Massachusetts Agriculture 1980

Edward J. King,
Governor

John A. Bewick,
Secretary of Environmental Affairs

Frederic Winthrop, Jr.,
Commissioner of Food and Agriculture

IN MEMORIAM

"Massachusetts Agriculture 1980" is dedicated to Dr. Gene McMurtry. The leader of the Massachusetts Cooperative Extension Service, Gene passed away January 4, 1981, after a long battle with cancer.

Dr. McMurtry will be sadly missed by all who knew him and worked with him. His contributions to the agricultural, community and rural development of this state were truly outstanding.

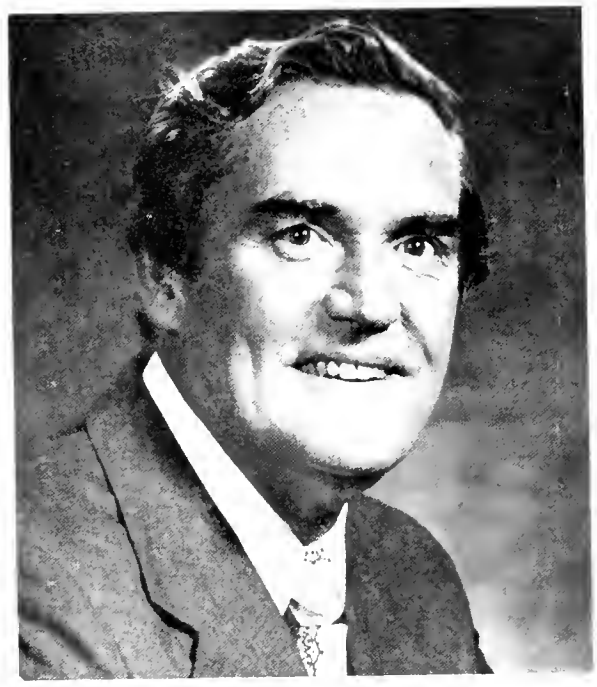
He helped Massachusetts in many ways. He served as Associate Dean for the College of Food and Natural Resources and as Associate Director for the Cooperative Extension Service at the University of Massachusetts in Amherst. He also served as Chairman of the National Extension Committee on Policy (ECOP) committee on community resources development and public affairs; member of the Chancellor's Committee on Continuing Education at UMass; Chairman of the Massachusetts Rural Development Committee; President of the Community Development Society of America; member of the Church of Jesus Christ of Latter Day Saints in Amherst; and member of the Congregational Church in Hatfield.

Dr. Gene McMurtry
Farmer, Educator and Administrator
1930 - 1981

Dr. McMurtry received many awards and was recognized nationally for his contributions to agriculture and the development of rural communities. Gene was the recipient of the gold medal award from the Massachusetts Society for the Promotion of Agriculture in 1980, commending his role as educator and Extension leader. In 1979, he was the recipient of the Gene McMurtry award, commemorating his work in bringing together agencies and organizations working with rural communities. He also received the USDA award for superior service, and was listed in "Who's Who" and "American Men in Science."

Gene McMurtry was a very special person because of his accomplishments, his hard work and his convictions, and also because of his sense of humor and his winning way. He has touched the lives of many residents of both urban and rural areas and they are the better for it. Gene McMurtry will be long remembered.

A MESSAGE FROM GOVERNOR EDWARD J. KING



As energy and transportation costs continue to rise, it makes good economic sense to grow and process more of our food needs locally.

Stepping up production and stimulating consumer demand for locally grown goods are efforts that go hand in hand. Both consumers and farmers have been very receptive to our state campaign promoting "Massachusetts grown and fresher" foods, and I hope you will also buy the many other food products "made in Massachusetts." All the food companies that process goods in our state provide jobs and bolster the economy of our Commonwealth.

This year the ten Northeastern State Departments of Agriculture, working in concert with the Coalition of Northeastern Governors have announced a new effort to strengthen the agricultural economy of our region. I have personally endorsed the recently published "Food and Agriculture Policy for the Northeast."

A coordinated effort to improve our region's farm economy is long overdue and it will help assure the growth and stability of our local food supply. To increase our production, and protect our remaining land resources, we must make every effort to include agriculture as a full partner in our regional development plans.

Here in Massachusetts we are continuing to make progress with our agricultural preservation program. This innovative and voluntary program represents a commitment by state government to keep our most valuable farmland in production and available for future needs. It is an investment in our local food production capability, and we hope to develop a permanent funding mechanism for this important work.

We are hoping to take other measures to encourage the expansion of the farm and food economy here in our state. The fisheries industry is another vital part of our food production capabilities, and we hope to provide a favorable economic climate for the growth of that industry as well.

I am sure that all Massachusetts residents would want to join with me in saluting their fellow citizens who work on the farms and in the related food and agricultural businesses across the state. This, the first industry to "Make it in Massachusetts," continues to thrive more than 350 years later and provide both livelihood and sustenance.

Make it in Massachusetts

Massachusetts grown... and fresher!

FOREWORD

The year 1980 marks the beginning of a new decade, and there are signs that we may be entering a new era for agriculture in Massachusetts.

Both the recent U.S. Census of Agriculture and the farm statistics recorded here show that farms and farmland acreage are holding steady in Massachusetts. The downward slide, a fact of life since World War II, has apparently stopped. We believe Massachusetts agriculture is turning the corner.

We are finding a much greater understanding and interest by the general public in the agriculture of our state. The demand for local produce is increasing at roadside farm stands and supermarkets. Food coops are also asking for more "Massachusetts grown and fresher" goods and farmers markets have proliferated sevenfold in the last five years. Our Department continues to seek an increase in the market for Massachusetts grown foods and food products through all channels of trade, and welcomes your suggestions and participation in this effort.

Another focal point has been the land issue. The response to the farmland preservation program has been gratifying and the support and funding provided by the Legislature and the Governor have been outstanding.

These and many other Departmental programs are explained in our annual report, which is combined in this publication with the yearly agricultural statistics bulletin.

As seen in the summary on page 42, recorded cash receipts from farm marketings in Massachusetts showed a three per cent increase over the previous twelve months. Receipts were up or held steady in 14 of the 23 major farm categories. The adverse impact of inflation is of course not factored into these statistics.

The estimated retail value of Massachusetts foods produced locally in 1980 is nearly $1 billion, and the retail value of plants and floral products grown in the state is another $75 million. Massachusetts is the number one cranberry producing state in the nation. We are also a leading flower producing state and apples are another important crop for both the fresh and processed market. Dairying remains the single largest agricultural enterprise in the state.

The statistical report in this publication was compiled under the direction of Charles Hammond and Rowland Scranton of the New England Crop and Livestock Reporting Service of the U.S. Department of Agriculture. Many thanks are in order for the fine assistance and cooperation of their office. Also our own Departmental staff must be highly commended, especially Janet Christensen, for making this publication possible.

Frederic Winthrop, Jr.
Commissioner of Food and Agriculture

Massachusetts grown...and fresher!

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A MESSAGE FROM JOHN A. BEWICK,
SECRETARY OF ENVIRONMENTAL AFFAIRS

Massachusetts residents in both rural and urban areas should be concerned about conservation of our agricultural resources. The preservation and protection of our land could make the difference between food shortages and an adequate food supply in the future.

Much of Massachusetts farmland has been converted to non-agricultural uses. Today there are less than 700,000 acres of active farmland in Massachusetts. In 1945, however, there were over two million acres in production. Eighty-five percent of our food supply is imported from other states.

This administration is committed to revitalizing the farming industry by encouraging farmland preservation and by promoting Massachusetts grown products. Our important task is to demonstrate that economic development need not be undertaken at the expense of environmental quality. Soil conservation, pesticide control, nursery and greenhouse inspection, and increased farmland protection are just a few of this administration's ways of improving and protecting the state's agricultural environment.

The people of Massachusetts can also help. We must become more aware of the needs and conditions of our land and make sound efforts to preserve this valuable natural resource. As a government and as a people, we have a responsibility to improve the state's agricultural industry so we can be prepared for the food demands of the future.

MASSACHUSETTS AGRICULTURAL STATISTICS

MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE

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LIVESTOCK REVIEW
1979

CATTLE:

The January 1, 1980 inventory of cattle and calves on Massachusetts farms totaled 103,000 head, 8 percent above a year earlier and 4 percent above January 1, 1978. Total value of the 1980 inventory was $70 million, an increase of $16.8 million from 1979. This increase resulted from both, increase in cattle numbers and value per head. The January 1, 1980 per head value of $680 is a record value. The inventory break down by classes shows milk cows declining in numbers, with other classes showing either increases or no change from 1979.

HOGS:

December 1, 1979 inventory of hogs and pigs on Massachusetts farms totaled 60,000, unchanged from both 1978 and 1977. Of the total, 15 percent or 9,000 head were breeding animals while 51,000 were intended for market. Farmers marketed 17.8 million pounds of pork during 1979 compared to 16.6 million during 1978. Due to the increased marketings, gross income from hogs and pigs totaled $8,138,000, 4 percent above the previous year.

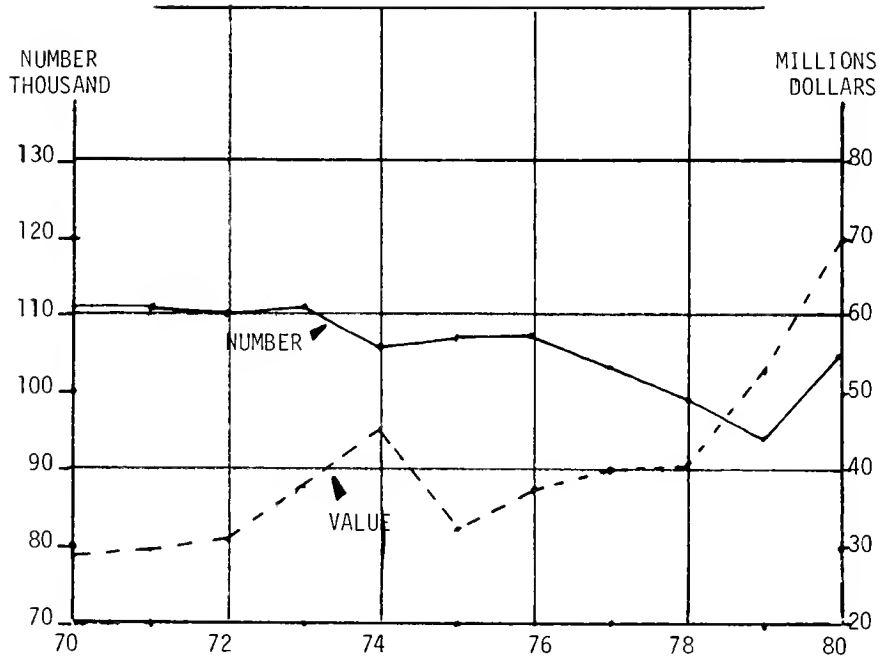
SHEEP AND LAMBS:

Massachusetts sheep growers indicated 7,100 head of sheep and lambs on hand January 1, 1980, 6 percent above the previous year. Value of the 1980 flock totaled $557,000, with average value per head at $78.50. This was well above the $63.00 per head average on January 1, 1979. Market prices for sheep increased $1.00 per hundredweight during 1979 and averaged $39.00 per hundredweight for sheep and $85.00 per hundredweight for lambs. There was 191,000 pounds of lamb and mutton sold during 1979 for a gross income of $199,000. This was down 12 percent from 1978 and a direct result of the decreased marketings.

WOOL:

Massachusetts wool producers sheared 6,600 head during 1979 for a total wool production of 45,000 pounds. The price per pound for sheared wool was a record 84 cents and returned a gross $38,000 to Bay State wool producers.

MASSACHUSETTS CATTLE
INVENTORY, NUMBER AND VALUE



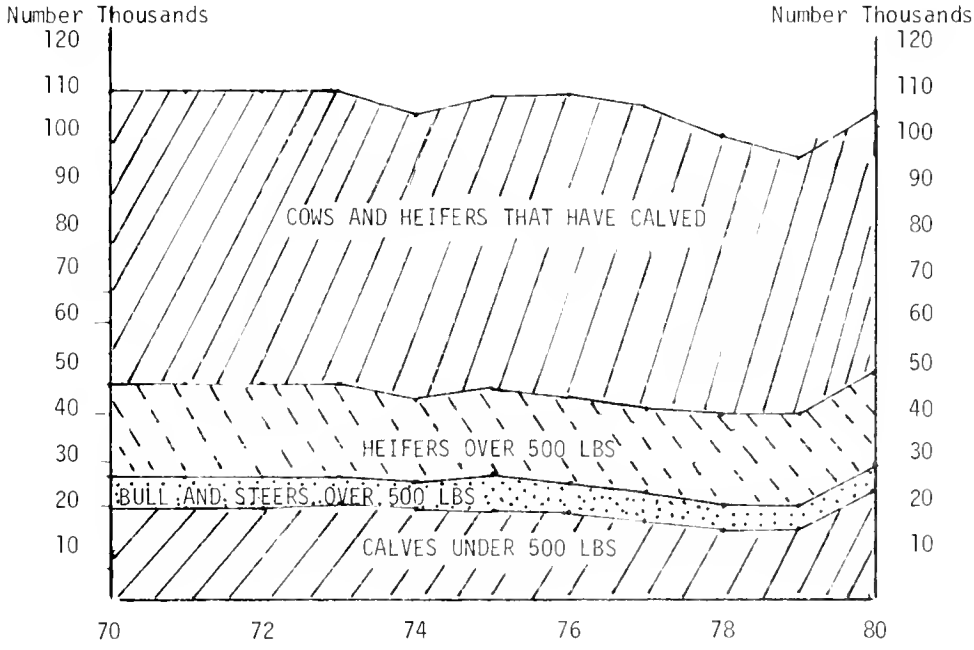
CATTLE: NUMBER AND VALUE OF ALL CATTLE AND CALVES ON FARMS
JANUARY 1, MASSACHUSETTS, 1970-1980

YEAR	NUMBER	VALUE	
		PER HEAD	TOTAL
	1,000 HEAD	DOLLARS	1,000 DOLLARS
1970	111	260.00	28,860
1971	111	270.00	29,970
1972	110	290.00	31,900
1973	111	335.00	37,185
1974	105	420.00	44,100
1975	107	315.00	33,705
1976	107	345.00	36,915
1977	104	380.00	39,520
1978	99	415.00	41,085
1979	95	560.00	53,200
1980	103	680.00	70,040

CATTLE: JANUARY 1, INVENTORY BY CLASSES, MASSACHUSETTS, 1970-1980

YEAR	ALL CATTLE AND CALVES	COWS & HEIFERS THAT HAVE CALVED		HEIFERS 500 LBS. AND OVER			STEERS 500 LBS.+	BULLS 500 LBS.+	STEERS HEIFERS & BULLS -500 LBS.
		BEEF	MILK	BEEF COW REPLACEMENTS	MILK COW REPLACEMENTS	OTHER			
		1,000 HEAD							
1970	111	7	60	2	15	2	2	2	21
1971	111	7	60	2	15	2	2	2	21
1972	110	8	58	2	15	2	2	2	21
1973	111	8	57	2	16	2	2	2	22
1974	105	8	54	2	15	2	2	2	20
1975	107	9	54	2	17	1	3	2	19
1976	107	9	55	2	17	1	3	2	18
1977	104	9	53	2	17	1	2	2	18
1978	99	8	51	2	16	1	2	2	17
1979	95	9	46	3	15	1	2	2	17
1980	103	10	44	3	16	1	3	2	24

MASSACHUSETTS CATTLE INVENTORY NUMBERS



CATTLE AND CALVES: INVENTORY, SUPPLY, AND DISPOSITION, MASSACHUSETTS, 1970-1979

YEAR	ON HAND JAN. 1 ALL CATTLE	CALF CROP	INSHIPMENTS	MARKETINGS 1/ CATTLE	MARKETINGS 1/ CALVES	FARM SLAUGHTER CATTLE & CALVES	DEATHS CATTLE	DEATHS CALVES
			1,000 HEAD					
1970	111	60	13	28	38	1	2	4
1971	111	60	12	29	37	1	2	4
1972	110	60	11	29	33	1	2	5
1973	111	57	10	33	30	1	3	6
1974	105	55	8	27	26	1	2	5
1975	107	56	7	25	29	1	2	6
1976	107	55	7	26	30	1	2	6
1977	104	52	7	22	33	1	2	6
1978	99	47	5	20	26	2	2	6
1979	95	47	1	13	18	1	2	6

1/ Excludes interfarm sales

CATTLE AND CALVES: PRODUCTION AND INCOME, MASSACHUSETTS, 1970-1979

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 LBS. CATTLE	PRICE PER 100 LBS. CALVES	CASH RECEIPTS	VALUE OF HOME CONSUMPTION	GROSS INCOME
	1,000 POUNDS		DOLLARS			1,000 DOLLARS	
1970	22,430	31,456	20.80	30.50	6,852	340	7,192
1971	23,175	32,495	21.10	28.00	7,080	363	7,443
1972	24,660	32,020	24.20	34.00	8,025	416	8,441
1973	28,875	40,115	33.50	44.00	13,717	576	14,293
1974	30,405	32,845	27.50	28.00	9,043	473	9,516
1975	27,430	30,190	22.70	23.80	6,882	488	7,370
1976	24,980	31,590	26.00	28.50	8,283	599	8,842
1977	19,200	26,750	26.20	38.20	7,377	676	8,503
1978	18,380	23,680	41.90	57.00	10,293	1,441	11,734
1979	19,010	14,734	57.00	76.00	8,727	1,520	10,247

