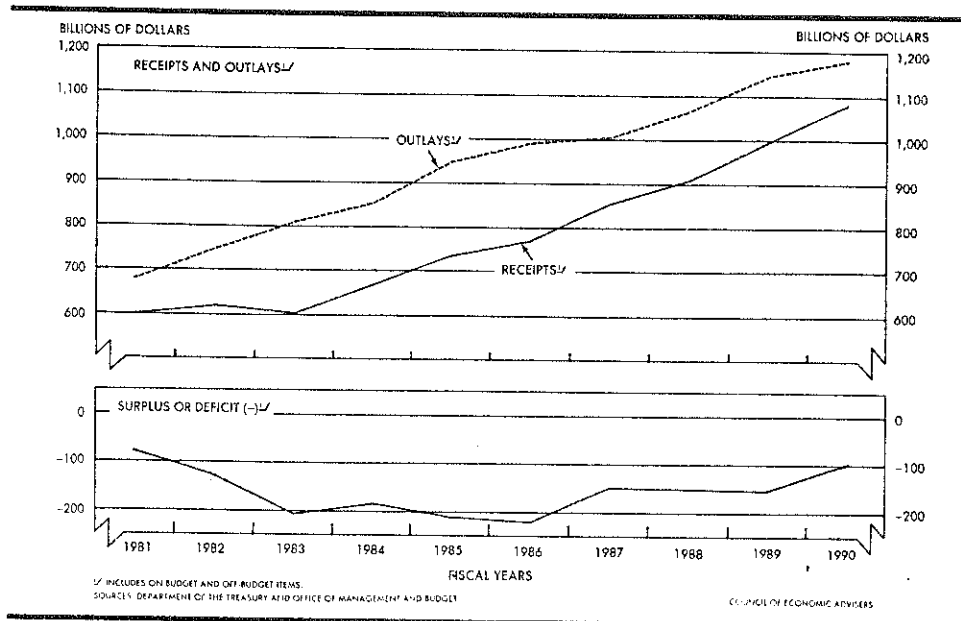
Personal savings as a percentage of disposable income has begun to increase after falling to all time lows in 1987. During 1989, the rate has increased steadily and is likely to be at or near 6.0 percent in the fourth quarter. The outlook for 1990 is positive as personal expenditures have slowed especially for consumer durables. Consumer credit outstanding has grown in 1989 but at a slower rate than 1988. Auto loans as a percentage of the total has also declined as auto sales slowed in the fourth quarter.

**CONSUMER INSTALLMENT CREDIT**

Year	Personal consumption expenditures <sup>1/</sup>	Total credit outstanding	Auto loans	Auto loans as percent of total
	<u>- billions -</u>			<u>percent</u>
December 1982	\$2051	\$324	\$124	38
December 1984	2431	443	174	39
December 1985	2629	518	210	41
December 1986	2797	572	247	43
December 1987	3011	608	266	44
December 1988	3235	660	281	43
December 1989	(3475)	(700)	(290)	(41)

<sup>1/</sup> Annual totals.

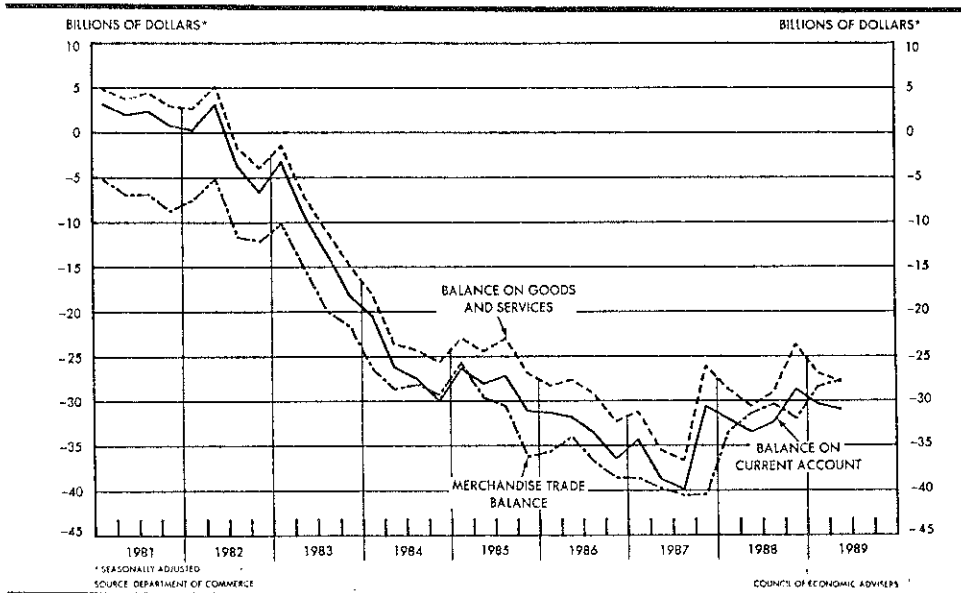
**FEDERAL FINANCE**  
**The Federal Deficit and Debt**



The margin between federal outlays and federal receipts has slowly narrowed, but the gains in 1989 have been modest at best. Compared with 1985 and 1986, progress has been made. Congress and the President essentially held the line in 1989 with a continuing deficit of about \$150 billion. The targeted reduction to about \$100 billion in 1990 already seems out of reach. In percentage terms, the deficit in relation to GNP has decreased from 6.1 percent in 1983 to 2.8 percent in 1989. Compared to a number of Western countries, this is relatively good; few argue that it should be allowed to continue. Methods of increasing government receipts remains the problem.

Fiscal Year	Government			Gross Federal debt
	Receipts	Outlays	Deficit	
- billions of dollars -				
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 est.	996	1144	-148	2854
1990 est. (OMB)	(1080)	(1180)	(-99)	(3085)

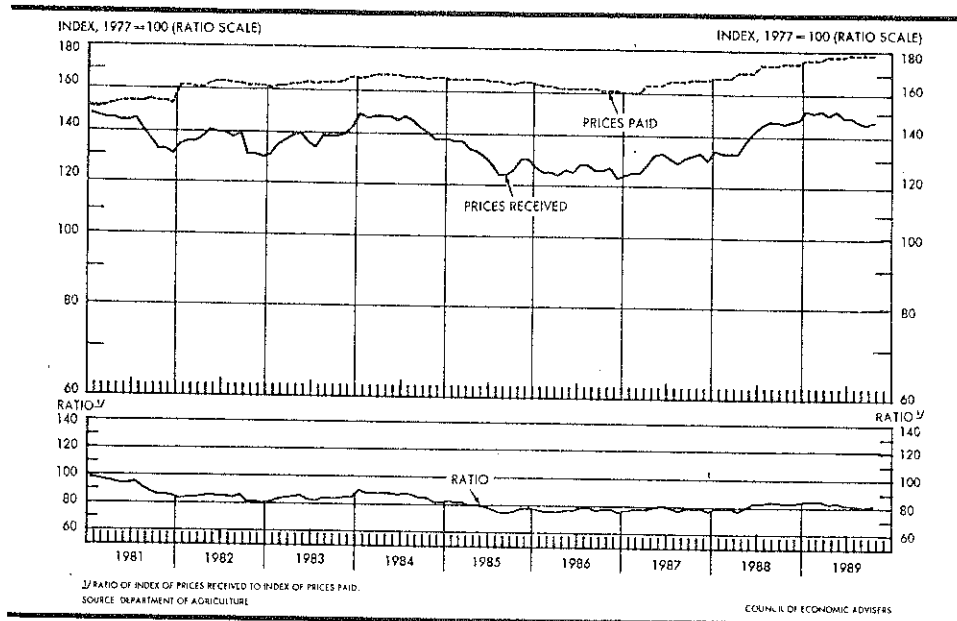
THE U.S. TRADE DEFICIT  
International Transactions, 1981-1989



The size of the U.S. trade deficit continues to receive substantial attention in the press and by the general public. Each monthly estimate is treated as a barometer of potential change. In 1989, most of the news has been positive as the trade gap has narrowed somewhat. Expanding exports has been difficult as the value of the dollar relative to the Japanese Yen and the West German Mark has remained stable and strong. The merchandise trade balance has made the most progress in the past two years. One of the long term problems that will grow as foreign investment increases in the U.S. is the payout of returns on these investments which show up in the balance on current account. No clear signals of improvement in 1990 are evident.

Year	Net balance (billions)	
	Goods and Services	Current Account
1980	\$9.1	\$1.5
1982	2.2	-7.0
1984	-91.7	-104.2
1985	-97.3	-112.7
1986	-117.5	-133.2
1987	-129.5	-143.7
1988	-111.9	-126.5
1989	(-112.5)	(-124.0)

## PRICES RECEIVED AND PAID BY FARMERS



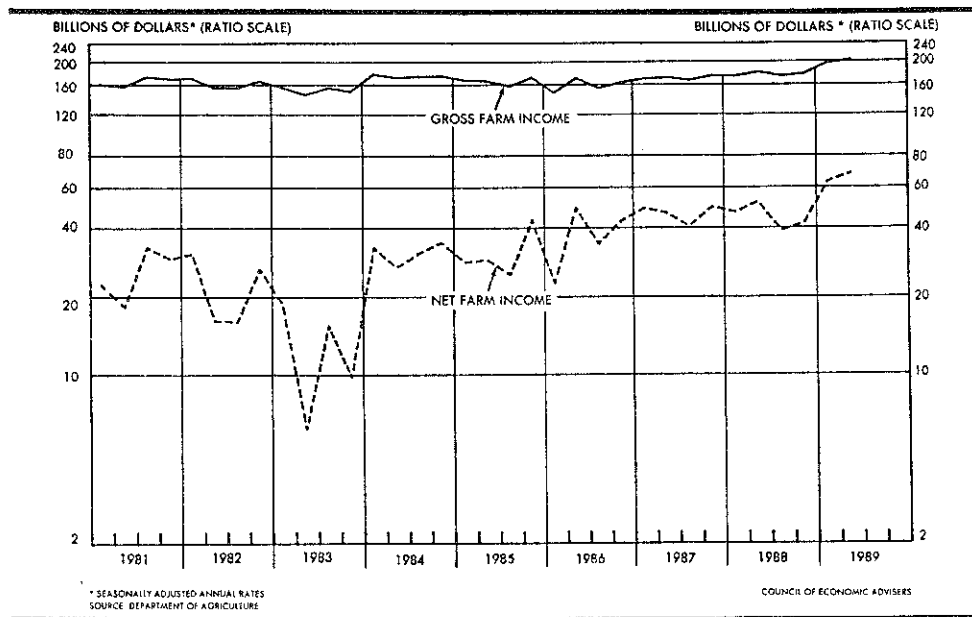
## Prices Received

Year	Crops	Livestock	All Commodities	Prices Paid	Ratio
1981	134	143	139	150	92
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	126	161	79
1988	126	150	138	170	81
1989	(134)	(158)	(146)	(177)	(83)

Prices received by farmers increased by 9.5 percent between 1987 and 1988 and by 6.5 percent in 1989 with a strong assist from the drought. The index of prices received has been slowly drifting down throughout 1989 as crop prices reflected larger supplies of feed grains at harvest in 1989. Prices of livestock and livestock products have been generally strong and stable throughout the year about 5 percent above 1988 levels. Prices are expected to hold at least at current levels throughout the early months of 1990.

Prices paid by farmers rose less than prices received on average for 1989 so that the ratio increased for the third year in a row. While this general trend is favorable to farmers, this ratio has declined on a quarterly basis throughout 1989 as the higher drought-related prices early in 1989 have gradually declined. It is likely that the ratios holding between 80 and 81 in the last quarter of 1989 may be more typical of 1990.

FARM INCOME AND EXPENSES



Year	United States			New York net farm income
	Gross farm income	Production expenses	Net farm income	
		- billions -		millions
1981	166	139	27	401
1982	164	140	24	389
1983	153	140	13	173
1984	175	143	32	367
1985	166	134	32	423
1986	160	122	38	543
1987	172	125	47	660
1988	178	132	46	571
1989	(186)	(135)	(51)	(640)

Both gross and net farm income in 1989 are expected to be from 5 to 10 percent above 1988 levels. Direct government payments will make up a much smaller share of the total than in 1986 and 1987. Deficiency payments are smaller as market prices for grains more nearly approached target price levels. Livestock producers generally had acceptable returns despite high prices for concentrate feeds early in 1989. Production expenses advanced less than in 1988. Interest payments now make up a smaller proportion of the total than earlier as debts are gradually reduced.

Net farm income in New York was down in 1988 from 1987 levels as feed costs rose by 19 percent. Net farm income in 1989 is expected to return more nearly to 1987 levels as milk prices have risen in the second half of 1989 and farm costs have held more nearly at the rate of inflation. Estimates for 1990 are more uncertain than usual depending on how rapidly milk prices fall in the spring months of 1990. Production expenses should increase at moderate rates.

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
	- million bushels -		- percent -	
<b>Wheat:</b>				
1983-84	2420	1399	58	3.51
1984-85	2595	1425	55	3.39
1985-86	2425	1905	79	3.08
1986-87	2092	1821	87	2.42
1987-88	2107	1261	60	2.57
1988-89	1811	694	38	3.72
1989-90	(2064)	(500)	(24)	(4.05)
<b>Corn:</b>				
1983-84	4175	1006	24	3.21
1984-85	7674	1648	21	2.63
1985-86	8877	4040	46	2.23
1986-87	8250	4882	59	1.50
1987-88	7072	4259	60	1.94
1988-89	4921	1855	38	2.55
1989-90	(7321)	(1680)	(23)	(2.10)

Source: USDA.

Carryover stocks of wheat are expected to be 500 million bushels or less at the end of the 1989-90 marketing year, a further reduction in stocks compared to 1988-89 despite the increase in production in 1989. Farm prices have remained strong throughout the year as world consumption is forecast to be larger than production. Corn stocks are expected to decline slightly in the year ahead as utilization exceeds production. World reserves are adequate relative to effective demand; hence, prices are down compared to 1988.

WORLD PRODUCTION AND USE OF GRAINS  
USDA Estimates, 1982-89

Production Year	Production	Utilization	Exports	Ending stocks	Stocks as percent of use
	- million metric tons -				percent
1982-83	1548	1505	200	351	23
1985-86	1662	1594	205	430	27
1986-87	1684	1655	212	459	28
1987-88	1606	1665	222	401	24
1988-89	1553	1653	220	301	18
1989-90	(1659)	(1670)	(230)	(290)	(17)

When world carryover stocks of wheat and coarse grains were so large from 1985-87, international prices fell rapidly and were held down by export subsidies from both the U.S. and EC. Carryover at the end of 1989-90 is expected to be reduced again as utilization exceeds production.



FARM PROGRAMS AND PRICE SUPPORTS  
United States, 1983-84 to 1990-91

Year	Target price	Effective loan rate	Market price	Deficiency payment	Setaside requirement
		<u>- dollars per bushel -</u>			<u>percent</u>
<u>Wheat:</u>					
1983-84	\$4.30	\$3.65	\$3.51	\$ .65	15
1984-85	4.38	3.30	3.39	.99	20
1985-86	4.38	3.30	3.08	1.08	20
1986-87	4.38	2.40	2.42	1.96	22.5
1987-88	4.38	2.28	2.57	1.81	27.5
1988-89	4.23	2.21	3.72	(.51)	27.5
1989-90	4.10	2.06	(4.05)	(.05)	10
1990-91	4.00	1.95			5
<u>Corn:</u>					
1983-84	\$2.86	\$2.65	\$3.21	--	10
1984-85	3.03	2.55	2.63	\$ .40	10
1985-86	3.03	2.55	2.23	.48	10
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	2.55	(.38)	20
1989-90	2.84	1.65	(2.10)	(.74)	10
1990-91	2.75	1.57			10

The Food Security Act of 1985 made important changes in commodity programs for food and feed grains. The effective loan rate or price support level was dropped substantially as shown in the table above between 1985 and 1986. Target prices are being reduced gradually as well. Market prices were thus reduced to international levels in 1986 and deficiency payments were substantial. The combination of the drought and increased exports has reduced stocks and increased domestic market prices.

Relatively little debate has surfaced in 1988 and 1989 about continuing the combination of relatively low support levels and the deficiency payments program. If target prices are gradually reduced here and in the EC, market forces will increasingly determine planting decisions by farmers. Roughly 77 percent of the wheat base acres and 80 percent of corn base acres were enrolled in ARP programs for 1989-90. Even higher percentages are anticipated for 1990-91 given additional flexibility in planting decisions authorized in 1989.

### HIGHLIGHTS OF THE MARKETING COSTS SECTION

The "Marketing Bill" refers to the total cost of marketing all farm foods in the U.S. All costs incurred from the farm gate to the consumer comprise the marketing bill and represent the value added by marketing to farm foods.

#### Page 16

The total marketing bill for 1988 amounted to over \$296 billion, about 5 percent higher than the level for 1987. Expenditures for labor, the largest single component of the marketing bill, were about 5.5 percent higher in 1988 than in 1987.

The marketing bill's portion of retail prices averaged 70 percent for food consumed at home and 84 percent for food consumed away from home.

#### Page 17

Preliminary figures for the first quarter of 1989 indicate that prices of all major marketing inputs have increased compared with the same period of 1988. The overall total marketing cost index in the first quarter of 1989 was 3.7 percent higher than first quarter 1988.

#### Page 18

The index of prices at the retail and farm levels for May 1989 indicate that market basket prices have increased more at the farm level since May 1988 than at retail. Typically, retail prices have grown faster than farm prices causing a widening gap, the "farm-to-retail spread", as marketing costs comprised a larger and larger portion of the retail price of food.

In commodity groups such as dairy products, fresh fruits, fresh vegetables, and processed fruits and vegetables the farm-to-retail spread continued to expand in 1988, although at varying rates.

The farmer's share of the retail food dollar continues to hover around 30 percent, where it has remained for the past three years after declining steadily throughout the early 1980's.

**Labor and Packaging Are Major Components of the Marketing Bill**

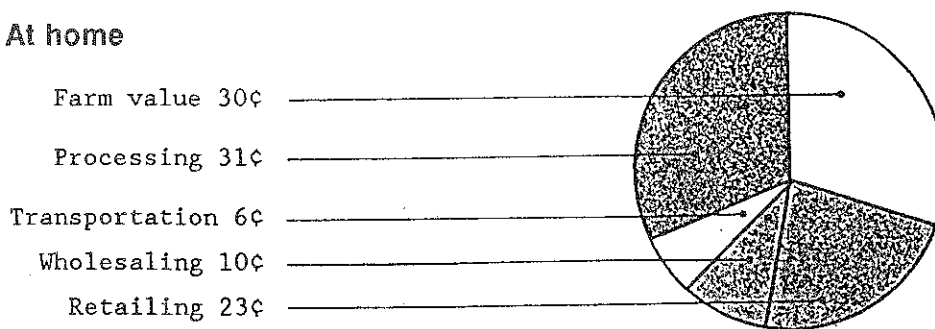
Component	1975	1980	1985	1986	1987	1988
<i>Billion dollars</i>						
Labor <sup>1</sup>	48.3	81.5	115.6	122.1	128.6	135.7
Packaging materials	13.3	21.0	26.9	27.7	29.9	32.3
Rail and truck transportation <sup>2</sup>	8.4	13.0	16.5	16.8	17.3	17.9
Fuels and electricity	4.6	9.0	13.1	13.2	13.6	14.2
Pre-tax corporate profits	7.1	10.2	10.5	10.0	10.4	12.5
Other <sup>3</sup>	29.7	48.0	74.5	80.1	83.0	84.2
<b>Total marketing bill</b>	<b>111.4</b>	<b>182.7</b>	<b>257.1</b>	<b>269.9</b>	<b>282.8</b>	<b>296.8</b>

<sup>1</sup>Includes employee wages or salaries and their health and welfare benefits. Also includes imputed earnings of proprietors, partners, and family workers not receiving stated remuneration. <sup>2</sup>Excludes local hauling charges. <sup>3</sup>Includes depreciation, rent, advertising and promotion, interest, taxes, licenses, insurance, professional services, etc.

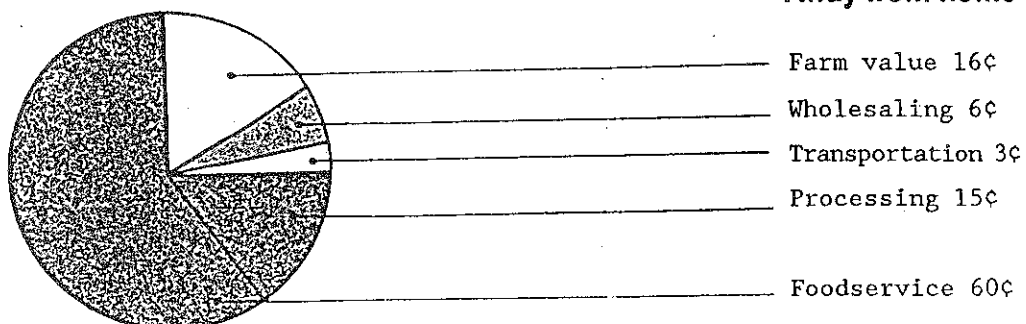
Source: National Food Review, April-June 1989

**WHERE THE FOOD DOLLAR GOES AT HOME VERSUS AWAY**

**At home**



**Away from home**



1988 data.

Source: National Food Review, April-June 1989.

MEASURING PRICE CHANGES IN FOOD MARKETING INPUTS<sup>1</sup>

Item	1987	1988	1989 <sup>2P</sup>
Annual Percentage Change			
Labor, hourly earnings and benefits	+ 0.5	+ 2.1	+ 2.6
Packaging & containers	+ 3.9	+ 6.3	+ 6.3
Paperboard boxes and containers	+ 7.0	+ 7.0	+ 6.6
Plastic films & bottles	+ 2.0	+ 9.1	+10.6
Glass containers	+ 1.0	- 0.8	+ 0.3
Transportation services	- 1.7	+ 4.8	+ 0.9
Advertising	+ 6.3	+ 6.5	+ 6.7
Fuels & power	+ 1.1	- 3.1	+ 4.4
Electricity	- 1.6	+ 0.6	+ 2.5
Petroleum	+12.3	-10.6	+ 6.4
Natural gas	- 4.4	- 0.7	+ 5.1
Communications, water & sewage	+ 0.9	+ 1.2	+ 1.9
Rent	+ 2.0	+ 0.4	+ 0.8
Maintenance & repair	+ 3.8	+ 3.5	+ 3.5
Business Services	+ 3.6	+ 3.1	+ 3.0
Supplies	+ 1.4	+ 6.6	+ 9.0
Property taxes & insurance	+ 4.5	+ 5.1	+ 4.5
Interest, short term	+ 6.2	+13.1	+40.6
Total marketing cost index	+ 1.5	+ 3.1	+ 3.7

<sup>1</sup>Data measure changes in prices for fixed quantities of labor and other inputs used in processing, wholesaling, and retailing farm foods sold through foodstores.

<sup>2</sup>First quarter 1989 data versus first quarter 1988 data.

<sup>P</sup>Preliminary.

Source: Agricultural Outlook, USDA, June 1989.

## Changes in Farm-Retail Price Spreads for Selected Categories

	<u>Changes from Previous Years</u>			
	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>May<sup>1</sup></u> <u>1989</u>
<u>Market Basket:</u>				
Retail cost	2.2	5.0	4.4	8.5
Farm value	-1.3	2.3	3.3	10.4
Farm-to-retail spread	3.7	6.1	4.9	6.5
<u>Dairy Products:</u>				
Retail cost	0.1	2.5	2.4	6.0
Farm value	-2.7	0.8	-3.1	6.2
Farm-to-retail spread	2.5	3.7	6.3	5.8
<u>Fresh Fruits:</u>				
Retail cost	1.7	12.6	7.2	5.0
Farm value	-6.3	9.7	-0.5	-21.7
Farm-to-retail spread	5.1	13.8	10.0	14.2
<u>Fresh Vegetables:</u>				
Retail cost	4.1	12.9	6.3	23.1
Farm value	3.3	24.4	5.5	61.0
Farm-to-retail spread	7.3	8.3	11.7	9.7
<u>Processed Fruits &amp; Vegetables:</u>				
Retail cost	-1.5	3.5	7.9	7.8
Farm value	13.8	9.5	22.9	-1.4
Farm-to-retail spread	2.6	1.8	3.1	10.6

<sup>1</sup>May 1989 data versus May 1988 data.

Source: Agricultural Outlook, USDA, August 1989.

## PRICE INDICES OF MARKET BASKET OF FARM FOODS

<u>Period</u>	<u>Retail Price</u>	<u>Farm Value</u>	<u>Farm Retail Spread</u> (Percent)	<u>Farmer's Share</u>
1980	238.8	239.8	238.3	37
1981	257.1	246.4	263.4	36
1982	266.4	247.8	277.4	34
1983	268.7	242.3	284.3	33
1984	279.3	255.4	293.3	34
1985	282.6	237.1	309.3	31
1986	288.7	234.1	320.8	30
1987	303.1	239.5	340.5	29
1988	316.4	247.4	357.3	30
1989 May	338.6	267.4	380.5	30

Source: Agricultural Outlook, USDA, August 1989.





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

Item	1970	1975	1980	1985	1986	1987	1988
---million dollars---							
<i>Assets</i>							
Real Estate	3157	5862	7266	7500	8288	8319	8716
Livestock	536	653	1527	1055	1049	1158	1193
Machinery	859	1410	2124	2038	1853	1713	1699
Crops <sup>a</sup>	213	399	620	543	440	453	220
Household	289	306	313	626	797	853	999
Deposits & Currency	260	292	319	410	481	507	519
Savings Bonds	82	61	59	61	70	76	81
Coop. Investments	<u>186</u>	<u>313</u>	<u>455</u>	<u>475</u>	<u>482</u>	<u>493</u>	<u>494</u>
Total	5582	9296	12683	12708	13460	13572	13921
<i>Liabilities &amp; Equity</i>							
Real Estate Debt	430	758	1217	1225	1102	1045	1014
Nonreal Estate Debt <sup>b</sup>	<u>436</u>	<u>790</u>	<u>1702</u>	<u>1637</u>	<u>1583</u>	<u>1432</u>	<u>1258</u>
Total Debt	866	1548	2919	2862	2685	2477	2272
Equity	<u>4716</u>	<u>7748</u>	<u>9764</u>	<u>9846</u>	<u>10775</u>	<u>11095</u>	<u>11649</u>
Total	5582	9296	12683	12708	13460	13572	13921
% Equity	84	83	77	77	80	82	84

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

<sup>b</sup> Includes 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.

**Changes in Structure, New York Farm Balance Sheet**  
**Current Dollars, December 31, 1970-88**

Item	1970	1975	1980	1985	1986	1987	1988
---percent of total---							
<i>Assets</i>							
Real Estate	56	63	57	59	61	61	63
Livestock	9	7	12	8	8	8	8
Machinery	16	15	17	16	14	13	12
All Other	<u>19</u>	<u>15</u>	<u>14</u>	<u>17</u>	<u>17</u>	<u>18</u>	<u>17</u>
Total	100	100	100	100	100	100	100
<i>Liabilities</i>							
Real Estate Debt	48	49	42	43	41	42	45
Non Real Estate Debt	<u>52</u>	<u>51</u>	<u>58</u>	<u>57</u>	<u>59</u>	<u>58</u>	<u>55</u>
Total	100	100	100	100	100	100	100

Source: ERS, USDA, 1975-88 data revised 1989.



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

	1970	1975	1980	1985	1986	1987	1988
---million dollars---							
<i>Real Estate</i>							
Farm Credit System	120	315	432	489	429	396	430
Individuals & Others	174	257	439	396	349	300	262
Commercial Banks	85	121	126	96	97	133	111
Farmers Home Admin.	42	55	170	209	205	197	190
Insurance Companies	9	9	31	29	19	18	21
CCC - Storage	<u>0</u>	<u>1</u>	<u>19</u>	<u>6</u>	<u>3</u>	<u>1</u>	<u>a</u>
Total	430	758	1217	1225	1102	1045	1014
<i>Nonreal Estate</i>							
Commercial Banks	164	281	665	629	685	589	428
Farmers Home Admin.	29	42	323	326	314	304	282
Farm Credit System	145	293	341	344	285	296	321
Merchants & Dealers	96	171	332	286	231	191	195
CCC - Crop Loans	<u>1</u>	<u>3</u>	<u>41</u>	<u>52</u>	<u>68</u>	<u>52</u>	<u>32</u>
Total	436	790	1702	1637	1583	1432	1258

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

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

Lender	1970	1975	1980	1985	1986	1987	1988
---percent of total farm debt---							
Commercial Banks	29	26	27	25	29	29	24
Farm Credit System	31	39	27	29	27	28	33
Farmers Home Admin.	8	6	17	19	19	20	21
Insurance Companies	1	1	1	1	1	1	1
Indiv. & Merchants	31	28	27	24	22	20	20
CCC	<u>a</u>	<u>a</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>1</u>
Total	100	100	100	100	100	100	100

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

Source: ERS, USDA. 1970 data from Agricultural Finance Statistics, 1960-83.

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

Year	Total System	Springfield District
---percent of loan volume---		
1984 <sup>a</sup>	2.3	1.1
1985 <sup>a</sup>	7.7	.8
1986 <sup>a</sup>	12.9	2.4
1987 <sup>a</sup>	11.1	1.1
1988	8.0	0.6
1989 (March 31)	7.8	0.6

<sup>a</sup> Weighted average for PCA and FLB's for 1984-87.

Source: Annual FCA and Quarterly FCCA Reports.