HOGS: INVENTORY NUMBERS, PIG CROP AND DISPOSITION, MASS., 1970-1979

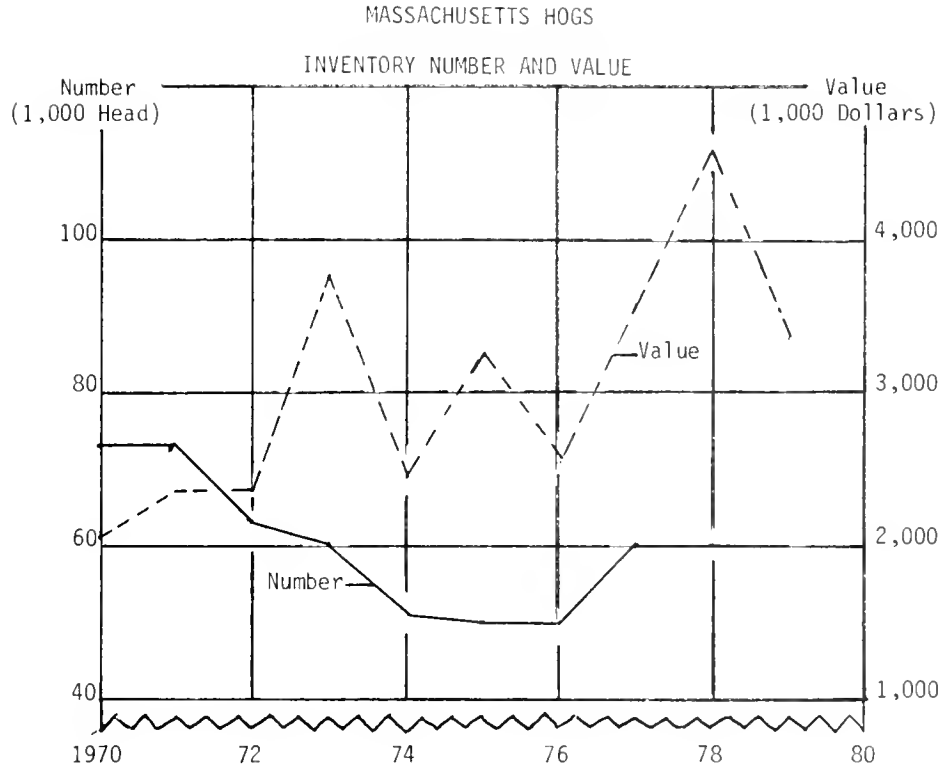
YEAR	ON HAND DEC. 1 PREV. YEAR	PIG CROP		MARKETINGS 1/	FARM SLAUGHTER	DEATHS
		DEC.-MAY	JUNE-NOV.			
	1,000 HEAD				1,000 HEAD	
1970	83	46	47	90	1	12
1971	73	51	47	88	1	9
1972	73	44	43	89	1	7
1973	63	42	43	80	1	7
1974	60	42	41	82	1	6
1975	51	43	39	78	1	4
1976	50	45	37	75	1	6
1977	50	35	43	61	1	6
1978	60	36	41	71	1	5
1979	60	39	42	76	1	4

PIG CROP: SOWS FARROWED AND PIGS SAVED, MASS., 1970-1979

YEAR	SPRING FARROWINGS			FALL FARROWINGS		
	SOWS (1,000 HEAD)	PIGS PER LITTER	PIGS SAVED PER 1,000	SOWS (1,000 HEAD)	PIGS PER LITTER	PIGS SAVED PER 1,000
1970	7.4	6.2	46	7.8	6.0	47
1971	7.6	6.7	51	7.4	6.3	47
1972	7.0	6.3	44	7.0	6.2	43
1973	7.0	6.0	42	7.1	6.0	43
1974	7.0	6.0	42	6.8	6.0	41
1975	7.0	6.2	43	6.8	5.7	39
1976	6.6	6.8	45	5.7	6.5	37
1977	5.0	6.9	35	6.5	6.6	43
1978	5.0	7.2	36	6.0	6.8	41
1979	6.0	6.5	39	6.5	6.5	42

HOGS: PRODUCTION AND INCOME, MASS., 1970-1979

YEAR	PRODUCTION	MARKETING	PRICE PER 100 POUNDS	CASH RECEIPTS	VALUE OF HOME CONSUMPTION	GROSS INCOME
	1,000 POUNDS		DOLLARS		1,000 DOLLARS	
1970	19,139	19,998	18.50	3,540	81	3,781
1971	19,746	19,556	17.50	3,422	77	3,499
1972	19,191	19,835	25.00	4,959	110	5,069
1973	18,862	18,068	37.00	6,685	171	6,856
1974	18,764	19,910	33.00	6,570	254	6,824
1975	19,100	18,260	45.00	8,217	347	8,564
1976	17,891	17,377	45.00	7,820	355	8,175
1977	15,832	14,062	37.00	5,203	292	5,495
1978	17,211	16,640	45.00	7,488	304	7,792
1979	18,640	17,820	44.00	7,841	297	8,138

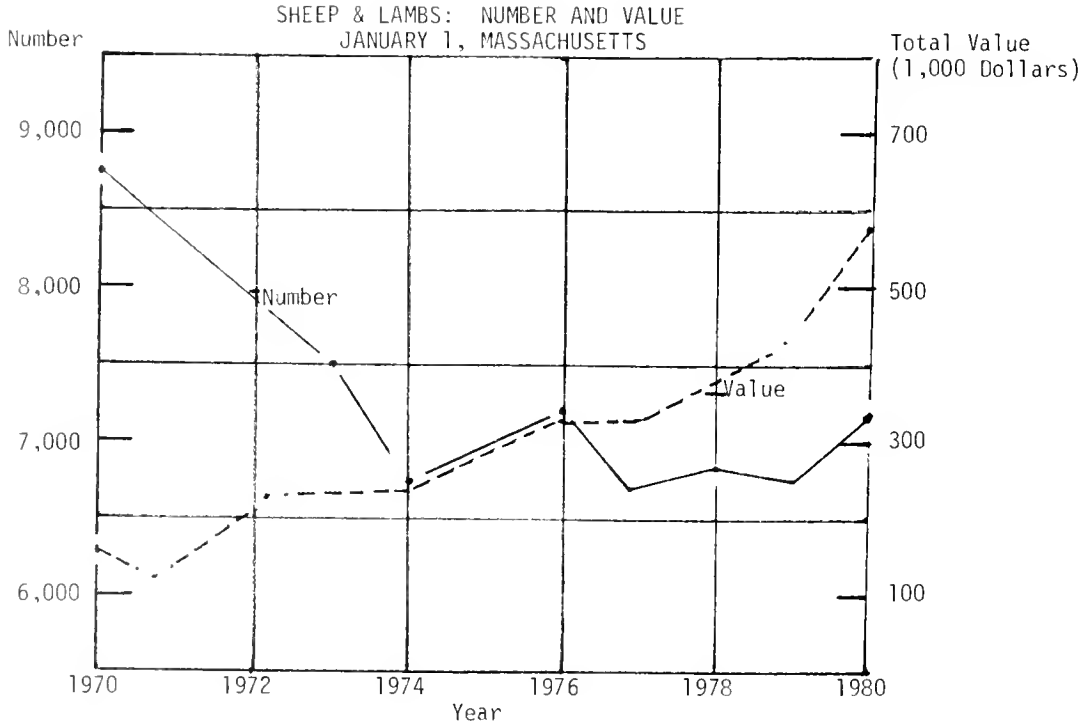


HOGS: NUMBER AND VALUE OF HOGS ON FARMS DECEMBER 1, MASS., 1970-1979

YEAR	NUMBER			VALUE	
	BREEDING	MARKET	TOTAL	PER HEAD	TOTAL
		1,000 HEAD		DOLLARS	1,000 DOLLARS
1970	11	62	73	28.50	2,081
1971	9	64	73	32.00	2,336
1972	9	54	63	37.50	2,363
1973	10	50	60	62.50	3,750
1974	8	43	51	48.00	2,448
1975	8	42	50	64.50	3,225
1976	7	43	50	50.50	2,525
1977	8	52	60	59.50	3,570
1978	8	52	60	76.50	4,590
1979	9	51	60	55.50	3,330

SHEEP AND LAMBS: NUMBER AND VALUE ON FARMS,
JANUARY 1, MASSACHUSETTS, 1971-1980

YEAR	NUMBER	VALUE	
		PER HEAD	TOTAL
	1,000 HEAD	DOLLARS	1,000 DOLLARS
1971	8.2	20.00	164
1972	7.8	20.00	156
1973	7.5	28.00	210
1974	6.9	40.00	276
1975	7.0	46.50	326
1976	7.2	46.00	331
1977	6.7	48.00	322
1978	6.8	53.50	364
1979	6.7	63.00	422
1980	7.1	78.50	557



SHEEP AND LAMBS: INVENTORY NUMBER BY CLASS, JAN. 1, MASSACHUSETTS, 1971-1980

YEAR	ALL SHEEP AND LAMBS	LAMBS			ONE YEAR AND OVER	
		ALL LAMBS	EWES	WETHERS AND RAMS	EWES	WETHERS AND RAMS
				1,000 HEAD		
1971	8.2	1.7	1.4	.3	5.9	.6
1972	7.8	1.4	1.0	.4	5.8	.6
1973	7.5	1.4	1.0	.4	5.5	.6
1974	6.9	1.4	1.0	.4	5.0	.5
1975	7.0	1.5	1.1	.4	5.1	.4
1976	7.2	1.5	1.1	.4	5.3	.4
1977	6.7	1.4	1.0	.4	4.9	.4
1978	6.8	1.6	1.1	.5	4.7	.5
1979	6.7	1.3	1.0	.3	4.9	.5
1980	7.1	1.6	1.2	.4	5.0	.5

SHEEP AND LAMBS: INVENTORY NUMBERS, LAMB CROP AND DISPOSITION, MASSACHUSETTS 1970-1979

YEAR	ON HAND JAN. 1 ALL SHEEP AND LAMBS	LAMB CROP	MARKETING		FARM SLAUGHTER SHEEP AND LAMBS	DEATHS SHEEP & LAMBS
			SHEEP	LAMBS		
	1,000 HEAD					
1970	8.6	6.2	1.6	3.2	.1	1.3
1971	8.2	6.2	1.5	2.8	.3	1.1
1972	7.8	5.6	1.3	2.9	.2	1.1
1973	7.5	5.3	1.4	2.7	.4	1.1
1974	6.9	5.2	.5	2.4	.2	1.1
1975	7.0	5.5	1.2	2.6	.4	1.1
1976	7.2	5.6	1.5	3.3	.3	1.0
1977	6.7	5.7	.8	3.4	.4	1.0
1978	6.8	5.3	1.0	2.9	.5	1.0
1979	6.7	5.1	.8	2.5	.5	.9

SHEEP AND LAMBS: PRODUCTION AND INCOME, MASSACHUSETTS, 1970-1979

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 LBS.		CASH RECEIPTS	VALUE OF HOME CONSUMPTION	GROSS INCOME
			SHEEP	LAMBS			
	1,000 POUNDS		DOLLARS			1,000 DOLLARS	
1970	391	454	8.40	26.00	80	3	89
1971	440	443	10.00	25.50	91	9	100
1972	382	397	12.00	32.50	98	7	105
1973	366	395	14.00	41.00	112	21	133
1974	349	318	17.00	37.00	91	10	101
1975	378	302	26.00	68.00	150	35	185
1976	325	336	28.00	72.00	182	35	203
1977	343	268	29.00	72.00	150	46	196
1978	341	264	38.00	84.00	160	67	227
1979	327	191	39.00	85.00	117	82	199

WOOL: FARM PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1970-1979

YEAR	SHEEP SHORN	WEIGHT PER FLEECE	SHORN WOOL PRODUCTION	PRICE PER POUND	VALUE
	1,000 HEAD	POUNDS	1,000 POUNDS	CENTS	1,000 DOLLARS
1970	7.9	7.2	57	41	23
1971	7.7	6.9	53	31	16
1972	7.2	7.2	52	34	18
1973	6.9	7.2	50	71	36
1974	6.6	7.4	49	62	30
1975	6.4	7.2	46	31	14
1976	6.7	6.9	46	60	28
1977	6.2	7.1	44	78	34
1978	6.3	6.8	43	74	32
1979	6.6	6.8	45	84	38

DAIRY REVIEW
1979

MILK PRODUCTION:

Milk production during 1979 totaled 563 million pounds down 1 percent from the previous year's production of 571 million pounds. Production per cow at 12,511 pounds continued an upward trend that started in 1974 and has set new records each of the last three years. The number of dairy cows during 1979 averaged 45,000 head, down 3,000 head from 1978. The decrease in the number of milk cows continued the long term downward trend.

MILK DISPOSITION AND BLEND PRICE:

Farmers in Massachusetts marketed a total of 554,000,000 pounds of milk during 1979, down 1 percent from 1978. Of the total amount marketed, 13,500,000 pounds were retailed directly to consumers by farmers, compared with 14,900,000 pounds in 1978. Milk used on farms totaled 9,000,000 pounds, of which 4,000,000 pounds were for food and drink, unchanged from 1978. The other 5,000,000 pounds were fed to calves, the same as in 1978.

The annual wholesale milk blend price averaged $12.80 per hundredweight for 1979, $1.30 higher than in 1978. The blend price during the year had a low of $12.00 per hundredweight in May and June and a high of $13.90 in November. The total cash receipts from marketings of milk and cream during 1979 was $73,404,000, up $6,054,000 from the 1978 total of $67,829,000.

MANUFACTURED DAIRY PRODUCTS:

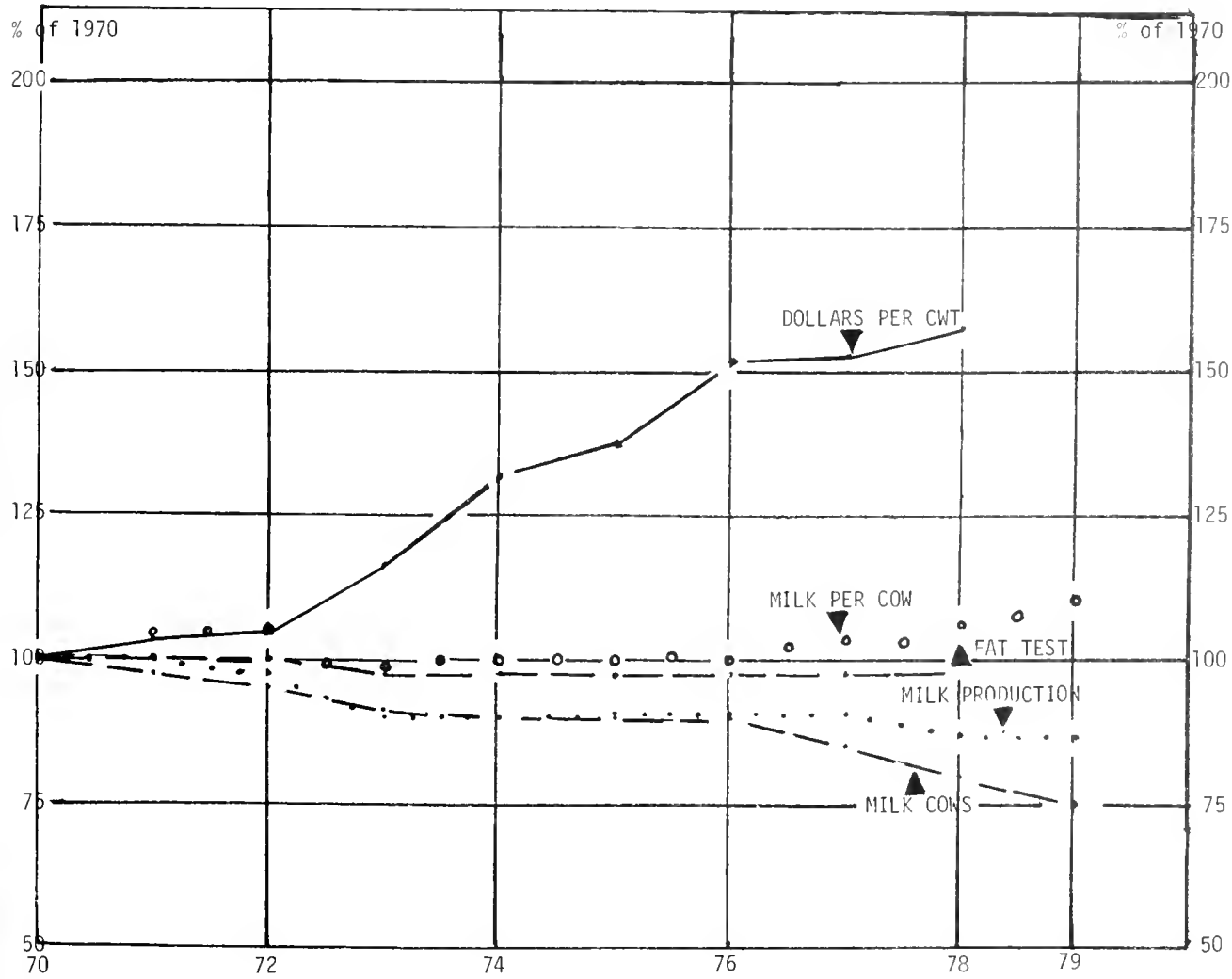
A total of 6,255,000 pounds of cheese was produced in Massachusetts during 1979, down 20 percent from the 1978 production of 7,780,000 pounds. Ice cream production totaled 42,463,000 gallons, down 1 percent from 1978. The production of ice milk totaled 10,454,000 gallons, up 7 percent from 1978. Milk sherbet production totaled 1,829,000 gallons, down 13 percent from the previous year.