**Nonaccrual Farm Non Real Estate Loans  
Commercial Banks, December 31**

Year	United States
-percent of loan volume-	
1983	1.1
1984	1.6
1985	2.2
1986	1.9
1987	1.2
1988	.9
1989 (June 30)	.8

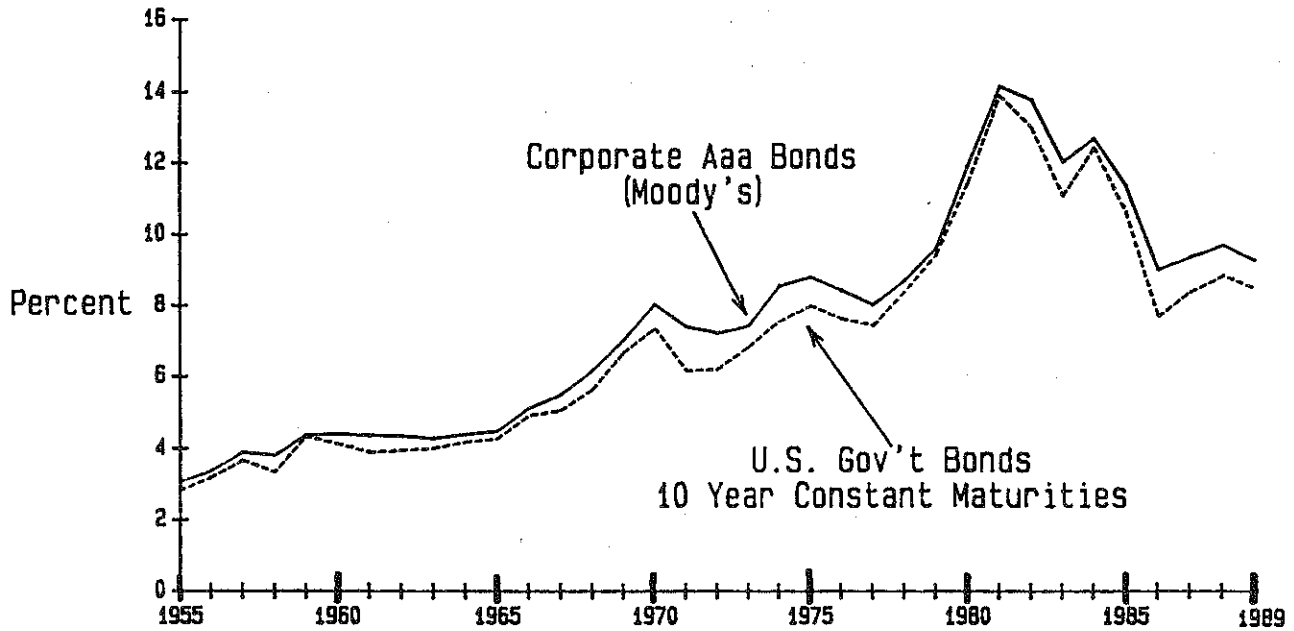
Source: Agricultural Finance Databook. Reports of Condition and Income.

**Delinquent Major Farm Program Loans  
Farmers Home Administration**

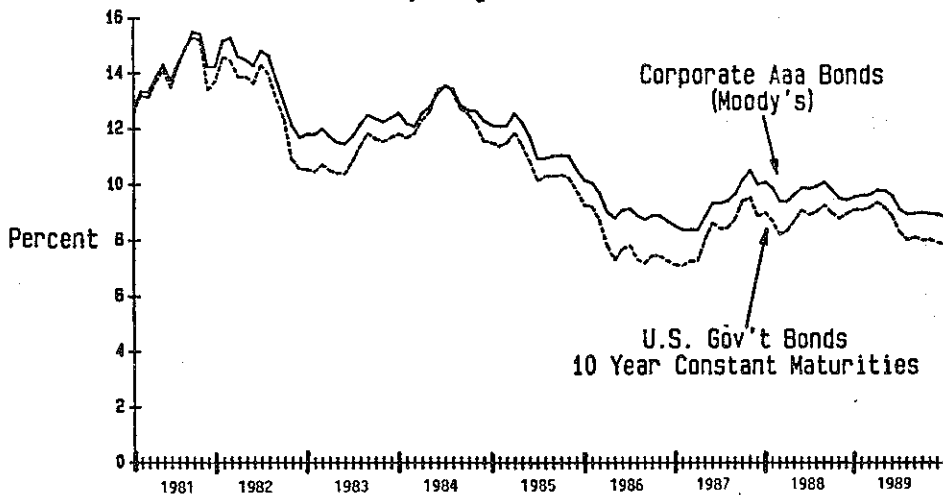
Date	Farm Ownership		Operating Loans		Emergency Loans		Economic Emergency		Soil and Water	
	U.S.	N.Y.	U.S.	N.Y.	U.S.	N.Y.	U.S.	N.Y.	U.S.	N.Y.
---percent of loan volume---										
9/30/85	5	5	13	10	37	25	23	19	11	7
9/30/86	5	5	16	12	41	31	27	25	12	9
9/30/87	6	7	19	14	45	34	31	34	14	10
9/30/88	8	9	25	19	57	38	42	45	20	12
6/30/89	10	10	29	21	63	43	47	52	23	14

Source: FmHA Report Code 616.

Annual Long Term Interest Rates



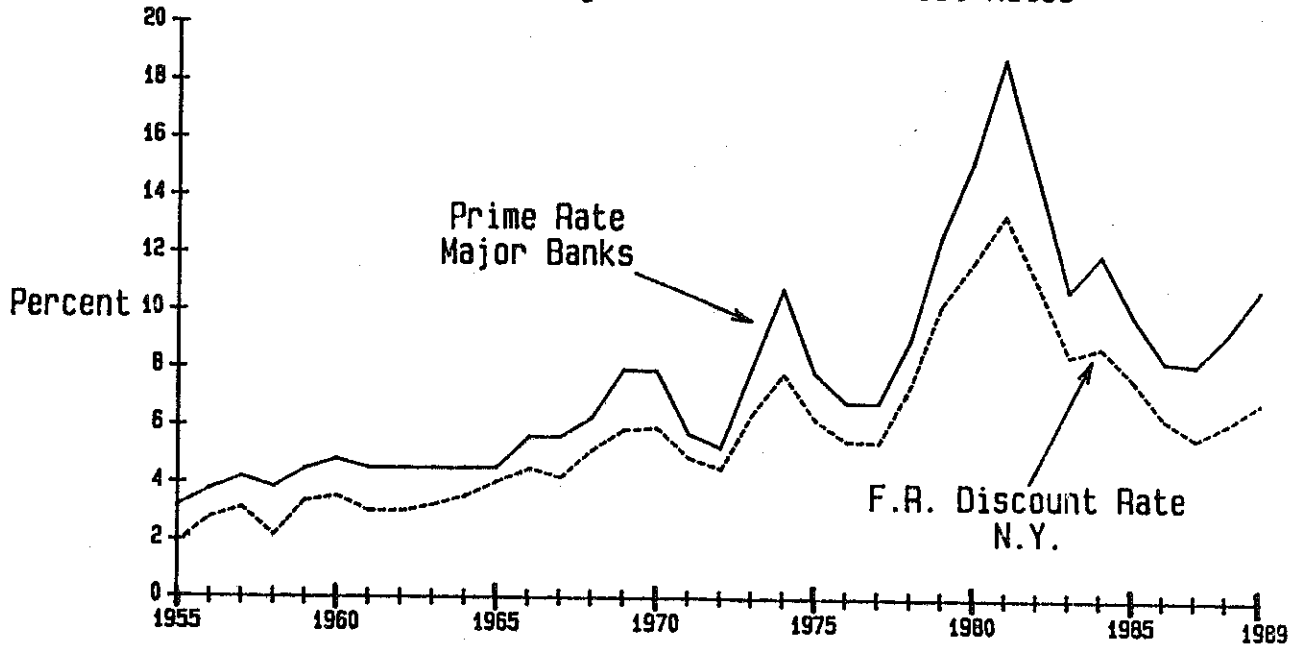
Monthly Long Term Interest Rates



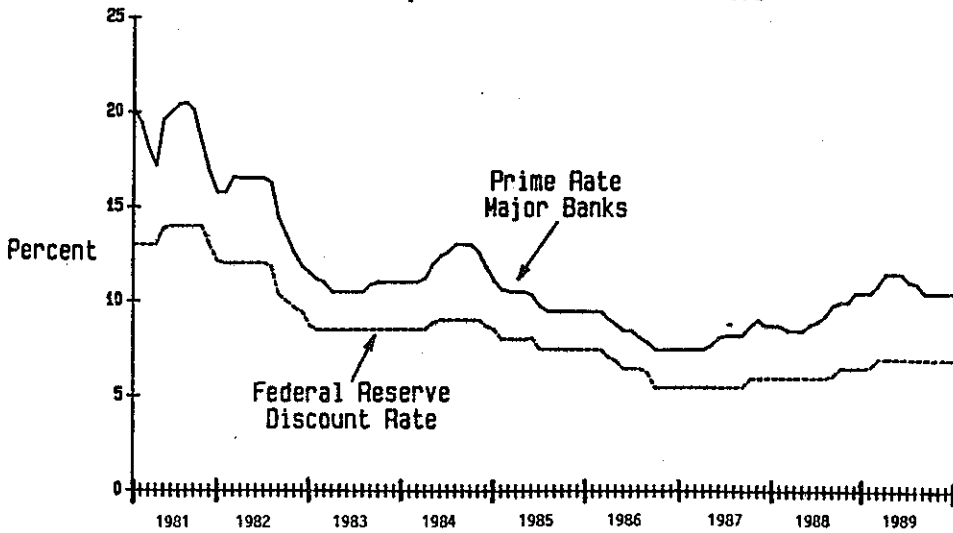
U.S. Government Bonds  
10 Year Constant Maturities

	<u>1988</u>	<u>1989</u>
Jan	8.67	9.09
Feb	8.21	9.17
Mar	8.37	9.36
Apr	8.72	9.18
May	9.09	8.86
Jun	8.92	8.28
Jul	9.06	8.02
Aug	9.26	8.11
Sep	8.98	
Oct	8.80	
Nov	8.96	
Dec	9.11	

Annual Average Short Term Interest Rates

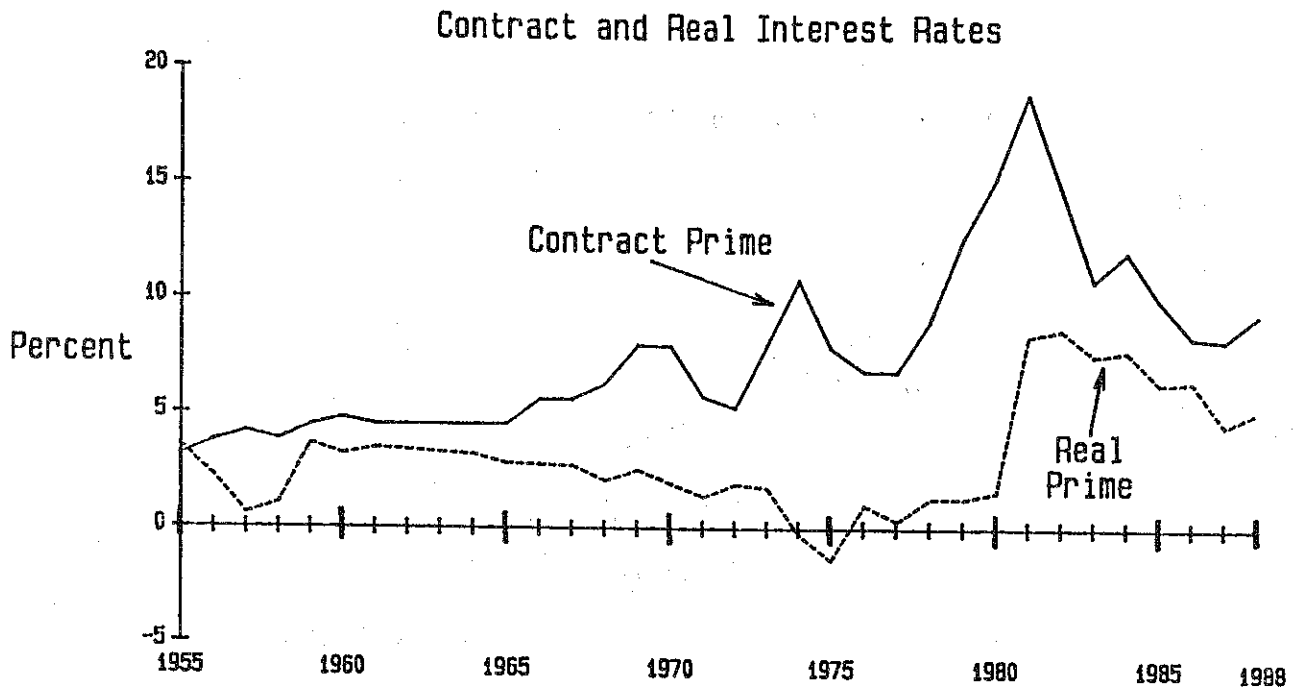


Monthly Short Term Interest Rates



Prime Rate  
Major Banks  
1988    1989

Jan	8.75	10.50
Feb	8.51	10.93
Mar	8.50	11.50
Apr	8.50	11.50
May	8.84	11.50
Jun	9.00	11.07
Jul	9.29	10.98
Aug	9.84	10.5
Sep	10.00	10.5
Oct	10.00	10.5
Nov	10.05	10.5
Dec	10.50	



A major factor influencing interest rates is the strength of the U.S. economy. A rapidly growing economy requires funds for investment and the demand for those funds tends to increase interest rates. Most forecasters expect U.S. economic growth to be relatively modest during 1990, with growth in GNP of 2.0 to 2.5 percent representing some of the more optimistic projections. Growth in that range would provide a softening of rates but relatively modest change. Lower growth rates would put more severe downward pressure on rates.

A resurgence of inflation could also force rates higher. However, inflation has hovered around the four to five percent range for some time and there does not appear to be major forces in motion that would cause rates to rise sharply from those levels.

A large amount of United States debt is held by foreigners. A declining value of the dollar could cause foreigners to reduce their U.S. debt holdings in an effort to avoid currency exchange losses. The reduced supply of funds increases interest rates until the dollar becomes stable and investment returns. However, the dollar is currently stable to strong against other major currencies and is likely to maintain that position for the near term.

In net, interest rates are expected to continue to decline slightly during early 1990 and then remain relatively stable until some significant change in economic conditions occurs. At this point there do not appear to be significant forces in motion that would force strong movement in rates. During 1989, farm level rates increased about one percent during the first half of the year and then declined to near beginning of year levels. During 1990, rates should decline modestly (possibly 1/4 to 3/4 percent) and then fluctuate around that level until a change in economic conditions occurs.

CHANGE IN FARM REAL ESTATE VALUES, UNITED STATES

Figure 3  
Percent Change in Farmland Value Per Acre, February 1988-89

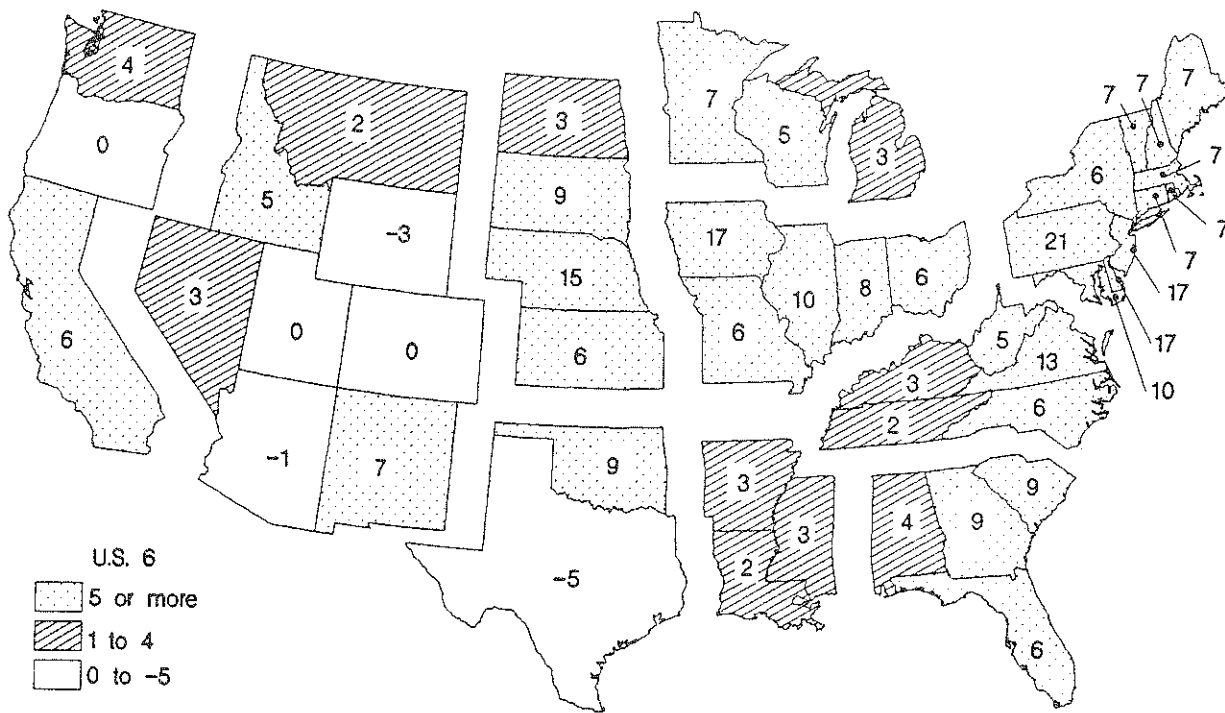
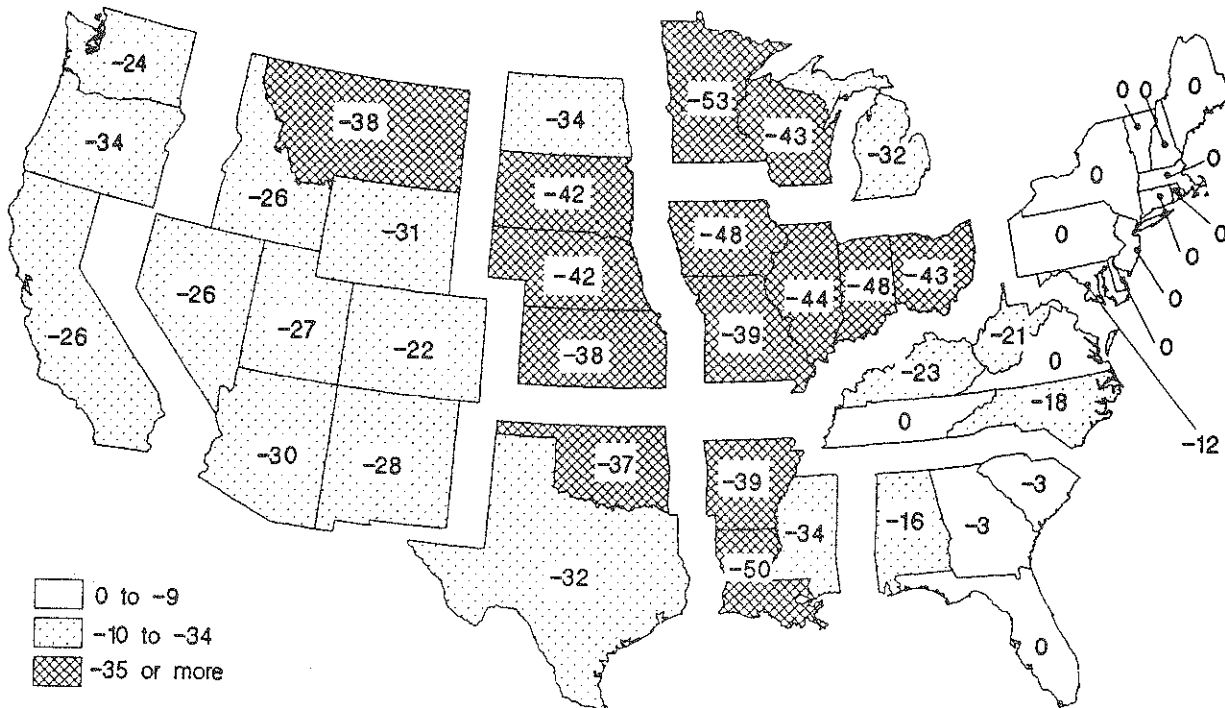


Figure 4  
Percent Change in Farmland Value Per Acre, Peak Year to February 1989



Source: Agricultural Land Values and Markets, ERS, USDA.

## AVERAGE VALUE PER ACRE OF UNITED STATES FARM REAL ESTATE

Table 1--Average per acre value of farmland and buildings, by State, 1982-89 1/

State	As of April 1				As of February 1				Change 1988-89
	1982	1983	1984	1985	1986	1987	1988	1989	
	Dollars								Percent
Northeast:	1,364	1,343	1,414	1,392	1,416	1,607	1,747	1,979	13
Maine	680	708	750	856	993	1,082	1,236	1,323	7
New Hampshire	1,136	1,174	1,244	1,419	1,646	1,794	2,037	2,180	7
Vermont	815	842	893	1,017	1,180	1,286	1,345	1,439	7
Massachusetts	1,874	1,963	2,081	2,372	2,752	2,999	3,534	3,782	7
Rhode Island	2,729	2,760	2,926	3,335	3,869	4,217	6,240	6,676	7
Connecticut	2,610	2,655	2,814	3,208	3,721	4,056	4,914	5,258	7
New York	821	817	842	808	824	931	956	1,014	6
New Jersey	3,181	3,140	3,234	3,525	3,913	5,321	6,189	7,241	17
Pennsylvania	1,513	1,520	1,642	1,510	1,450	1,725	1,819	2,201	21
Delaware	1,787	1,829	1,866	1,642	1,757	1,775	1,895	2,217	17
Maryland	2,376	2,121	2,185	2,097	1,887	1,831	2,014	2,216	10
Lake States:	1,234	1,160	1,099	874	702	598	639	673	5
Michigan	1,278	1,223	1,223	1,052	936	833	853	879	3
Wisconsin	1,144	1,113	1,046	847	711	626	630	661	5
Minnesota	1,272	1,165	1,083	823	609	493	563	602	7
Corn Belt:	1,642	1,482	1,414	1,055	903	815	888	981	10
Ohio	1,629	1,504	1,444	1,126	1,013	942	991	1,051	6
Indiana	1,804	1,610	1,594	1,259	1,058	931	983	1,061	8
Illinois	2,023	1,837	1,800	1,314	1,143	1,040	1,114	1,225	10
Iowa	1,889	1,684	1,499	1,064	841	748	890	1,041	17
Missouri	945	856	856	659	606	552	572	606	6
Northern Plains:	547	528	499	383	323	286	306	333	9
North Dakota	455	439	439	360	317	282	292	301	3
South Dakota	349	348	338	250	215	178	187	204	9
Nebraska	730	701	617	444	364	335	366	421	15
Kansas	628	601	583	466	387	340	368	390	6
Appalachia:	1,083	1,082	1,090	1,005	983	951	972	1,028	6
Virginia	1,096	1,125	1,114	1,091	1,146	1,111	1,143	1,292	13
West Virginia	723	688	667	554	537	527	542	569	5
North Carolina	1,297	1,314	1,380	1,242	1,130	1,096	1,062	1,126	6
Kentucky	1,058	1,049	1,007	906	870	791	786	810	3
Tennessee	1,040	1,014	1,044	982	992	1,012	1,104	1,126	2
Southeast:	1,095	1,095	1,094	1,042	999	1,000	1,056	1,127	7
South Carolina	980	946	927	899	872	794	874	953	9
Georgia	926	929	910	865	822	846	865	943	9
Florida	1,518	1,576	1,608	1,527	1,435	1,464	1,596	1,692	6
Alabama	885	826	809	769	761	731	731	760	4
Delta States:	1,135	1,039	1,040	946	797	666	665	683	3
Mississippi	981	894	939	835	752	654	658	678	3
Arkansas	1,096	972	933	849	705	634	645	664	3
Louisiana	1,414	1,351	1,351	1,256	1,005	734	708	722	2
Southern Plains:	576	574	614	635	529	471	457	446	-2
Oklahoma	725	699	699	566	481	428	421	459	9
Texas	539	544	593	652	541	482	466	443	-5
Mountain:	325	314	319	286	247	233	227	230	1
Montana	271	259	264	222	204	167	164	167	2
Idaho	839	814	814	749	644	567	592	621	5
Wyoming	193	193	197	177	154	151	140	136	-3
Colorado	451	454	468	435	357	364	364	364	0
New Mexico	195	178	182	163	134	122	132	141	7
Arizona	302	289	295	265	231	242	214	212	-1
Utah	589	560	571	514	478	454	428	428	0
Nevada	268	249	254	229	199	211	193	199	3
Pacific:	1,346	1,357	1,361	1,225	1,107	974	951	997	5
Washington	922	933	961	923	812	723	699	727	4
Oregon	705	705	698	579	521	479	466	466	0
California	1,900	1,918	1,918	1,726	1,571	1,366	1,341	1,421	6
48 States	823	788	782	679	595	547	564	597	6
Alaska					1,902	1,437	1,322	1,071	-19

1/ Current dollars.

## TOTAL VALUE OF LAND AND BUILDINGS, UNITED STATES

Table 2--Total value of farmland and buildings, by State, 1982-89 1/

State	As of April 1				As of February 1			
	1982	1983	1984	1985	1986	1987	1988	1989
Million dollars								
Northeast:	37,922	37,061	38,805	37,414	36,937	41,548	44,448	50,384
Maine	1,074	1,104	1,170	1,301	1,509	1,645	1,854	1,984
New Hampshire	613	634	678	766	856	933	1,059	1,133
Vermont	1,385	1,431	1,517	1,627	1,888	2,057	2,125	2,273
Massachusetts	1,293	1,315	1,415	1,613	1,871	2,039	2,403	2,571
Rhode Island	205	207	214	243	282	308	449	481
Connecticut	1,279	1,328	1,351	1,540	1,675	1,785	2,162	2,313
New York	7,800	7,762	7,910	7,353	7,170	8,009	8,127	8,615
New Jersey	3,245	3,140	3,137	3,314	3,521	4,523	5,137	6,010
Pennsylvania	13,314	13,224	14,282	13,137	12,322	14,663	15,280	18,488
Delaware	1,179	1,189	1,231	1,067	1,124	1,100	1,118	1,308
Maryland	6,534	5,727	5,899	5,452	4,718	4,485	4,733	5,206
Lake States:	74,402	69,615	65,711	52,004	41,373	35,235	37,529	39,553
Michigan	14,569	13,942	13,942	11,993	10,580	9,416	9,554	9,841
Wisconsin	21,164	20,257	18,832	14,992	12,522	11,019	11,087	11,641
Minnesota	38,669	35,416	32,937	25,019	18,271	14,799	16,889	18,071
Corn Belt:	207,575	186,820	177,514	132,198	113,021	101,475	110,617	122,129
Ohio	26,064	23,914	22,813	17,791	16,012	14,702	15,461	16,389
Indiana	30,307	26,726	26,140	20,648	17,344	15,077	16,114	17,404
Illinois	58,060	52,722	51,667	37,712	32,809	29,752	31,850	35,035
Iowa	63,659	56,751	50,358	35,750	28,243	25,061	29,803	34,869
Missouri	29,484	26,707	26,536	20,297	18,613	16,882	17,389	18,432
Northern Plains:	99,193	95,741	90,120	69,174	58,173	51,438	54,955	59,698
North Dakota	18,655	17,999	17,999	14,724	12,894	11,419	11,817	12,171
South Dakota	15,530	15,486	15,021	11,125	9,568	7,905	8,258	9,001
Nebraska	34,675	33,227	29,117	20,957	17,185	15,810	17,244	19,830
Kansas	30,332	29,028	27,983	22,368	18,526	16,304	17,637	18,695
Appalachia:	57,523	57,029	57,113	52,177	50,697	48,679	49,613	52,431
Virginia	10,740	11,025	10,803	10,474	10,997	10,667	10,972	12,399
West Virginia	3,108	2,752	2,536	1,994	1,988	1,949	1,950	2,048
North Carolina	14,397	14,454	15,177	13,414	12,206	11,840	11,152	11,821
Kentucky	15,341	15,211	14,602	13,137	12,612	11,476	11,403	11,745
Tennessee	13,936	13,588	13,995	13,159	12,894	12,747	14,135	14,418
Southeast:	49,173	48,284	47,689	45,316	42,673	42,202	44,666	47,662
South Carolina	5,880	5,487	5,192	4,945	4,709	4,126	4,634	5,051
Georgia	12,964	12,727	12,291	11,678	10,929	11,003	11,241	12,253
Florida	19,886	20,488	20,898	19,851	18,660	19,033	20,750	21,995
Alabama	10,443	9,582	9,309	8,844	8,374	8,039	8,042	8,364
Delta States:	46,402	42,176	41,998	38,043	31,632	25,904	25,280	25,971
Mississippi	14,224	12,784	13,330	11,774	10,521	9,023	8,883	9,149
Arkansas	17,755	15,746	15,023	13,584	11,063	9,767	9,673	9,963
Louisiana	14,423	13,645	13,645	12,686	10,048	7,115	6,724	6,858
Southern Plains:	98,238	97,944	104,184	107,024	88,392	78,283	75,446	73,619
Oklahoma	24,288	23,417	23,067	18,678	15,876	14,130	13,893	15,143
Texas	73,951	74,528	81,117	88,346	72,515	64,153	61,554	58,476
Mountain:	81,605	78,521	79,482	70,776	60,883	56,999	55,461	56,306
Montana	16,666	15,877	16,141	13,542	12,438	10,183	9,932	10,131
Idaho	12,501	12,129	11,966	10,861	9,147	7,822	8,107	8,512
Wyoming	6,755	6,755	6,851	6,160	5,359	5,252	4,877	4,730
Colorado	15,875	15,799	16,180	14,964	12,199	12,370	12,277	12,277
New Mexico	8,970	8,188	8,315	7,335	5,961	5,425	5,922	6,337
Arizona	11,325	10,838	11,054	9,938	8,576	8,957	7,808	7,730
Utah	7,127	6,720	6,740	5,962	5,449	5,132	4,840	4,840
Nevada	2,385	2,216	2,235	2,015	1,753	1,858	1,698	1,749
Pacific:	91,271	91,576	91,329	82,068	73,852	64,704	63,033	66,094
Washington	15,121	15,208	15,472	14,860	12,996	11,566	11,178	11,625
Oregon	12,690	12,690	12,563	10,422	9,328	8,581	8,288	8,288
California	63,460	63,678	63,294	56,785	51,529	44,557	43,567	46,181
48 States	843,304	804,765	793,946	686,194	597,632	546,468	561,048	593,845

1/ Current dollars. Total value estimated by multiplying average per acre value of farmland and buildings times the acreage of land in farms for each State.