MILK: FARM PRODUCTION AND VALUE OF MILK AND MILK PRODUCTS SOLD, MASSACHUSETTS, 1970-1979

YEAR	NO. MILK COWS ON 1/ FARMS	PRODUCTION 2/					CASH RECEIPTS FROM MARKETINGS OF MILK AND CREAM	GROSS FARM INCOME FROM DAIRY PRODUCTS 3/	FARM VALUE OF MILK PRODUCED 4/
		PER MILK COW		PERCENTAGE OF FAT IN ALL MILK PRODUCED	TOTAL				
		MILK	MILKFAT		MILK	MILKFAT			
	THOUS.	POUNDS		PERCENT	MILLION POUNDS			1,000 DOLLARS	
1970	60	10,967	408	3.72	658	24	47,788	48,381	48,758
1971	59	11,153	414	3.71	658	24	48,248	48,846	49,218
1972	57	11,035	409	3.71	629	23	47,441	47,979	48,370
1973	55	10,818	395	3.65	595	22	50,582	51,190	51,646
1974	54	10,981	402	3.66	593	22	56,643	58,717	59,241
1975	54	11,130	404	3.63	601	22	59,884	60,596	61,122
1976	54	11,074	405	3.66	598	22	65,882	66,669	67,215
1977	51	11,706	431	3.68	597	22	65,882	66,556	67,103
1978	48	11,917	437	3.67	571	21	67,350	67,949	68,526
1979	45	12,511	455	3.64	563	20	73,404	73,934	74,598

1/ Average number on farms during year, excluding heifers not yet fresh.
2/ Excluded milk sucked by calves.
3/ Cash receipts from marketing of milk and cream plus value of milk for home consumption and farm-churned butter.
4/ Includes value of milk fed to calves at average returns per 100 pounds of milk in combined marketings of milk and cream.

TREND IN MILK COWS, PRODUCTION, FAT TEST AND PRICE;
MASSACHUSETTS 1970-1979



MILK: QUANTITY MARKETED, PRICE AND CASH RECEIPTS, MASSACHUSETTS, 1970-1979

YEAR	SOLD TO PLANTS			SOLD DIRECTLY TO CONSUMERS			COMBINED MARKETINGS		
	QUANTITY	PRICE PER CWT.	CASH RECEIPTS	QUANTITY	PRICE PER QUART	CASH RECEIPTS	QUANTITY	PRICE PER CWT.	CASH RECEIPTS
	Million Pounds	Dollars	1,000 Dollars	Million Quarts	Cents	1,000 Dollars	Million Pounds	Dollars	1,000 Dollars
1970	595	6.82	40,579	23.3	31.0	7,209	645	7.41	47,788
1971	600	6.96	41,760	20.9	31.0	6,488	645	7.48	48,248
1972	580	7.23	41,934	17.2	32.0	5,507	617	7.69	47,441
1973	550	8.22	45,210	15.3	35.0	5,372	583	8.68	50,582
1974	550	9.50	52,250	14.4	40.0	5,768	581	9.99	58,018
1975	555	9.65	53,558	15.8	40.0	6,326	589	10.17	59,884
1976	550	10.70	58,850	16.7	42.0	7,032	586	11.24	65,882
1977	550	10.70	58,850	16.7	42.0	7,032	586	11.24	65,882
1978	530	11.50	60,950	14.9	43.0	6,400	562	11.98	67,350
1979	525	12.80	67,200	13.5	46.0	6,204	554	13.25	73,404

MILK: QUANTITIES USED AND MARKETED BY FARMERS, MASSACHUSETTS, 1970-1979

YEAR	TOTAL PRODUCED	MILK USED ON FARMS WHERE PRODUCED			MILK MARKETED BY FARMERS		
		USED FOR MILK, CREAM AND BUTTER	FED TO CALVES	TOTAL	SOLD TO PLANTS AND DEALERS	SOLD DIRECTLY TO CONSUMERS	TOTAL
	Million Pounds						
1970	658	8	5	13	595	50	645
1971	658	8	5	13	600	45	645
1972	629	7	5	12	580	37	617
1973	595	7	5	12	550	33	583
1974	593	7	5	12	550	31	581
1975	601	7	5	12	555	34	589
1976	598	7	5	12	550	36	586
1977	597	6	5	11	550	36	586
1978	571	4	5	9	530	32	562
1979	563	4	5	9	525	29	554

MILK: SOLD TO PLANTS, MONTHLY AND ANNUAL AVERAGE PRICE PER 100 POUNDS RECEIVED BY FARMERS, MASSACHUSETTS, 1970-1979

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL AVERAGE
	Dollars												
1970	6.95	6.85	6.65	6.50	6.30	6.20	6.65	6.90	7.15	7.35	7.30	7.20	6.82
1971	7.05	7.00	6.90	6.65	6.45	6.30	6.70	7.00	7.30	7.40	7.45	7.25	6.94
1972	7.20	7.25	7.00	6.75	6.65	6.50	6.95	7.45	7.75	7.95	7.95	7.65	7.24
1973	7.70	7.75	7.55	7.30	7.15	7.20	7.75	8.55	9.25	9.55	9.80	9.70	8.22
1974	9.80	9.90	9.85	9.80	9.25	8.50	8.90	9.40	9.70	9.80	10.00	9.45	9.50
1975	9.05	9.00	8.75	8.60	8.35	8.35	9.00	9.60	10.30	10.80	11.10	11.20	9.45
1976	11.10	10.80	10.70	10.00	9.90	9.75	10.40	11.00	11.30	11.50	11.20	11.70	10.70
1977	10.60	10.50	10.20	10.20	9.90	10.00	10.50	10.90	11.20	11.40	11.40	11.20	10.70
1978	11.10	11.20	11.00	10.70	10.70	10.60	11.00	11.60	12.10	12.70	12.90	12.60	11.50
1979	12.70	12.80	12.50	12.20	12.00	12.00	12.50	13.10	13.40	13.80	13.90	13.40	12.80

MASSACHUSETTS MILK COWS ON FARMS, BY QUARTERS 1970-1979

MONTH	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
					Thousands of Head					
Mar. 31	60	60	58	56	54	55	54	51	50	46
June 30	60	59	57	55	54	53	53	51	48	45
Sept. 30	60	58	57	54	54	54	53	51	47	45
Dec. 31	60	58	57	54	54	55	53	51	46	45
Annual	60	59	57	55	54	54	54	51	48	45

MASSACHUSETTS MILK PRODUCTION PER COW, BY QUARTERS 1970-1979

MONTH	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
					Pounds					
Jan-Mar.	2,750	2,700	2,793	2,714	2,704	2,725	2,775	2,900	2,900	3,085
April-June	2,900	2,949	2,965	2,880	2,891	3,020	3,000	3,060	3,125	3,290
July-Sept.	2,683	2,810	2,649	2,612	2,673	2,720	2,755	2,940	2,955	3,020
Oct.-Dec.	2,634	2,694	2,628	2,612	2,713	2,620	2,700	2,865	2,980	3,045
Annual	10,967	11,153	11,035	10,818	10,981	11,130	11,075	11,706	11,896	12,511

MASSACHUSETTS MILK PRODUCTION, BY QUARTERS 1970-1979

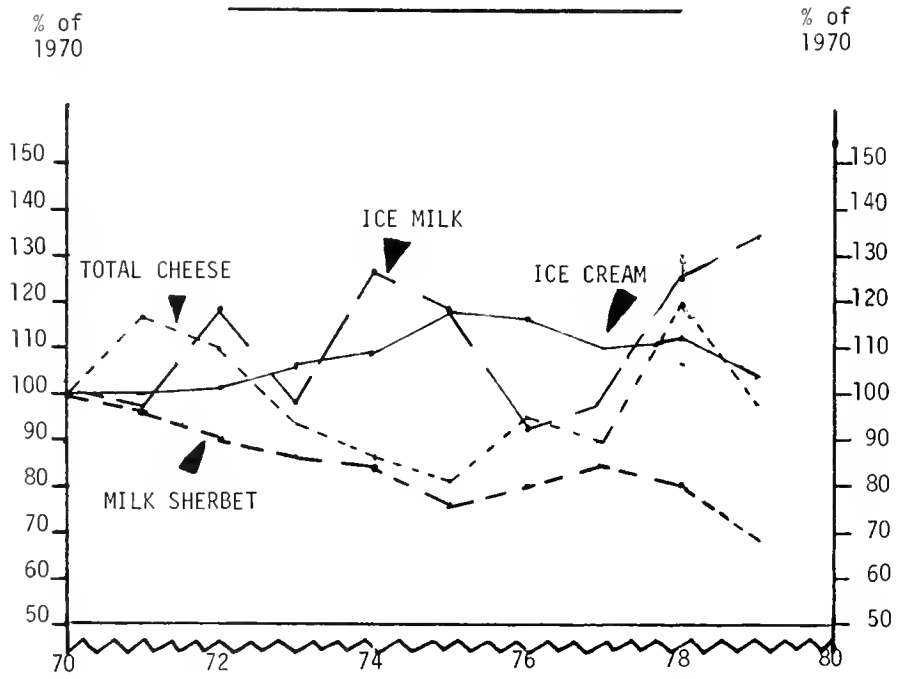
MONTH	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
					Million Pounds					
Mar.	165	162	162	152	146	150	150	148	145	142
June	174	174	169	161	159	160	159	156	150	148
Sept.	161	163	151	141	147	147	146	149	139	136
Dec.	158	159	147	141	141	144	143	147	137	137
Annual	658	658	629	595	593	601	598	597	571	563

MANUFACTURED DAIRY: PRODUCTION MAJOR PRODUCTS, MASS., 1970-1979

YEAR	TOTAL CHEESE 1/	ICE CREAM	ICE MILK	MILK SHERBET
	1,000 POUNDS		1,000 GALLONS	
1970	6,430	40,944	7,822	2,645
1971	7,268	40,455	7,514	2,556
1972	6,416	41,025	8,802	2,393
1973	5,976	42,302	7,742	2,330
1974	5,412	43,607	9,611	2,186
1975	5,288	47,761	9,177	1,985
1976	6,123	46,320	7,246	2,116
1977	5,786	45,255	7,483	2,180
1978	7,780	42,909	9,779	2,102
1979	6,255	42,463	10,454	1,829

1/ Excluding cottage cheese.

PRODUCTION TRENDS FOR CHEESE, ICE CREAM, ICE MILK AND MILK SHERBET; MASSACHUSETTS 1970-1979



CHICKENS:

The December 1, 1979 inventory of chickens on farms (excluding broilers) in Massachusetts showed 1,726,000 birds, up 9 percent from a year earlier but still 13 percent below 1977. Of these, there were 617,000 hens of laying age, up 12 percent from 1978. Pullets of laying age increased 22 percent over 1978 to 755,000. Total value of the December 1 inventory at $3,711,000 was up 15 percent from 1978, due partly to a 10 cent rise in the average value per bird. Growers marketed 7,937,000 pounds of mature chickens during 1979 at 13.2 cents per pound compared to 10,500,000 pounds at 12.3 cents per pound the previous year.

EGGS:

Massachusetts egg production in 1979 fell to 339 million, which is a 10 year low and a 1 percent drop from last year's production of 341 million eggs. Although the annual rate of lay per bird increased to 244, an all time high, the number of layers on hand decreased by 26,000 causing the decline in egg production. For their eggs, Massachusetts growers received an average of 73.8 cents per dozen during 1979. This price is an 11 percent increase over the 1978 average price per dozen of 66.2 cents. Gross income received for eggs was $20,849,000 in 1979, an 11 percent increase over the previous year.

TURKEYS:

Farmers in Massachusetts raised 140,000 turkeys during 1979, 6,300 or 4 percent fewer than during the previous year. The average weight of these predominantly heavy breed birds was 20.0 pounds. For their turkeys, growers during 1979 received an average of 65.0 cents per pound, which is 3 cents per pound less than the price received in 1978. Total value of the 1979 production was $1,820,000, down 11 percent from the previous year, but up 21 percent from 1977.

CHICKENS: NUMBER, VALUE, AND CLASSES OF CHICKENS ON FARMS, DECEMBER 1, MASS., 1970-1979

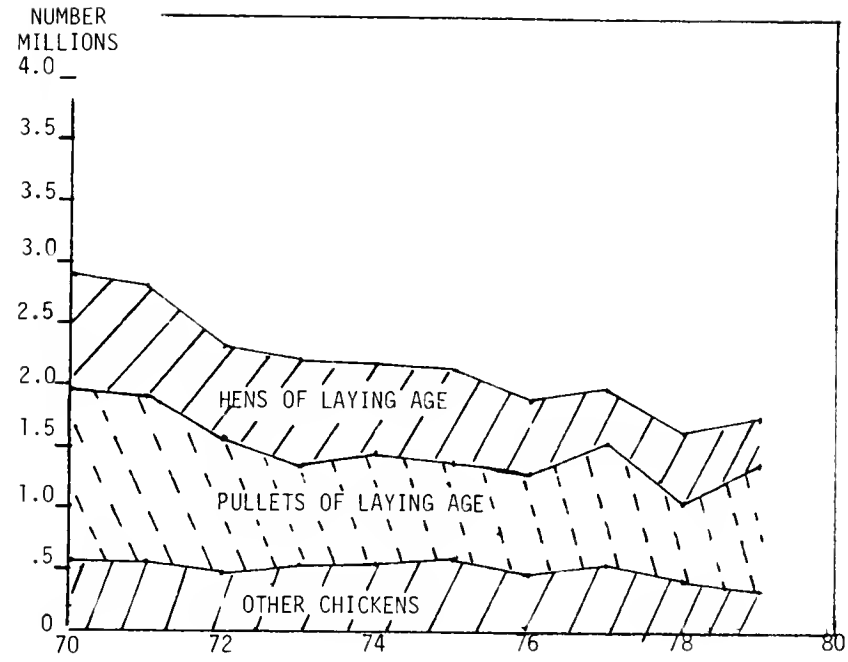
YEAR	ALL CHICKENS	VALUE		HENS AND PULLETS OF LAYING AGE		OTHER CHICKENS
		PER HEAD	TOTAL	HENS	PULLETS	
	1,000 HEAD	DOLLARS	1,000 DOLLARS		1,000 HEAD	
1970	2,852	1.90	5,419	884	1,415	553
1971	2,769	1.85	5,171	886	1,313	570
1972	2,279	1.40	4,280	729	1,069	481
1973	2,240	2.00	4,480	896	807	537
1974	2,237	2.10	4,698	772	939	526
1975	2,091	2.35	4,914	725	786	580
1976	1,870	2.40	4,488	593	782	495
1977	1,990	2.05	4,080	465	1,005	520
1978	1,580	2.05	3,239	550	620	410
1979	1,726	2.15	3,711	617	755	354

CHICKENS: PRODUCTION, DISPOSITION, CASH RECEIPTS, AND GROSS INCOME, MASSACHUSETTS, 1970-1979

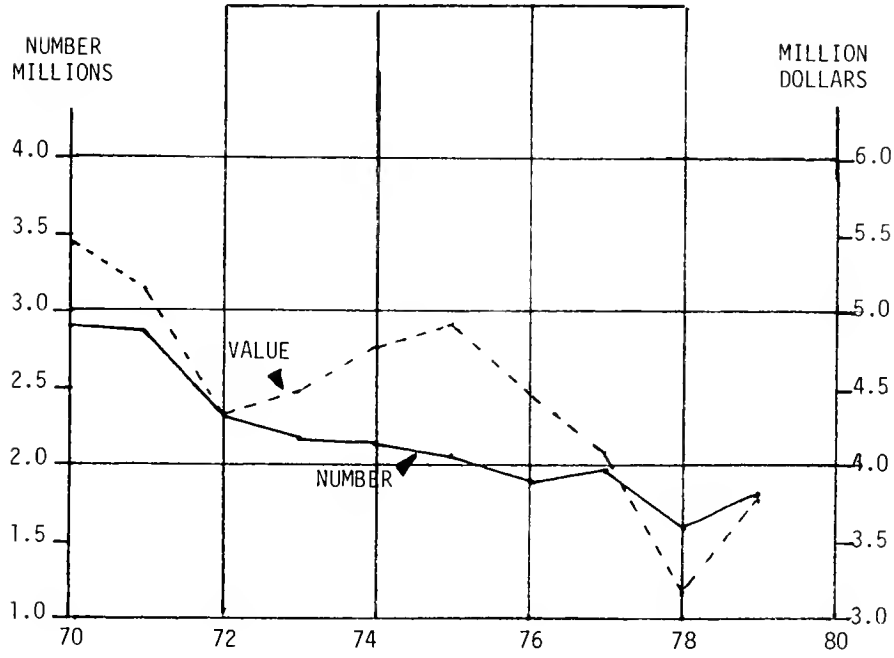
YEAR	NUMBER OF BIRDS			LIVEWEIGHT			PRICE PER LB.	CASH RECEIPTS	VALUE OF CHICKENS CONSUMED	GROSS INCOME
	PRODUCED 2/	CONSUMED 3/	SOLD	PRODUCED 2/	CONSUMED 3/	SOLD				
	1,000			1,000 POUNDS			CENTS		1,000 DOLLARS	
1970	1,352	18	1,520	8,102	85	8,816	9.6	846	8	854
1971	1,628	13	1,672	8,869	61	9,196	8.5	782	5	787
1972	1,902	12	1,628	10,089	55	8,791	9.5	835	5	840
1973	1,730	12	1,830	8,944	55	9,699	15.4	1,494	8	1,502
1974	1,870	12	1,697	10,831	55	10,012	10.3	1,031	6	1,037
1975	1,411	11	1,806	7,375	51	9,572	10.3	986	5	991
1976	1,676	11	1,746	8,639	51	9,063	13.3	1,277	7	1,284
1977	1,800	11	1,499	9,120	51	8,245	11.3	932	6	938
1978	1,640	11	1,909	8,484	51	10,500	12.3	1,292	6	1,298
1979	1,700	11	1,443	8,822	51	7,937	13.2	1,048	7	1,055

1/ Does not include commercial broilers.
2/ Production is the mumber (or pounds) available for utilization during the year, i.e., sales plus home consumption, plus or minus change in inventory.
3/ Consumed in farm households on farms where produced.