## CASH RENT PER ACRE AND RATIO OF RENT TO VALUE

Table 5--Cropland rented for cash: Average gross cash rent per acre and rent as a percent of value, selected States, 1985-89 1/

State	Rent per acre					Rent to value				
	1985	1986	1987	1988	1989	1985	1986	1987	1988	1989
	Dollars					Percent				
<b>Northeast:</b>										
Maine	28.70	27.00	31.80	36.90	36.40	4.5	5.4	4.1	5.4	3.2
Vermont	28.20	26.00	31.30	45.20	38.20	4.1	3.0	3.2	3.2	3.7
New York	34.80	30.00	32.00	31.30	37.80	5.0	5.1	4.2	3.7	3.8
New Jersey	43.20	46.00	48.00	61.10	67.40	1.1	0.9	0.5	0.6	0.3
Pennsylvania	43.00	37.20	40.00	42.70	46.50	2.5	2.7	2.5	2.4	1.9
Delaware	66.80	64.50	61.40	51.70	57.10	3.8	3.7	3.0	2.9	2.7
Maryland	63.60	54.50	50.80	50.50	55.10	2.7	3.3	2.7	2.0	1.8
<b>Lake States:</b>										
Michigan	51.10	47.70	41.90	41.70	44.20	5.5	5.8	5.9	5.9	5.9
Wisconsin	53.10	48.80	44.80	45.40	50.90	6.3	7.0	7.3	7.3	7.7
Minnesota	62.20	53.80	47.80	52.70	59.80	7.8	8.7	9.0	8.5	8.4
<b>Corn Belt:</b>										
Ohio	72.60	70.30	63.20	65.60	70.80	5.4	6.5	5.6	6.3	6.4
Indiana	95.70	85.60	77.00	77.00	83.10	7.3	7.5	7.5	7.2	7.2
Illinois	110.10	99.90	85.70	89.20	94.30	7.2	7.7	7.6	7.1	6.5
Iowa	102.60	87.60	80.30	86.30	95.80	8.4	9.3	9.8	8.6	8.2
Missouri	56.50	54.40	48.30	54.70	59.80	8.5	9.0	9.1	9.1	8.9
<b>Northern Plains:</b>										
North Dakota	31.70	29.70	28.20	28.80	29.40	7.6	8.1	8.4	8.1	8.4
South Dakota	29.40	26.40	25.50	27.10	27.30	8.3	9.2	10.0	9.5	8.8
Nebraska--										
(Nonirrigtd)	47.10	46.70	42.30	48.50	51.30	8.6	10.4	10.3	10.2	8.4
(Irrigated)	92.50	86.30	81.20	85.50	100.10	9.6	10.6	11.6	10.5	9.8
Kansas--										
(Nonirrigtd)	32.40	30.30	28.60	30.60	30.20	7.2	8.0	7.8	8.3	7.6
(Irrigated)	61.50	58.40	59.70	54.10	62.50	8.7	9.8	10.4	9.8	10.3
<b>Appalachia:</b>										
Virginia	37.60	*	37.70	36.20	37.40	3.0	*	3.2	2.9	2.2
West Virginia	25.30	25.60	31.70	29.70	35.70	4.2	4.3	4.2	4.6	3.8
North Carolina	41.40	39.50	33.70	34.00	38.70	2.0	3.5	2.8	2.6	2.8
Kentucky	50.70	53.60	53.30	52.70	62.10	5.2	6.0	6.8	6.1	6.5
Tennessee	45.80	47.40	39.90	46.60	46.80	4.8	5.8	4.8	5.3	5.9
<b>Southeast:</b>										
South Carolina	27.00	25.50	22.40	23.00	26.00	3.5	2.9	3.2	2.9	3.1
Georgia	30.30	27.80	26.20	30.70	32.80	4.3	3.2	3.9	4.2	4.0
Alabama	29.50	29.70	28.50	30.40	29.70	4.7	4.3	4.4	4.8	4.1
Florida	*	94.60	99.20	106.90	114.10	*	2.6	3.1	3.0	3.1
<b>Delta States:</b>										
Mississippi	41.00	35.00	31.20	36.30	40.60	5.2	5.1	5.0	5.8	6.3
Arkansas	51.00	48.20	44.40	50.40	52.00	6.4	6.5	6.5	7.2	6.4
Louisiana	50.40	45.10	36.50	44.60	55.00	3.2	2.7	3.6	4.8	6.0
<b>Southern Plains:</b>										
Oklahoma--										
(Nonirrigtd)	28.50	26.50	23.00	24.30	25.80	4.2	4.7	4.8	5.3	5.1
(Irrigated)	39.60	*	37.20	33.70	36.10	5.0	*	8.3	6.8	6.8
Texas--										
(Nonirrigtd)	21.30	20.20	19.90	20.50	22.60	1.9	2.2	2.3	2.5	3.1
(Irrigated)	43.60	39.60	40.60	41.10	49.50	4.6	5.1	5.4	4.8	6.1
<b>Mountain:</b>										
Montana--										
(Nonirrigtd)	20.30	22.20	21.70	20.30	23.90	2.9	8.4	10.1	7.8	8.4
(Irrigated)	61.60	55.90	41.70	42.00	54.40	3.6	6.6	6.1	5.6	8.5
Idaho--										
(Nonirrigtd)	32.50	32.40	34.10	30.80	38.70	5.7	6.0	7.6	6.7	7.0
(Irrigated)	106.60	85.40	77.80	91.20	96.00	6.8	7.7	7.9	8.5	8.1
Wyoming--										
(Nonirrigtd)	21.40	13.80	11.20	12.00	14.30	7.8	6.9	7.8	7.8	8.5
(Irrigated)	55.90	47.50	42.50	42.50	45.30	3.1	7.2	7.0	8.7	8.7
Colorado--										
(Nonirrigtd)	33.10	22.80	21.10	24.30	28.90	7.1	6.0	5.5	4.7	6.3
(Irrigated)	82.20	63.40	59.10	63.80	68.70	6.3	6.0	6.6	6.7	7.5
New Mexico--										
(Irrigated)	80.70	79.80	69.80	74.40	70.50	3.4	3.0	2.7	2.3	3.9
Arizona--										
(Irrigated)	142.80	134.30	124.10	146.40	153.40	1.4	1.1	1.3	1.4	1.5
Utah--										
(Nonirrigtd)	35.30	25.40	23.50	25.80	27.30	2.5	2.3	3.3	3.3	3.8
(Irrigated)	61.30	63.70	54.60	54.30	56.00	2.0	2.4	2.9	2.8	3.3
Nevada--										
(Irrigated)	82.90	62.80	80.00	77.40	79.30	5.5	4.6	4.9	5.0	7.0
<b>Pacific:</b>										
Washington--										
(Nonirrigtd)	61.00	42.40	42.60	42.30	50.90	5.3	4.5	5.4	5.7	6.8
(Irrigated)	*	118.30	96.60	89.70	92.50	*	7.4	7.3	5.1	6.5
Oregon--										
(Nonirrigtd)	50.30	50.70	49.70	42.20	55.70	4.1	6.6	5.7	4.4	7.2
(Irrigated)	122.40	96.00	88.10	81.50	84.00	7.6	7.6	6.2	5.8	7.9
California--										
(Irrigated)	179.40	152.50	160.20	166.80	184.20	4.1	4.0	3.3	3.9	5.0

\* = Insufficient information.

1/ Current dollars. Estimated cash rent as a percent of per acre value of rented cropland.

CROP PRODUCTION  
United States and New York  
1987-89 a/

Crop	<u>Acres Harvested</u>			<u>Yield Per Acre</u>			<u>Production</u>		
	1987	1988	1989	1987	1988	1989	1987	1988	1989
<u>United States</u>	(million)			(bu.)			(million bu.)		
Corn grain	59.2	58.2	65.1	119.4	84.6	116.6	7,064	4,921	7,590
Sorghum	10.6	9.1	10.5	69.9	63.8	59.8	741	576	629
Oats	6.9	5.6	6.8	54.0	39.2	54.3	374	219	371
Barley	10.1	7.7	8.3	52.7	38.2	48.6	530	294	405
Wheat	56.0	53.2	62.1	37.7	34.1	32.9	2,107	1,811	2,042
Soybeans	57.0	57.4	59.1	33.7	26.9	32.8	1,923	1,548	1,937
<u>New York</u>	(thousand)			(bu.)			(thousand bu.)		
Corn grain	510	485	590	109	85	90	55,590	41,200	53,100
Oats	200	145	155	60	52	59	12,000	7,540	9,145
Wheat	80	90	130	47	55	45	3,760	4,950	5,850
				(tons)			(thousand tons)		
Corn silage	480	500	NA	15	13	NA	7,200	6,500	NA
All hay	2,230	2,160	2,100	2.36	2.29	2.44	5,269	4,940	5,114
Alfalfa <u>b/</u>	930	970	880	2.80	2.70	2.90	2,604	2,619	2,552

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

a/ All 1989 data are preliminary and subject to revision. Estimates for the United States are as of November 1, 1989. New York estimates are as of October 1989 except for corn which is November 1989.

b/ Includes alfalfa mixtures.

Grain production in the United States in 1989 is projected to be substantially above the drought affected year earlier levels. Corn for grain production of 7.6 billion bushels is 54 percent above the 1988 crop and the largest crop since 1986. Sorghum production is 4 percent below the 1988 level.

Oat production is up 69 percent from the 1988 level. Barley production is up 38 percent from last year. Total feed grain production is up 49 percent from the 1988 level.

The soybean crop is up 25 percent from 1988. Wheat production of 1.9 billion bushels is up 13 percent from 1988.

The New York corn for grain crop is forecast at 53 million bushels, up 29 percent from 1988. New York corn yield is expected to be 90 bushels per acre, up from 85 in 1988. Wheat production is up 18 percent from 1988. Oat production is estimated to be up 21 percent from 1988. Hay production is up 4 percent from the 1988 level. However, hay quality in general is below that of 1988.

GRAIN AND FEED

## CORN AND FEED GRAIN BALANCE SHEETS

Item	1986/87	1987/88	1988/89 (Prelim.)	1989/90 (Proj.)
<u>Supply</u>				
----- CORN (million bushels) -----				
Beginning Stocks (Sept. 1)	4,040	4,882	4,259	1,930
Production	8,250	7,072	4,921	7,590
Imports	2	4	5	3
Total	12,291	11,958	9,185	9,523
<u>Disappearance</u>				
Feed and residual	4,714	4,738	3,950	4,200
Food, Ind. and Seed	1,192	1,229	1,245	1,275
Total domestic	5,906	5,967	5,195	5,475
Exports	1,504	1,732	2,060	2,150
Total	7,410	7,699	7,255	7,625
<u>Ending Stocks</u> (Aug. 30)	4,882	4,259	1,930	1,898
Season average farm price	\$1.50	\$1.94	\$2.54	\$2.00-2.40
-----				
<u>Supply</u>				
- FEED GRAINS a/ (million metric tons) -				
Beginning Stocks	126.3	152.1	133.6	65.9
Production	252.3	215.4	149.2	223.0
Imports	0.7	1.1	1.4	1.2
Total	379.4	368.6	284.3	290.0
<u>Disappearance</u>				
Feed and residual	145.5	145.5	118.8	127.9
Food, Ind. and Seed	35.5	36.8	37.6	38.3
Total domestic	181.0	182.3	156.3	166.2
Exports	46.3	52.6	62.1	62.8
Total	227.2	234.9	218.4	229.0
<u>Ending Stocks</u>	152.1	133.6	65.9	61.0

Source: Agricultural Supply and Demand Estimates, USDA, November 9, 1989.

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

The fall 1989 corn supply of 9.5 billion bushels is up 4 percent from 1988 but much smaller than the levels of 1985-87. Feed use is projected to increase 6 percent but be well below the 1985-88 levels. Exports are projected to increase 4 percent from 1988 levels. Total utilization is expected to be 5 percent above the 1988/89 level. Projected carryover in the fall of 1990 of 1.9 billion bushels is slightly below the fall 1989 carryover but well above the fall 1984 carryover of about 700 million bushels after the PIK-drought year of 1983.

Feedgrain supplies are dominated by corn, so changes in supply and demand are similar. The total supply of feedgrains is 2 percent above last year. Domestic feed use in the 1989-90 marketing year is projected to increase 8 percent. Exports are projected to increase slightly. Carryover stocks at the end of the 1989-90 marketing year are projected to be 61 million metric tons, 7 percent below the 1989 level.

## WHEAT AND SOYBEAN BALANCE SHEETS

Item	1986/87	1987/88	1988/89 (Prelim.)	1989/90 (Proj.)
<u>Supply</u>				
----- WHEAT (million bushels) -----				
Beginning Stocks (June 1)	1,905	1,821	1,261	698
Production	2,092	2,107	1,811	2,042
Imports	21	17	23	20
Total	4,018	3,945	3,095	2,760
<u>Disappearance</u>				
Food	696	726	727	735
Seed	84	85	103	107
Feed and residual	413	281	143	200
Total domestic	1,193	1,092	973	1,042
Exports	1,004	1,592	1,424	1,275
Total	2,197	2,684	2,397	2,317
<u>Ending Stocks</u> (May 31)	1,821	1,261	698	443
Season average farm price	\$2.42	\$2.57	\$3.72	\$3.85-4.00
-----				
<u>Supply</u>				
----- SOYBEANS (million bushels) -----				
Beginning Stocks (Sept. 1)	536	436	302	182
Production	1,940	1,923	1,548	1,937
Total	2,476	2,359	1,850	2,119
<u>Disappearance</u>				
Crushings	1,179	1,174	1,058	1,115
Exports	757	802	530	575
Seed, Feed	57	56	59	59
Residual	47	25	21	35
Total	2,040	2,057	1,668	1,784
<u>Ending Stocks</u> (Aug. 30)	436	302	182	335
Season average farm price	\$4.78	\$5.88	\$7.35	\$5.00-6.00

Source: Agricultural Supply and Demand Estimates, USDA, November 9, 1989.

The 1989 United States wheat supply of 2.8 billion bushels is 11 percent below the 1988 level which was 22 percent below the 1987 level. Domestic food use and feed use are each projected to increase slightly. Exports are projected to decrease 10 percent. Carryover on May 31, 1990 is projected to be 443 million bushels, down 37 percent from the 1989 level. If realized, this will be the smallest wheat carryover since 1975.

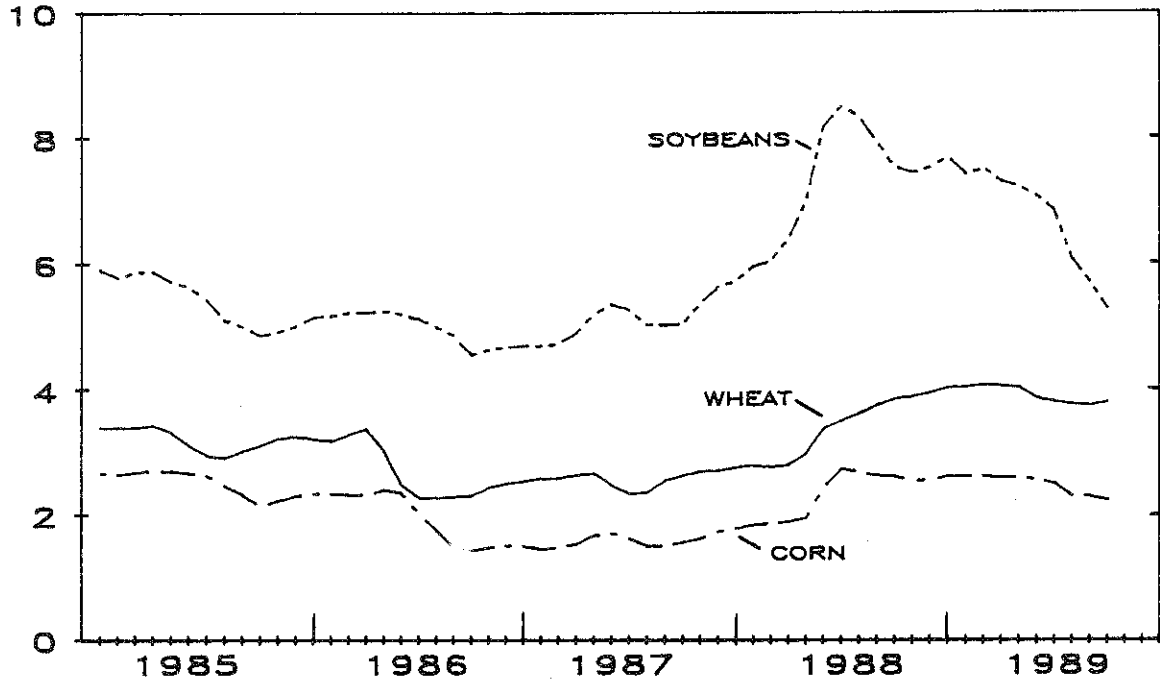
The total soybean supply is 2.1 billion bushels, up 15 percent from 1988, but below the levels of the mid-1980's. Crushings are projected to be up 5 percent and exports to increase 8 percent from year earlier levels. Carryover in the fall of 1990 is projected to be about 335 million bushels, 84 percent above the 1989 carryover.

GRAIN AND FEED

## PRICES RECEIVED FOR CORN, WHEAT AND SOYBEANS

## PRICES RECEIVED BY FARMERS, US

DOLLARS PER BU



Source: USDA Agricultural Prices

Soybean prices, after reaching a peak in mid-1988 declined during most of 1989. The October 1989 average price received by U.S. farmers was \$5.28, \$2.25 per bushel below the level of October 1988.

Wheat prices increased quite steadily from the summer of 1988 to early 1989 and then declined. The October 1989 price received by U.S. farmers was \$3.79 or \$0.05 below the year earlier price. The N.Y. price of \$3.50 was \$0.05 below the October 1988 level.

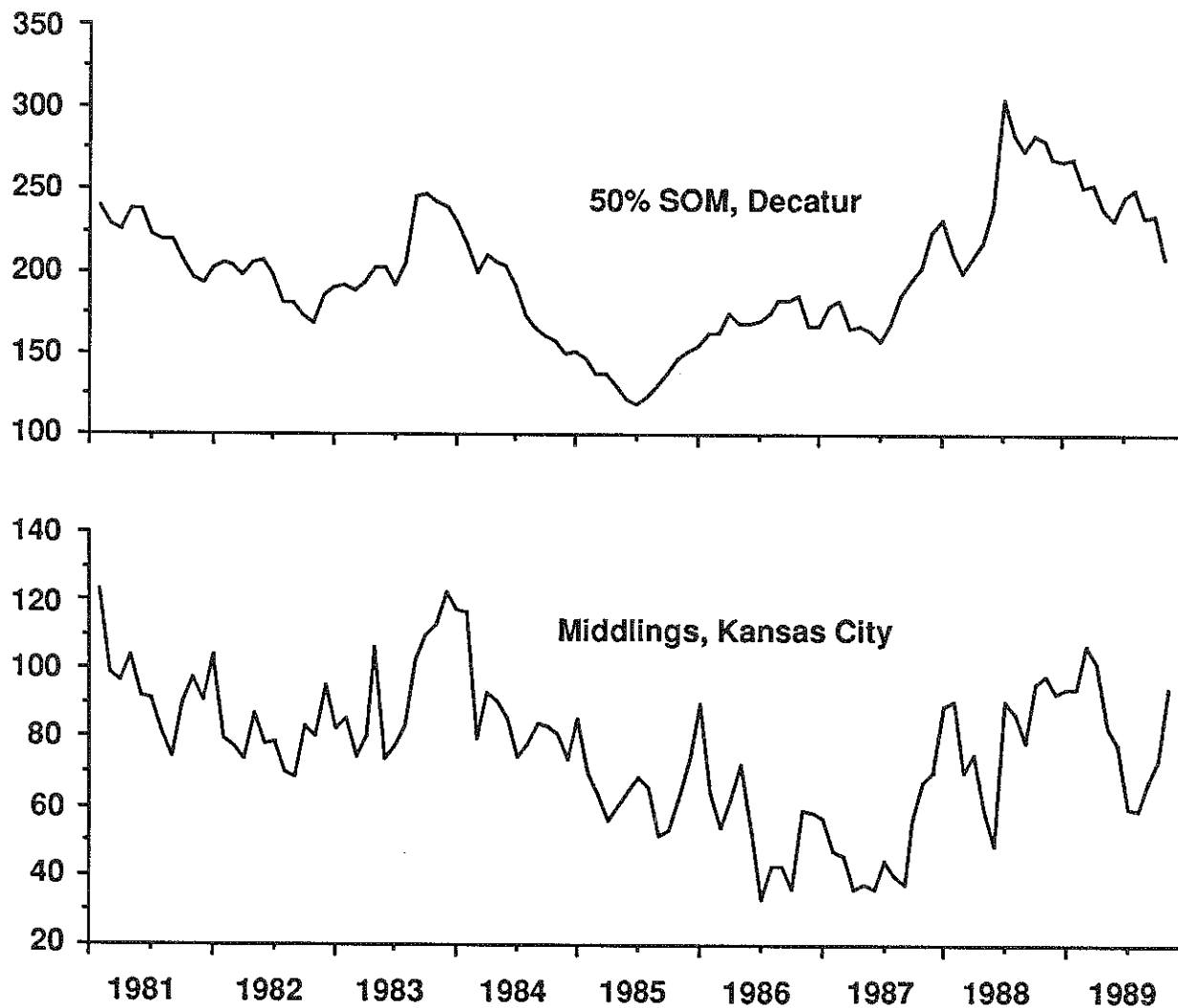
Corn prices were rather steady from mid-1988 to mid-1989 but then declined somewhat. The U.S. average price received by farmers in October 1989 was \$2.20, \$0.38 below the year earlier level. The N.Y. price in October was \$2.73 per bushel, \$0.07 below the level of a year earlier.

The mid-November USDA projection of the season average price received by U.S. farmers for the 1989 corn crop was \$2.00 to \$2.40 per bushel. The mid-point is \$0.34 below the season average price for the 1988 crop.

USDA's projection for the season average price of 1989 crop soybeans is \$5.00 to \$6.00, with a mid-point \$1.85 below the average price for the 1988 crop.

The projected season average 1989 crop price for U.S. wheat is \$3.85 to \$4.00. The mid-point is \$0.20 above the average price received by farmers for the 1988 crop.

## MONTHLY PRICES OF SOYBEAN MEAL AND MIDLINGS 1981 TO DATE



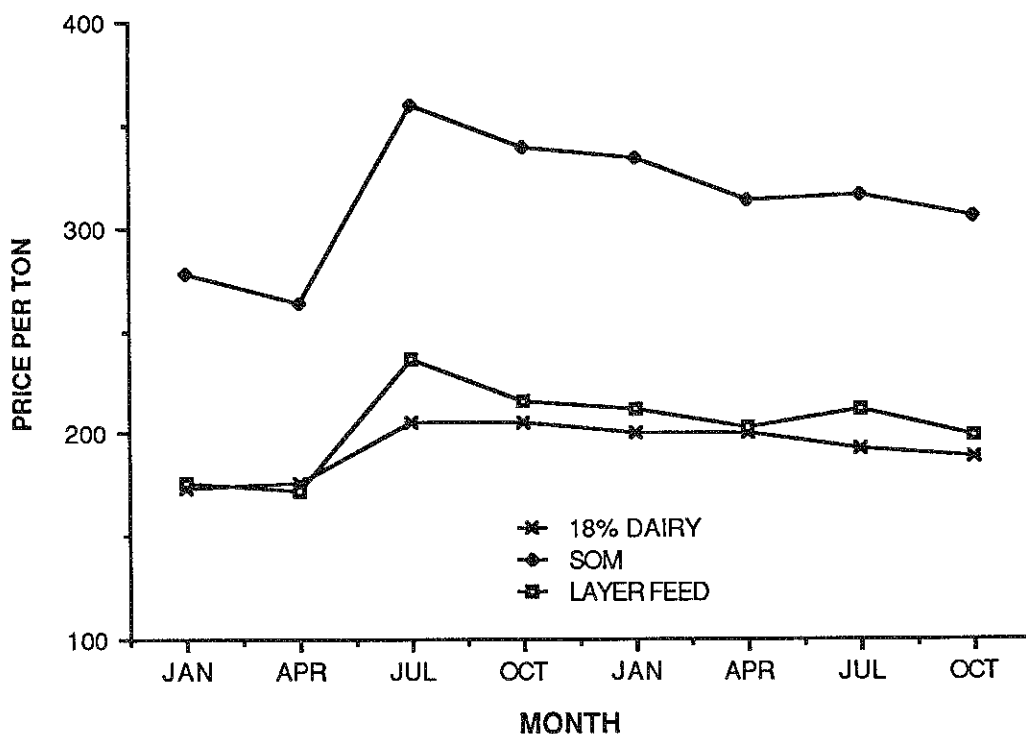
Source: USDA Feed Situation and Feedstuffs

Prices of soybean oil meal (50%, Decatur) generally declined from a high of over \$300 in June 1988 to around the \$200 level in October 1989. October 1989 prices were about \$70 below year earlier levels. Prices are likely to rise seasonally but supplies are large enough so large price increases before spring are unlikely.

Prices of 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 in the fall of 1989 are below year earlier levels but much higher than during the summer of 1989.

GRAIN AND FEED

**PRICES OF 18% DAIRY, 44% SOM, AND LAYER FEED,  
1988 & 1989, NORTHEAST**



Source: USDA Agricultural Prices and New York Crop Reporting Service

Feed prices generally declined from mid-1988 to the fall of 1989. In October 1989, prices for 18% dairy were about \$15 per ton below the prices of a year earlier. Layer feed prices were \$15-20 per ton below the levels of a year earlier. In October 1989, the price of soybean meal (44%) was about \$35 per ton below the year earlier level.

Month	1989			1990		
	18% Dairy	44% SOM	Layer feed	18% Dairy	44% SOM	Layer feed
Jan	201	334	212	_____	_____	_____
Apr	201	314	203	_____	_____	_____
July	193	316	212	_____	_____	_____
Oct	189	306	199	_____	_____	_____

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 1990 are likely to average a few dollars per ton below the levels of the first half of 1989. Soybean meal prices in the first half of 1990 are likely to be \$10-20 per ton below year earlier levels.

## 1990 DAIRY OUTLOOK

Overview

## POSITIVE FACTORS

- Continued Tight Northeast Milk Supply
- Milk Prices Well Above Year Earlier Levels in First Quarter of 1990
- Premiums Continue
- Feed Costs Significantly Lower
- Export Opportunities for Some Dairy Products, Especially Nonfat Dry Milk, Help Hold Market Prices for Milk Above Support

## NEGATIVE FACTORS

- A Net Increase in Prices Dairy Farmers Pay for Production Inputs
- Premium Levels Taper Off And May Be Lower and Less Equally Distributed
- Milk Prices Below Year Earlier Levels in the Second Half of 1990
- Farm Labor Supply Continues to Be a Problem

## UNCERTAINTIES

- Recovery of RCMA and Ability of RCMA to Stabilize Premiums
- Feed and Forage Supplies and Quality in the New Crop Year
- Effect on National Prices of Growth in U.S. Milk Supply
- Strength of U.S. Economy
- Rate of Growth in Commercial Disappearance
- End of Year Changes in Dairy Policies Affecting 1991 and Beyond

NEW YORK DAIRY SITUATION AND OUTLOOK  
1987, 1988, Preliminary 1989, and Projected 1990

Item	Year				Percent Change	
	1987	1988	1989	1990	88-89	89-90
Number of milk cows (thousand head)	858	822	804	800	-2.2	-0.5
Milk per cow (lbs.)	13,331	13,900	14,000	14300	+0.7	+2.1
Total milk production (million lbs.)	11,438	11,426	11,256	11,440	-1.5	+1.6
Blended milk price (\$/cwt.) <sup>a</sup>	12.18	11.87	13.04	12.90	+9.9	-1.1
Index of prices paid by dairy farmers	149	161	168	169	+4.3	+0.6

<sup>a</sup>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 \$11.99 for 1987 and \$11.84 for 1988.



Table 1  
U.S. Milk Supply and Utilization  
1982-1990

	1982	1983	1984	1985	1986	1987a	1988a	1989c	1990d
<u>Supply</u>									
Cow Numbers (thous.)	11011	11098	10833	11016	10813	10329	10239	10120	10148
Production/Cow (lbs.)	12306	12585	12506	12994	13260	13802	14213	14358	14580
	(billion pounds)								
Production	135.5	139.7	135.4	143.1	143.4	142.6	145.5	145.3	148.0
Farm Use	2.4	2.4	2.9	2.4	2.4	2.3	2.2	2.2	2.2
Marketings	133.1	137.3	132.5	140.7	141.0	140.3	143.3	143.1	145.8
Beginning Commercial Stocks	5.4	4.6	5.2	4.9	4.6	4.2	4.6	4.3	4.2
Imports	2.5	2.6	2.7	2.8	2.7	2.5	2.4	2.4	2.3
<b>TOTAL SUPPLY</b>	<b>141.0</b>	<b>144.5</b>	<b>140.5</b>	<b>148.4</b>	<b>148.3</b>	<b>146.9</b>	<b>150.3</b>	<b>149.8</b>	<b>152.3</b>
<u>Utilization</u>									
Commercial Disappearance	122.1	122.5	126.9	130.6	133.5	135.6	137.1	136.9	139.0
Ending Commercial Stocks	4.6	5.2	4.9	4.6	4.2	4.6	4.3	4.2	4.3
Net Government Removals	14.3	16.8	8.6	13.2	10.6	6.7	8.9	8.7	9.0
<b>TOTAL USE</b>	<b>141.0</b>	<b>144.5</b>	<b>140.5</b>	<b>148.4</b>	<b>148.3</b>	<b>146.9</b>	<b>150.3</b>	<b>149.8</b>	<b>152.3</b>

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

a Revised.  
 b Preliminary.  
 c Based on preliminary USDA data and Cornell estimates.  
 d Projected by Andrew Novakovic.

The U.S. Dairy Situation and Outlook

Milk Supplies

As in the saying, milk production in 1989 began with a bang and ended with a whimper. Cow numbers were consistently down about 1.2% to 1.3% each month, but production per cow, and consequently total production, began strong and slowed substantially in succeeding months. We estimate that the average number of cows will decline by about 120,000 cows in 1989. Milk production per cow in 1989 began with a substantial year to year increase, but by July, production per cow fell below 1988 levels. For the year, it is estimated that production per cow will still increase by an average of 145 pounds per cow, or 1% higher. When this is adjusted for the fact that 1988 was a leap year, the gain becomes about 1.3% on a daily average basis. This is about half the normal annual gain. Milk production for the year is estimated to be about 0.2% less than 1988, as shown in Table 1. If one adjusts for the fact that 1988 was a leap year, the estimated decrease becomes a 0.1% increase on a daily average basis.<sup>1</sup>

All of the major milk producing states followed the national monthly pattern, except California and Washington. Washington's 2.8% increase for the first nine months of 1989 reflects a nearly constant year to year gain in every month. For the same period, California milk production dipped in the second quarter, recovered in the third quarter, and totaled an increase of about 4.5%. Gains in milk production in Texas have slowed throughout the year, but Texas production was still well above year earlier levels late in 1989, and with a total gain of 7%, it has increased faster than any of the major milk producing states. In fact, Texas may well overtake Michigan as the sixth ranked milk producing state this year.

Milk production in New York, Pennsylvania, and New England is down .9%, .8%, and 1.6% through September 1989. Showing trends just a little lower than the U.S. average, New York and New England have drifted down relatively slowly from the beginning of the year. Pennsylvania started the year with gains more than twice the U.S. average and in the third quarter it was declining faster than it had been gaining during the first quarter.

Milk production is down in Wisconsin (-3.0%), Minnesota (-2.3%), Michigan (-1.1%), Ohio (-.9%), and Illinois (-2.2%). It is up in Iowa (3.7%) and Missouri (1.9%). Although the latter two stand out simply because they are counter to the national trend, the most noteworthy among these states is Wisconsin. The sharp drop in 1989 stands in marked contrast to the earlier pattern of modest but steady milk production gains in Wisconsin.

For 1990, a recovery in milk production is expected by everyone, but there is disagreement about when it will start and how big it will be. We are projecting a fairly strong recovery of about 1.9%, with some increase in cow numbers as well as gains in production per cow.

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<sup>1</sup> Throughout this discussion, whenever 1989 quantities are compared to 1988 figures on a percentage basis, the percentage is calculated on a daily average basis. This is done because 1988 was a leap year; hence total quantities for February, first quarter, and even annual 1988 are slightly biased because of the extra day. Actual quantities are always reported as unadjusted data.

### Milk Utilization

Through August, USDA reports that commercial disappearance of all milk in 1989 is 0.8% below year earlier levels. As shown in Table 1, our estimate of 136.9 billion pounds for all of 1989 would place commercial disappearance just below 1988, although it would be ahead on a daily average basis.

Commercial disappearance of butter is off almost 13% through August; ice cream is down 3.6%; and cottage cheese is down 6.7%. Cheeses are up over 6% through August. Ice milk, probably masquerading as "light" ice cream, is up 4%. Fluid milk products have been doing quite well this year and are up over 1% through August. The startling story of 1989 is the huge increase in commercial use of nonfat dry milk, up almost 40% through August.

Total disappearance is calculated on a milkfat basis, i.e. the milk equivalent is determined by the amount of milk necessary to yield the milkfat contained in the various individual dairy products. The change in total disappearance is very much affected by the decline in sales of butter and other dairy products which are generally higher in fat. At the other extreme, nonfat dry milk sales have no impact whatsoever on estimates of total disappearance. Recognizing the switch that seems to be taking place from higher fat to reduced fat and no fat dairy products, the traditional measure of dairy product sales is probably conveying a much more gloomy picture of sales than is warranted.

For 1990, we project a recovery in commercial disappearance of about 1.5%.

### Price Support Program

Net removals of dairy products under the dairy price support program (DPSP) are estimated to be slightly below the 1988 level, ending the year at about 8.7 billion pounds (m.e.). This represents about 6% of the milk produced in the U.S. Or does it? For the same reason that the conventional measure of disappearance understates commercial sales, the milk equivalent measure of net removals overstates what has been sold to the government under the DPSP.

Since the end of July 1988, there have been no DPSP sales to USDA of nonfat dry milk, and sales of cheese have been minor. Sales of butter could well exceed the record of 413 million pounds established in 1983. The amounts of cheese and nonfat dry milk are far below what was sold under the DPSP in other years when milk equivalent sales were as high as they are now.

For 1990, our projection of a somewhat larger increase in production than consumption results in a slight increase in milk equivalent net removals. Butter will still dominate sales to the government, but sales of cheese and nonfat dry milk could be somewhat higher too.

Provisions of the Disaster Assistance Act of 1988 eliminated a 50 ¢/cwt cut in the support price on 1 January 1989 and increased the support price of \$10.60 by 50¢ from April through June, 1989. On July 1 it returned to \$10.60. Price support legislation was slightly modified in November as part of a broad budget cutting package. The net effect will likely not be much different from what would have occurred anyway. The support price will probably be reduced 50¢ on 1 January 1990. In addition, a small assessment is required, which may be taken as a one time 7¢/cwt deduction on January milk production.

### Milk Prices

As shown in Table 2, farm milk prices in 1989 are estimated to average \$1.16 per cwt higher than 1988. The benchmark M-W price (at 3.5% milkfat) bottomed out at about \$11.00 in March and April then rose rapidly to a record shattering peak in excess of \$14.00 by the end of the year. This pattern is reflected in milk prices throughout the U.S.

For 1990, exceptionally strong prices early in 1990 should hold the annual average farm price near the 1989 average. Forecasts range from a higher price in 1990 to much lower prices, depending on whether it is thought that production gains or strong demand will dominate. In either case, farm prices are expected to be determined more by market forces than by price supports.

Wholesale prices for butter for the most part followed the 5¢ to 6¢ decline in the average purchase price set by USDA. Wholesale prices for nonfat dry milk were exceptionally strong this year. Earlier in the year nonfat dry milk prices were buoyed by export market sales. Later in the year, nonfat dry milk prices reached unheard of levels largely due to extremely strong competition among domestic buyers who were struggling to find replacements for the shortfall of milk in their areas. For the year, the benchmark wholesale price of nonfat dry milk is estimated to be about \$1.07 per pound, a third higher than the 1988 average. Wholesale prices of cheddar cheese rose largely to keep pace with the nonfat dry milk sector, although good growth in cheese sales certainly contributed to the overall price strength. For the year, the benchmark wholesale price for cheddar cheese is estimated to be \$1.35 per pound, 12% higher than 1988 and 20¢ higher than the federal purchase price.

In past years, declines in farm milk prices have been reflected in lower wholesale prices for dairy products and retail prices that increased at less than half the rate of inflation for all consumer products. The nearly 10% increase in farm prices has pushed retail prices to higher levels toward the end of 1989. All dairy product prices are estimated to average about a 6% increase over 1988. Whole milk prices may be up as much as 8% and cheese prices slightly more. Food price inflation should be about 5%, and the expected increase in the general Consumer Price Index is about 6%. Analysts will be watching dairy product markets, especially cheese, to see if the price increases that showed up in late 1989 affect sales gains in 1990.

### The 1990 Policy Outlook

Dairy policy for 1990 is probably set for the year, as described earlier. With a new farm bill due towards fall, the big question in 1990 is what kind of dairy programs will be set up for the first half of the next decade.

The possibilities for the basic support program range from an extension of current provisions for triggered price changes to new supply control measures that would be a more permanent part of the DPSP, as opposed to the one shot approaches of the Milk Diversion and Dairy Termination Programs.

Changes in federal milk marketing order pricing policy is of keen interest in the Upper Midwest but of much less interest elsewhere. Hence, it is possible that not much will be done to federal orders in the next farm bill.

Table 2  
Farm Prices for Milk;  
CCC Purchase, Wholesale, and Retail Prices for Cheddar Cheese, Butter, and Nonfat Dry Milk;  
and Selected Retail Price Indices  
1982-1989

	1982	1983	1984	1985	1986	1987 <sup>a</sup>	1988 <sup>a</sup>	1989 <sup>b</sup>
Farm Milk (\$/cwt., ave. fat):								
All Milk	13.61	13.58	13.46	12.75	12.51	12.54	12.24	13.40
Grade A	13.80	13.75	13.61	12.90	12.62	12.66	12.34	13.50
Grade B	12.60	12.61	12.49	11.72	11.46	11.37	11.15	12.35
Milk Price:Concentrate Value	1.83	1.72	1.65	1.73	1.79	1.84	1.58	1.58
Assessment	.00	.48	.50	.125	.365	.188	.025	.00
Cheese (\$/lb.):								
CCC Purchase, Natural Cheddar, Grade A or higher, blocks	1.400	1.391	1.348	1.279	1.250	1.219	1.1525	1.166
Wholesale, Cheddar (40 pound blocks), National Cheese Exchange Retail, Cheddar Cheese (1 lb.)	1.358 N.A.	1.352 N.A.	1.341 3.065	1.248 3.093	1.260 3.049	1.213 3.056	1.210 3.165	1.350 3.300
Butter (\$/lb.):								
CCC Purchase, Grade A or higher, Chicago	1.490	1.485	1.433	1.415	1.398	1.373	1.320	1.262
Wholesale, Grade A, Chicago (1 lb.) Retail, Grade AA, sticks (1 lb.)	1.477 2.046	1.473 2.066	1.488 2.107	1.411 2.121	1.445 2.151	1.402 2.170	1.325 2.158	1.276 2.140
Nonfat Dry Milk (\$/lb.):								
CCC Purchase, Spray Process, Extra Grade, Unfortified Wholesale (1 lb.)	.940 .931	.937 .932	.910 .909	.843 .841	.808 .806	.783 .793	.728 .802	.774 1.070
Retail Price Indices (1982-84=100.0):								
Whole Milk <sup>a</sup>	99.3	100.0	100.7	102.3	101.7	103.6	106.0	114.5
All Dairy Products	98.8	100.0	101.3	103.2	103.3	105.9	108.3	114.7
All Food	97.4	99.4	103.2	105.6	109.0	113.5	118.2	125.1
All Consumer Prices	96.5	99.6	103.9	107.6	109.6	113.6	118.3	124.2

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

<sup>a</sup> Revised.  
<sup>b</sup> Estimated by Andrew Novakovic from federal data for part of the year.

Number of Producers Delivering Milk, Simple Average of Months per Year  
Northeast Federal and State Marketing Orders  
1983-1989

Markets	1983	1984	1985	1986	1987	1988 <sup>a</sup>	1989 <sup>b</sup>
New York-New Jersey	17434	17120	16521	15876	14731	13954	13574
New England	6812	6669	6350	5891	5412	5182	4929
Middle Atlantic	7033	6891	6712	6586	6406	6196	5728
E. Ohio-W. Pennsylvania	6322	6235	6103	5885	5605	5478	5190
Western N.Y. Order (Buffalo & Rochester)	1286	1258	1211	1161	1088	997	926
Regional Total	38887	37922	36902	35353	33242	31807	30347

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

<sup>a</sup>Revised.

<sup>b</sup>Projected.

Producer numbers in Federal and State Order markets declined by 1460, or 4.6 percent in 1989 following a 4.3 percent drop in 1988.

Higher production costs, wet weather and increasing urban pressures in some parts of the Northeast contributed to the continued high attrition rate.

During the period from 1983 to 1989 producer numbers in the Northeast Orders have declined by 8540 or 22 percent. An average annual decline of 1423 or 3.6 percent.

A further decline of 3 to 4 percent in producer numbers is expected in these markets in 1990.

Receipts of Milk from Producers by Regulated Handlers, Million Pounds  
Northeast Federal and State Marketing Orders  
1983-1989

Markets	1983	1984	1985	1986	1987	1988 <sup>a</sup>	1989 <sup>b</sup>
	(million pounds)						
New York-New Jersey	11643	11358	11689	11729	11339	11222	11091
New England	5483	5252	5399	5341	5173	5118	4989
Middle Atlantic	6140	5850	6239	6412	6281	6199	5914
E. Ohio-W. Pennsylvania	3750	3669	3866	3884	3842	3920	3698
Western N.Y. Order (Buffalo & Rochester)	1172	1158	1212	1237	1203	1283	1205
Regional Total	28188	27287	28406	28603	27838	27742	26897

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

<sup>a</sup>Revised.

<sup>b</sup>Projected.

Total receipts of milk from Northeast milk producers declined for the third consecutive year. Producer receipts for the four Federal and one State Order market were down 3 percent or 845 million pounds.

The sharpest declines of 4.5 to 6.0 percent occurred in the Western New York, Middle Atlantic and E. Ohio-W. Pennsylvania Orders. The declines were generally attributed to mid-year drops in milk production caused by poor quality forage.

Receipts in the E. Ohio-W. Pennsylvania Federal Order were further reduced by the loss of two sizable distributing plants to an adjoining order outside of the Northeast. Lower receipts in Western New York were partially due to some shifting of milk into the New York-New Jersey Order.

In 1990, the E. Ohio-W. Pennsylvania and Western New York State markets are expected to experience further declines of 3 to 4 percent in producer receipts. The New York-New Jersey, New England and Middle Atlantic Orders are expected to show a modest recovery with receipts increasing by approximately 1 percent.

Producer Milk Used in Class I by Regulated Handlers, Million Pounds  
Northeast Federal and State Marketing Orders  
1983-1989

Markets	1983	1984	1985	1986	1987	1988 <sup>a</sup>	1988 <sup>b</sup>
	(million pounds)						
New York-New Jersey	4457	4534	4662	4665	4606	4607	4584
New England	2788	2786	2793	2814	2813	2815	2804
Middle Atlantic	2884	2895	2869	2986	3152	3084	3101
E. Ohio-W. Pennsylvania	1954	2019	2033	1985	2023	2052	2033
Western N.Y. Order (Buffalo & Rochester)	441	437	443	437	427	495	510
Regional Total	12524	12672	12800	12887	13021	13053	13042

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

<sup>a</sup>Revised.

<sup>b</sup>Projected.

In 1989 fluid milk sales in the Northeast Order market were stable for the second consecutive year, declining by an insignificant 11 million pounds following a 17 million pound increase in 1988.

Fluid sales were fractionally lower in three out of four Northeast Federal Orders. Only the Western New York State Order registered a significant increase of 3 percent in year-to-year fluid sales which resulted mainly from the expansion of the marketing area in July 1988.

Sharply declining sales of whole milk have been offset by growing consumer demand for lowfat milk thus providing overall stability to the fluid milk market.

Fluid milk sales for the Northeast are expected to continue relatively unchanged in 1990, although higher retail prices could result in some softness early in the year.



Producer Milk Used in Class I as Percentage of All Producer Milk Received  
 by Regulated Handlers  
 Northeast Federal and State Marketing Orders  
 1983-1989

Markets	1983	1984	1985	1986	1987	1988 <sup>a</sup>	1989 <sup>b</sup>
	(percent)						
New York-New Jersey	38	40	40	40	41	41	41
New England	51	53	52	53	54	55	56
Middle Atlantic	47	50	46	47	50	50	52
E. Ohio-W. Pennsylvania	52	55	53	51	53	52	55
Western N.Y. Order (Buffalo & Rochester)	38	38	37	35	36	39	42

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

<sup>a</sup>Revised.

<sup>b</sup>Projected.

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

In 1989 fluid utilization was generally higher in the Northeast Order markets as fluid sales remained stable and total milk receipts declined.

Class I utilization is expected to remain relatively stable in most Northeast markets in 1990.

Minimum Class I Prices for 3.5% Milk  
Northeast Federal and State Marketing Orders  
1983-1989

Markets	1983	1984	1985	1986	1987	1988	1989 <sup>a</sup>
	(\$/cwt)						
New York-New Jersey <sup>1</sup>	14.78	14.49	13.97	13.63	13.89	13.41	14.49
New England <sup>2</sup>	14.82	14.52	14.00	13.62	13.86	13.38	14.46
Middle Atlantic <sup>3</sup>	15.32	15.02	14.50	14.13	14.37	13.89	14.97
E. Ohio-W. Pennsylvania <sup>3</sup>	14.49	14.19	13.67	13.20	13.34	12.86	13.94
Western N.Y. Order <sup>3</sup> (Buffalo & Rochester)	15.25	14.95	14.43	14.09	14.35	13.45	14.24

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

<sup>a</sup>Projected.

<sup>1</sup>201-210 mile zone.

<sup>2</sup>21st zone.

<sup>3</sup>Priced at major city in the marketing area.

Class I fluid milk prices in the four Northeast Federal Order markets increased \$1.08 per hundredweight in 1989 or approximately 8 percent. In the Western New York State Order the Class I price increase was 29 cents lower, due to changes in the Class I differential for that order which became effective with the order expansion in July 1988.

The minimum order prices for Class I fluid milk increased sharply during the second half of the year as the Minnesota-Wisconsin price achieved record levels.

In 1990, the Northeast fluid milk prices are expected to continue high during the first quarter of the year reflecting the high Minnesota-Wisconsin prices at the end of 1989, but will decline seasonally during the second quarter. For the year Class I prices are expected to average 4 to 5 percent above 1989.

Minimum Class II Prices for 3.5% Milk  
Northeast Federal and State Marketing Orders  
1983-1989

Markets	1983	1984	1985	1986	1987	1988	1989 <sup>a</sup>
	(\$/cwt)						
New York-New Jersey <sup>1</sup>	12.50	12.29	11.48	11.30	11.23	11.03	12.26
New England <sup>2</sup>	12.50	12.29	11.48	11.30	11.23	11.03	12.28
Middle Atlantic <sup>3</sup>	12.52	12.31	11.50	11.32	11.25	11.05	12.30
E. Ohio-W. Pennsylvania <sup>4</sup>	12.49	12.29	11.48	11.30	11.23	11.03	12.30
Western N.Y. Order <sup>3</sup> (Buffalo & Rochester)	12.45	12.24	11.43	11.25	11.18	10.98	12.21

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

<sup>a</sup>Projected.

<sup>1</sup>201-210 mile zone.

<sup>2</sup>21st zone.

<sup>3</sup>Priced at major city in the marketing area.

<sup>4</sup>Class III.

Class II manufacturing milk prices increased 11.0 percent in 1989 following a 2.5 percent decline in 1988. The Class II manufacturing milk price was approximately \$1.25 above previous year levels in the Northeast Order markets.

In 1990, the Class II manufacturing milk price is expected to decline by between 30 and 40 cents from 1989 levels, with substantial weakness developing in the second quarter and last half of the year.

Minimum Blend Prices for 3.5% Milk  
Northeast Federal and State Marketing Orders  
1983-1989

Markets	1983	1984	1985	1986	1987	1988	1989 <sup>a</sup>
	(\$/cwt)						
New York-New Jersey <sup>1</sup>	13.23	13.03	12.32	12.09	12.18	11.83	13.04
New England <sup>2</sup>	13.59	13.38	12.67	12.43	12.56	12.20	13.40
Middle Atlantic <sup>3</sup>	13.85	13.67	12.90	12.66	12.84	12.44	13.70
E. Ohio-W. Pennsylvania <sup>3</sup>	13.46	13.35	12.69	12.32	12.37	11.97	13.22
Western N.Y. Order <sup>3</sup> (Buffalo & Rochester)	13.36	13.18	12.47	12.25	12.22	11.94	13.05

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

<sup>a</sup>Projected.

<sup>1</sup>201-210 mile zone.

<sup>2</sup>21st zone.

<sup>3</sup>Priced at major city in the marketing area.

Northeast Order blend prices increased nearly 10 percent in 1989, following a 3 percent decline in 1988.

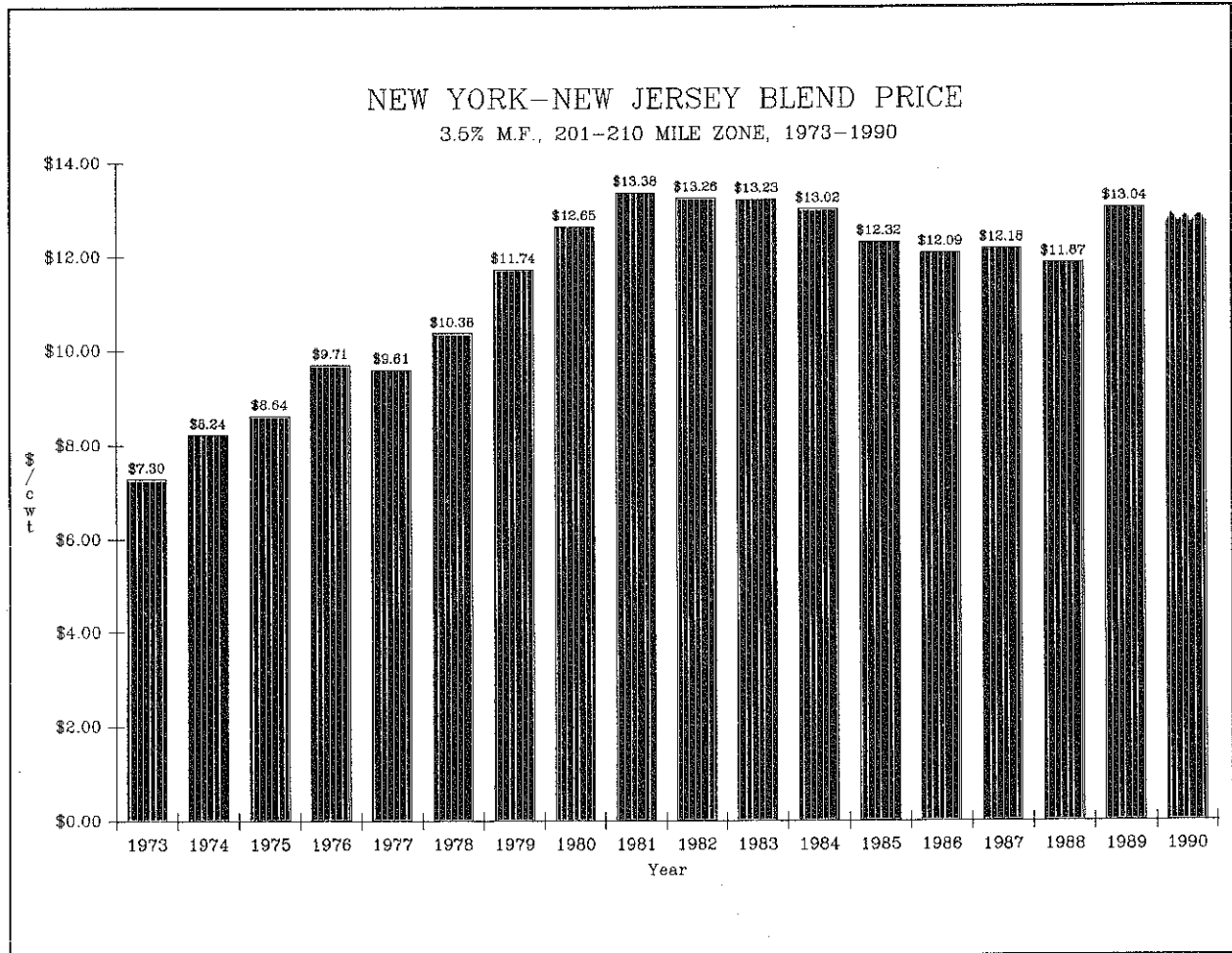
The blend price in the four Federal Order markets generally increased about \$1.20 per hundredweight, but the Western New York Order blend price was 10 cents lower due to changes in the pricing formula in 1988.

Tight milk supplies during the last half of the year and unexpectedly strong export demand for non-fat dry milk boosted the basic formula price (M-W) to record high levels causing order blend prices to also soar to new highs.

There is much uncertainty over milk prices in the coming year. Blend prices are expected to drop seasonally, but the big question is how far and how fast? We will be operating in a totally market driven environment where changes in the support price will have little, if any, impact.

We are taking a characteristically conservative stance in our price forecast for 1990 which should make it appropriate for farm budgeting purposes. Milk buyers should hedge their budget estimates by using somewhat higher prices. Blend prices in the Northeast Orders are expected to average between 90 cents and \$1.00 above year earlier for the first half of the year, but will drop below year earlier levels by over \$1.00 during the second half of 1990. For the year blend prices are expected to average between 10 and 15 cents below 1989 levels.

Over-order premiums should continue for much of the year at somewhat reduced levels. A one-time assessment of 7 cents in January is likely as a result of Gramm-Rudman budget reductions.



N.Y.-N.J. Blend Price, 3.5% M.F., 201-210 Mile Zone, 1983-1989

Month	1983	1984	1985	1986	1987	1988	1989
January	\$13.35	\$12.99	\$13.34	\$11.92	\$12.76	\$12.03	\$12.95
February	13.35	12.79	13.13	11.84	12.42	11.80	12.55
March	13.01	12.55	12.64	11.50	11.92	11.29	11.95
April	12.85	12.36	12.19	11.31	11.55	10.92	11.59
May	12.64	12.26	11.78	11.25	11.30	10.71	11.42
June	12.61	12.29	11.47	11.27	11.35	10.66	11.62
July	13.12	12.84	11.93	11.86	11.96	11.31	12.38
August	13.59	13.39	12.27	12.46	12.44	12.03	13.29
September	13.75	13.74	12.37	12.79	12.75	12.50	14.00
October	13.74	13.83	12.40	13.05	12.80	12.94	14.67
November	13.63	13.91	12.30	13.05	12.69	13.18	15.03*
December	13.07	13.38	12.01	12.78	12.21	13.07	15.04*
Average	13.23	13.03	12.32	12.09	12.18	11.87	13.04*

\*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 1989 - First Half 1990

Month	1988	1989	Difference
	(dollars per hundredweight)		
October	12.94	14.67a	+1.73
November	13.18	15.03p	+1.85
December	13.07	15.04p	+1.97
<u>Annual Average</u>	<u>11.87</u>	<u>13.04p</u>	<u>+1.17</u>
	1989a	1990e	
January	12.95	14.64	+1.69
February	12.55	14.14	+1.59
March	11.95	13.21	+1.26
April	11.59	12.39	+0.80
May	11.42	11.77	+0.35
June	11.62	11.59	+0.03
Six Month Average	12.01	12.96	+0.95
Annual Average Blend Price	13.04	12.90	-0.14
<u>Annual Effective Price*</u>	<u>13.04</u>	<u>12.89</u>	<u>-0.15</u>

\*=blend price less Government assessment  
a=actual; p=projected; e=estimated.

Assumptions Associated With These Projections

A 50¢/cwt drop in support price on January 1, 1990.

A relatively normal 1990 growing season.

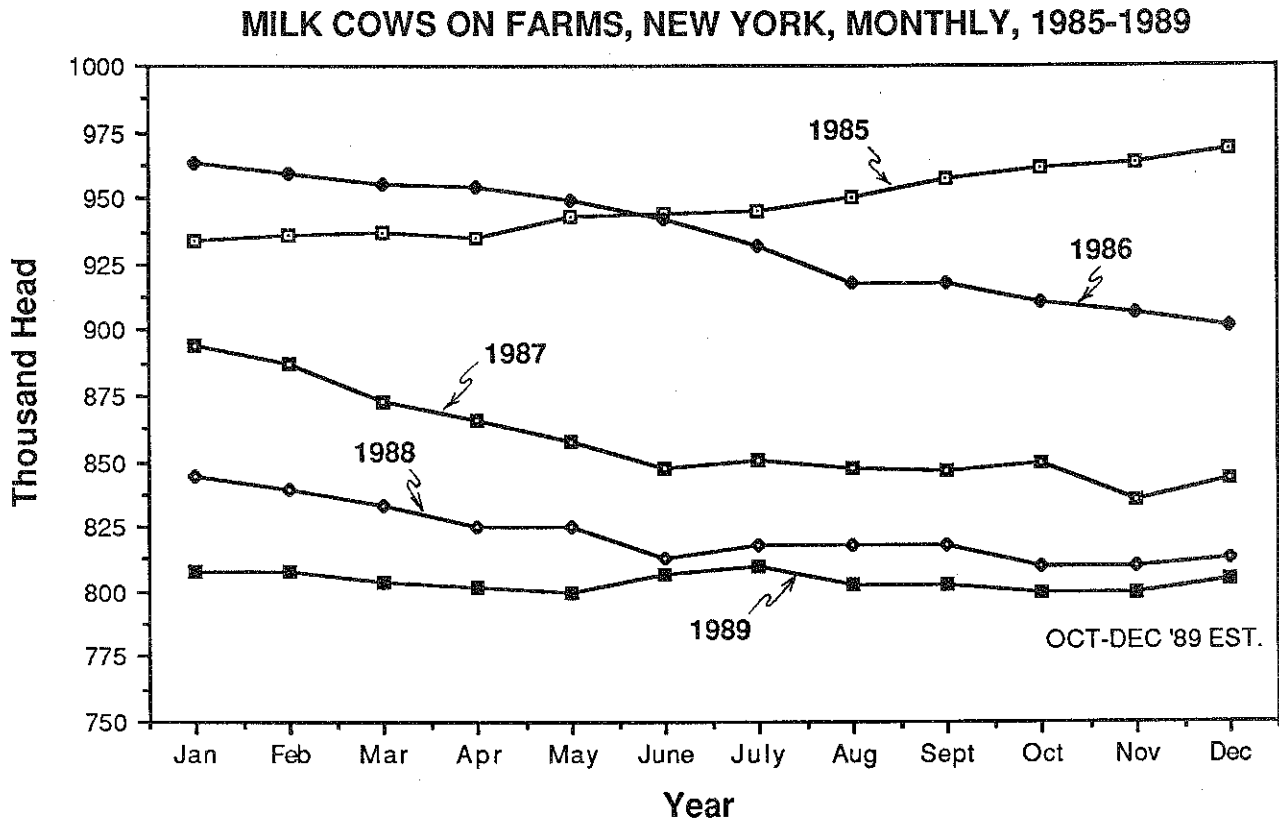
National milk production up 1.5 to 2.0 percent, with somewhat more sluggish growth in Minnesota and Wisconsin.