MASSACHUSETTS CHICKENS:
CLASSES OF CHICKENS ON FARMS



MASSACHUSETTS CHICKEN INVENTORY:
NUMBER AND VALUE



EGGS, NUMBER OF HENS AND PULLETS OF LAYING AGE, RATE OF LAY AND PRODUCTION, MASS.,1970-1979

YEAR	HENS & PULLETS ANNUAL AVERAGE	RATE OF LAY 1/	EGG PRODUCTION
	Thousands	Number	Millions
1970	2,370	220	521
1971	2,274	225	512
1972	2,010	232	466
1973	1,721	228	393
1974	1,610	234	376
1975	1,669	241	402
1976	1,430	240	343
1977	1,485	238	354
1978	1,413	241	341
1979	1,387	244	339

1/ Annual rate of lay per layer on hand. (Eggs produced during year divided by average number of layers.)

EGGS: PRODUCTION, PRICE, CASH INCOME AND VALUE, MASSACHUSETTS, 1970-1979

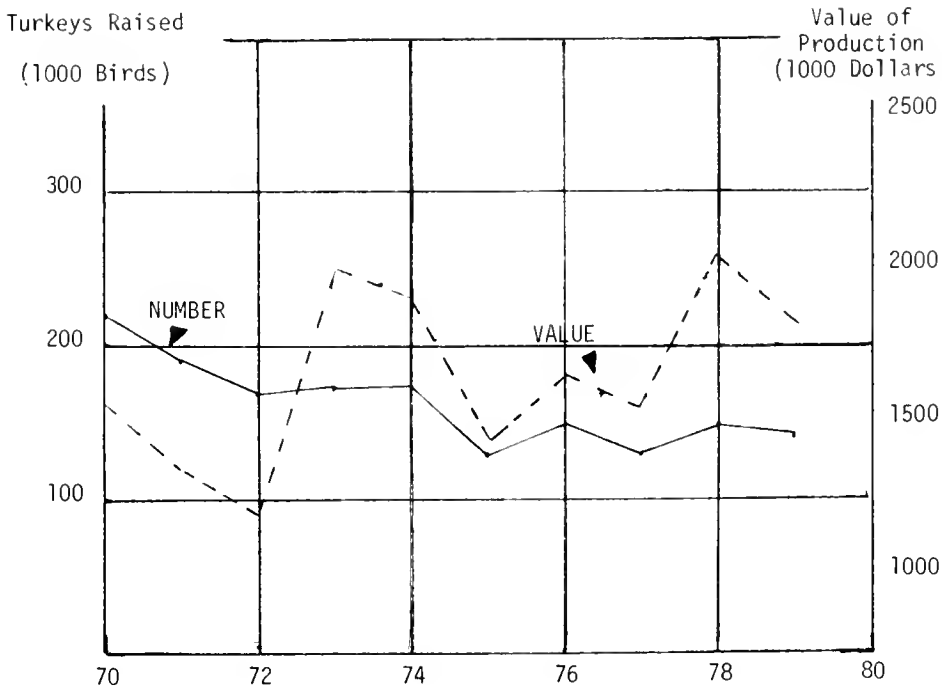
YEAR	EGGS PRODUCED	EGGS SOLD	PRICE PER DOZEN	CASH INCOME FROM SALES	GROSS INCOME
	Millions		Cents	1,000 Dollars	
1970	521	519	50.9	22,014	22,099
1971	512	511	44.5	18,949	18,986
1972	466	465	42.9	16,624	16,660
1973	393	392	62.9	20,548	20,600
1974	376	375	64.5	20,156	20,210
1975	402	401	66.2	22,122	22,177
1976	343	342	72.1	20,549	20,609
1977	355	354	69.9	20,621	20,679
1978	341	340	66.2	18,757	18,812
1979	339	338	73.8	20,787	20,849

TURKEYS: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1970-1979

YEAR	TURKEYS RAISED HEAVY	TURKEYS RAISED LIGHT	POUNDS PRODUCED 1/	PRICE PER POUND 2/	VALUE OF PRODUCTION
	1,000		1,000 Pounds	Cents	1,000 Dollars
1970	209	15	4,525	35.5	1,606
1971	173	19	3,840	35.5	1,363
1972	141	29	3,383	36.0	1,218
1973	144	29	3,287	62.0	2,038
1974	139	33	3,268	57.0	1,863
1975	106	19	2,375	58.0	1,378
1976	122	21	2,860	58.0	1,659
1977	110	15	2,600	58.0	1,508
1978	128	18	2,993	68.0	2,035
1979	133	7	2,800	65.0	1,820

1/ Includes home consumption.
2/ Liveweight equivalent price.

MASSACHUSETTS TURKEYS
NUMBER RAISED AND VALUE OF PRODUCTION



MISCELLANEOUS LIVESTOCK

BEE AND HONEY:

Honey production in Massachusetts totaled 396,000 pounds in 1979, 6 percent less than the previous year. The reduced production resulted from lower yield per colony, as the number of colonies remained the same, at 12,000. The price received per pound of honey was 20 cents lower in 1979 than the record high price of $1.03 in 1977 and 1978.

MINK:

Mink pelt production in Massachusetts in 1979 totaled 18,000 pelts, down 2,000 pelts from 1978. Of the pelts produced in 1979, 8.9 percent were standard; 30.0 percent were pastel; 13.9 percent were pearl; 27.2 percent were demibuff and 20.0 percent were other colors. Mink females bred to produce kits in 1980 totaled 5,200 down 100 from 1979.

BEES, HONEY AND BEESWAX: COLONIES OF BEES, PRODUCTION
PRICE PER POUND AND VALUE OF PRODUCTION, MASSACHUSETTS, 1970-1979

YEAR	COLONIES OF BEES	HONEY				BEESWAX		
		YIELD PER COLONY	PRODUC-TION	PRICE PER POUND	VALUE OF PRODUCTION	PRODUC-TION	PRICE PER POUND	VALUE OF PRODUCTION
	1,000	Lbs.	1,000 Lbs.	Cents	1,000 Dols.	1,000 Lbs.	Cents	1,000 Dols.
1970	9	24	216	39.2	85	4	75	3
1971	9	25	225	42.2	95	5	80	4
1972	9	19	171	50.0	86	3	75	2
1973	9	26	234	66.8	156	4	90	4
1974	12	16	192	81.2	156	4	110	4
1975	12	27	324	96.9	314	8	110	9
1976	12	19	228	101.0	230	4	110	4
1977	12	22	264	103.0	272	5	150	8
1978	12	35	420	103.0	433	6	160	10
1979	12	33	396	83.1	329	6	160	10

MASSACHUSETTS APIARY INSPECTION, 1978 and 1979 1/

COUNTY	COLONIES EXAMINED		COLONIES OWNED		COLONIES A.F.B.		COLONIES E.F.B.		COLONIES TREATED		COLONIES DESTROYED	
	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979
Barnstable	0	0	596	--	--	--	--	--	--	--	--	--
Berkshire	13	20	204	20	0	0	0	0	0	0	0	0
Bristol	336	96	922	96	15	4	22	1	15	0	1	0
Essex	995	150	1825	211	10	0	0	0	10	0	1	0
Franklin	24	47	402	66	0	0	0	0	0	0	0	0
Hampden	11	0	950	--	0	--	0	--	0	--	0	--
Hampshire	3	100	548	177	0	1	0	0	0	0	0	0
Middlesex	1963	2158	5035	3628	17	35	79	81	17	70	1	0
Norfolk	404	530	1450	530	21	15	15	7	21	15	1	0
Plymouth	1479	486	2068	589	34	34	45	14	34	3	12	0
Worcester	207	306	829	330	14	0	3	1	14	0	0	0
Suffolk	6	19	6	19	0	0	0	0	0	0	0	0
STATE	5504	3912	14827	5666	111	89	164	104	111	88	16	0

1/ Massachusetts Department of Food and Agriculture--Apiary Inspection

RANCHES PRODUCING MINK PELTS
IN MASSACHUSETTS, 1971-1979

YEAR	1971	1972	1973	1974	1975	1976	1977	1978	1979
NUMBER OF RANCHES	24	18	18	15	16	9	16	16	12

MINK: FEMALES BRED TO PRODUCE KITS AND MINK PELTS
PRODUCED BY COLOR CLASS, MASSACHUSETTS, 1974-1980

COLOR CLASS	FEMALES BRED							PELTS PRODUCED					
	1974	1975	1976	1977	1978	1979	1980	1974	1975	1976	1977	1978	1979
	1,000 Females							1,000 Pelts					
Standard	.84	1.08	1.70	1.50	1/	.69	.68	1.40	1.40	1/	1/	1.50	1.60
Pastel	3.50	2.85	2.30	1.80	3.20	2.60	1.50	9.80	10.90	6.50	8.40	6.50	5.40
Pearl	.84	.99	1/	.64	1/	.80	.73	2.90	1/	1/	1/	1/	2.50
Violet Type	.76	.69	1/	1/	1/	.69	.53	1.60	1/	1/	1/	1/	1/
Demibuff							1.30	3.00	3.20	3.60	4.40	5.40	4.90
All Others	.56	.39	2.00	1.06	2.30	.62	.46	1.30	7.50	5.90	1/	1/	3.60
Total	6.50	6.00	6.00	5.00	5.70	5.40	5.20	20.00	23.00	16.00	21.00	20.00	18.00

1/ Included in All Others to avoid disclosing individual operations.

The following periodic reports and special bulletins are available upon request to:

New England Crop & Livestock Reporting Service
U.S. Department of Agriculture
P.O. Box 1444
Concord, New Hampshire 03301
(603)224-9639

Crops

Potatoes - Acres planted, August; Acreage, yield per acre and production, October, November and December.
Potato Stocks - Stocks on hand as of the first of the month, December through April. (Maine)
Tobacco - Acreage for harvest, July; Production, August through November and January final.
Prospective Plantings - Pre-planting acreage intentions for feed crops, tobacco, April.
Massachusetts Annual Crop Summary - End of season report of acreage, yield, production and value of production. January.
Fruit - Apples - Production estimated as of July 1, August 1 (including variety estimates), October 1 and January final, including variety estimates.
Peaches - June 1 and January final estimate of production
Cranberries - Production, August, October and November.
Maple Syrup - Production, May; Prices received by producers, November.
Sweet Corn - Acreage and Production, in season
Flowers and foliage plants - March.
Vegetables - Annual production, price and value, January.

Livestock and Products

Cattle Inventory and Calf Crop - January 1 cattle inventory, value; calf crop and cattle farms
Hogs and Pigs - Sows farrowed and pigs saved, June and December. December includes inventory and value
Sheep and Lambs - January 1 inventory numbers, lamb crop and values - February
Wool - Sheep shorn, weight per fleece, production, price, value, April.
Livestock Slaughter - Quarterly report on number and weight of livestock slaughtered by kinds, February, May, August and November
Milk and Feed - Number of milk cows, production (quarterly for all New England States except Vermont for which monthly estimates are published). Monthly for all states, milk price and test, hay and feed prices. Annual for all states, herd replacements, and corn, oats and hay acreages and production estimates in season.
Manufactured Dairy Products - Monthly production of manufactured dairy products.
Mink Production - Annual report of number of pelts, females bred and number of mink ranches, July.

Poultry and Eggs

Broiler Chicks - Weekly broiler chicks placed and broiler-type eggs set. (Maine)
Chicken Inventory - Chickens on farms on December 1, by class and average value of all chickens - January
Poultry Report - Egg production, layer numbers, broiler and egg type chicks hatched, poults hatched, pullet chicks hatched for hatchery supply flocks, monthly
Turkeys - Turkeys raised, August and January
Bees and Honey - Number of colonies, honey production and prices, January

Other Reports

Massachusetts Agricultural Statistics - Annual publication of all crops and livestock
Crop-Weather - Weekly summary of crop and weather conditions, May through September
Farm Income - Annual report of income from marketing of crops and livestock, August.

CROPS REVIEW

The preliminary estimate of value of production in 1979 from corn silage, hay, tobacco and potatoes totaled $52.3 million. Hay, at $20.0 million was the largest component of the total. Corn silage, at $16.6 million, was second, followed by tobacco, at $10.8 million and potatoes at $4.9 million.

CORN SILAGE:

Corn silage reached a record high production of 665,000 tons in 1979, slightly higher than the 660,000 tons produced the preceding year. Corn for silage was cut from 39,000 acres, with a yield of 17 tons per acre, equalling the record high yield set in 1969.

HAY:

Production of all hay in 1979 totaled 278,000 tons, a 6 percent increase from 1978. This hay was cut from 116,000 acres yielding an average of 2.4 tons each. Alfalfa hay, cut from 26,000 acres, yielded 2.9 tons per acre, and totaled 75,000 tons, up 10 percent from the amount produced in 1978. Hay, other than alfalfa and alfalfa mixtures, totaled 203,000 tons, an increase of 5 percent from 1978. Yield of other hay averaged 2.25 tons per acre in 1979, compared with 2.15 in 1978.

POTATOES:

Potato production during 1979, at 748,000 hundredweight, was 8 percent less than in 1978, and placed Massachusetts 22nd in the production of fall potatoes. Harvested acreage of potatoes totaled 3,400 in 1979, continuing a decline which began in the 1890's, from a level above 30,000 acres. Yield per acre, at 220 hundredweight, was slightly below the record high of 240 set in 1977. The value of production totaled $4.7 million or an average of $6.50 per hundredweight, 5 percent less than the previous year's total value of $5.1 million.

TOBACCO:

Shade tobacco production in the Commonwealth totaled 1,078,000 pounds in 1979, 4 percent less than 1978 production. Area harvested totaled 770 acres, down 10 percent from 1978. Yield was 1,400 pounds per acre, compared with 1,300 pounds the preceding year. Acres harvested, at 770 in 1979, continues a decline from the peak of 2,500 acres in 1965. At an average price of $8.50 per pound, the value of the crop totaled over $9 million, an increase of 9 percent from the 1978 value.

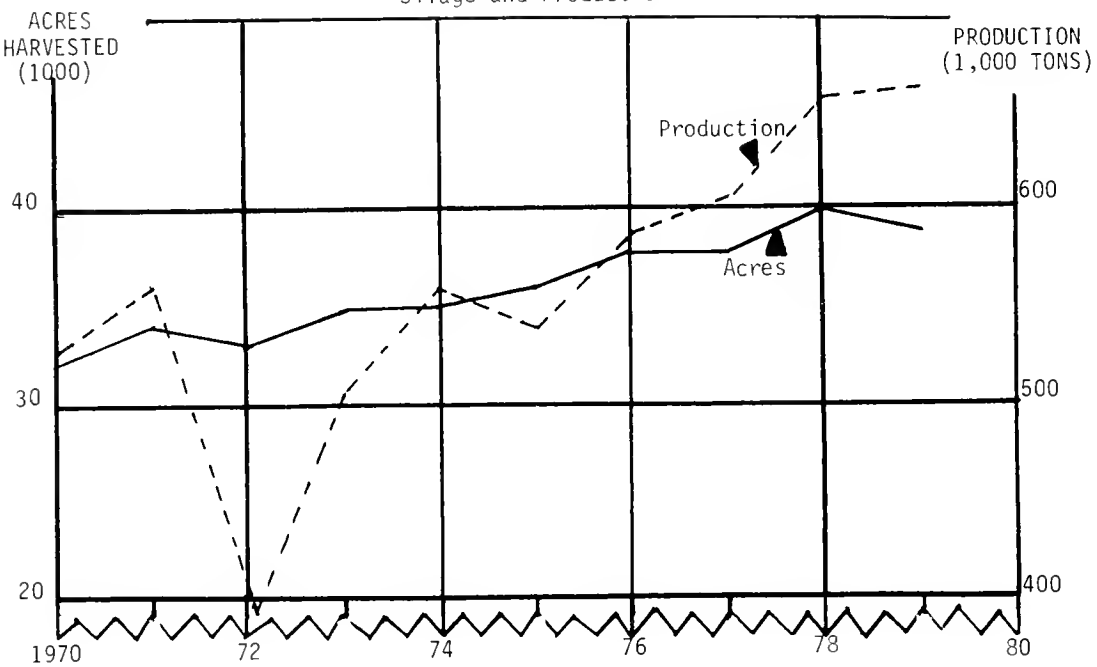
Havana seed tobacco production was estimated at 814,000 pounds in 1979, compared with 340,000 pounds in 1978. Yield, at 1,850 pounds per acre, was down from the previous year average of 2,000.