Commercial sales up 1.0 to 2.0 percent.

CCC purchases between 8 and 10 billion pounds M.E., primarily in the form of butter.

No uncommitted Government stocks of cheese and nonfat dry milk.

Forecast by W. C. Wasserman 11/89



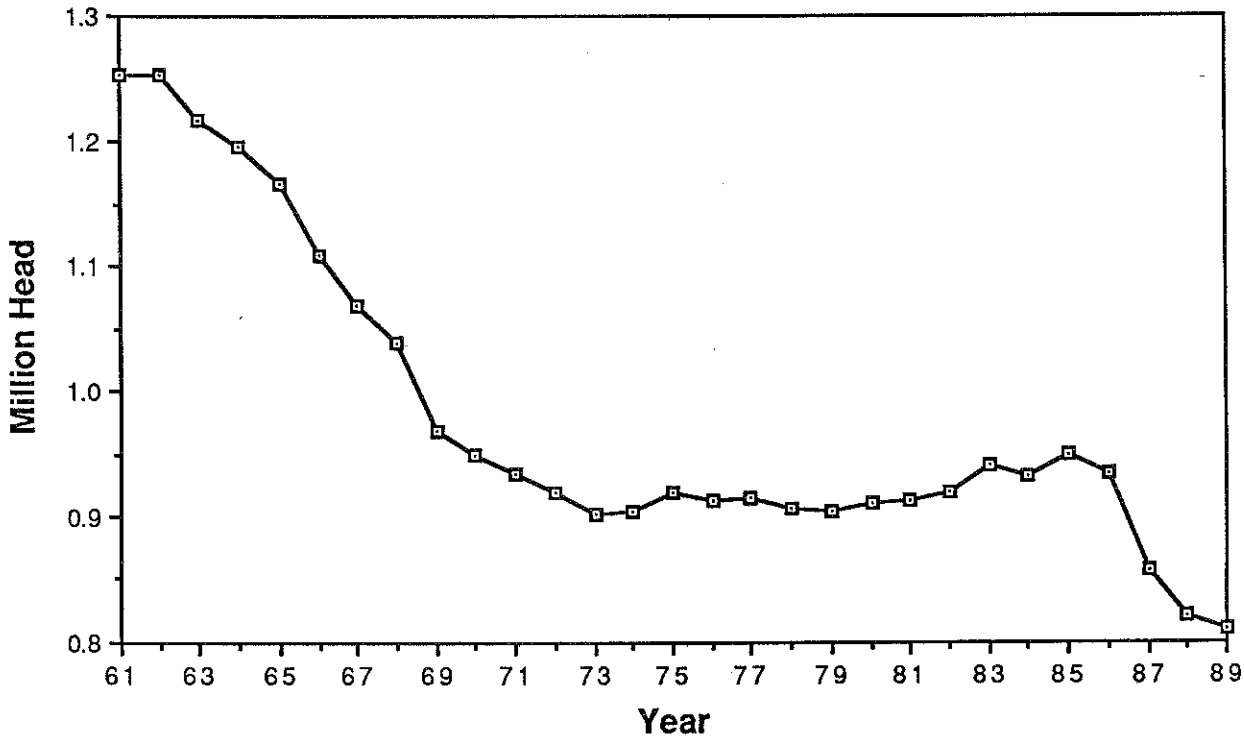
SOURCE: New York Agricultural Statistics.

Monthly cow numbers during 1989 have been below those during the period from 1985 through 1988. A steady decline in monthly cow numbers in New York began in January 1986 and continued uninterrupted through June 1987. Cow numbers stabilized the second half of 1987, declined through 1988 and stabilized in 1989. In May 1989, the number of cows totaled 800,000, 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 follow the normal seasonal pattern through the remainder of the year.

The U.S. quarterly milk cow numbers have followed the same trend as that in New York. In the third quarter of 1989, the number of cows in the U.S. averaged 10,104,000. That is 114,000 head less than a year earlier. The Northeast<sup>1</sup> comprised 19 percent of total U.S. milk cows or 1,943,000 head in the third quarter of 1989. This is 41,300 head less than a year earlier. The Northeast accounted for 36 percent of the 1988 to 1989 third quarter U.S. reduction in cow numbers.

<sup>1</sup>Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

NUMBER OF MILK COWS, NEW YORK, 1961-1989



SOURCE: New York Agricultural Statistics.

The average number of milk cows on New York farms for 1989 is estimated at 804,000 head, which is 2.2 percent lower than in 1988. The projected average number of cows for 1990 is 800,000, or down 0.5 percent from 1989.

Heifers on New York farms as a percent of cow numbers on January 1, 1989 increased 2.0 percentage points from 1988 to 36.5 percent. At 296,000 head, milk cow replacement heifers were at the second lowest level in 22 years.

Heifers on U.S. farms as a percent of cow numbers was 41.2 percent in January 1989, a 1.4 percentage point increase from 1988. July 1989 U.S. heifers as a percent of cow numbers was 44.6 percent, a 3.4 percentage point increase since January 1989.

<u>Year</u>	<u>New York Milk Cows, Annual Average</u>	<u>New York Milk Cows, January</u>	<u>New York Heifers, January</u>	<u>Heifers as Percent of Cow Numbers</u>
	----- thousand head -----			percent
1980	911	910	356	39.1
1981	912	915	348	38.0
1982	919	920	403	43.8
1983	940	932	435	46.7
1984	931	943	428	45.4
1985	948	942	440	46.7
1986	934	968	430	44.4
1987	858	900	386	42.9
1988	822	844	291	34.5
1989	804 <sup>1</sup>	811	296	36.5
1990	800 <sup>2</sup>			

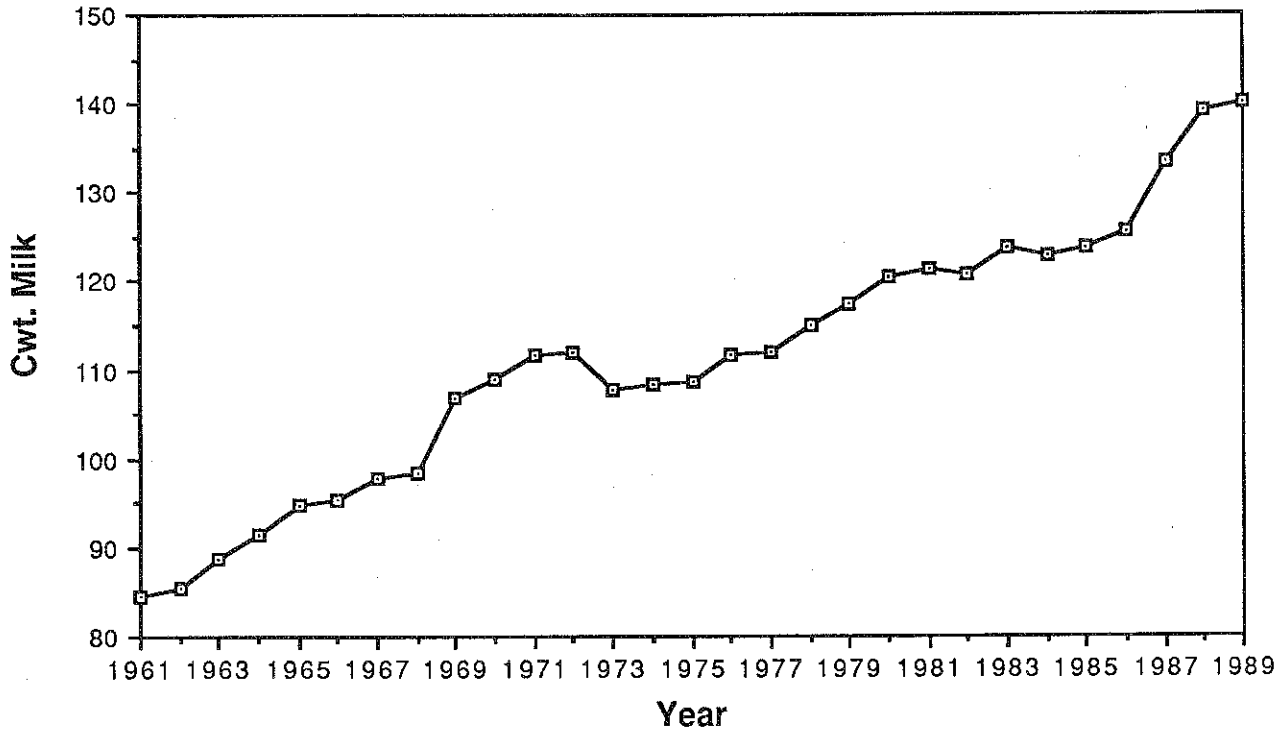
<sup>1</sup>Preliminary

<sup>2</sup>Projected

SOURCE: New York Agricultural Statistics



## ANNUAL MILK PRODUCTION PER COW, NEW YORK, 1961-1989



SOURCE: New York Agricultural Statistics.

Pounds of milk produced per cow in 1988 was up by 4.3 percent from 1987. Milk per cow is expected to average 14,000 pounds in 1989, an increase of 0.7 percent over 1988. Milk production per cow has increased steadily since 1960 with the exception of 1973 and 1974 and small declines in 1982 and 1984.

Milk production per cow is projected to increase in 1990 by 2.1 percent. Based on continued genetic improvements and reduced number of cows, milk per cow is projected to reach 14,300 pounds in 1990.

Year	N.Y. Milk Production Per Cow pounds	N.Y. Mixed Dairy Feed 16% Protein \$/ton	New York Milk-Feed Price Ratio <sup>1</sup>	New York All Hay, Baled <sup>2</sup> \$/ton	U.S. Milk Production Per Cow pounds
1980	12,046	180	1.45	58.00	11,891
1981	12,137	194	1.43	69.00	12,183
1982	12,075	177	1.56	77.00	12,306
1983	12,393	193	1.43	82.00	12,585
1984	12,290	194	1.41	81.50	12,503
1985	12,374	164	1.57	75.50	12,994
1986	12,551	163	1.56	70.50	13,260
1987 <sup>3</sup>	13,331	153	1.68	72.00	13,786
1988 <sup>3</sup>	13,900	181	1.37	77.50	14,185
1989 <sup>4</sup>	14,000	190	1.35	74.00	14,380
1990 <sup>5</sup>	14,300				

<sup>1</sup>1980-1985 is New York, 1986-1989 is Northeast.

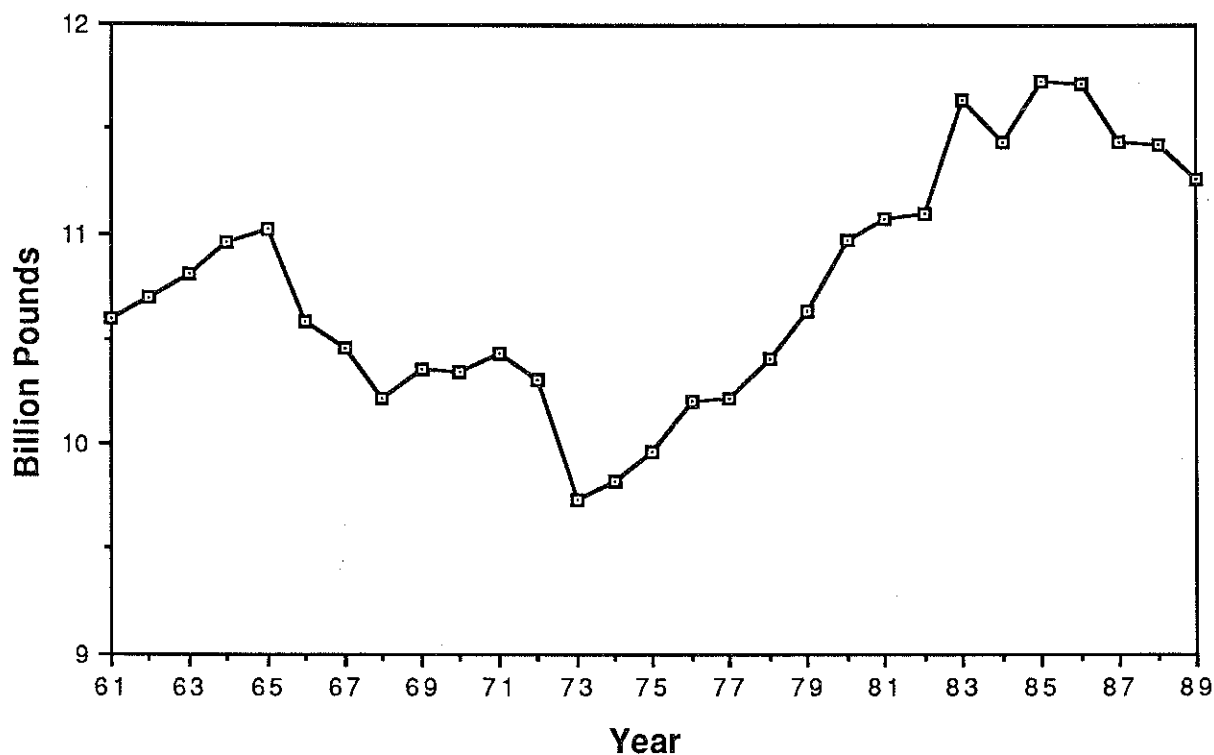
<sup>2</sup>Season average, June through May.

<sup>3</sup>Revised

<sup>4</sup>Preliminary

<sup>5</sup>Projected

TOTAL MILK PRODUCTION, NEW YORK, 1961-1989



SOURCE: New York Agricultural Statistics.

Total New York milk production in 1989 is estimated at 11,256 million pounds, down 1.5 percent from 1988. This decrease is entirely due to the 2.2 percent decrease in cow numbers, since production per cow is up by 0.7 percent.

Total milk production is projected to increase 1.6 percent in 1990 to 11,440 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 145,527 million pounds in 1988. It is estimated that 1989 production will be 145,300 million pounds, 0.2 percent below 1988 production.

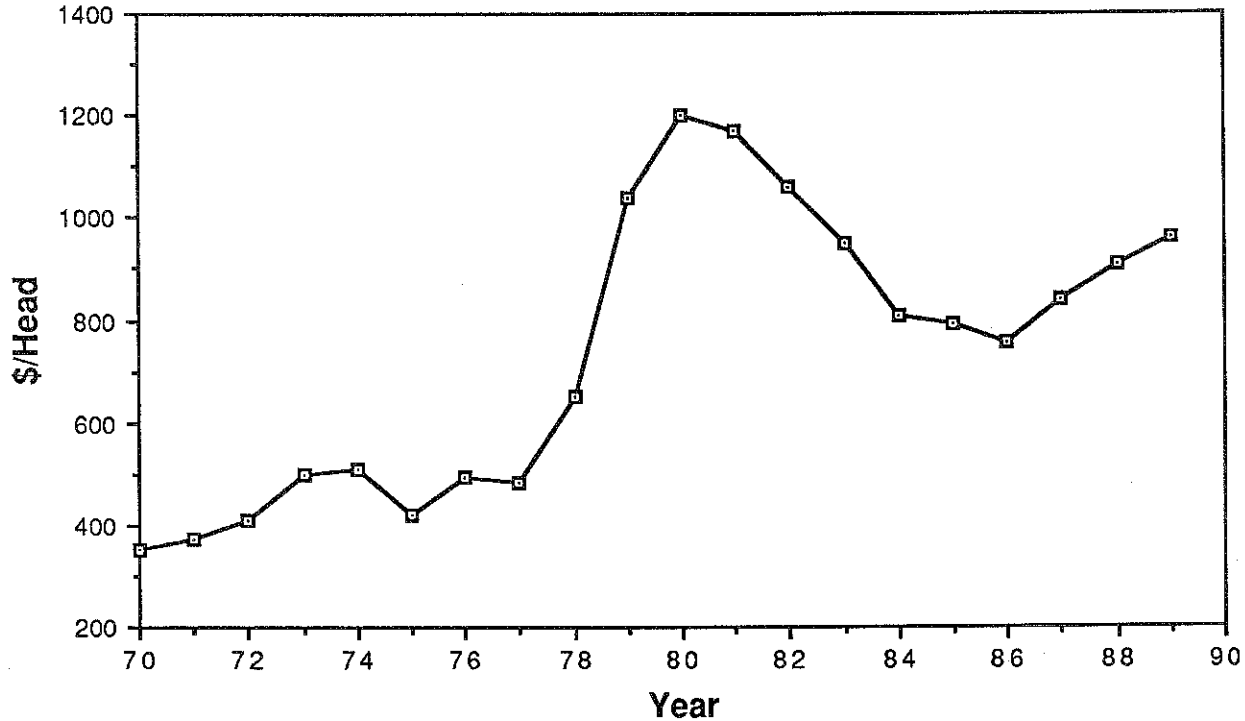
<u>Year</u>	<u>Total N.Y. Milk Production</u> million pounds	<u>Year</u>	<u>Total N.Y. Milk Production</u> million pounds
1980	10,974	1986	11,723
1981	11,069	1987	11,438 <sup>1</sup>
1982	11,097	1988	11,426 <sup>1</sup>
1983	11,649	1989	11,256 <sup>2</sup>
1984	11,442	1990	11,440 <sup>3</sup>
1985	11,731		

<sup>1</sup>Revised

<sup>2</sup>Preliminary

<sup>3</sup>Projected

## MILK COW PRICES, NEW YORK, SEASON AVERAGE, 1970-1989



SOURCE: New York Agricultural Statistics.

Milk cow prices increased through the first half of 1988 to \$930 per head in July, and decreased through the second half of 1988. In 1989, milk cow prices increased in the first quarter, remaining level through the second and third quarters, and increased to \$980 per head in October, the highest milk cow price since 1983. Monthly prices for milk cows have averaged \$40 a head higher than a year earlier. Slaughter cow prices are stronger and have less fluctuation than a year earlier. Calf prices averaged about \$4 per hundredweight higher in 1989 compared to 1988.

Month	Milk Cows, \$/Head		Slaughter Cows, \$/Cwt		Calves, \$/Cwt	
	1988	1989	1988	1989	1988	1989
January	\$880	\$920	\$43.30	\$45.10	\$ 88.30	\$ 96.00
February	890	930	45.50	46.60	94.40	105.00
March	910	960	44.90	45.00	88.10	93.30
April	920	960	47.20	44.70	100.00	103.00
May	930	950	47.40	46.00	113.00	119.00
June	930	960	44.40	46.10	103.00	105.00
July	930	960	42.60	45.80	88.20	88.70
August	910	950	43.10	45.70	85.50	87.90
September	890	960	42.60	46.50	94.10	94.00
October	900	980	42.70	46.04	92.50	100.00
November	900		42.80		89.30	
December	900		43.70		86.70	

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

Item	Weight	1984	1985	1986	1987	1988	1989 <sup>1</sup>	1990 <sup>2</sup>
Feed	.31	141	119	118	112	133	139	130
Purchased animals	.03	170	163	156	173	188	198	204
Fuel & energy	.05	206	204	178	176	184	193	196
Fertilizer	.05	142	134	127	128	139	144	147
Seed	.02	169	169	167	166	171	181	180
Machinery	.18	181	185	185	189	198	208	218
Building & fencing supplies	.08	138	136	136	137	138	141	144
Farm services & rent	.08	149	152	150	147	150	151	154
Agricultural chemicals	.01	128	128	127	124	126	132	135
Interest rates	.07	151	146	141	134	140	151	144
Farm wage rates	.09	158	169	185	195	206	221	236
Property taxes	.03	161	176	181	190	199	206	214
Prices Paid, Not Including Assessment		156	150	149	149	161	168	169
Prices Paid, Including Assessment		162	152	154	151	--	--	--

<sup>1</sup>Preliminary<sup>2</sup>Projected

SOURCE: New York Agricultural Statistics Service

The preliminary 1989 index of prices paid by New York dairy farmers is 168, a four percent increase from the 1988 index of 161. Every component item in the index increased in 1989. Interest showed the largest increase at eight percent, followed by farm wage rates with a seven percent increase, and seed with a six percent increase. The index had been very stable from 1985 through 1987; but every component item increased in both 1988 and 1989.

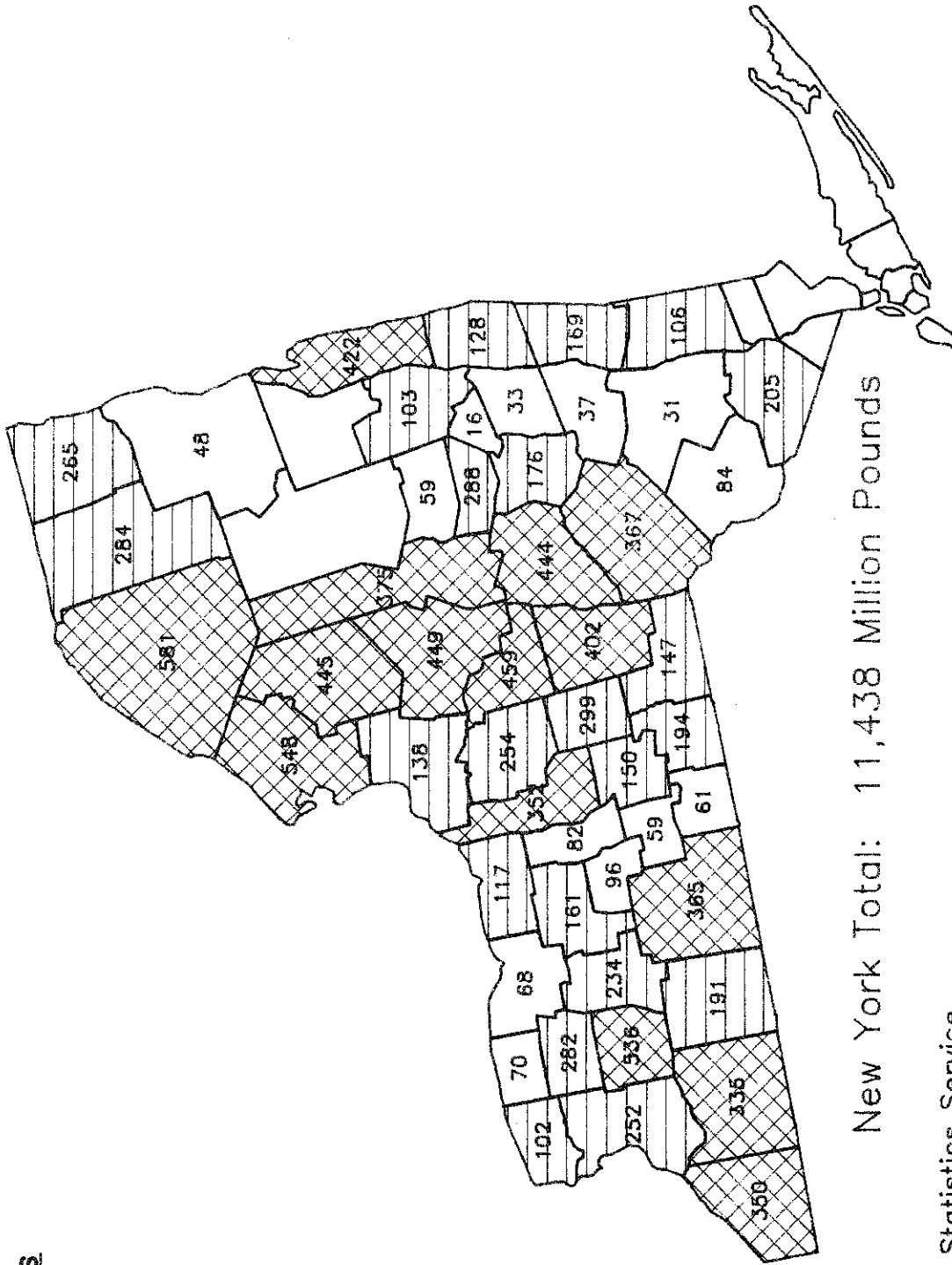
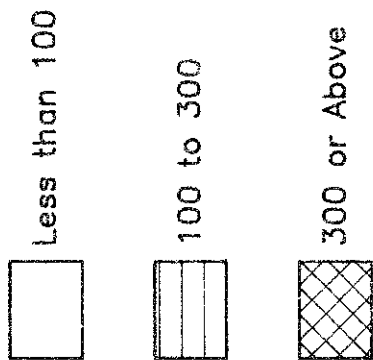
Feed prices are expected to decrease by six percent in 1990. The decrease is attributable to increased supplies of soybeans and a "normal" 1990 crop year. Dairy cow prices are expected to increase from favorable milk-feed price ratios and continued strong slaughter cow prices.

Seed prices are expected to stabilize in 1990. Seed corn and alfalfa seed prices are projected to be stable to lower, while clover and grass seed prices are likely to be down 10 to 15 percent. Fertilizer and chemical prices are expected to increase as a result of the projected increase in planted acres. Interest rates paid by farmers are expected to decrease by about five percent in 1990.

The 1990 index of prices paid is projected at 169, up less than one percent from 1989.

# Total Milk Production, Million Pounds, 1987.

## Millions of Pounds






New York Total: 11,438 Million Pounds

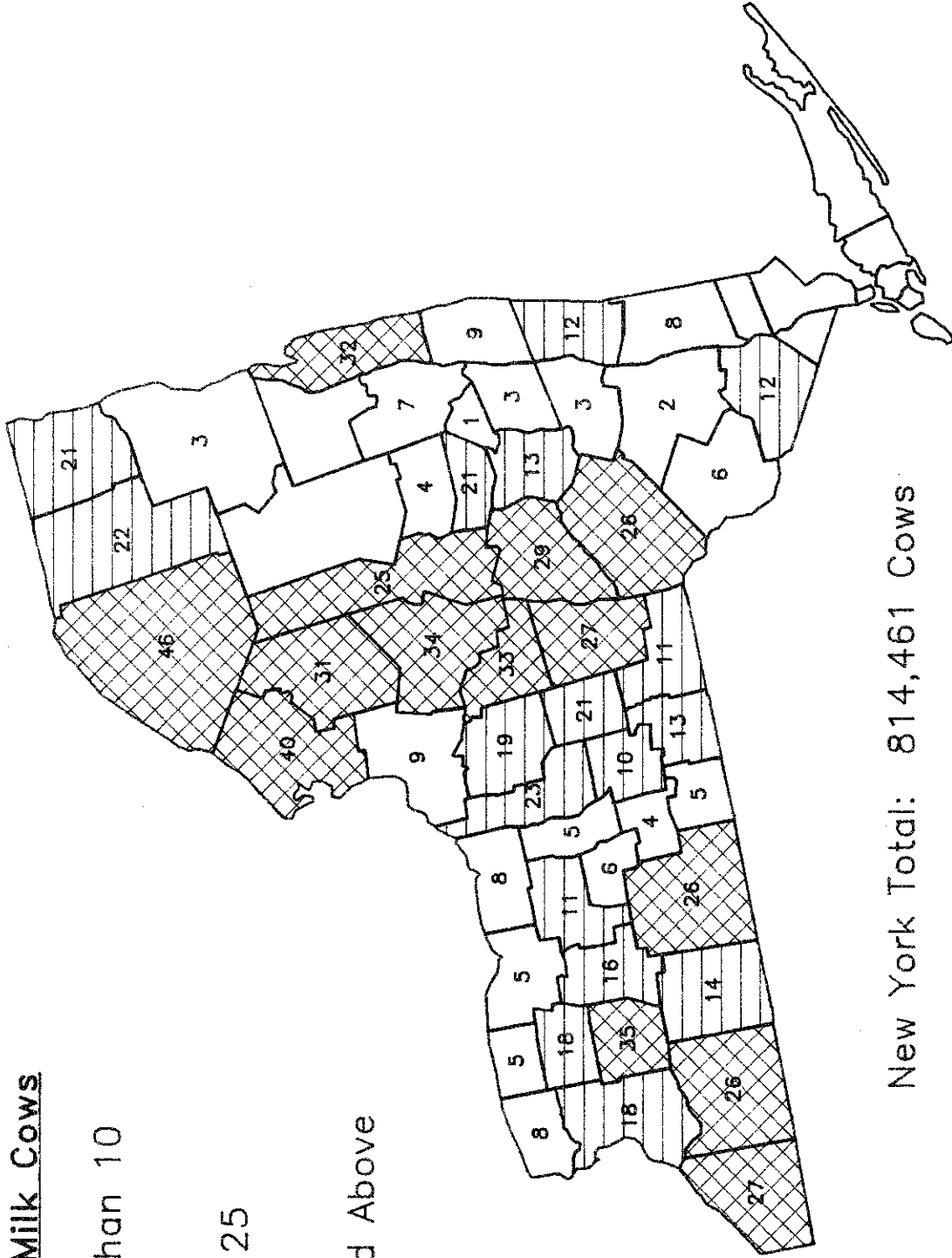
Source: NY Agricultural Statistics Service



# Number of Milk Cows, Thousands, 1987.

## Thousand Milk Cows

-  Less than 10
-  10 to 25
-  25 and Above



New York Total: 814,461 Cows

Source: Census of Agriculture.







HIGHLIGHTS OF THE 1990 FRUIT OUTLOOK

The total production of the six tree and vine crops which are important to New York's agricultural economy was projected to decrease 0.4 percent nationally. A six percent increase in volume of production is projected in New York State. The national production of apples, tart cherries, and sweet cherries increased, while the production of grapes and peaches decreased. The production of apples nationally was projected at 229.2 million bushels, a five percent increase from the 218 million bushel crop of a year ago. Grape production was forecast to be two percent below a year ago.

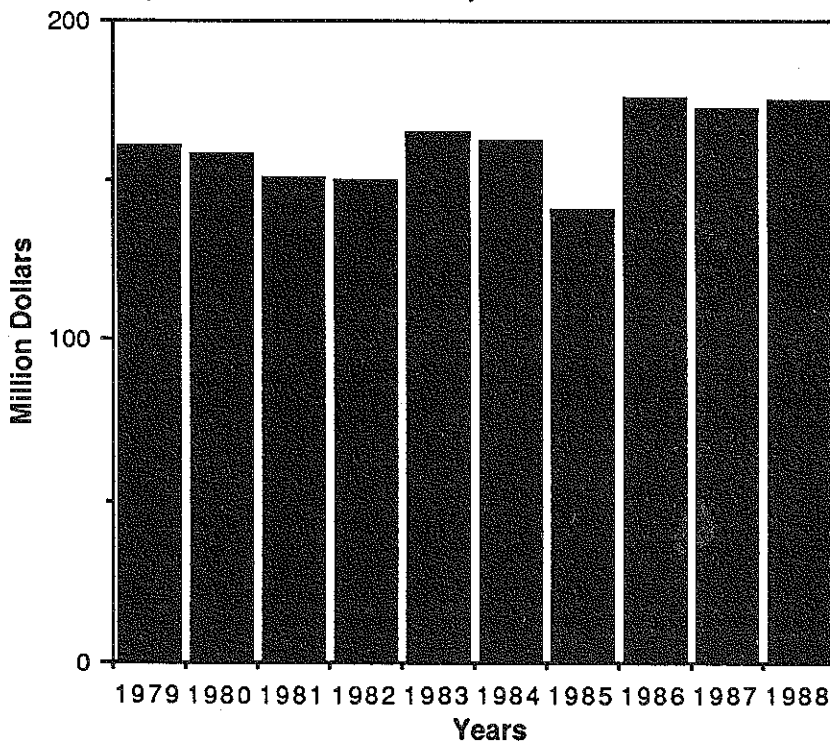
In New York, indicated apple production for 1989 was 23.6 million bushels and grape production was expected to total 155,000 tons. Apple production is three percent above the most recent five year average production while grape production is eight percent below the five year average.

In New York, the value of production of the major fruit crops has been as much as \$176.3 million (in 1986).\* In the last three years, the total utilized value of the fruit crop has varied between \$173 million and \$176 million.

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\*The value of the fresh apple crop is based on the "as sold" price for apples rather than "packinghouse door equivalent".

**FRUIT: PRODUCTION AND VALUE OF MAJOR FRUIT CROPS, NEW YORK STATE, 1979-1988**



## COMMERCIAL NON-CITRUS FRUIT PRODUCTION, NEW YORK AND UNITED STATES

Fruit	New York				United States			
	1986	1987	1988	1989*	1986	1987	1988	1989*
----- thousand tons -----								
Apples	450	440	455	495	3,967	5,374	4,579	4,813
Grapes	164	178	157	155	5,226	5,264	5,986	5,879
Tart Cherries	7	18	11	16	112	179	118	130
Pears	19	15	17	17	766	940	861	842
Peaches	7	7	7	6	1,164	1,195	1,310	1,138
Sweet Cherries	2	2	1	1	137	214	186	187
Total New York's								
Major Fruit Crops	649	660	648	690	11,372	13,166	13,040	12,989

\*indicated

## AVERAGE FARM PRICES OF NON-CITRUS FRUITS, NEW YORK AND UNITED STATES

Fruit	New York				United States			
	1985	1986	1987	1988	1985	1986	1987	1988
----- dollars per ton -----								
Apples								
Fresh	230	330	274	306	346	382	254	344
Processed	89	118	114	143	103	116	79	123
All sales	140	202	184	216	234	268	174	252
Grapes	147	201	228	230	171	226	259	251
Tart Cherries	512	460	190	450	448	406	156	462
Pears	242	210	259	235	269	267	198	273
Peaches	464	472	430	544	300	282	276	308
Sweet Cherries	670	849	839	953	799	825	748	788

## VALUE OF UTILIZED PRODUCTION NON-CITRUS FRUITS, NEW YORK AND UNITED STATES

Fruit	New York				United States			
	1985	1986	1987	1988	1985	1986	1987	1988
----- million dollars -----								
Apples								
Fresh	43.6	59.4	52.1	62.0	730	863	715	907
Processed	31.5	31.9	28.5	36.3	187	196	191	237
All Sales*	75.1	91.3	80.6	98.3	917	1,059	906	1,144
Grapes	21.2	32.9	40.5	36.1	959	1,180	1,358	1,502
Tart Cherries	5.8	2.8	2.3	4.8	63	44	22	54
Pears	3.9	3.8	3.8	4.1	201	203	186	235
Peaches	3.3	3.3	3.0	3.7	307	315	311	384
Sweet Cherries	1.0	1.2	1.0	1.2	101	113	159	145
Total New York's Major								
Fruit Crops	110.3	135.3	131.2	148.2	2,548	2,914	2,942	3,464

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

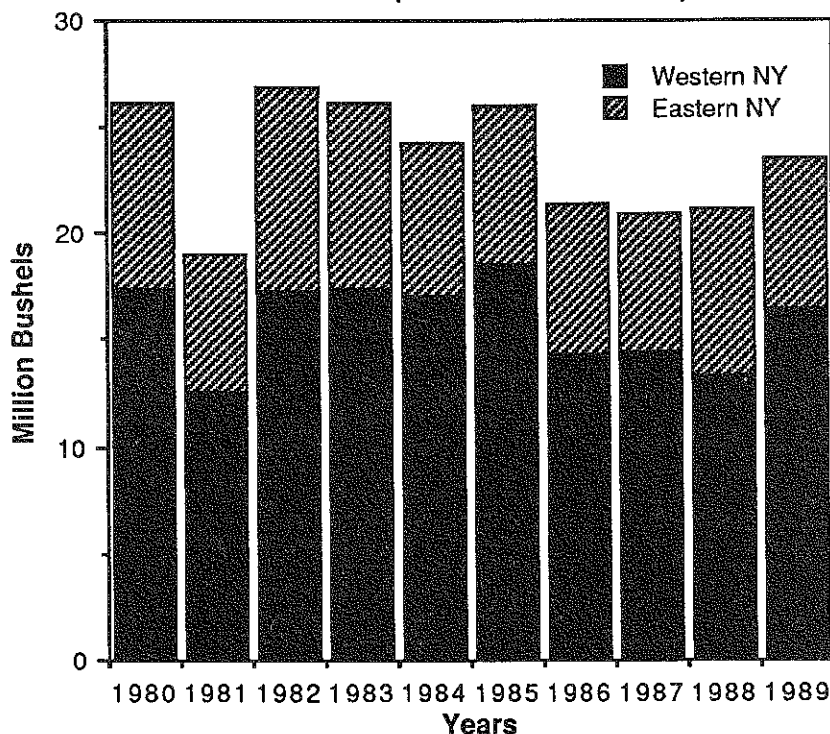
APPLE PRODUCTION, UNITED STATES, 1984-1988, FIVE-YEAR AVERAGE PRODUCTION,  
AND 1989 FORECAST, 1,000 42-POUND BUSHEL

States/Regions	5-Year Average 1984-88*	1988*	1989 USDA Estimate**	1989 Compared to (Percent Change) 5-Year Average
Maine	1,962	2,238	1,619	-17
New Hampshire	1,252	1,357	1,238	-1
Vermont	1,086	1,071	1,119	+3
Massachusetts	2,267	2,357	2,095	-8
Rhode Island	119	131	95	-20
Connecticut	1,085	1,119	905	-17
New York	22,857	21,667	23,571	+3
New Jersey	2,191	1,548	952	-57
Pennsylvania	13,143	12,381	8,095	-38
Delaware	547	452	357	-35
Maryland	1,624	1,286	1,286	-21
Virginia	10,600	10,119	8,571	-19
West Virginia	5,143	5,119	3,333	-35
North Carolina	7,119	8,333	5,238	-26
South Carolina	829	905	857	+3
Georgia	871	786	714	-18
<b>Total East</b>	<b>72,695</b>	<b>70,869</b>	<b>60,045</b>	<b>-17</b>
Ohio	2,928	2,262	2,976	+2
Indiana	1,448	1,333	1,595	+10
Illinois	2,257	2,024	2,214	-2
Michigan	21,190	19,762	23,810	+11
Wisconsin	1,348	1,072	1,500	+11
Minnesota	462	333	524	+13
Iowa	207	226	286	+38
Missouri	1,181	1,333	1,238	+5
Kansas	224	286	214	-4
Kentucky	338	262	405	+20
Tennessee	288	298	274	-5
Arkansas	229	238	214	-10
<b>Total Central</b>	<b>32,100</b>	<b>29,429</b>	<b>35,250</b>	<b>+10</b>
<b>Total East &amp; Central</b>	<b>104,795</b>	<b>100,298</b>	<b>95,295</b>	<b>-9</b>
Colorado	1,824	1,548	1,786	-2
New Mexico	222	238	214	-4
Utah	1,162	952	1,548	+33
Idaho	3,095	3,214	3,452	+12
Washington	81,238	92,857	107,143	+32
Oregon	3,667	3,929	4,286	+17
California	13,976	15,000	15,476	+11
<b>Total West</b>	<b>105,184</b>	<b>117,738</b>	<b>133,905</b>	<b>+27</b>
<b>TOTAL U.S.</b>	<b>209,979</b>	<b>218,036</b>	<b>229,202</b>	<b>+9</b>

\*1988 and 5-year average are USDA data revised as of July 1989.

\*\*USDA based on October 1, 1989 crop forecast.

APPLE PRODUCTION IN NEW YORK STATE, BY REGION,  
1980-1989 (1989 ESTIMATED)

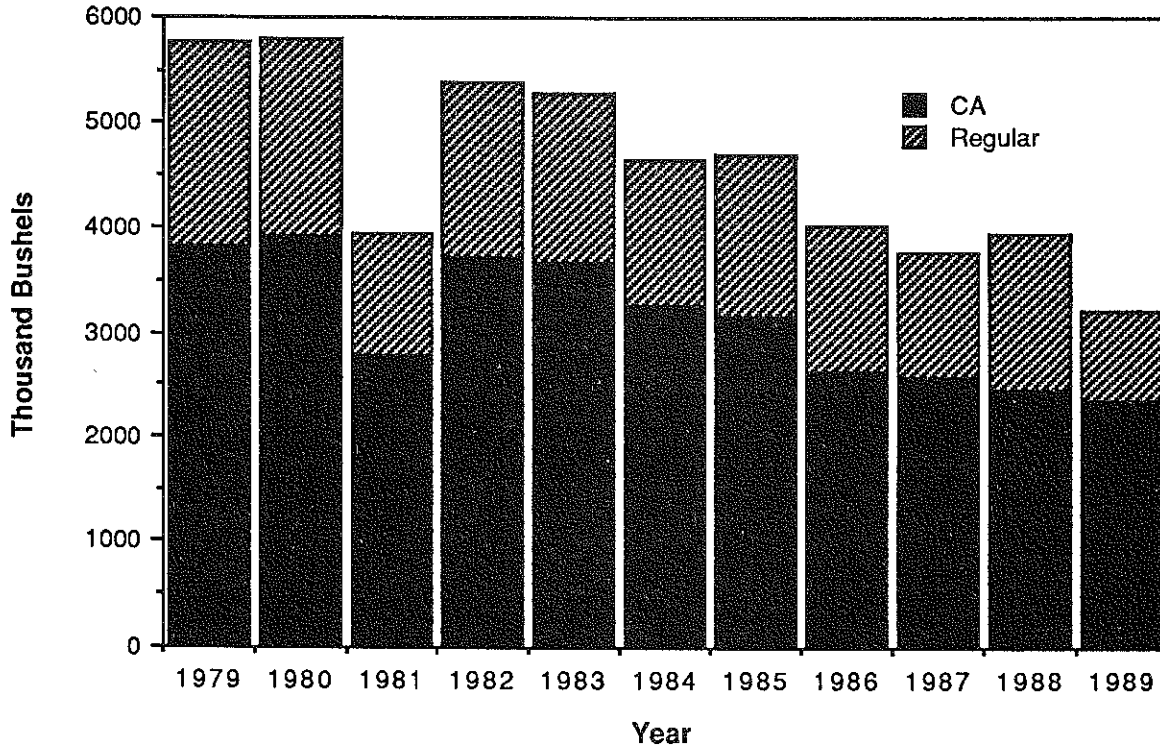


Of the projected 23.6 million bushel crop for 1989, a 7.1 million bushel crop is indicated for eastern New York and a 16.4 million bushel crop is indicated for western New York. Thus, the indicated production in eastern New York is 12 percent below 1988 while the crop in western New York is expected to be 21 percent above last year. The total crop is approximately three percent above the average of the past five years, following three consecutive small crops.

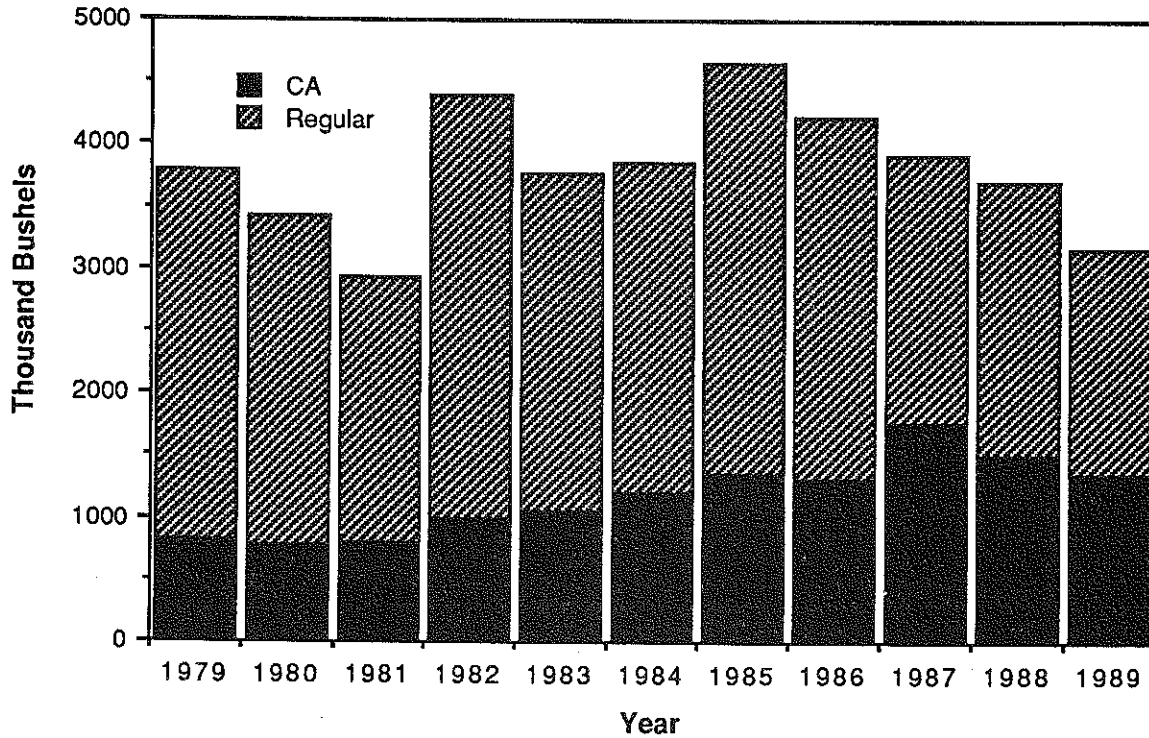
Lower production in recent years has occurred due to (1) three consecutive years of poor weather conditions, especially in western New York, and (2) orchard removal. Even though production has not been high in recent years, the potential productive capacity has increased due to plantings of higher density, more productive systems which are currently nonbearing or in early bearing years, but will have an impact on production in future years.

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 well below the normal pattern. Compared with the most recent five-year average holdings, eastern New York is down 24 percent while western New York is down 22 percent.

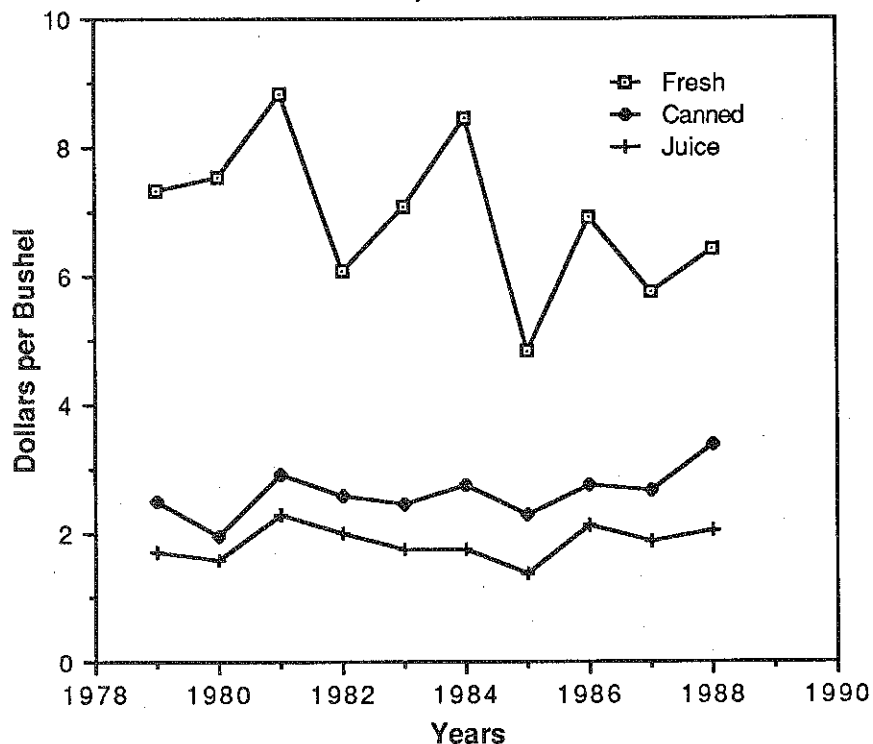
**APPLES IN COLD STORAGE, EASTERN NEW YORK, AS OF  
OCTOBER 31, REGULAR STORAGE AND CA, 1979-1989**



**APPLES IN COLD STORAGE, WESTERN NEW YORK, AS OF  
OCTOBER 31, REGULAR STORAGE AND CA, 1979-1989**



### AVERAGE ANNUAL PRICES RECEIVED BY NEW YORK GROWERS FOR APPLES, 1979-1988



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 fresh price for apples was reported based on a packinghouse door equivalent rather than "as sold". Therefore, the 1985-88 prices are not directly comparable to the fresh prices prior to 1985.)

In October 1989, the average price of fresh apples sold averaged 13 percent below a year ago when there was a smaller national crop. Prices of McIntosh apples in October were \$10.00 per box for bagged apples and \$15-16 for boxes of cell packed apples. Prices last year were \$9-10 for bagged apples and \$17-18 for cell packs. Price prospects for New York fresh apples are strong for the remainder of the marketing season, with unusually low inventories in storage and a short crop in the eastern United States (see page 65). Red Delicious prices were highly variable due to the large Washington crop.

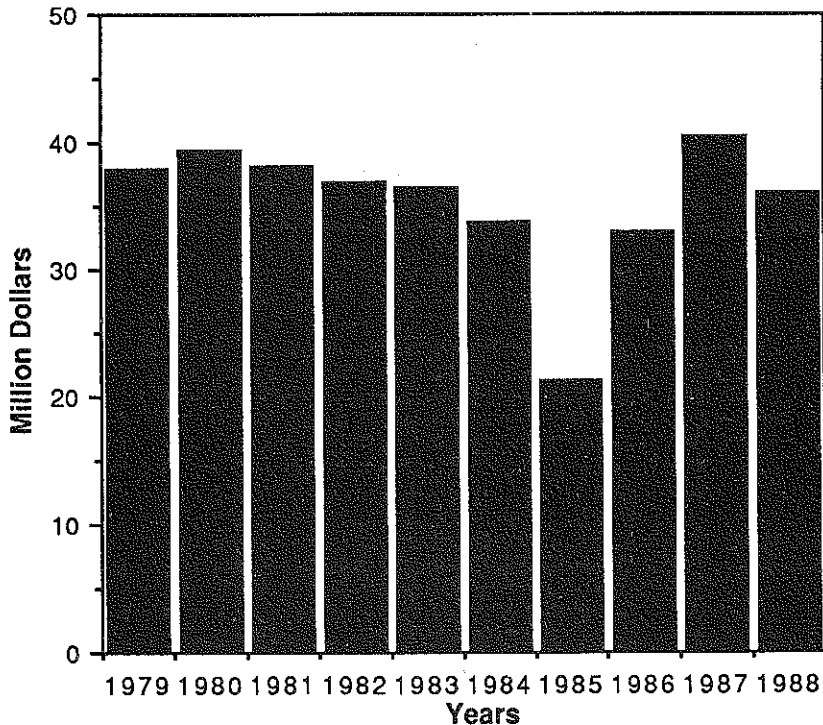
Processed apple prices were also substantially lower. Major processors were paying \$6.75-7.50 per hundredweight for 2-1/2" and up, compared with \$8.50-9.00 last year; and \$3.75-4.00 for juice apples, compared with \$4.00-4.50 in 1988. This is due to a more normal sized crop in 1989, compared with a short crop in 1988. In addition, hail damage in localized areas in western New York resulted in some apples which would normally have been marketed fresh utilized instead for processing.

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 dramatic low of \$21.2 million in 1985. In the past three seasons, the 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. A 13 percent decline in the wine cooler market and a continued slide in non-premium table wine consumption affected the 1988 value.

Final results for the 1989 season will be mixed, with the grape juice sector continuing strong, while the large winery sector continues to be plagued by sluggish or declining demand for wine coolers and lower-priced table wines. With a smaller crop in 1989, the utilized value of grapes in New York is likely to fall slightly from the 1988 value of \$36.1 million.

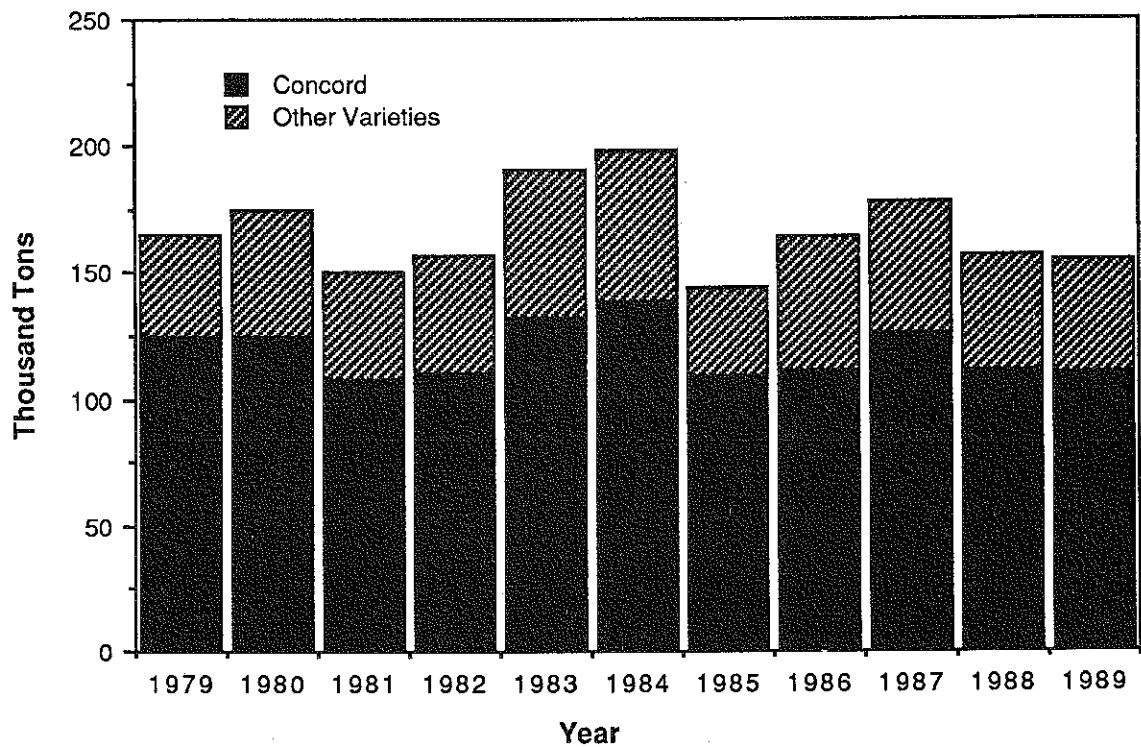
**VALUE OF UTILIZED PRODUCTION FOR GRAPES,  
1979-1988**





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 grape production.

**TOTAL PRODUCTION OF GRAPES IN NEW YORK, CONCORD AND OTHER VARIETIES, 1979-1988 AND 1989 (Estimated)**



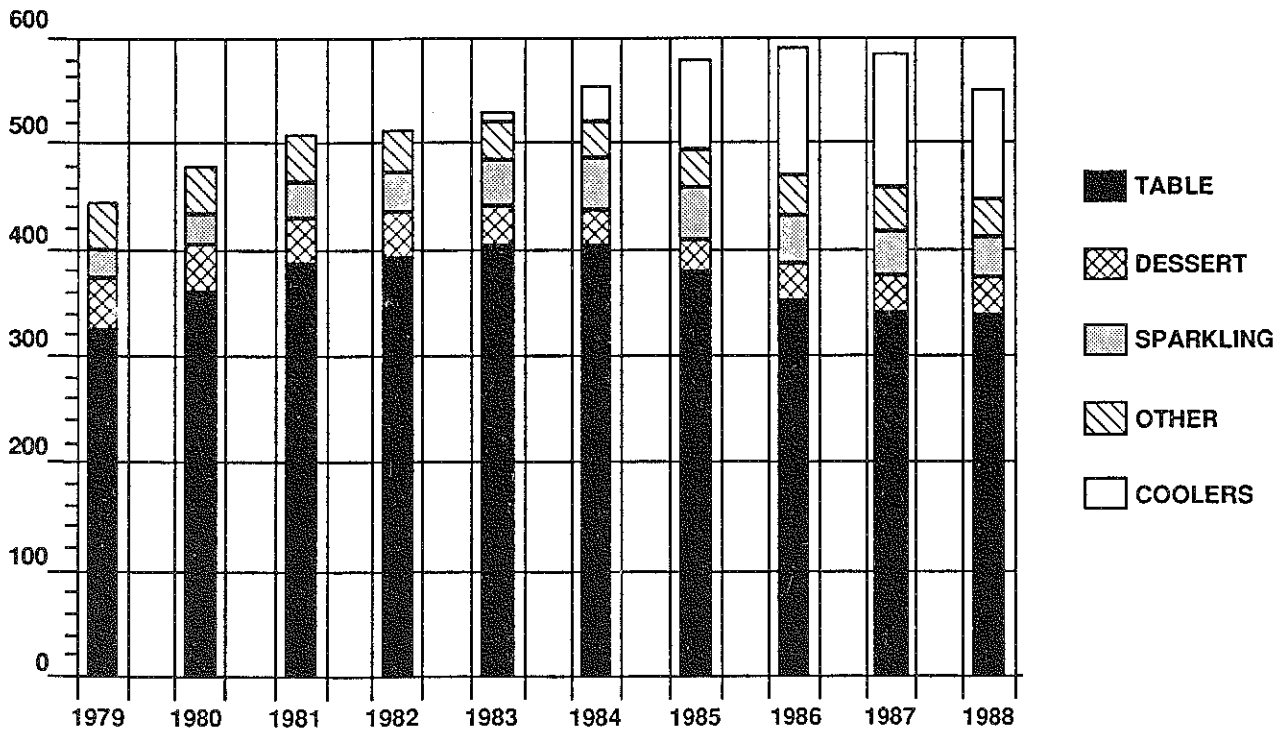
Wine

Some changes have occurred in the market for wine which have serious implications for New York's growers. These are shown in the next three charts.