CORN: ACREAGE, YIELD AND PRODUCTION, MASSACHUSETTS, 1970 - 1979

YEAR	ACREAGE HARVESTED FOR ALL PURPOSES	HARVESTED FOR SILAGE		
		ACRES	PER ACRE	PRODUCTION
	1,000	1,000	TONS	1,000 TONS
1970	32	32	16.5	528
1971	34	34	16.5	561
1972	33	33	12.0	396
1973	35	35	14.5	508
1974	35	35	16.0	560
1975	36	35	15.0	540
1976	38	38	15.5	589
1977	38	38	16.0	608
1978	40	40	16.5	660
1979	39	39	17.0	663

MASSACHUSETTS CORN

Acres Harvested for Silage and Production

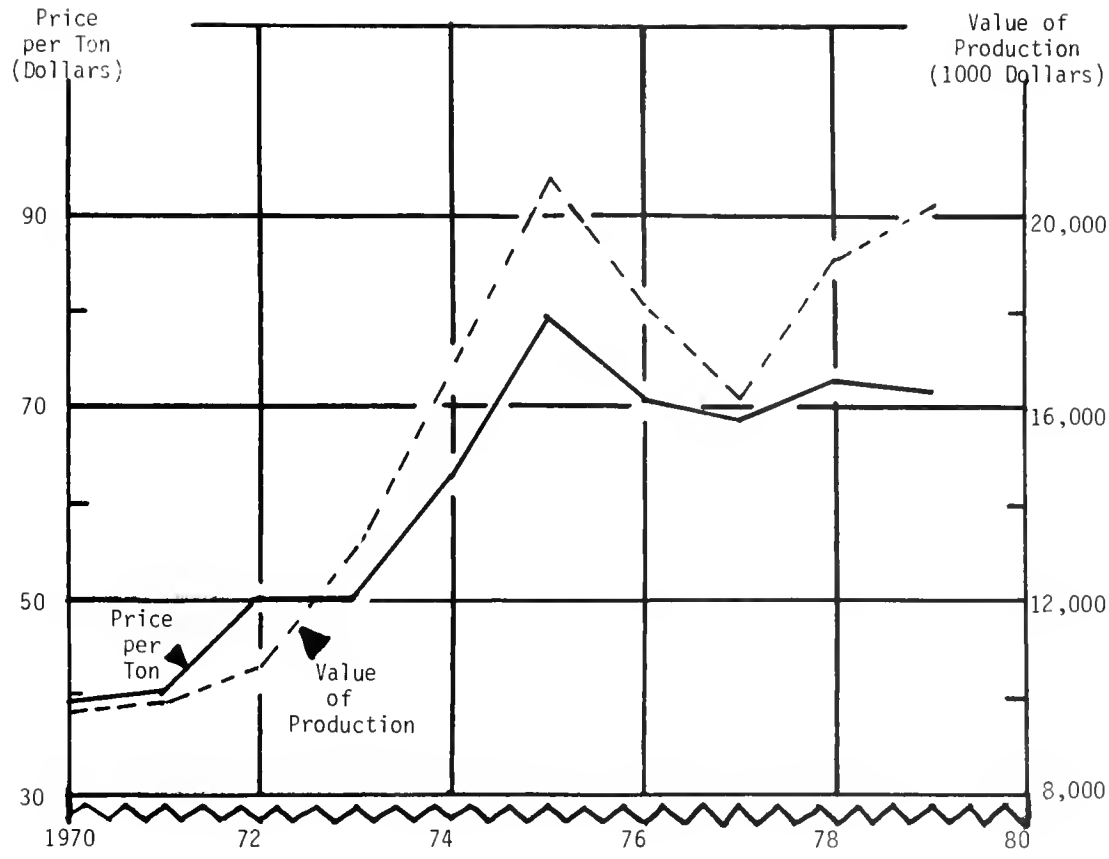


ALL HAY: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1970 - 1979

CROP YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION	PRICE PER TON	VALUE OF PRODUCTION
	1,000	TONS	1,000 TONS	DOLLARS	1,000 DOLLARS
1970	116	2.09	242	39.00	9,438
1971	113	2.13	241	41.00	9,881
1972	111	1.87	208	50.00	10,400
1973	116	2.24	260	50.00	13,000
1974	115	2.12	244	63.00	15,327
1975	121	2.17	263	79.00	20,777
1976	121	2.10	254	71.00	18,034
1977	117	1.99	233	69.00	16,077
1978	116	2.26	262	73.00	19,126
1979	116	2.40	278	72.00	20,016

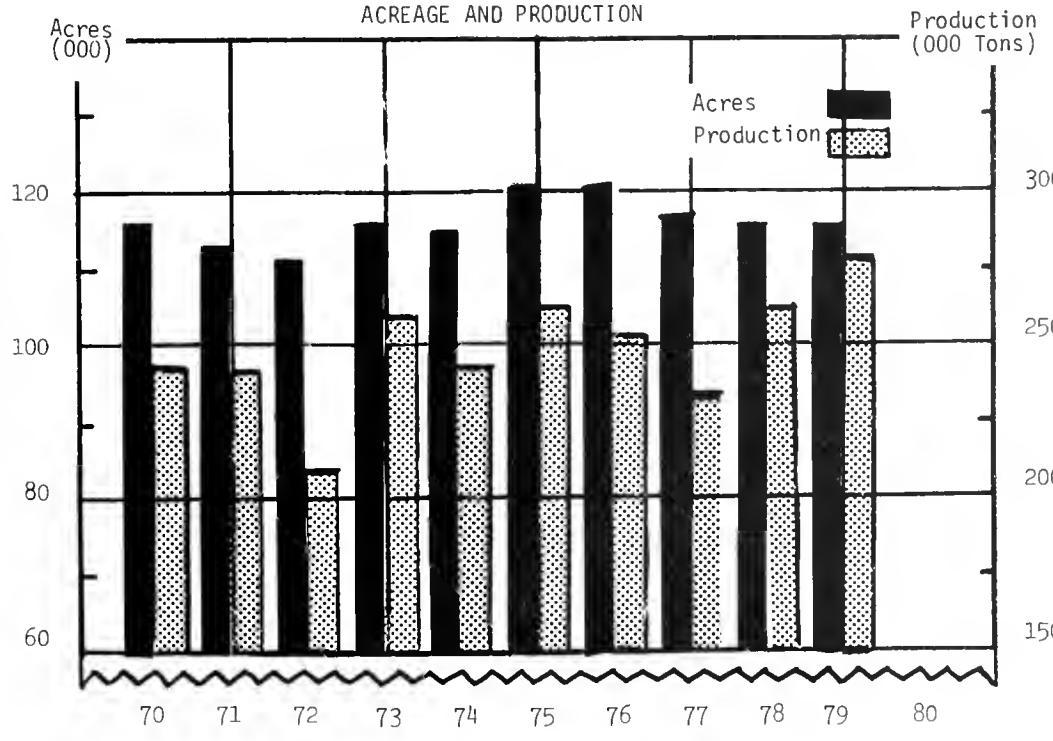
MASSACHUSETTS ALL HAY

PRICE PER TON AND VALUE OF PRODUCTION



MASSACHUSETTS ALL HAY

ACREAGE AND PRODUCTION



ALFALFA HAY: ACREAGE, YIELD AND PRODUCTION, MASSACHUSETTS 1970-1979

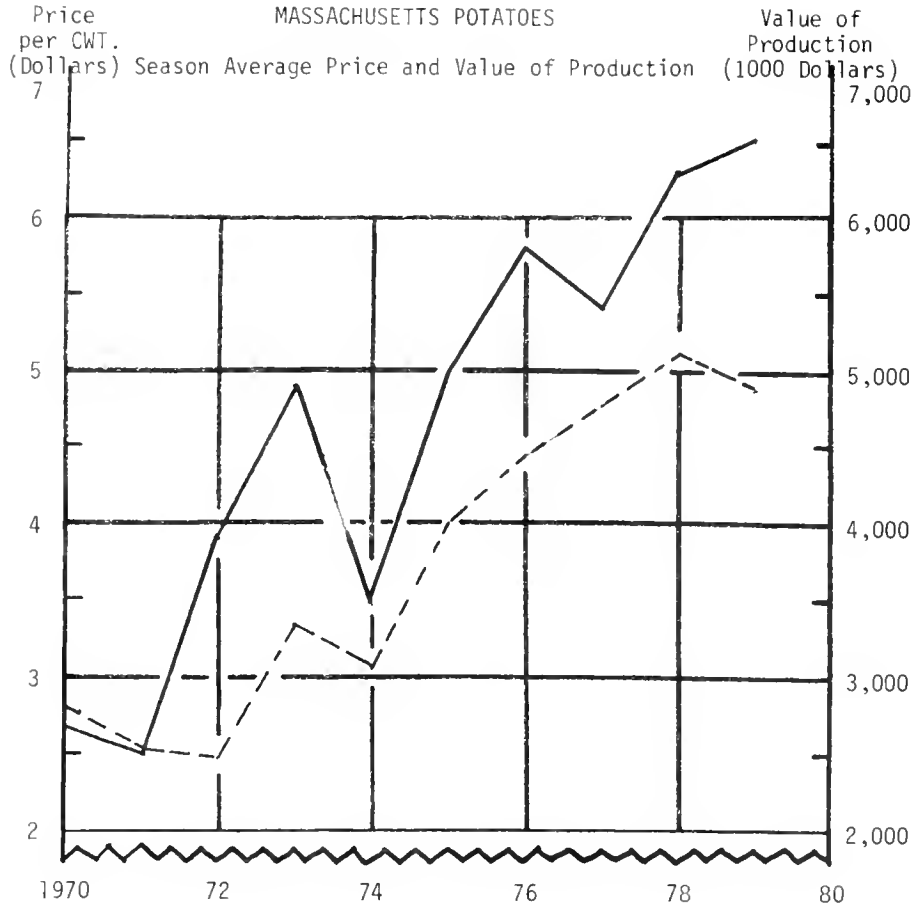
CROP YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
	1,000	TONS	1,000 TONS
1970	29	2.65	77
1971	28	2.55	71
1972	26	2.25	59
1973	26	2.55	66
1974	25	2.55	64
1975	26	2.60	68
1976	27	2.45	66
1977	25	2.30	58
1978	26	2.60	68
1979	26	2.90	75

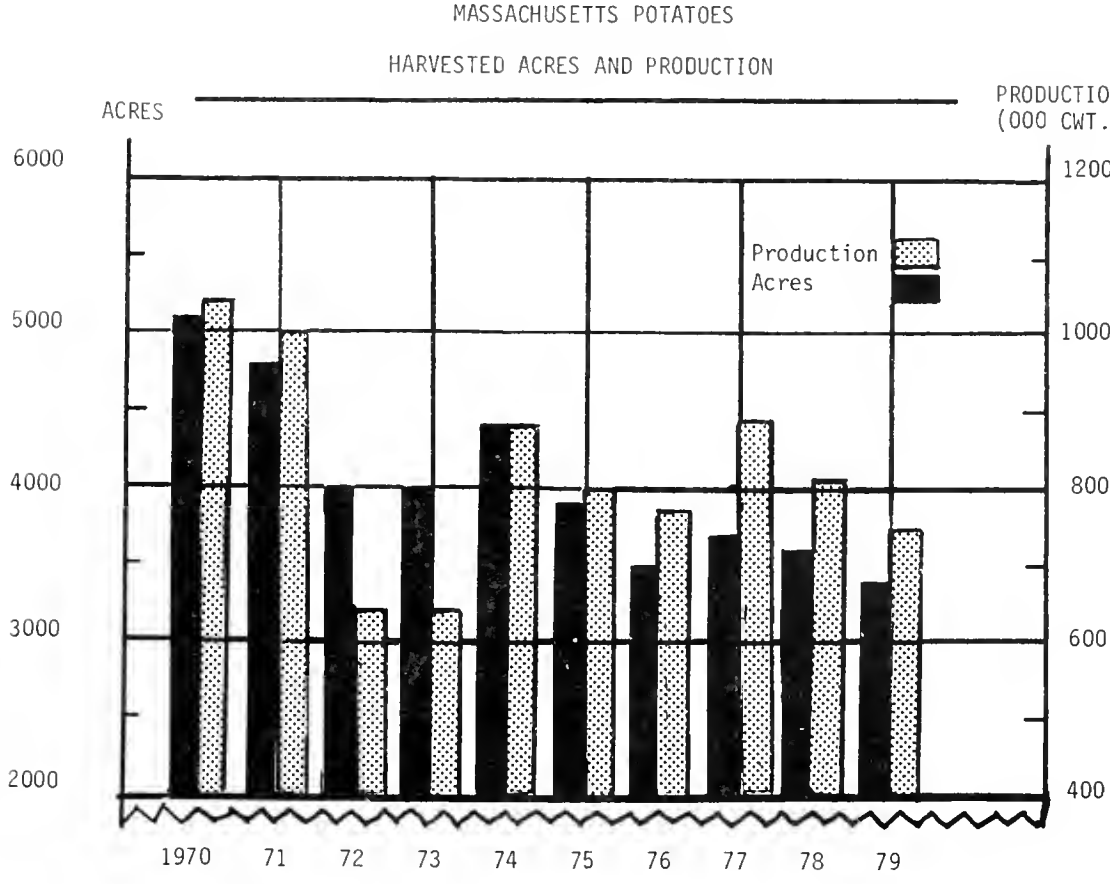
ALL OTHER HAY: ACREAGE, YIELD AND PRODUCTION, MASSACHUSETTS 1970-1979

CROP YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
	1,000	TONS	1,000 TONS
1970	87	1.90	165
1971	85	2.00	170
1972	85	1.75	149
1973	90	2.15	194
1974	90	2.00	180
1975	95	2.05	195
1976	94	2.00	188
1977	92	1.90	175
1978	90	2.15	194
1979	90	2.25	203

POTATOES: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS 1970-1979

CROP YEAR	ACREAGE HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	SEASON AVG. PRICE PER CWT.	VALUE OF PRODUCTION
	ACRES	CWT.	1,000 CWT.	DOLLARS	1,000 DOLLARS
1970	5,100	205	1,046	2.69	2,814
1971	4,800	210	1,008	2.50	2,520
1972	4,000	160	640	3.90	2,496
1973	4,000	160	640	4.90	3,336
1974	4,400	200	880	3.50	3,080
1975	3,900	205	800	5.00	4,000
1976	3,500	220	770	5.80	4,466
1977	3,700	240	888	5.40	4,795
1978	3,600	225	810	6.30	5,103
1979	3,400	220	748	6.50	4,862


MASSACHUSETTS POTATOES
Season Average Price and Value of Production
Price per CWT. (Dollars)
Value of Production (1000 Dollars)
7
6
5
4
3
2
7,000
6,000
5,000
4,000
3,000
2,000
1970
72
74
76
78
80

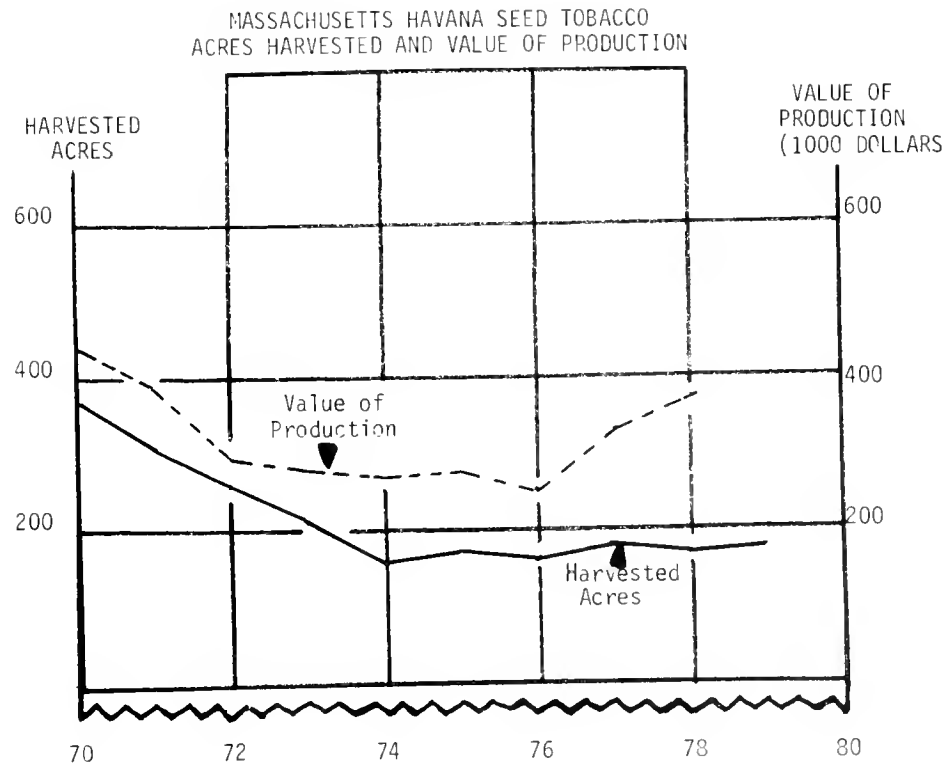

MASSACHUSETTS POTATOES
HARVESTED ACRES AND PRODUCTION
ACRES
PRODUCTION (000 CWT.)
6000
5000
4000
3000
2000
1200
1000
800
600
400
Production
Acres
1970
71
72
73
74
75
76
77
78
79