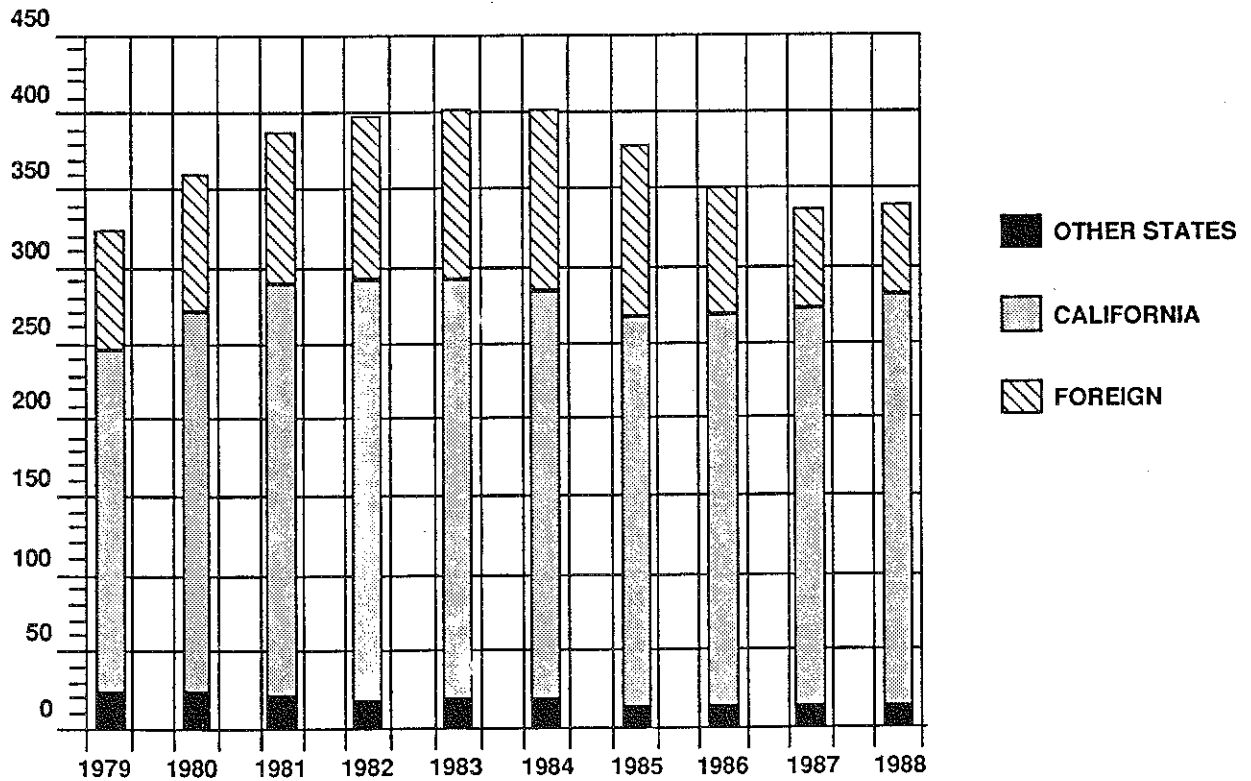
- 1) The total consumption of all wine declined during the last two years. Growth in recent years had been attributable to the wine cooler segment.
- 2) Table wine consumption had decreased for three consecutive years in 1985-87. California has managed to hold its volume, while imports and wine produced in "other states" have shown declining shares. [Note: "Other states" refers primarily to New York when considered on a volume basis.] In 1988, table wine consumption showed a modest one-half percent increase.
- 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 1988, wine wine cooler consumption was down 13 percent.

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

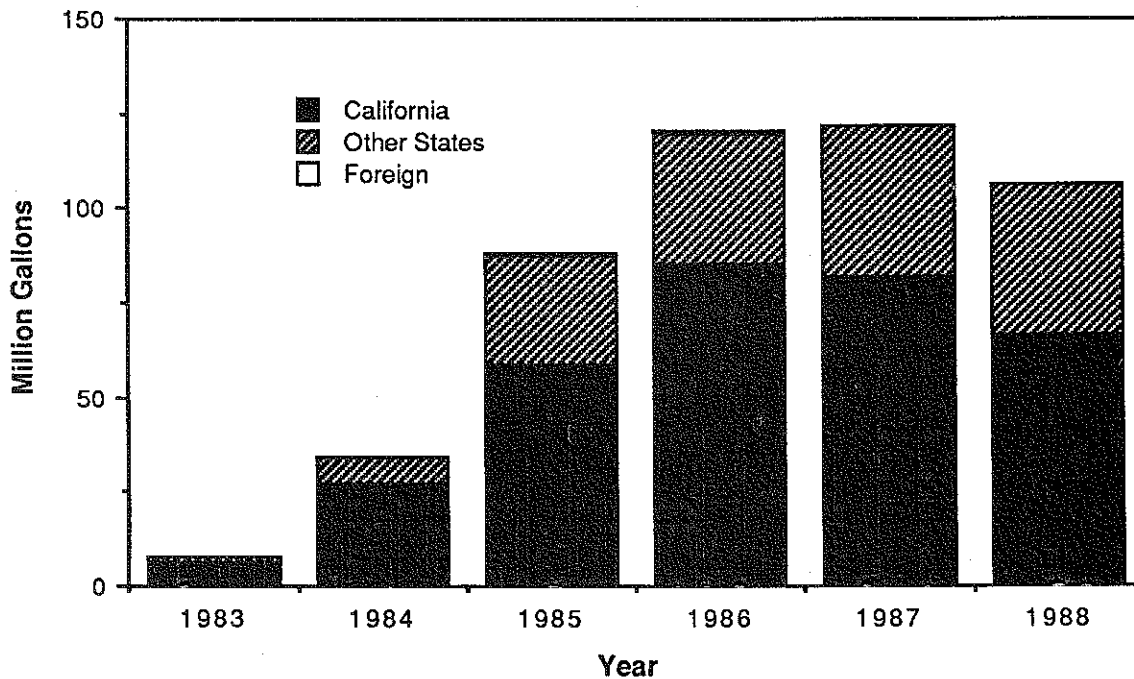
## WINE ENTERING DISTRIBUTION CHANNELS IN THE U.S., 1979-1988 (Millions of Gallons)



**TABLE WINE ENTERING DISTRIBUTION CHANNELS  
IN THE U.S. BY AREA PRODUCED, 1979-1988**  
(Millions of Gallons)



**WINE COOLERS ENTERING DISTRIBUTION CHANNELS IN  
THE U.S., BY AREA PRODUCED, 1983-1988**



## GRAPES: NEW YORK GROWN, RECEIVED BY WINERIES AND PROCESSING PLANTS, 1984-88

Variety	1984	1985	1986	1987	1988
	----- tons -----				
Concord	128,746	105,088	107,326	122,688	108,278
Catawba	10,901	7,745	12,262	12,939	11,740
Niagara	9,990	5,614	9,663	10,243	8,262
Delaware	7,170	2,655	5,562	4,722	3,879
Aurore	10,652	5,978	7,794	8,189	6,359
de Chaunac	2,478	2,839	2,911	2,664	1,949
Baco Noir	1,692	1,084	1,419	1,148	801
Seyval Blanc	1,031	1,226	1,514	1,278	1,259
Rougeon	810	559	692	788	800
Vitis Vinifera (all)	1,412	1,364	1,960	1,637	1,863
Total of all varieties	184,000	140,000	159,600	173,500	152,100

SOURCE: Fruit, New York Crop Reporting Service, 1-85, 1-86, 975-1-87, 975-2-88, and 975-2-89, and New York Agricultural Statistics, 1988-1989.

## GRAPES: PRICES PAID FOR NEW YORK GROWN GRAPES PROCESSED, 1984-88

Variety	1984	1985	1986	1987	1988
<u>American Varieties</u>					
Catawba	244	161	205	233*	211*
Concord	125	120	170	208*	213*
Delaware	311	152	225	266	234
Dutchess	445	138	259	275	259
Elvira	207	203	210	216	204
Niagara	182	173	187	195*	188*
<u>French Hybrids</u>					
Aurore	347	195	236	244	232
Baco Noir	377	217	289	283	273
de Chaunac	199	162	167	192	183
Rougeon	218	156	245	241	187
Seyval Blanc	381	251	283	289	270
<u>Vitis Vinifera</u>					
All varieties	871	856	925	1,008	990
Average all varieties	174	139	194	222*	223*

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

SOURCE: Fruit, New York Crop Reporting Service, No. 1-85, 1-86, 975-1-87, 975-2-88, and 975-2-89.

Concords are by far the predominant variety grown and processed in New York. There were 108,278 tons of Concords from New York processed in 1988 reflecting the small crop. Over the past five years, Concords have comprised 71 percent of total tonnage utilized. The second leading variety is Catawba with 6.9 percent of tonnage and Niagara 5.4 percent.

In general, the prices for red varieties (e.g., Concord, de Chaunac) trended downward during the late 1970's and early 1980's while white varieties (e.g., Niagara, Aurore, Seyval Blanc) trended upward. For 1983 and 1984, however, with large crops and large inventories held by wineries and processors, prices were down for most white as well as red varieties.

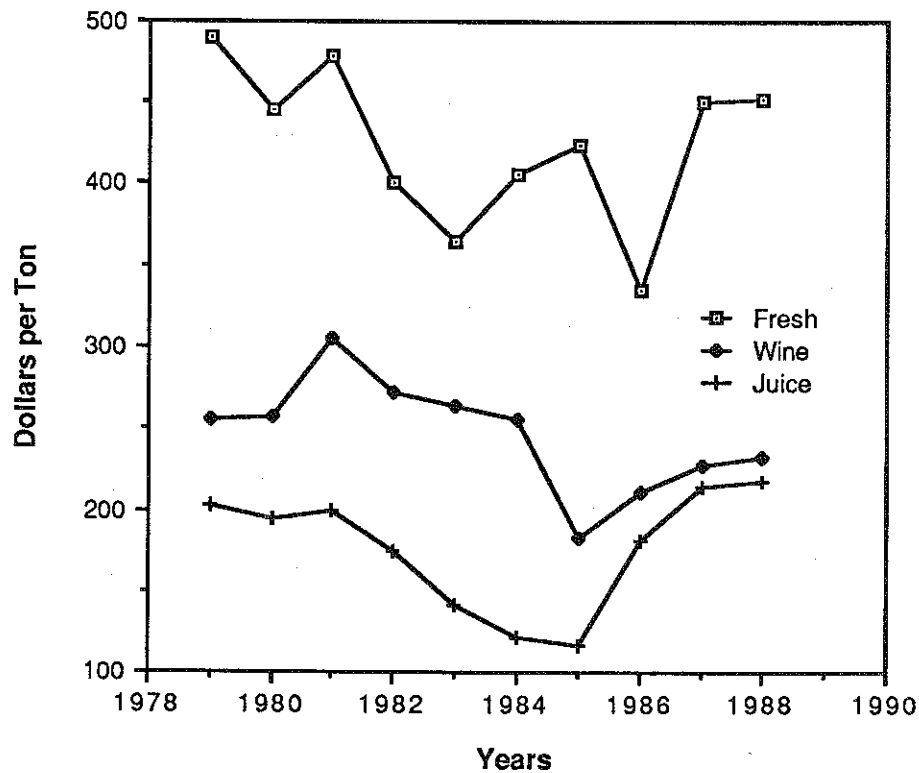
Following a bottoming out of prices in 1985, prices for most varieties showed improvement in 1986 and 1987. In 1988, however, prices for many varieties were lower than for the preceding year. This is due to the decrease in wine cooler sales and a continued decline in demand for non-premium table wine.

The prices of grapes for fresh use, wine, and juice are shown below. When compared to prices 10 years ago, grapes used for juice had a higher price in 1988, while the price of fresh grapes and grapes used in wine were lower than prices 10 years ago.

In the early 1980's, the price of grapes for wine generally exceeded the price of grapes used for juice by \$100 or more per ton. In 1988, the difference narrowed to \$16.00 per ton.

In 1989, juice grapes were again in strong demand with the result that growers with Concord and Niagara grapes received higher prices per ton. Cash prices as high as \$250 per ton were reported for Concord grapes. National Grape Cooperative reported earnings per ton in fiscal year 1989 of \$275, a new high for its members. Prices paid by large wineries for Delaware, Catawba, and Aurore grapes, varieties used in non-premium table wines, were basically unchanged.

#### AVERAGE PRICE FOR GRAPES IN NEW YORK, UTILIZED FOR FRESH GRAPES, WINE, AND JUICE, 1978-1988



VEGETABLES

TABLE I....POTATOES AND VEGETABLES: NEW YORK STATE FARM VALUE OF PRODUCTION, 1984-1989

	1984	1985	1986	1987	1988	1989 <sup>1</sup>	Five-Year Average (1984-1989)
----- millions of dollars -----							
Potatoes:							
Long Island	19.3	11.4	18.0	12.5	16.1	17.00	15.46
Upstate	41.8	28.2	41.3	38.4	44.9	45.00	38.92
Subtotal	61.1	39.6	59.3	50.9	61.0	62.00	54.38
Vegetables:							
Fresh Market	139.7	135.7	156.6	163.7	172.1		153.6
Processing	33.8	37.6	26.5	30.9	20.7		29.90
Subtotal	173.5	173.3	183.1	194.6	192.8		183.46
TOTAL	234.6	212.9	242.4	245.5	253.8		237.84

<sup>1</sup> Estimated.

Sources: USDA, Potatoes, Agricultural Statistics Board, National Agricultural Statistical Service. October 2, 1989.

New York Agricultural Statistics 1988, New York State Agriculture and Markets, Division of Statistics, June 1989.

Table I presents the most recent figures for the value of the production of fall potatoes and vegetables in New York State. Last year at this time, the forecast for the value of the 1988 fall potato crop was \$46.7 million. The 'updated' figure turned out to be \$62 million and the value of production of Upstate potatoes changed the most--31%. Given the preceding, the forecast for this years potato crop, \$62 million, will most likely also be off. The primary reason for a larger than expected potato crop value was higher prices. Both Long Island and Upstate potato growers received considerably better prices in 1988 than in 1987 (the 1987 national crop was very large). Prices for the Long Island crop were relatively better than for the Upstate crop. Although production was down 17.9%, the value of the Long Island crop was up 28.8%. Upstate production was also down--23.2%--but the value of the crop was up 16.9%. The 1988 drought was primarily responsible for the production decline. The value of production for the 1988 crop was higher--12.2%--than the five-year-average.

Fall potato production during 1989 in New York will most likely be at last years level or slightly below. Acreage is down 9% in Long Island and 4% in Upstate. However, yields will probably be higher in 1989, therefore the value of production

VEGETABLES

for the 1989 crop will be close to the 1988 level. The outlook for the 1990 crop is difficult to predict, but the trend over the last ten years has been a continual decline in production. At this point, there are no signs to indicate that the trend will not continue. No doubt, upstate production will continue to increase its share of total New York production.

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

	Production				Crop Value			
	1986	1987	1988	1989 <sup>1</sup>	1986	1987	1988	1989 <sup>1</sup>
	----- 1,000 cwt. -----				----- -million dollars -----			
New York:								
L.I.	2,537	2,425	1,992	2,000	18.0	12.5	16.1	17.0
Upstate	5,288	6,250	4,800	5,000	41.2	38.4	44.9	45.0
California	6,887	7,869	6,105		44.1	32.7	49.8	
Colorado	18,810	19,500	19,040		79.0	34.1	140.0	
Idaho	90,220	99,710	102,610		38.9	349.0	554.1	
Maine	21,930	23,240	22,000		131.6	98.8	160.6	
Michigan	9,625	9,720	7,820		58.2	49.6	59.0	
Minnesota	13,650	16,330	12,075		58.0	52.3	74.9	
North Dakota	21,600	24,050	15,525		90.7	84.2	98.6	
Oregon	23,172	25,924	20,735		97.0	90.0	99.6	
Pennsylvania	5,160	4,730	3,690		35.1	28.9	28.0	
Washington	61,950	66,960	63,250		266.4	244.4	284.6	
Wisconsin	20,125	22,100	20,000		92.6	85.1	128.0	
Other	16,817	16,190	13,916		88.0	73.4	460.5	
Total Fall	317,771	344,998	313,558		1,487.8	1,273.4	1,827.4	

<sup>1</sup> November 1, 1989 estimates

Source: USDA, Potatoes, Agricultural Statistics Board, National Agricultural Statistical Service, September 27, 1989.

VEGETABLES

To add perspective to the state figures, Table II presents national fall potato production and value statistics. Similar to what occurred in the state, the value of the national crop increased between 1987 and 1988. However, the increase in value of the national fall crop--43.5%--was considerably higher than the state increase. In addition, the decline in national fall potato production was only 9.1% as compared to a 19.8% decline for New York. One implication of the national versus state crop value changes is that New York producers did not benefit as much as other producers from the price increases in 1988.

The value of production of New York State's fresh market vegetables increased 5.1% while the value of processed vegetables declined by 33% between 1987 and 1988. Although prices were higher for a number of processed vegetables, the drop in yields induced by the drought caused the precipitous drop in value. Similarly, fresh market vegetable production was off, but the drop in production was not as severe as with processed vegetables. Also, production and prices during the latter part of the season for fresh market vegetables were stronger than anticipated. As a result the value of production increased higher than anticipated.

The 1989 value of production of processed vegetables will be higher than in 1988. Both tonnage and prices are up. The same can be said for the fresh market crop, but the increase in prices for fresh market vegetables may not be as large--principally because 1988 processed vegetable production was low. Tomato production value increased quite significantly between 1988 and 1987 and the 1989 crop will most likely be higher than the 1988 crop. On the other hand, strawberry production value did not increase between 1987 and 1988 because production was down. The 1989 value of production of fresh market vegetable should be higher than the 1988 crop. Production was up and prices have been relatively strong.

The outlook for 1990 for both processed and fresh market vegetables is good. Consumer demand for fresh vegetables continues to be strong despite the negative publicity with regards to pesticide residues on produce. Processed vegetable markets may be bottoming-out and demand may show some increase in the early part of the 1990's (as an aside, Campbell's Soup Company is considering, among other sites, a processing plant in Tioga County).

The possibility that certain chemical pesticides may be removed from the marketplace or from labels is a potential trouble spot for vegetable producers. However, the effects would be national in scope and colder climate producers may be in a relatively better position to continue production. Prices for vegetables will most likely continue to increase--



VEGETABLES

particularly if there is a structural change in the parameters of production. Growers and handlers should be prepared in their response to a vegetable-type "alar scare".

The production of "organic" products has increased because demand has been increasing over the past few years. New techniques and more qualified individuals are emerging to assist growers interested in producing vegetables organically. No doubt, the 1990's will see increases in organic production and the only question is what percentage of total production will be organically produced. Of utmost importance is the standardization and/or certification of what may be called an organically produced vegetable.

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

	Production				Crop Value			
	1986	1987	1988	1989 <sup>1</sup>	1986	1987	1988	1989 <sup>1</sup>
	----- 1,000 cwt. -----				----- million dollars -----			
New York	3,456	3,132	2,808	2,912	44.7	51.2	38.8	42.0
Colorado	4,590	4,688	5,535	5,265	48.8	45.0	55.8	
Idaho & Malheur Co.	8,215	10,140	9,381	9,288	83.7	82.6	85.3	
Michigan	1,653	1,900	2,000	2,240	15.0	18.9	17.0	
Oregon	1,440	1,512	1,296	1,610	16.6	16.3	11.2	
Washington	1,848	2,300	2,520	2,142	19.7	20.5	19.9	
Other	1,224	1,495	1,326	1,531	12.5	12.6	12.1	
Subtotal	22,426	25,167	24,866	24,988	241.0	247.1	240.1	
California	9,953	10,730	12,160	12,375	76.8	80.3	71.9	
<b>TOTAL</b>	<b>32,379</b>	<b>35,897</b>	<b>37,026</b>	<b>37,363</b>	<b>317.8</b>	<b>327.4</b>	<b>312.0</b>	

<sup>1</sup> Based on Fall Estimates.

Source: USDA, Agricultural Marketing Service.

Onion production and its' value are presented on Tables III and IV. Production in 1988 was down 10.3%, and the value of production was down 24.2%. At the national level--production was up 3.1%, but the value of production was down 4.7%. Though production in the state continues to decline, the relatively better price increases received by New York growers (as compared to the national prices) bode well for the industry. Perhaps the changes indicate that the state production level of 1988 was the bottom of the trend in production declines. Therefore a state production level of 3,000,000 cwt may represent a production level where demand provides a good return to growers. Orange county production was down 26% and continued the trend of

## VEGETABLES

declining production. Production in 1989 is forecast to be very similar to 1988--approximately 4% higher. National production will be only 1% higher than in 1988. Prices during the early part of the 1989 season have been mixed and therefore the forecast for the value of the 1989 crop is very tenuous.

The outlook for 1990 New York State onion production looks similar to this year's. As noted earlier, a state production level of 3,000,000 cwt. may be the equilibrium level of production for the state. However, production may begin to increase if newer varieties can be developed that incorporate consumer tastes as well as the requirements for production and storage.

TABLE IV....NEW YORK ONION PRODUCTION BY AREA, 1985-1989

	1985	1986	1987	1988	1989 <sup>1</sup>	Five-Year Average 1985-1989
----- 1,000 hundredweight -----						
Orange*	2,331	1,988	1,652	1,219	1500	1,738
Orleans-Genesee* 644		650	660	696	315	593
Oswego*	494	392	458	480	504	466
Madison*	173	160	144	140	182	160
Steuben-Yates- Ontario	210	182	135	161	288	195
Wayne and Other 108		84	83	112	123	102
<u>TOTAL</u>	<u>3,960</u>	<u>3,456</u>	<u>3,132</u>	<u>2,808</u>	<u>2,912</u>	<u>3,254</u>

\*Includes seed and set onions.

<sup>1</sup>October 13, 1989 estimate.

Source: New York Agricultural Statistics Service.

Table V has changed somewhat from last years version. First, potatoes are now incorporated into the total and therefore the "Value Share" (column six) figures are not directly comparable to last years. Secondly, the "Other" category has been removed and therefore the "Total" figure is only for the commodities listed on the table. Also, the "Ten Year Value Trend" (column five) needs to be redefined. What I have done is 'regress' the value of the crop as a function of trend. If the coefficient estimate on the trend variable was 'statistically significant', then I report the figure. Otherwise the trend is zero. As can be noted, cabbage, fresh

## VEGETABLES

TABLE V....COMMODITY RANKING OF VALUE OF VEGETABLE PRODUCTION IN 1988.

Commodity	Value of 1988 Production	1984-1988 Average Value	Highest Value In Last Ten Years	Ten Year Value Trend(per year)	Value Share in 1988
	----- millions of dollars -----				
Potatoes	55.608	52.628	(1980) 97.628	-3.747	23.1%
Onions	38.846	40.939	(1980) 62.62	zero	16.2%
Cabbage (fresh)	35.849	29.032	(1983) 48.828	+1.531	14.9%
Sweet Corn (fresh)	24.825	22.713	(1988) 24.825	+1.087	10.3%
Tomatoes	17.432	11.257	(1988) 17.434	zero	7.25%
Green Beans (fresh)	9.020	6.828	(1983) 9.283	zero	3.75%
Strawberries*	8.772	8.273	(1987) 9.104	+0.271	3.65%
Cauliflower	8.771	9.645	(1984) 11.677	zero	3.65%
Green Beans (processed)	8.520	12.435	(1980) 19.134	-1.038	3.54%
Lettuce	6.833	9.361	(1981) 13.412	zero	2.84%
Cucumbers	6.105	5.483	(1985) 5.851	+0.220	2.54%
Sweet Corn (processed)	5.292	8.442	(1987) 11.005	zero	2.20%
Carrots	4.030	5.081	(1986) 7.266	+0.360	1.68%
Celery*	3.629	3.253	(1983) 4.126	zero	1.51%
Green Peas (processed)	3.376	5.049	(1985) 8.564	zero	1.40%
Cabbage for Kraut	1.943	2.390	(1981) 3.199	-0.080	0.81%
Beets	1.580	1.593	(1980) 2.807	-0.170	0.66%
TOTAL	240.431				100%

\*Includes both fresh and processed

VEGETABLES

market sweet corn, strawberries, cucumbers, and carrots have a positive value trend while potatoes, processed green beans, kraut cabbage, and beets have a negative trend. Of all the commodities listed in Table V only fresh market sweet corn and tomatoes had their "best year" in 1988 (column four). Potatoes, onions, and fresh market cabbage and sweet corn collectively represented 64.5% of the total state value or production (based only on figures reported by New York State Agriculture and Markets.).

Table VI indicates the continued increases in per capita consumption of some selected vegetables.

TABLE VI...PER CAPITA UTILIZATION, IN POUNDS  
1970-1988

Year	Onions (Fresh & Potatoes Processed)* (Fresh)+		Snap Beans		Sweet Corn			Total
			Canned	Frozen	Canned	Frozen	Fresh	
1970	12.4	62.3	4.7	1.2	14.3	5.8	7.77	27.87
1971	13.1	56.1	4.6	1.3	14.8	5.5	7.45	27.75
1972	12.6	57.9	4.6	1.36	15.0	5.4	7.77	28.17
1973	12.5	52.4	4.9	1.7	14.5	6.0	7.91	28.41
1974	13.3	49.3	4.9	1.7	13.5	5.9	7.73	27.13
1975	13.4	52.6	4.4	1.4	12.0	6.3	7.77	26.07
1976	13.1	49.4	4.9	1.3	13.1	5.9	8.15	27.15
1977	13.5	50.1	4.8	1.2	14.1	7.4	7.76	29.26
1978	13.7	46.1	4.8	1.4	13.2	6.3	7.41	26.91
1979	14.7	49.6	4.7	1.5	12.5	6.8	7.32	26.62
1980	13.7	51.0	4.5	1.6	12.9	6.4	7.32	26.62
1981	13.1	45.7	4.6	1.5	12.1	6.2	7.24	25.54
1982	15.2	46.6	4.2	1.53	11.4	5.7	7.24	24.34
1983	15.3	49.3	4.0	1.70	11.5	6.6	7.39	25.49
1984	16.1	48.8	3.6	1.7	10.1	7.9	7.70	25.70
1985	16.5	46.6	3.7	1.7	11.7	7.8	7.70	27.20
1986	17.88	49.6	3.8	1.5	11.9	7.9	7.2	26.91
1987	16.3	47.0	3.7	2.0	10.5	7.9	7.3	25.70
1988	16.8	47.2	3.5	2.1	10.3	8.2	7.5	26.0

\* Shrinkage and loss accounted for.

+ Crop year not calendar year.

Source: Vegetable: Situation and Outlook Yearbook, USDA, Economic Research Service,  
TUS-243, November 1989.

ORNAMENTALSTABLE I....SELECTED DESCRIPTIVE STATISTICS OF WOODY ORNAMENTAL  
INDUSTRY SURVEY RESULTS FOR NEW YORK IN 1989

Characteristic	Mean	Median	Range
Years in Business	26 Years	20 Years	144 to 0
Number of Permanent Employees	3.9	5	100 to 0
Number of Temporary Employees	8.8	3	45 to 0
Number of Trade Shows the Firm Participates in Per Year	0.8	0	10 to 0
Percentage of Sales to Repeat Customers	75%	80%	100% to 15%
Percentage of Gross Sales Allocated to Advertising	3.6%	5%	30% to 0%
Total Annual Sales of Firms	\$480,000.00	\$75,000.00	\$7,000,000 to \$6,000

Table I presents a very small set of descriptive statistics which were generated this past year. A mail survey of nearly 220 nurseries in the state was conducted. The survey was part of a National Nursery Industry Survey which was done in 25 states. The analysis of the national results will begin during 1990. The respondents to the state survey were heavily weighted by Christmas tree producers. Nonetheless, the statistics in Table I are revealing. First, the reader should note the differences between the "mean" and the "median". What the difference indicates is the degree to which the larger firms skew the means. For example, the mean for total annual sales is \$480,000, but the median is only \$75,000--half the firms have annual sales of less than \$75,000.

The survey also provided information with regards to: the use of computers in the operation of the business; type of business organization; types of plants sold by nurseries; factors limiting the expansion of the business; monthly distribution of sales; type of customers for nurseries; method(s) of pricing; transportation used for product distribution; and the method(s) of advertising utilized by nurseries. In short, the preliminary results indicate:

ORNAMENTALS

- Computer Usage--Less than 50% of the firms use computers and those who use them primarily use them for word processing. However, nearly 30% plan to incorporate computers into their business within five years.
- Business Organization--Nearly half (42%) are "proprietorships". The remainder are mostly incorporated in one form or another.
- Types of Plants Sold--More than half the respondents sold "deciduous shade and flowering trees". The next largest category was "evergreen trees" and nearly 25% of respondents only sold evergreen trees.
- Factors Limiting Expansion--In descending order, the most limiting factors are: capital availability; labor; land costs; and skilled management.
- Monthly Sales Distribution--April and May are the heavy sales months followed by October and December.
- Customers--Retailers followed closely by landscape firms are the primary customers. Some firms only sell to retailers or only to landscape firms.
- Pricing--Cost of production and competitors prices are the most used methods for determining selling price. Significantly behind is market demand.
- Transportation--Three-quarters of respondents ship 100% of their product in trucks. One firm ships 100% through parcel post or UPS and three firms air freight some of their sales.
- Advertising--The most common medium for advertising are: newspapers, catalogs, and yellow pages.

Table II reveals that the national wholesale value of floriculture products declined by 2.4% between 1987 and 1988. However, the 1987 figures have been changed significantly. The explanation for the change in figures will be presented in the discussion of Table III. Suffice it to say that the demand for cut flowers and bedding plants continues to increase while foliage plants will most likely continue to decrease in wholesale value. New York production of the products listed in Table II represents 3.9% of the national wholesale value of sales. This is a slight increase over last years share.

## ORNAMENTALS

TABLE II.....SUMMARY OF U.S. FLORICULTURE CROPS WHOLESAL  
VALUE OF SALES, 1987 AND 1988 - 1,000 DOLLARS

	1987		1988		De/Increase Over 1987
	Value	Percent of Total	Value	Percent of Total	
Cut Flowers	439,473	19.2%	452,479	20.2%	+ 13.0%
Potted Flowering Plants	511,169	22.3	494,231	22.1	-3.3
Foliage Plants	515,332	22.5	476,967	21.3	- 7.4
Bedding Plants	739,004	32.2	724,256	32.4	-2.0
Cut Greens	88,471	3.9	89,564	4.0	+ 1.2
Total Value	2,293,449	100.0%	2,237,497	100.0%	-2.4

Source: Floriculture Crops - 1988 Summary, USDA, National Agricultural Statistics Service, Agricultural Statistics Board, April 1989.

The first observation about Table III is that the figures included in it have changed considerably from last year. During the years (every five-years) in which the Census of Agriculture (a Census was done during 1987) is conducted, significant more detail is generated for the agricultural sector. One result is that the figures reported for 1987 have been modified after the Census figures were released. For example, the "Total of Reported Floriculture Crops" presented in last years Outlook Handbook was \$70,585,000 (1987). The updated figure for 1987 turned out to be \$90,521,000!! A change of 28%.

Given that almost all of the 1987 figures have changed significantly, it is difficult to make comparisons to the 1988 figures because 1987 was an "unusual" reporting year. Nonetheless, a perusal of Table III reveals that the industry continues to grow. The "Total Reported Floriculture Crop" in 1985 through 1988 have been: \$60.06, \$82.32, \$90.52 (updated), and \$88.35 million dollars. Though the figures are in nominal terms the 'deflated' figures would also indicate industry growth.

ORNAMENTALS

In 1988, "Potted Flowering Plants" represented 28.7% of total wholesale value. The next largest groups are "Bedding Garden Plants" with 25.7%; "Other Potted Plants" with 21.4% of total wholesale value; "Cut Flowers" with 18.7%; and "Foliage for Indoor/Patio Use" with 5.5%. Of the five categories listed on Table III, only "Potted Flowering Plants" decreased in value between 1987 and 1988 (-17.1%) and within the category only "African Violets", "Finished Florists Greens", and "Other Flowering Plants" decreased in value.

The outlook for 1990 is better in the northeast than in the rest of the country. The northeast economy is relatively stronger and has the highest per capita income in the country. Though the rates of increase may not be in the two-digit category growth is still expected. It will be interesting to see how next years "updates" of the 1988 figures change.



ORNAMENTALSTable III...COMMERCIAL PRODUCERS, QUANTITIES SOLD, AND WHOLESALER  
VALUE OF SELECTED FLORICULTURE CROPS, NEW YORK, 1988

	Commercial Producers <sup>1</sup> Number	Quantity Sold	Wholesale Value \$1,000
<u>Cut Flowers</u>			
Carnations			
Standard	5	21,000 blooms	5
Chrysanthemums			
Standard	40	452,000 blooms	324
Pompon	55	243,000 bunches	455
Roses			
Hybrid Tea	17	14,860,000 blooms	10,744
Sweetheart	14	6,428,000 blooms	3,310
Other Cut Flowers	79	-----	1,686
Total			16,524 (+3.8%) <sup>2</sup>
<u>Potted Flowering Plants</u>			
African Violets	39	1,742,000 pots	1,980
Chrysanthemums	136	2,399,000 pots	6,690
Finished Florist Azaleas	92	339,000 pots	1,245
Easter Lilies	163	287,000 pots	1,177
Other Lilies	49	430,000 pots	1,273
Poinsettias	299	2,252,000 pots	8,070
Other Flowering Plants	296	1,867,000 pots	4,914
Total			25,349 (-17.1%)
<u>Foliage For Indoor/Patio Use</u>			
Potted Foliage	115	-----	2,972
Foliage Hanging Baskets	105	525,000 baskets	1,853
Total			4,825 (+22.6%)
<u>Bedding Garden Plants (flats)</u>			
Geraniums	157	175,000 flats	1,213
Flowering Foliage Plants	675	2,707,000 flats	17,596
Vegetable Type Plants	533	621,000 flats	3,906
Total			22,715 (+5.1%)
<u>Other Potted Plants</u>			
Hardy Garden Mums	221	1,000,000 pots	1,860
Geraniums (cuttings)	492	6,567,000 pots	7,546
Geraniums (seed)	168	3,131,000 pots	2,113
Other Foliar Plants	395	3,860,000 pots	6,565
Vegetable Plants	179	1,168,000 pots	852
Total			18,936 (+2.5%)
Total of Reported Floriculture Crops			88,349 (-2.4%)

<sup>1</sup> More than \$10,000 in gross sales of all floriculture crops.<sup>2</sup> Percentage change from 1987 sales.Source: Floriculture Crops 1988 Summary, U.S. Department of Agriculture, National  
Agriculture Statistics Service, Agricultural Statistics Board, April 1989.

## Situation and Outlook Summary

New York has the distinction of being the largest importer of poultry products from other states in the nation. Over two billion dollars worth of poultry and eggs are imported from the rest of the country each year. Nevertheless, there is a poultry industry in the state which is a leading producer of ducks, a significant producer of eggs and a small producer of broilers and turkeys. All told, the retail value of poultry production in New York is about \$100 million.

The 1990 outlook for these poultry products in New York and in the country as a whole is bright for eggs and cloudy for broilers and turkeys. In spite of an ongoing decline in the per capita consumption of eggs, an even steeper drop in production has paved the way for a profitable period of table egg production. Strong and rising demand for broilers and turkeys has been outpaced by production increases in these commodities.

### Egg Industry

The egg industry has endured a 40 year long steady erosion in demand which has cut per capita consumption from an unusually high 33 dozen during World War II to just 20 dozen today. The reasons for this dramatic decline are many but probably the most important is the disappearance of the "American style" breakfast.

Declining per capita consumption and increasing production per hen have brought about periodic downsizings of the national layer flock. This process has been affected almost exclusively by the retirement of the highest cost producers. The year 1989 marked the end of one of the downsizing periods. As can be seen on figure 1, the national flock was reduced significantly in each of the last two years, giving up 17 million hens.

As can be seen in figure 2, the New York state flock has followed the national trends, declining for the last 20 years from over 10 million in the late 1960's to less than 4 million in 1988. The flock appears to have stabilized at about 4 million layers after the latest downsizing.

This large two year reduction of the national laying flock has resulted in the extraordinary returns now being enjoyed by the nations' 1,500 egg producers (see figure 3). In 1990 production will probably rise one or two percent in the face of a continuing decline in per capita consumption but production should, nevertheless, remain profitable through the first two quarters at least.

Fig. 1

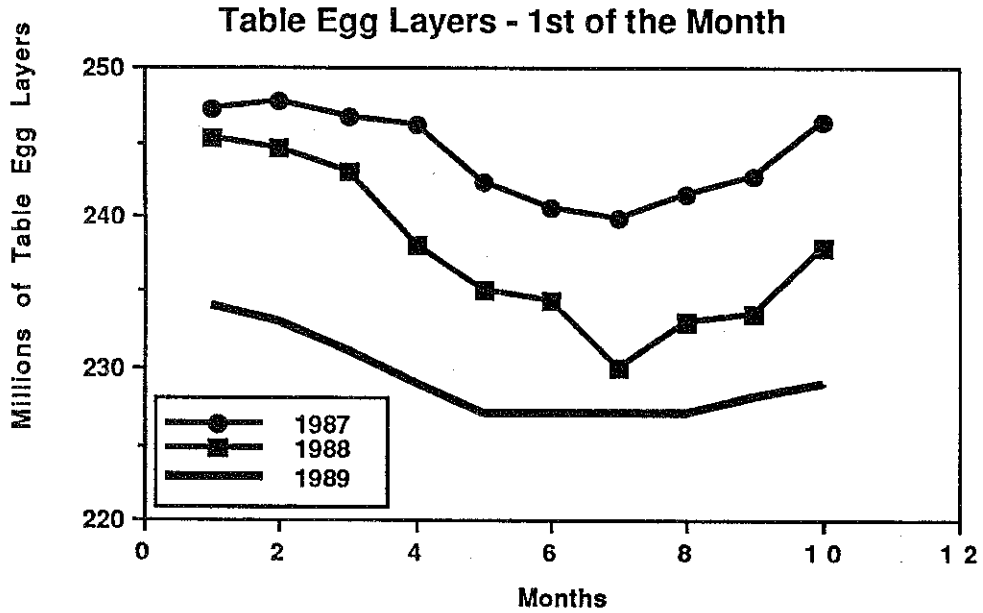


Fig. 2

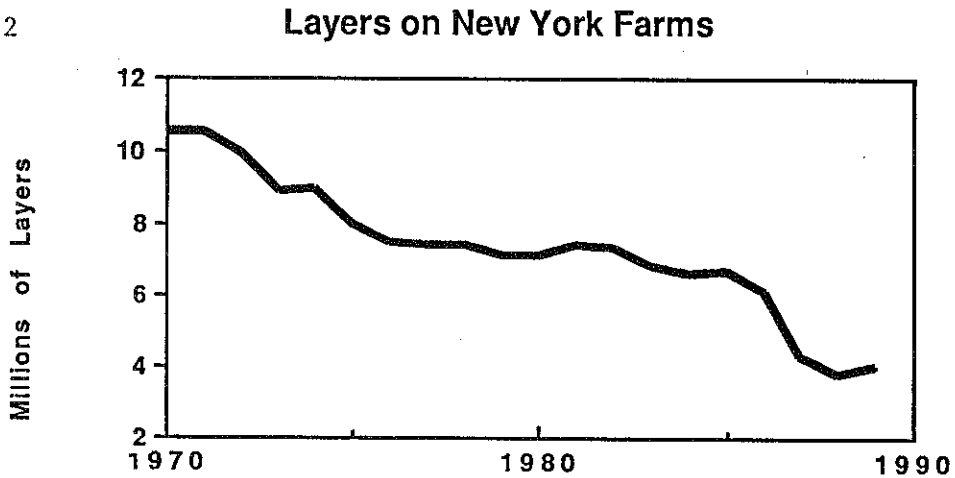
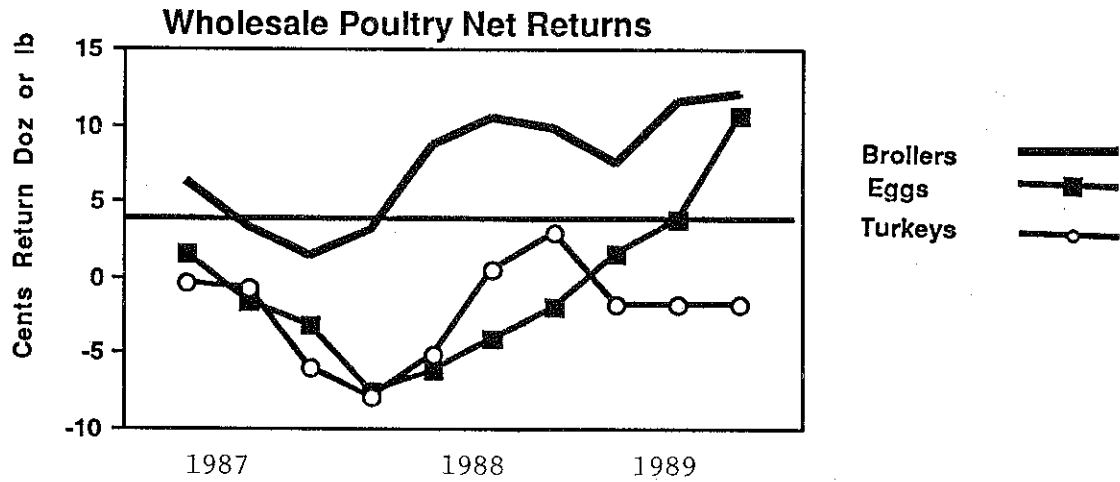


Fig. 3

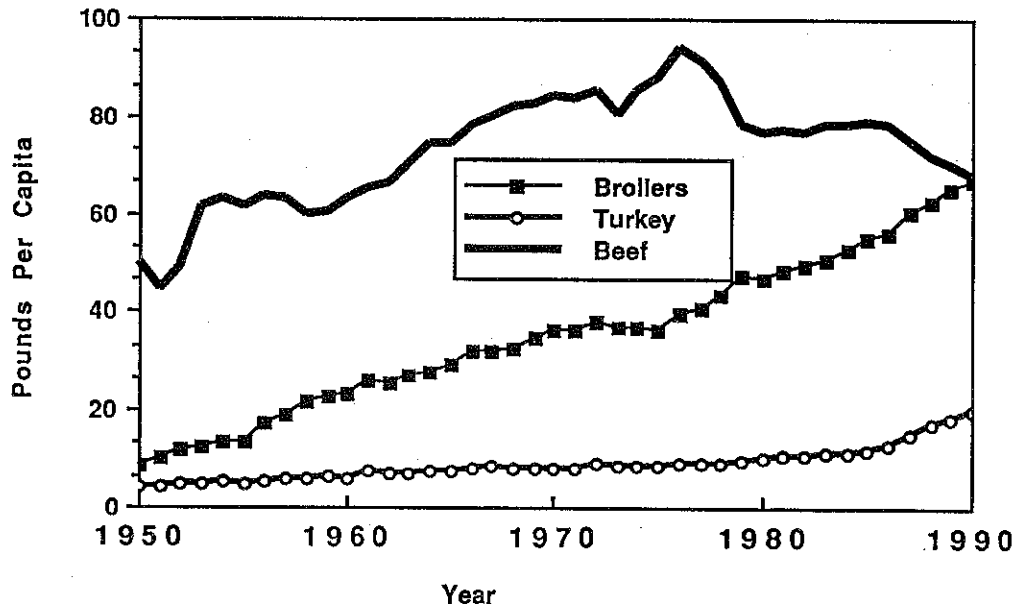


Poultry Meat Industry

In marked contrast to the egg industry, the poultry meat industry has experienced rapid growth during the last 40 years. Broiler per capita consumption has grown from 8 pounds in 1950 to over 64 pounds today and is likely to exceed the consumption of beef in 1990 ( See figure 4).

Fig. 4

Meat Consumption - United States

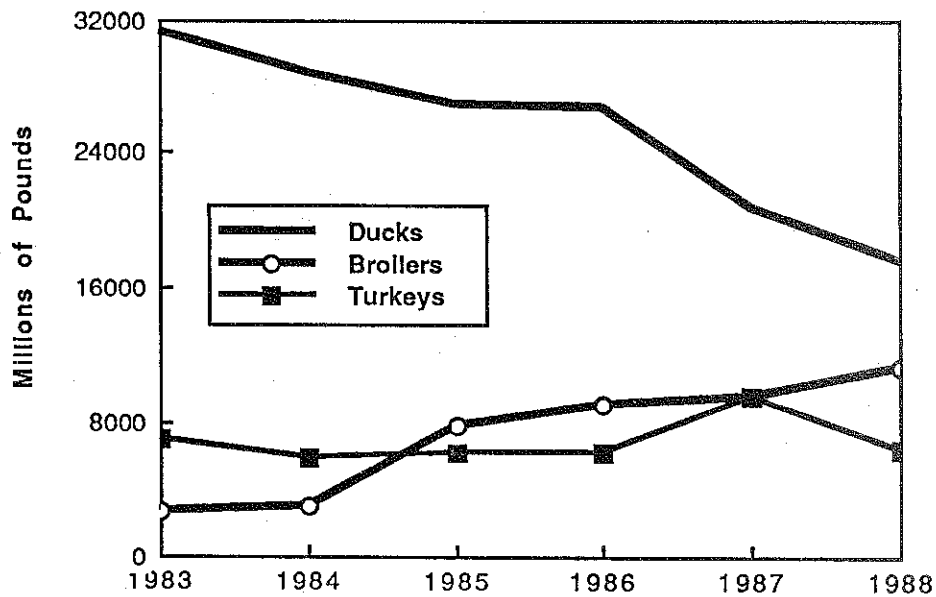


In spite of the good demand for both broilers and turkeys, both industries will have supply side problems in 1990. Broiler production will grow at a slightly too fast a rate of 6 to 7 percent in 1990. Nevertheless, producers will remain in the black as long as consumer income remains strong. A period of decreasing consumer income coupled with a 6 to 7 percent increase in production would spell disaster. The turkey industry also continues to expand at a 6% rate which is a little too fast for the market. The industry is likely to experience losses in the first two quarters and return to profitability in the third and fourth quarter.

Producers in New York have participated somewhat in the increased popularity of poultry meat. Both broiler and turkey production have risen during the 1980's and there is potential for additional growth in niche markets. Long Island duck production has been in a long decline due to the increasing difficulty of continuing to produce in that populated part of the state.

Fig. 5

Live Production of Poultry Meat



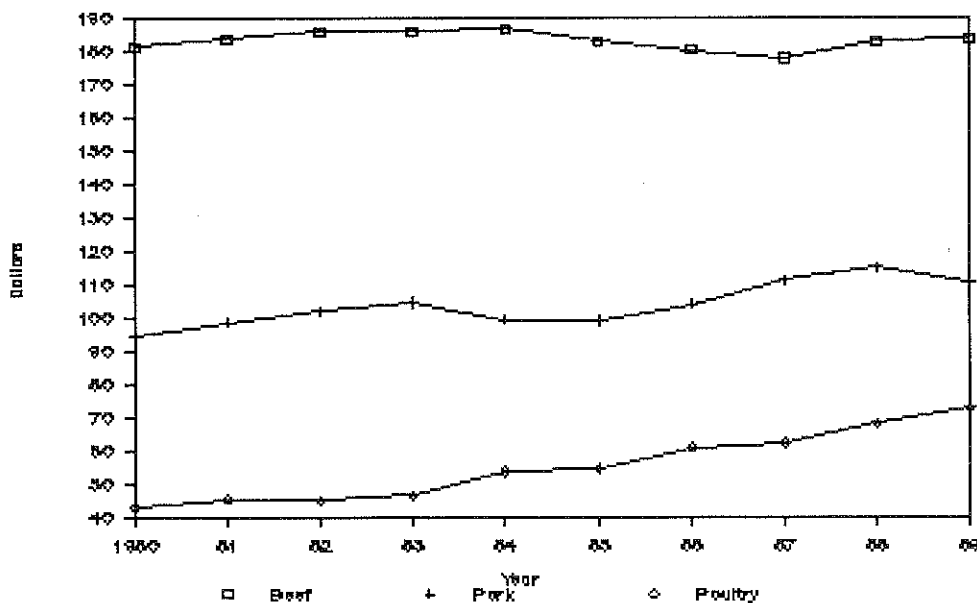
## Livestock Situation and Outlook 1990

Total meat production (red meat, pork and poultry) is expected to set record highs in 1989 and 1990. Economic Research Service (ERS) forecast 1990 increases in production of beef, pork and poultry production. Expansion in the production base will continue to grow in 1990 responding to generally positive returns to producers. Livestock producers face lower feed costs and higher output prices than a year ago. In October 1989, corn was about \$.40/bu below a year earlier and soybean meal was about \$ 60/ton lower.

Demand for meat products is correlated with disposable income. Currently a consensus concerning the fate of consumer income in 1990 does not exist. Many economists predict a long awaited decline in the U.S. economy. Weaker growth or a decline in per capita income in 1990 in conjunction with a greater supply of meat and poultry could depress market prices. However, the slight increase in beef and pork supplies may be offset by expected population growth resulting in fed beef and pork prices just slightly above 1989 averages.

The per capita consumption of all meat has increased in 1989. However the mix of the meats in the consumers market basket has changed. The per capita consumption of beef has declined from 78 pounds in 1979 to an estimated 1989 consumption of 73.4 pounds. The market share of the consumers dollar spent on beef, pork and chicken has changed correspondingly. Figure 1. depicts the expenditures per person for red meat and poultry from 1980 to 1989.

Figure 1. Expenditures per Person for Red Meat and Poultry

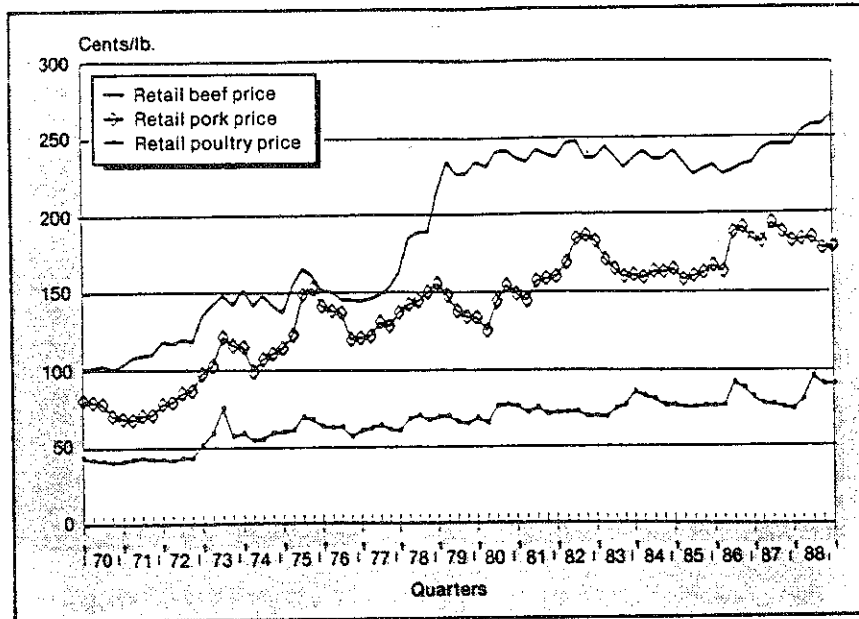


Beef Demand

The shift in consumer preference from beef to poultry is due to a variety of factors including diet and health concerns over fat and cholesterol and consumer demand for convenience foods. However the impact on beef demand from changing tastes and preferences is minor when compared to the response to price differences between beef and poultry. In 1970 the beef price was approximately twice that of broilers. By 1988 the beef price was three times the price of broilers (figure 2). Because of greater industry efficiency, poultry operators have been able to produce more at a lower price and still cover costs of production.

Recent research indicates that if beef production costs were lowered the consumption response would expand the industry significantly. Drover's Journal quoted University of Chicago economist D. Gale Johnson : "If the beef industry can lower retail beef prices to 2.5 times the cost of poultry, the consumption would increase 5 to 10 pounds (per capita)." However, the degree to which the beef industry will be able to decrease production costs is difficult to ascertain. The pressure from competitive meats will continue. The national broiler council projects that by 1995 it will have a 41.7 percent market share compared to beef's 25.8 and pork's 25 percent share.

Figure 2. U.S. Retail prices for beef, pork and poultry



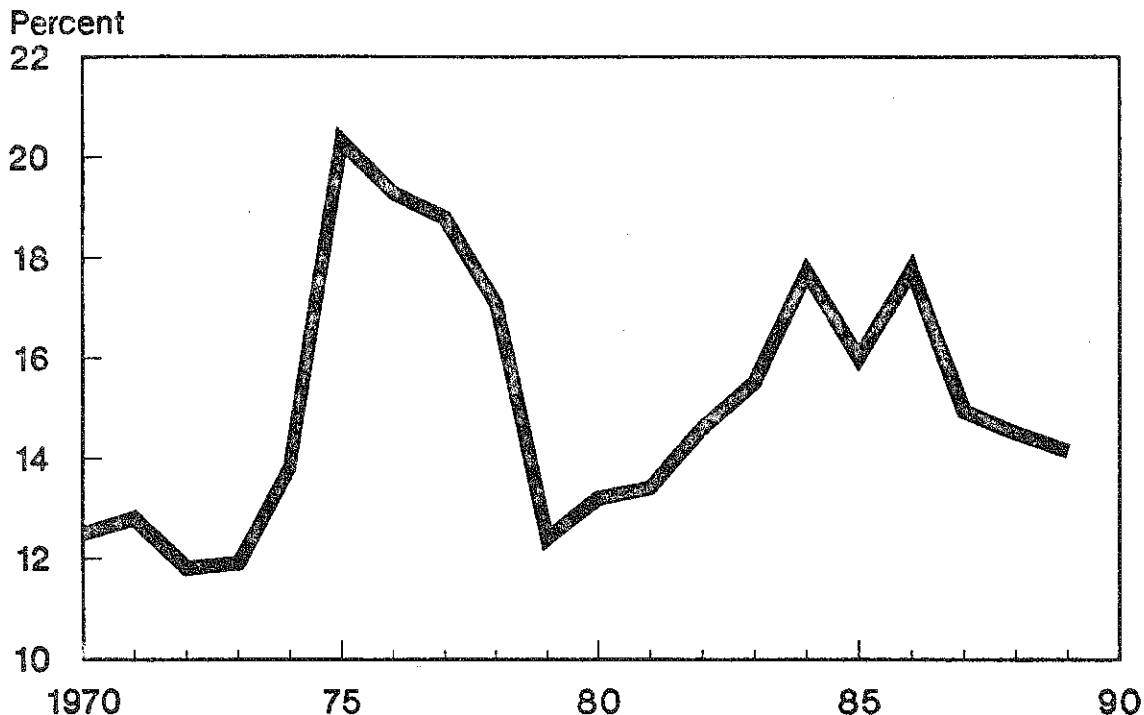
Recent studies indicate that demand for beef stabilized during 1988 and 1989. The decrease in demand for beef has moderated in response to increasing disposable income, promotion and research showing that nutritional objections to beef have been overstated. Programs funded by beef check-off dollars have improved the price of fed cattle modestly (\$1.00-2.30/cwt). Deflated beef prices are not expected to drop in the next few years as they did between 1979 and 1988, even though inflation adjusted demand may be flat.

### Beef - Supply

Several factors influence the beef supply: the size and composition of the national herd, slaughter characteristics, cost of production, world trade, and market psychology. The supply of beef is traditionally cyclic. Total industry cost increases of 12 percent between 1982 and 1984 resulted in losses of more than \$100/head by 1985, triggering the herd liquidation that occurred from 1985 to 1987. Lower production costs lead by grain prices 50 percent below highs in 1983 and 1984 resulted in positive net returns in 1987. The quantity of beef produced in 1987 through 1989 declined following a five year herd liquidation. This has resulted in the stronger cattle prices and especially feeder calf prices of 1988 and 1989.

The strong feeder calf prices have encouraged producers to rebuild their herds. A declining heifer slaughter indicates a modest expansion of the national cowherd. In the first eight months of 1989 heifer slaughter had declined 3.7 % from the same time period in 1988. This is also reflected in the decrease in the percent of the cow herd slaughtered (Figure 3). Therefore a 1% increase in the beef herd is predicted in 1989 and a 2 % increase is predicted for 1990. However there is a three year lag before holding heifers back is reflected as increased beef production.

Figure 3. Percent of cow Herd Slaughtered





The relatively slow herd growth, despite being in the fourth year of profitability, is due to several factors. Capital acquisition has been difficult for some producers because of equity and bank problems in 1986 and 1987. The 1987-88 drought forced breeding stock to slaughter. Tax reform has caused producers to have lower after tax income than before 1986 and may be discouraging producers from keeping back cows.

The cost of production was below 1988 levels in 1989 due to lower grain prices. This trend is expected to continue into 1990 as the corn prices are expected to follow the loan rate and the farm bill calls for declining support prices. The cost of production for feedlots has been increased by the relatively high price of feeder calves. Feedlots competing to keep their lots full have bid up the price and weight of feeder calves. Carcass weights have also increased as feedlots attempt to get more poundage out of a limited number of animals.

In 1989, beef and veal exports are estimated to reach a record 1 billion pounds, up 46 percent from 1988 due largely to an increase in the Japanese market. In 1990 exports may rise 12 to 15 percent over 1989. Beef and veal imports in 1989 are predicted to decline about 8 percent from 1988 due to lower supplies from Australia. Declines are also expected in 1990 imports.

Stable and stronger cattle prices in 1990 will require continued support from consumers who already are paying near record prices for some retail beef cuts. But, based on relatively stable production and demand, prices are expected to range from \$71 to \$77/cwt for 1990, with slightly higher prices in the first half (\$72-78). Beef production is projected to be level with 1989 production for the first two quarters of 1990 and increase a modest 1 % for the year. This level production indicates cull cattle prices similar to 1989 levels.

### Hogs

The Economic Research Service predicts pork production increases in 1990 of about 2 % and annual average barrow and gilt prices between \$ 42 and \$ 48 /cwt. Hog prices were expected to be depressed this fall and winter 1990. However, strong exports and declining imports came to the rescue. U.S. pork imports in 1989 of about 950 million pounds will be 16 percent below 1988 levels. In the mean time, U.S. pork exports, mostly to Mexico and Japan, should be about 240 million pounds in 1989 up from 195 million pounds in 1988. Sales to the U.S.S.R. and Eastern Europe may continue to boost exports in 1990. However, it is doubtful whether the 1990 export demand will meet the 1989 mark.

Based on actual and intended farrowing, a large supply of slaughter hogs coming to market over the next six months means that live hog prices are likely to drop below \$40 per hundred weight this winter. Prices should then recover to the mid \$40's during the spring and summer of 1990.

Sheep and Lambs

Sheep are a fraction of the national livestock market, but are gaining importance as a livestock enterprise in New York State. In 1988, the United States ranked 13th among sheep producing countries with 10 million head. Lamb consumption is currently less than 1% of total red meat consumption and .6% of total meat consumption. However, sheep production in NYS has shown a steady expansion. The New York State sheep and lamb inventory increased 29 percent in 1988 from 63 to 81 thousand head.

Nationally, 1989 slaughter numbers have been up and prices down compared to 1988. The mature lamb slaughter for the first 10 months of 1989 is 19% greater than the same period the previous year. The total lamb slaughter is up 1.8 % over 1988. The increase in slaughter numbers is due in part to drought conditions in the Western States.

This increase in slaughter of mature sheep and the resulting decrease in the breeding herd has precipitated a 1% or better decline in the 1990 production. In 1990 production is expected to be 85 million pounds in the first quarter and 82 millions pounds in the second quarter. Prices for 1990 should be higher than 1989, averaging \$66 to \$72 /cwt. The higher end of this range should be seen in March and April as holidays increase demand in mid-April 1990. New York State producers may experience better than national lamb prices because of a quality grain-fed carcass. New York producers also have the ability to premium price lamb and light-weight lamb to niche and ethnic markets.

Wool prices have been depressed in 1989 and will tend to remain low in 1990 as Australia has a large inventory in storage. Also, China, a large wool buyer has decreased purchases sharply because of domestic and economic problems. 1990 wool prices are estimated to be 25 % below 1988 prices on average with large regional variations.

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