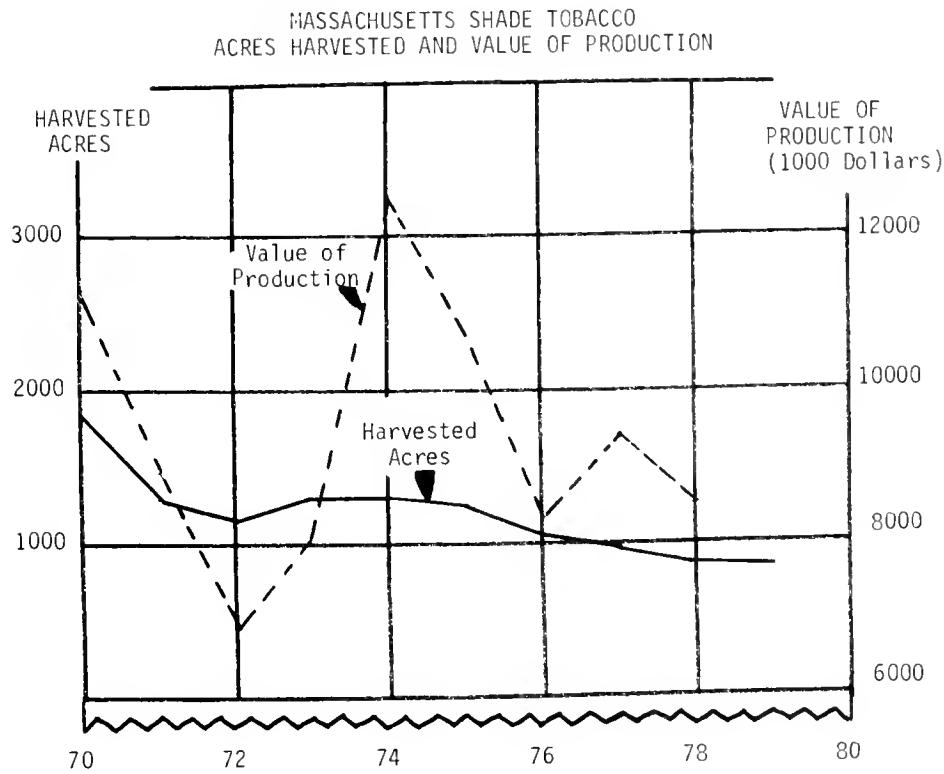
TOBACCO, SHADE TYPE: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1969-1979

YEAR	ACREAGE HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
	Acres	Pounds	1,000 Pounds	Dollars	1,000 Dollars
1969	1,900	1,340	2,546	4.00	10,184
1970	1,850	1,535	2,840	4.00	11,360
1971	1,300	1,725	2,243	4.00	8,972
1972	1,150	1,250	1,438	4.85	6,974
1973	1,300	1,210	1,573	5.15	8,101
1974	1,300	1,610	2,093	6.00	12,558
1975	1,250	1,335	1,669	6.40	10,682
1976	1,050	1,480	1,554	5.40	8,392
1977	980	1,600	1,568	6.00	9,408
1978	860	1,300	1,118	7.50	8,385
1979	770	1,400	1,078	8.50	9,163

TOBACCO, HAVANA SEED: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1969-1979

YEAR	ACREAGE HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
	Acres	Pounds	1,000 Pounds	Dollars	1,000 Dollars
1969	400	1,520	608	0.56	340
1970	370	1,950	722	0.61	440
1971	310	2,050	636	0.61	388
1972	260	1,850	481	0.62	298
1973	210	1,850	389	0.72	280
1974	160	2,040	326	0.82	267
1975	170	1,650	281	0.98	275
1976	160	1,819	291	0.87	253
1977	180	1,880	338	0.98	331
1978	170	2,000	340	1.10	374
1979	440	1,850	814	1.20	977


MASSACHUSETTS HAVANA SEED TOBACCO
ACRES HARVESTED AND VALUE OF PRODUCTION
HARVESTED ACRES
VALUE OF PRODUCTION (1000 DOLLARS)
600
400
200
600
400
200
Value of Production
Harvested Acres
70
72
74
76
78
80


MASSACHUSETTS SHADE TOBACCO
ACRES HARVESTED AND VALUE OF PRODUCTION
HARVESTED ACRES
VALUE OF PRODUCTION (1000 Dollars)
3000
2000
1000
12000
10000
8000
6000
Value of Production
Harvested Acres
70
72
74
76
78
80

APPLES:

Bay State orchards produced 95 million pounds (2,262,000 42 pound units) of apples. This was 10 percent less than the 1978 total of 105 million pounds. At an average price of 15.5 cents per pound, the value of the crop was $14,725,000, an increase of 2 percent from the value of the 1978 crop.

PEACHES:

The production of peaches in 1979 totaled 69,000 48 pound units, a 5 percent decrease from the 1977 and 1978 totals. Because of higher price, $15.36 per 48 pounds, compared with $13.92 in 1978, the value of production increased 4 percent to $1,056,000.

CRANBERRIES:

Cranberry production totaled 1,080,000 barrels in 1979, a decrease of 8 percent from the record production in 1978 of 1,180,000 barrels. At an average price of $25.90 per barrel, the value of production was nearly $28 million, a 10 percent increase from the value of the 1978 crop, and set a new record.

TOMATOES:

A total of 118,000 hundredweight of tomatoes were grown in 1979, a 16 percent decrease from the 1978 total. Although the average price of $24.60 per hundredweight was higher than the 1978 average, it was not enough to offset the decline in production, thus the 1979 value of production of $2,903,000 was 6 percent less than in 1978.

SWEET CORN:

Sweet corn production at 580,000 hundredweight in 1979 was 1 percent higher than in 1978. Because of a higher average price, $8.99 per cwt., the value of production was $5,214,000, a 30 percent increase from the 1978 value.

PEACHES: PRODUCTION, PRICE AND VALUE,
MASSACHUSETTS, 1970-1979

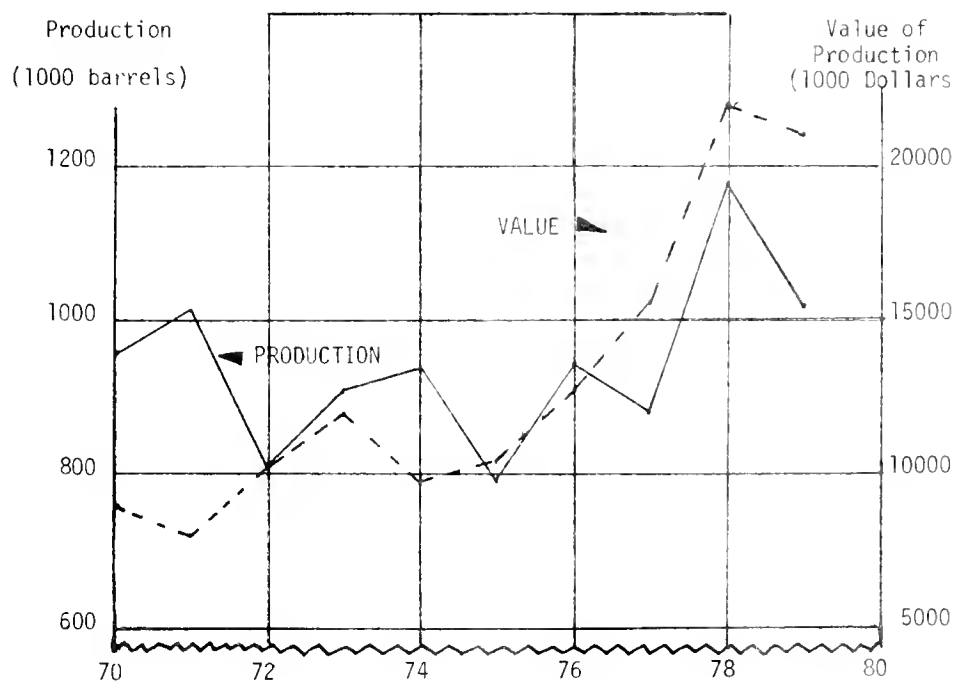
YEAR	PRODUCTION	PRICE PER UNIT	VALUE OF PRODUCTION
	1,000 48 POUND UNITS	DOLLARS	1,000 DOLLARS
1970	73	5.27	385
1971	79	5.05	399
1972	35	8.26	289
1973	58	9.66	560
1974	35	8.74	306
19	85	9.64	820
197b	69	12.44	858
1977	73	10.55	770
1978	73	13.90	1015
1979	69	15.30	1056

CRANBERRIES: ACREAGE, YIELD, PRODUCTION, UTILIZATION, PRICE AND VALUE, MASSACHUSETTS, 1969-1979

YEAR	ACRES	YIELD PER ACRE	PRODUCTION 1/	FRESH SALES	SOLD FOR PROCESSING	SHRINKAGE 2/	SEASON AVERAGE PRICE PER BARREL 3/	VALUE
		BARRELS	1,000 BARRELS		1,000 BARRELS		DOLLARS	1,000 DOLS.
1970	11,200	85.4	957	210	607	47	10.70	9,245
1971	11,200	95.7	1,072	239	441	57	10.70	7,886
1972	11,200	73.1	819	170	600	49	12.60	10,319
1973	11,200	80.4	901	246	563	92	13.60	12,254
1974	11,200	83.2	932	167	491	274	10.70	9,972
1975	11,200	70.1	785	162	508	115	13.00	10,205
1976	11,200	83.5	935	220	630	85	13.40	12,529
1977	11,200	78.1	875	207	576	92	17.70	15,488
1978	11,200	105.4	1,180	247	833	100	21.60	25,488
1979	11,200	96.4	1,080	130	880	70	25.90	27,972

1/ Differences between production and the totals of fresh, sales and sales for processing are economic abandonment.
2/ Berries paid for by processors and lost because of dehydration and berry breakdown after delivery.
3/ Equivalent return at first delivery point, screen basis.

MASSACHUSETTS CRANBERRIES
Production and Value of Production



APPLES: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1970-1979

YEAR	PRODUCTION 1/			PRICE PER UNIT	VALUE OF UTILIZED PRODUCTION
	TOTAL	NOT UTILIZED 2/	HAVING VALUE		
	1,000 42 POUND UNITS			DOLLARS	1,000 DOLS.
1970	2,619	52	2,567	2.65	6,802
1971	2,738	238	2,500	2.75	6,878
1972	2,167	---	2,167	3.90	8,454
1973	1,976	---	1,976	5.59	11,039
1974	2,548	167	2,381	4.33	10,300
1975	2,500	167	2,333	4.37	10,192
1976	2,262	---	2,262	6.13	13,870
1977	2,262	72	2,190	5.38	11,776
1978	2,500	---	2,500	5.80	14,490
1979	2,262	---	2,262	6.13	13,870

1/ Estimates relate to production in orchards of 100 or more trees.
2/ Abandoned because of economic reasons.

COMMERCIAL APPLE PRODUCTION BY VARIETY,
MASSACHUSETTS, 1969-1979

YEAR	CORTLAND	DELICIOUS	GOLDEN DELICIOUS	MCINTOSH	NO. SPY	ROME BEAUTY	OTHER	TOTAL PRODUCTION
	MILLION POUNDS							
1969	9.8	9.7	1.2	62.7	1.9	1.9	12.8	100.0
1970	8.1	11.4	1.4	68.8	1.8	1.8	16.7	110.0
1971	10.5	13.7	1.6	73.4	1.1	2.4	12.3	115.0
1972	5.2	10.4	1.5	62.2	0.6	0.7	10.4	91.0
1973	7.9	11.1	1.4	51.9	0.7	1.7	8.3	83.0
1974	6.0	10.9	1.7	74.1	0.9	1.9	11.5	107.0
1975	8.6	12.3	1.3	67.8	0.7	1.8	12.5	105.0
1976	8.8	12.1	2.3	57.1	0.9	1.9	11.9	95.0
1977	8.2	10.6	1.5	61.4	0.7	1.6	11.0	95.0
1978	7.2	13.9	1.6	64.6	0.9	1.3	15.5	105.0
1979	7.6	13.8	1.7	59.0	0.6	1.3	11.0	95.0

SWEET CORN: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS 1970-1979

CROP YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVG. PRICE PER CWT.	VALUE OF PRODUCTION
		CWT.	1,000 CWT.	DOLLARS	1,000 DOLLARS
1970	7,800	75	585	6.01	3,516
1971	8,200	78	640	6.22	3,981
1972	7,100	75	533	6.93	3,694
1973	8,000	78	624	6.20	3,869
1974	8,200	62	508	8.90	4,521
1975	8,200	81	664	7.10	4,714
1976	7,400	72	533	7.71	4,109
1977	7,200	60	432	8.90	3,845
1978	6,500	88	572	7.00	4,004
1979	6,900	84	580	8.99	5,214

TOMATOES: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS 1970-1979

CROP YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVG. PRICE PER CWT.	VALUE OF PRODUCTION
		CWT.	1,000 CWT.	DOLLARS	1,000 DOLLARS
1970	750	190	143	12.50	1,788
1971	750	200	150	12.50	1,875
1972	700	190	133	17.70	2,354
1973	730	195	142	17.40	2,471
1974	700	175	123	16.50	2,030
1975	630	210	132	18.00	2,376
1976	620	195	121	21.40	2,589
1977	660	190	125	20.40	2,550
1978	670	210	141	21.80	3,074
1979	620	190	118	24.60	2,903

MAPLE SYRUP

The 1979 Maple Syrup production in Massachusetts totaled 30,000 gallons, compared with 28,000 gallons in 1978. The weather during the season was characterized by warm periods of a few days duration, followed by cold for a few days, and lacked the warm days and cold nights needed for good sap runs. The season opened about March 5 and closed about April 5, a few days earlier and longer than the 1978 season. The quality of syrup made in 1979 was below normal and the color was medium compared with medium to light in 1978.

The price of maple syrup continues to increase, reaching $15.90 per gallon, 13 percent above the 1978 price. With the price doubling during the past 10 years, a new record high value of production was set for the 1979 crop of $477,000.

MAPLE SYRUP: PRODUCTION, DISPOSITION, PRICE AND VALUE, MASSACHUSETTS 1970-1979

YEAR	PRODUCTION	SOLD	SEASON AVERAGE PRICE PER GALLON	VALUE OF PRODUCTION
	1,000 GALLONS		DOLLARS	1,000 DOLS.
1970	32	31	6.70	214
1971	25	24	7.80	195
1972	28	27	8.70	244
1973	20	19	9.40	188
1974	25	24	11.20	280
1975	31	30	10.70	332
1976	27	25	12.75	319
1977	27	25	13.00	351
1978	28	26	14.10	367
1979	30		15.90	477

MAPLE SYRUP PRICES: BY TYPE OF SALE AND SIZE OF CONTAINER

YEAR	RETAIL					WHOLESALE					ALL SALES EQUIVALENT PER GALLON
	GAL.	½GAL.	QUART	PINT	½PINT	GAL.	½GAL.	QUART	PINT	½PINT	
	DOLLARS										
1971	7.40	4.00	2.40	1.50	1.05	6.60	3.65	2.30	1.35	.85	7.80
1972	8.10	4.55	2.75	1.90	1.15	7.30	4.30	2.60	1.55	1.00	8.70
1973	9.00	5.00	3.10	2.25	1.25	8.30	4.60	2.85	1.80	1.10	9.40
1974	10.50	5.90	3.55	2.30	1.40	9.00	5.00	3.00	1.85	1.20	11.20
1975	11.10	6.20	3.75	2.50	1.50	10.00	5.45	3.30	2.05	1.15	10.70
1976	11.65	6.45	3.90	2.55	1.50	10.35	5.75	3.35	2.20	1.35	12.75
1977	12.30	6.90	4.05	2.65	1.80	11.20	6.05	3.70	2.40	1.50	14.20
1978	13.10	7.40	4.29	2.81	1.86	11.66	6.59	3.79	2.41	1.49	14.10
1979	14.88	8.37	4.84	3.12	2.13	12.53	7.13	4.09	2.66	1.77	15.90

FOLIAGE PLANTS FOR INDOOR OR PATIO USE: NUMBER OF PRODUCERS, SQUARE FEET IN PRODUCTION, NEW VALUE OF SALES, MASSACHUSETTS, 1972-1979

YEAR	NUMBER OF PRODUCERS	SQUARE FEET IN PRODUCTION	AVERAGE VALUE PER SQUARE FOOT	PERCENTAGE OF SALES AT WHOLESALE	NET VALUE OF SALES 1/
		1,000 Sq. Ft.			1,000 Dollars
1972	46	246	3.52	95	865
1973	35	175	3.34	89	584
1974	76	581	5.24	76	3,203
1975	135	1,040	4.49	55	4,670
1976	131	965	4.92	62	4,743
1977	112	926	6.00	30	5,555
1978	127	927	5.36	56	4,970
1979	104	715	6.31	75	4,513

1/ Gross value of sales less cost of plant material purchased from other growers for growing on.

REPORTED TOTAL AVERAGE AREA USED FOR PRODUCTION AND DERIVED AVERAGE VALUE PER UNIT: CARNATIONS, CHRYSANTHEMUMS, POTTED LILLIES AND POTTED POINSETTIAS, MASSACHUSETTS, 1974-1979 1/

YEAR	CARNATIONS		CHRYSANTHEMUMS			POTTED LILLIES	POTTED POINSETTIAS
	STANDARD	MINIATURE	STANDARD	POMPON	POTTED		
			1,000 Square Foot Production Area				
1974			475	425	325		
1975	333	178	425	400	723		
1976	342	209	341	417	576	336	952
1977	238	123	296	445	309	367	813
1978	149	132	257	366	427	295	1,009
1979	88	98	225	292	501	294	1,044
			Average Value Per Square Foot - Dollars				
1974			1.57	1.14	2.30		
1975	2.05	2.31	1.71	1.44	2.09		
1976	2.31	1.81	2.31	1.46	2.46	2.69	1.86
1977	2.43	2.07	2.43	1.32	2.79	2.19	1.86
1978	1.50	2.58	2.56	1.77	2.45	2.62	2.04
1979	2.74	3.04	2.90	2.05	2.98	3.44	2.04

1/ Value figures for all plants are equivalent wholesale value of all sales.

CUT FLOWERS: NUMBER OF PRODUCERS, PRODUCTION, SALES, PRICE & VALUE, MASSACHUSETTS, 1972-1979

TYPE AND CROP YEAR	PRODUCERS 2/	SALES	PERCENTAGE OF SALES AT WHOLESALE	WHOLESALE PRICE	VALUE OF SALES AT 1/ WHOLESALE
	Number	1,000 Blooms	Percent	Cents	1,000 Dollars
STANDARD CARNATIONS					
1972	64	14,580	94	10.5	1,531
1973	58	11,140	93	11.1	1,237
1974	45	9,403	75	11.1	1,044
1975	34	5,549	65	12.3	683
1976	27	5,853	93	10.3	603
1977	24	3,851	89	11.2	431
1978	19	1,603	92	14.0	224
1979	14	1,238	84	20.0	241
MINIATURE CARNATIONS		1,000 Bunches			
1972	27	218	91	118	257
1973	26	271	83	125	339
1974	27	278	50	120	334
1975	23	273	65	151	412
1976	24	256	83	148	379
1977	20	222	89	115	255
1978	15	252	99	135	340
1979	15	175	96	170	298
HYBRID TEA ROSES		1,000 Blooms			
1972	11	17,144	99	18.7	3,206
1973	11	14,161	99	18.9	3,243
1974	9	19,708	97	21.0	4,139
1975	9	13,483	69	23.9	3,222
1976	10	12,636	100	19.7	2,489
1977	13	10,575	100	26.2	2,771
1978	9	12,514	99	26.0	3,254
1979	11	13,651	99	24.4	3,331
MINIATURE OR SWEETHEART ROSES					
1972	8	9,432	99	11.7	1,104
1973	8	9,635	100	11.4	1,098
1974	9	8,930	97	14.7	1,313
1975	9	9,114	72	11.7	1,066
1976	9	6,174	100	12.5	772
1977	9	6,537	100	16.3	1,066
1978	9	5,401	99	17.0	918
1979	8	7,020	99	17.3	1,214
STANDARD CHRYSANTHEMUMS					
1972	100	3,477	91	27.4	953
1973	88	2,983	81	29.9	892
1974	52	2,412	92	31.0	748
1975	54	2,341	92	31.1	728
1976	70	1,774	85	44.5	789
1977	58	1,721	92	41.7	718
1978	57	1,545	90	42.5	657
1979	53	1,355	83	48.1	652

CUT FLOWERS: NUMBER OF PRODUCERS, PRODUCTION, SALES, PRICE & VALUE, MASSACHUSETTS, 1972-1979, CONT.

TYPE AND CROP YEAR	PRODUCERS 2/	SALES	PERCENTAGE OF SALES AT WHOLESALE	WHOLESALE PRICE	VALUE OF SALES AT 1/ WHOLESALE
	Number	1,000 Bunches	Percent	Cents	1,000 Dollars
POMPON CHRYSANTHEMUMS					
1972	132	577	69	121	698
1973	115	558	55	128	714
1974	70	371	68	131	486
1975	102	377	67	153	577
1976	87	367	71	166	609
1977	89	356	54	165	587
1978	75	360	77	180	648
1979	60	338	58	177	598
POTTED CHRYSANTHEMUMS		1,000 Pots			
1972	61	369	88	207	764
1973	59	414	83	184	762
1974	60	503	68	193	971
1975	111	747	79	202	1,509
1976	115	609	78	233	1,419
1977	85	421	78	205	863
1978	87	402	63	260	1,045
1979	93	562	70	266	1,495
SNAPDRAGONS		1,000 Stems			
1976	52	2,651	88	16.8	445
1977	50	1,792	89	19.7	353
1978	57	1,674	90	20.0	335
1979	40	1,416	88	20.3	287
POTTED GERANIUMS		1,000 Pots			
1976	242	5,755	82	88	5,064
1977	225	3,183	52	75	2,387
1978	230	3,125	66	85	2,656
1979	220	3,631	61	91	3,304
POTTED LILLIES		1,000 Pots		Dollars	
1976	111	364	87	2.48	903
1977	108	322	80	2.50	805
1978	101	258	73	3.00	774
1979	93	329	78	3.07	1,010
POTTED POINSETTIAS					
1976	146	634	79	2.79	1,769
1977	139	741	68	2.05	1,519
1978	136	750	67	2.75	2,063
1979	120	751	75	2.83	2,125

1/ Equivalent wholesale value of all sales.
2/ Beginning with 1974, number of producers is number who produce and sell $10,000 or more of fresh (cut) flowers, flowering and foliage plants, bedding plants and cultivated florist greens. Previously, the definition included growers who sold $2,000 or more of the above mentioned items.

MASSACHUSETTS NURSERY AND GREENHOUSE INSPECTION
1974-1979

CATEGORY	1974	1975	1976	1977	1978	1979
Number of nurseries inspected	494	413	503	505	367	374
Acres of nurseries inspected	3,439	2,894	2,993	3,004	3,121	3,152
Number of greenhouses inspected	76	80	85	87	89	91
Sq. feet of greenhouses under glass* (000)	1,971	2,202	2,272	2,338	2,309	2,319

NUMBER OF FAIRS AND ATTENDANCE: MASSACHUSETTS, 1970-1979

YEAR	NUMBER OF FAIRS	ATTENDANCE
1970	131	2,247,387
1971	130	1,895,067
1972	124	2,246,242
1973	121	1,592,995
1974	131	2,646,493
1975	131	2,945,841
1976	134	2,762,597
1977	129	2,954,530
1978	124	2,500,000
1979	133	2,090,356

FERTILIZER CONSUMPTION: BY KINDS AND OF PRIMARY NUTRIENTS, MASSACHUSETTS, 1970-1979

YEAR ENDED JUNE 30	KIND OF FERTILIZER				PRIMARY NUTRIENTS		
	MIXED FERTILIZER	PRIMARY NUTRIENTS MATERIALS	SECONDARY & MICRO-NUTRIENTS	TOTAL FERTILIZER	N	AVAILABLE P_2O_5	K_2O
	Tons				Tons		
1970	52,953	16,580	63	69,596	8,159	6,325	6,071
1971	47,774	23,298	51	71,123	7,727	6,842	5,514
1972	54,997	17,183	54	72,234	8,853	6,295	6,126
1973	59,643	17,045	50	76,738	10,095	7,726	6,899
1974	61,540	15,810	23	77,373	8,999	7,031	7,246
1975	51,814	15,216	36	67,066	7,866	5,588	6,049
1976	55,548	15,335	150	71,033	8,803	5,984	6,779
1977	53,094	14,882	28	68,004	9,015	5,872	6,607
1978	71,471	14,970	62	86,503	11,501	7,644	8,552
1979	58,397	11,393	224	70,014	10,275	6,220	7,530

FARMS: NUMBER AND ACREAGE, MASSACHUSETTS, 1970 - 1979

Year	Number	Average Size	Land in Farms
		Acres	Acres
1970	6,200	121	750,000
1971	5,900	122	720,000
1972	5,700	123	700,000
1973	5,500	124	680,000
1974	5,500	124	680,000
1975	5,800	121	700,000
1976	6,300	111	700,000
1977	6,200	111	690,000
1978	5,900	115	680,000
1979	6,200	110	680,000

PRICES PAID BY FARMERS: INDEX NUMBERS, ANNUAL AVERAGE, UNITED STATES
1960-1979, BY YEARS (1967=100)

YEAR	COMMODITIES AND SER., INTEREST TAXES & WAGE RATES	FAMILY LIVING AND PRODUCTION ITEMS	FAMILY LIVING ITEMS	PRO-DUCTION ITEMS	INTEREST PAYABLE PER ACRE	TAXES PAYABLE PER ACRE	WAGE RATES FOR HIRED FARM LABOR 1/
1960	88	91	90	92	45	69	74
1961	88	92	90	93	50	73	76
1962	90	92	91	94	55	77	78
1963	91	94	92	95	62	79	80
1964	92	93	93	94	70	82	82
1965	94	96	95	94	79	87	86
1966	99	99	98	100	90	94	93
1967	100	100	100	100	100	100	100
1968	103	102	104	100	112	110	108
1969	108	106	109	104	125	120	119
1970	112	110	114	108	134	129	128
1971	118	115	118	113	142	136	134
1972	125	122	123	121	156	142	142
1973	144	142	133	146	184	145	155
1974	164	161	151	166	223	154	178
1975	180	177	166	182	262	166	192
1976	192	187	176	193	299	178	210
1977	202	196	181	200	339	195	226
1978	219	212	194	217	400	210	242
1979	250	241	215	248	501	226	265

1/ Simple average of quarterly indexes seasonally adjusted.

INDEX NUMBERS OF PRICES RECEIVED BY FARMERS, BY COMMODITY GROUPS,
UNITED STATES ANNUAL AVERAGE, 1960-1978
(1967=100)

YEAR	CROPS								LIVESTOCK & PRODUCTS				ALL FARM PROD-UCTS
	FOOD GRAINS	FEED GRAINS AND HAY	TOBACCO	COTTON	OIL BEARING CROPS	FRUIT	COM-MERCIAL VEGE-TABLES	ALL CROPS	DAIRY PROD-UCTS	POULTRY AND EGGS	MEAT ANI-MALS	ALL LIVE-STOCK	
1960	115	87	90	133	77	100	82	99	85	121	88	91	94
1961	118	87	95	137	93	101	79	100	85	111	89	91	94
1962	128	89	96	142	90	95	88	103	83	110	92	92	96
1963	126	95	89	142	94	120	83	106	83	111	86	89	96
1964	107	96	88	137	93	125	88	106	84	108	80	85	93
1965	93	100	92	129	98	106	93	103	85	110	94	94	98
1966	105	104	99	113	109	109	101	106	96	120	105	106	106
1967	100	100	100	100	100	100	100	100	100	100	100	100	100
1968	91	90	102	101	96	134	108	100	105	107	103	104	102
1969	88	96	107	91	93	101	106	97	109	120	119	117	107
1970	92	103	109	96	99	96	103	100	113	112	121	118	110
1971	95	108	113	108	111	108	114	108	117	102	121	118	113
1972	109	101	123	129	122	117	115	114	121	105	148	136	125
1973	215	163	129	144	226	137	134	175	143	176	198	183	179
1974	300	249	148	228	232	141	143	224	166	163	165	165	192
1975	242	232	162	183	197	138	162	201	175	179	169	172	185
1976	202	214	163	265	205	129	161	197	192	178	170	177	186
1977	156	181	175	270	243	163	176	192	193	174	168	175	183
1978	191	184	191	245	226	224	185	203	210	185	226	217	210
1979	229	207	207	258	249	240	194	223	239	192	280	257	241

FARM PRODUCTION EXPENSES: MASSACHUSETTS, 1969-1978

YEAR	CURRENT FARM OPERATING EXPENSES: FEED	LIVE-STOCK	SEED 1/	FERTILIZER AND LIME	REPAIRS AND OPERATION OF CAPITAL ITEMS 2/	MISCELLANEOUS 3/	HIRED LABOR 4/
	Million Dollars						
1969	27.2	4.7	3.0	3.9	12.8	16.7	32.0
1970	28.9	4.0	3.1	3.6	13.0	17.3	32.0
1971	27.6	3.9	3.2	3.7	13.6	18.4	33.4
1972	25.8	4.2	3.4	3.9	13.2	20.0	33.2
1973	37.2	4.7	4.2	5.6	14.1	20.9	38.8
1974	47.3	3.2	5.5	8.5	17.1	24.4	37.1
1975	45.0	2.4	5.4	6.8	19.6	27.2	37.2
1976	44.8	2.7	6.3	6.2	24.3	27.4	40.4
1977	41.6	3.7	6.7	5.8	26.4	28.5	46.1
1978	37.4	3.3	7.3	8.1	28.1	31.5	48.9

1/ Includes bulbs, plants and trees.
2/ Repairs and maintenance of buildings, repairs and operation of motor vehicles and other machinery, and petroleum fuel and oil used in the farm business.
3/ Includes binding, cotton ginning, Federal crop insurance, containers, dairy supplies, electricity, greenhouse and nursery, grazing fees, harness & saddlery, net insurance premiums (fire, wind and crop hail), irrigation, livestock marketing service (excl. feed and transportation), milk hauling, miscellaneous hardware (incl. blacksmithing), machine hire and custom work, miscellaneous livestock and poultry supplies, pesticides, small hand tools, short term interest, telephones (business share), vet. services and medicines (plus insem.) and other miscellaneous.
4/ Includes cash wages, perquisites, and Social Security taxes paid by employers.

FARM PRODUCTION EXPENSES: MASSACHUSETTS, 1969-1978

YEAR	TOTAL CURRENT FARM OPERATING EXPENSES	DEPRE-CIATION 1/	TAXES ON FARM PROPERTY	INTEREST ON FARM MORTGAGE DEBT	NET RENT TO NONFARM LANDLORDS 2/	TOTAL PRODUCTION EXPENSES
			Million Dollars			
1969	100.3	18.4	9.9	2.2	-1.0	129.8
1970	102.0	18.7	10.4	2.4	-1.1	132.4
1971	103.8	20.5	11.3	2.6	-1.3	137.0
1972	103.8	21.0	11.7	3.0	-1.3	138.2
1973	125.4	22.2	12.8	3.6	-1.5	162.6
1974	142.9	25.6	12.6	4.5	-1.5	184.1
1975	143.7	29.6	13.3	5.8	-1.2	191.2
1976	152.2	31.9	14.1	6.5	-1.0	203.7
1977	159.0	33.7	15.4	5.9	-1.0	213.0
1978	164.5	37.0	16.4	6.0	- .9	223.0

1/ Includes depreciation and accidental damage to farm buildings and depreciation of motor vehicles and other farm machinery and equipment.
2/ Minus sign reflects a net income position rather than a net expense position.

CASH RECEIPTS FROM FARM MARKETING AND GOVERNMENT PAYMENTS, MASSACHUSETTS 1950-1978

Year	Cash Income From Farm Marketing			Government Payments	Total Marketings & Government Payments
	Crops	Livestock & Livestock Products	Total Crops and Livestock		
			(000) Dollars		
1950	54,652	126,957	181,609	559	182,168
1955	52,897	119,563	172,460	438	172,898
1960	60,121	104,608	164,729	672	165,401
1965	69,124	91,117	160,241	645	160,886
1970	71,590	85,340	156,930	619	157,549
1975	100,904	100,594	201,498	593	202,091
1976	110,269	109,106	219,375	599	219,974
1977	118,699	105,056	223,755	579	224,330
1978	129,897	112,109	242,006	773	242,779

REALIZED GROSS AND NET INCOME FROM FARMING: MASSACHUSETTS, 1950-1978

	1950	1955	1960	1965	1970	1975	1976	1977	1978
					Million Dollars				
Cash Receipts From Farm Marketing	181.6	172.5	164.7	160.2	156.9	201.5	219.4	223.8	242.0
Government Payments	.6	.4	.7	.6	.6	.6	.6	.6	.8
Non-Money Income	19.3	15.4	15.5	12.3	13.3	21.3	23.2	25.2	26.3
Other Farm Income	.1	.6	.7	1.2	1.5	3.2	3.5	4.0	4.4
Gross Farm Income	201.6	188.9	181.6	174.5	172.3	226.5	246.6	253.5	273.5
Farm Production Expenses	147.2	138.3	135.6	127.4	132.0	191.2	203.7	213.0	223.0
Realized Net Farm Income	54.4	50.7	46.1	47.0	40.4	35.3	42.9	40.5	50.5
Net Change Farm Inventories	-2.1	-1.2	1.3	-.5	.2	-1.3	4.1	-32.2	1.2
Total Net Farm Income	52.3	49.5	47.3	46.5	40.6	34.1	47.0	8.3	51.7
Estimated Number Farms (000)	29.1	18.0	13.0	8.7	6.2	5.5	5.4	5.3	4.8
Average Net Farm Income (dollars)	1,797	2,750	3,639	5,345	6,548	6,200	8,704	1,566	10,771

UNITED STATES: CIVILIAN PER CAPITA CONSUMPTION OF MAJOR FOOD COMMODITIES, 1970-1979 1/

Commodity	1970	1973	1974	1975	1976	1977	1978 2/	1979 2/
	Pounds							
Meats:	151.4	142.6	152.5	145.4	155.3	154.6	149.7	147.7
Beef	84.1	81.1	86.4	88.9	95.7	93.2	88.9	79.6
Veal	2.4	1.5	1.9	3.5	3.3	3.2	2.5	1.7
Lamb and mutton	2.9	2.4	2.0	1.8	1.7	1.5	1.4	1.4
Pork	62.0	57.6	62.2	51.2	54.6	56.7	56.9	65.0
Fish (edible weight)	11.8	12.9	12.2	12.3	13.0	12.8	13.4	13.7
Poultry Products:								
Eggs	39.5	37.3	36.6	35.4	34.8	34.5	35.2	35.7
Chicken (ready-to-cook)	40.5	40.7	41.1	40.6	43.3	44.9	47.7	51.8
Turkey (ready-to-cook)	8.0	8.5	8.9	8.6	9.2	9.2	9.4	10.2
Dairy Products:								
Cheese	11.5	13.7	14.6	14.5	15.8	16.4	17.3	18.1
Condensed and evaporated milk	7.1	6.0	5.6	5.0	5.0	4.5	4.2	4.4
Fluid milk and cream (product weight)	296.0	293.0	288.0	291.1	292.0	288.4	285.9	284.2
Ice cream (product weight)	17.7	17.5	17.5	18.7	18.1	17.7	17.8	17.7
Fats and Oils--Total Fat Content	53.0	54.3	53.2	53.4	56.1	54.4	55.6	57.6
Butter (actual weight)	5.3	4.8	4.6	4.8	4.4	4.4	4.5	4.5
Margarine (actual weight)	11.0	11.3	11.3	11.2	12.2	11.6	11.4	11.6
Lard	4.7	3.4	3.2	3.0	2.7	2.3	2.2	2.3
Shortening	17.3	17.3	17.0	17.3	18.1	17.6	18.2	19.2
Other edible fats and oils	18.2	20.8	20.3	20.3	22.0	21.6	22.6	23.4
Fruits:								
Fresh	79.3	74.2	76.9	81.3	83.7	79.6	81.6	80.5
Citrus	28.1	26.9	27.1	28.7	28.5	25.2	26.3	24.3
Noncitrus	51.2	47.3	49.8	52.6	55.2	54.4	55.3	56.2
Processed:								
Canned fruit	23.3	21.3	19.6	19.3	19.2	20.0	19.0	19.2
Canned juice	14.6	15.9	14.6	16.2	16.2	15.6	17.4	17.4
Frozen (including juices)	9.8	11.2	11.2	12.6	12.2	11.8	11.3	12.3
Chilled citrus juices	4.7	5.3	5.2	5.7	6.2	5.8	6.4	6.4
Dried	2.7	2.6	2.4	3.0	2.6	2.5	2.0	2.2
Vegetables:								
Fresh 3/	91.0	93.0	95.0	94.1	94.2	91.8	93.3	97.2
Canned	53.0	57.7	56.9	55.1	55.7	56.2	54.1	55.0
Frozen (excluding potatoes)	9.7	10.7	10.2	9.7	10.2	10.3	10.8	11.1
Potatoes 4/	115.3	114.4	112.3	120.3	114.4	119.8	122.9	123.0
Sweetpotatoes 4/	5.2	4.6	4.9	5.0	4.9	4.5	5.0	5.0
Grains:								
Wheat flour 5/	110	112	110	113	118	114	115	112
Rice	6.7	7.0	7.6	7.7	7.2	7.6	5.8	9.2
Other:								
Coffee	10.4	10.1	9.5	9.0	9.4	6.7	7.9	7.8
Tea	.7	.8	.8	.8	.8	.9	.7	.7
Cocoa	3.1	3.4	3.0	2.6	3.0	2.7	2.7	2.7
Peanuts (shelled)	5.9	6.6	6.4	6.5	6.3	6.6	6.6	6.6
Dry edible beans	5.9	6.4	6.7	6.5	6.3	6.1	5.9	6.1
Melons	21.2	19.8	17.1	17.3	18.6	19.3	20.1	18.9
Sugar (refined)	101.8	101.5	96.6	90.2	94.7	95.7	93.1	91.3

1/ Quantity in pounds, retail weight unless otherwise shown. Data on calendar year basis except for dried fruits, fresh citrus fruits, peanuts, and rice which are on a crop-year basis. 2/ Preliminary. 3/ Commercial production for sale as fresh produce. 4/ Including fresh equivalent of processed. 5/ White, whole wheat, and semolina flour including use in bakery products.

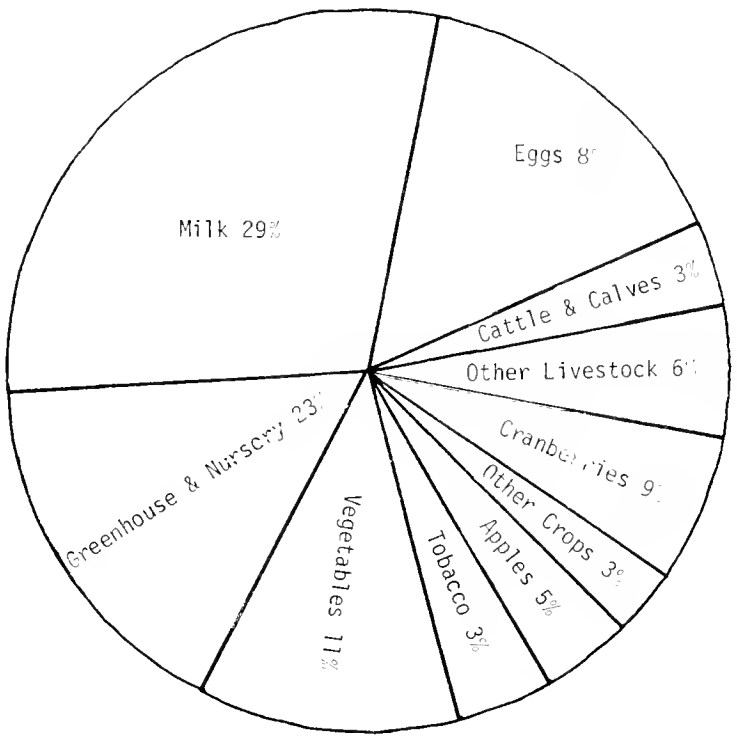
MASSACHUSETTS: ESTIMATED TOTAL POPULATION, July 1, 1950-1979 1/

Year	Total Population	Year	Total Population
1950	4,691,000	1976	5,769,000
1960	5,149,000	1977	5,768,000
1970	5,697,000	1978	5,771,000
1975	5,778,000	1979 2/	5,769,000

1/ U.S. Department of Commerce, Bureau of the Census.
2/ Preliminary.

CASH RECEIPTS FROM FARM MARKETINGS - MASSACHUSETTS - 1977-1979

COMMODITY	1977	1978	1979	1979 % of 1978	COMMODITY	1977	1978	1979	1979 % of 1978
	Million Dollars			Percent		Million Dollars			Percent
Hay	2.0	2.2	2.3	105	Cattle & Calves	7.4	10.3	8.7	84
Tobacco	10.7	8.9	8.4	94	Hogs	5.4	7.5	7.8	104
Potatoes	4.3	4.6	4.8	104	Sheep & Lambs	.1	.2	.1	50
Sweet Corn	3.8	4.0	5.2	130	Milk	65.9	67.4	73.4	109
Tomatoes	2.6	3.1	2.9	94	Eggs	20.2	19.0	20.6	108
Cabbage	.9	1.1	.9	82	Chickens Excl. Broilers	.9	1.3	1.0	77
Other Vegetables	13.8	13.6	13.6	100	Turkeys	1.5	2.0	1.8	90
Cranberries	15.5	25.5	23.3	91	Other Livestock & Poultry	3.7	4.4	4.4	100
Apples	12.3	13.1	11.8	90					
Peaches	.7	1.0	1.0	100					
Other Fruits & Berries	1.2	1.5	1.5	100	TOTAL LIVESTOCK	105.1	112.1	117.8	105
Maple Products	.4	.3	.3	100					
Forest Products	1.0	1.2	1.3	108					
Nursery and Greenhouse	48.1	52.9	58.2	110					
Misc. Crops	.3	.3	.3	100	STATE TOTAL	222.7	245.4	253.6	103
TOTAL CROPS	117.6	133.3	135.8	102					



ANNUAL REPORT

JULY 1, 1979 TO JUNE 30, 1980

MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE

AGRICULTURAL PRESERVATION RESTRICTION PROGRAM
William H. King, Land Use Administrator

The Agricultural Preservation Restriction Program provides for the public purchase of agricultural restrictions, often called development rights or easements. Restrictions can either be purchased by the Department or received as a gift. Local government also has the opportunity to financially contribute to specific projects and thereby share in the purchase with the Department.

Farmers and other farmland owners voluntarily apply to the program for funding. After the application has been reviewed, and the property field inspected, it is submitted to the Agricultural Lands Preservation Committee for action. If successful, the application will become a program finalist. This is to say that the property will be appraised for both its market value and its farm value. The landowner will be offered the development rights value (market value minus farm value). If the landowner concurs, a final vote of the Committee is needed before a purchase agreement is drafted.

The program is one of four state programs now operating in the country. It provides farmland owners with the only alternative to realizing their land's development value without the land itself having to be developed for non-agricultural use. The land is restricted in perpetuity, unless released as specified by statute. A land base for Massachusetts food production is being preserved.

At the end of the 1980 fiscal year, 143 applications had been submitted to the Department of Food and Agriculture for funding consideration. The applications represented 91 cities and towns in 12 counties across the Commonwealth. A total of 13,227 acres was proposed for restriction with asking prices totaling over $27 million (see accompanying table).

Of the 19 finalists approved for appraisal and negotiation in Round I (pilot phase), 13 have received final funding approval from the Agricultural Lands Preservation Committee. Four others are under negotiation and the other two were not approved for funding. Money remaining from Round I will be added to the second $5 million provided in the 1980 Capital Outlay Budget.

Round II finalists and program participants will be selected during the next year.

AGRICULTURAL PRESERVATION RESTRICTION PROGRAM

APPLICATIONS RECEIVED
From January 1, 1979 through June 30, 1980

COUNTY	NUMBER OF APPLICATIONS	ACREAGE	NUMBER OF CITIES & TOWNS REPRESENTED
Barnstable	1	65	1
Berkshire	7	1372	4
Bristol	12	1012	9
Dukes	4	342	3
Essex	14	676	9
Franklin	11	1066	5
Hampden	5	418	5
Hampshire	17	1230	6
Middlesex	14	783	12
Norfolk	11	518	6
Plymouth	14	1799	9
Worcester	33	3946	22

Total Program Statistics:
143 applications, 13,227 acres, $27 + million asking price, 91 cities and towns in 12 counties represented.
Two $5 million bond issues are available for program expenditure.
Round I Statistics:
19 applications approved for appraisal and negotiation

13 applications approved for purchase, 978 acres, 11 cities and towns in 7 counties, $2.3 million total purchase price with $176,000 contributed by cities, towns and interested private groups.
4 applications continue to be under negotiation.
2 applications were not approved for purchase.
Round II Statistics:
26 applications approved for appraisal and negotiation, 2429 acres, $6.5 million asking price, 20 cities and towns in 10 counties represented.

DIVISION OF AGRICULTURAL LAND USE
Susan Redlich, Director

The Division works in various ways to strengthen local food systems, and to improve the state's capabilities in food production and distribution. The importance of promoting food security by ensuring the viability of farming is underscored by the current dependency on imported food supplies from outside the region. Any food security gains are tied closely to the conservation of a land base.

COMMUNITY GARDENING

We have developed community gardens on state-owned lands and other public lands. There are now garden sites at 20 state locations which are used by youth, families, elderly and people on fixed income. The Division can negotiate arrangements between public land owners and garden groups to make land available. With the Division's assistance, the first community garden for Allston/Brighton was organized on MDC land; youth groups farmed several acres of land at Framingham MCI, Metropolitan State Hospital, Massasoit Community College and Bridgewater MCI.

We serve as a clearinghouse of information for the over 200 community gardens across the state and maintain lists of current garden locations and coordinators. The Division also organizes and administers the Massachusetts Seed Program, which involved 16,000 participants. The program provides vegetable seeds, free or at reduced cost to members of community garden groups. Furthering the Division's promotion of community food production, the Legislature passed the Massachusetts Fruition bill, providing funds for purchase of food-bearing trees and shrubs for planting on public land. The Division will administer this program.

PROTECTING THE AGRICULTURAL LAND BASE

The Division prepared the handbook, Cows, Corn, and Cranberries, a compendium of positive measures for towns and cities that want to protect their agricultural resources. One thousand copies were distributed to local officials. To assist policy-makers on the subject of re-disposition of surplus state property, the Division has undertaken the task of mapping and classifying a major portion of the 5,000+ acres of state-owned farmland, in order to document its importance. The Division administers permits for approximately 500 acres of state land utilized by commercial farmers.

An increase in development projects that posed negative impacts on farmland called forth Division investigations during the state's environmental review process.

ADVOCATING DIRECT MARKETING FOR SMALL PRODUCERS

The Division coordinated 6 market sites in the Boston area and expanded farmers market activities by organizing a market at Uphams Corner in Dorchester and a mobile farm stand at Mission Hill in Roxbury. We researched the state

institutional purchase orders of food that could be supplied locally; the next step will be to facilitate public food service investment in Massachusetts grown products.

ASSISTING URBAN AGRICULTURAL EFFORTS

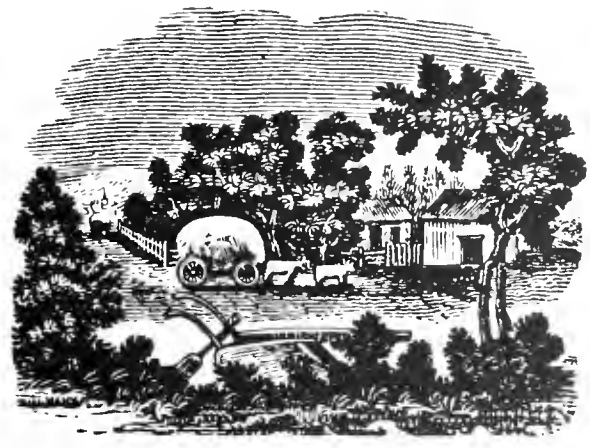
In cooperation with urban gardening organizations, the Division is taking action to establish a composting facility in Boston; the humus thus produced will be used to reclaim urban land for food production. The Division is developing plans for a working landscape at Boston State Hospital, to serve urban gardeners throughout the area; re-use of a greenhouse for community access is part of the plan. We have regularly convened the urban gardeners Task Force on Toxicity, which shares information about lead contamination of soils and has sponsored several research projects.

INCREASING EDUCATIONAL OPPORTUNITIES FOR FARMERS

Due to the great interest by the Division (along with present and potential farmers across the state) in seeing the establishment of a small farm training and demonstration center, the Legislature transferred control of the Belchertown State School Farmstead to the Department of Food and Agriculture. The Division will administer the leasing of lands and buildings for educational purposes.

FINANCIAL REPORT

The budget appropriated to accomplish the various programs of the Division was $79,000.



DIVISION OF ANIMAL HEALTH
Mabel A. Owen, Director

The control and/or eradication of important domestic animal diseases is the major goal of the Division of Animal Health and is not only crucial to human health and the success of agriculture itself, it is one of the few areas where government truly profits both producer and consumer.

The major disease control programs in the Division of Animal Health are in Tuberculosis and Brucellosis, both of which exert a considerable impact on human health.

BRUCELLOSIS

Two dairy herds were under quarantine for brucellosis in the 1980 fiscal year. One herd was removed from quarantine following the removal of reactors and subsequent clean tests. The second, a very large free-housed herd, remains under quarantine with a very low level of infection which is difficult to eradicate completely in such a large herd. The conventional test-and-slaughter procedures which cleaned up the small herd are being augmented in the large herd through additional and more definitive testing done with the aid of the Animal Plant Health Inspection Services of the United States Department of Agriculture.

A very large part of the state is now certified free of Swine Brucellosis, which also carries a human health impact. Work which will certify the entire state continues in all types of brucellosis.

TUBERCULOSIS

This disease also has important human-health connotations and is endemic all over the world. Eradication remains a continuing program with no tolerance for laxity. We require that cattle and goats imported into Massachusetts come in on permit and an approved test. We conduct a Market Cattle-Traceback (MCI) system of surveillance. We also test, at state expense, every dairy animal at least once every three years. In the 1980 fiscal year, 29,644 animals were tested. Further testing of 30 primary-test deviates revealed two reactors which were slaughtered with indemnity payment made. Herds of origin for both proved clean.

HOG CHOLERA AND RELATED DISEASES

Massachusetts continues to remain free of this disease but, since it occurs in nearby countries, active preventative procedures must be maintained. In this state the feeding of cooked garbage is allowed, with a permit required. Regular inspections of both swine and feeding procedures are made. This program, geared to the control of Hog Cholera, is important to the control of other diseases, Vesicular Exanthema and African Swine Fever in particular.

EQUINE PROGRAMS

Massachusetts requires a negative test for the presence of Equine Infectious Anemia (EIA) before a horse or pony can come into the state or be sold or shown here. 16,631 tests were reported; 14 of these, mostly detected through sale-barn testing, were found to be positive and quarantined.

Vaccination against Eastern-western Equine Encephalitis (EEE-WEE) is not mandatory, but all horse owners are annually urged to have their animals vaccinated since protection is considered close to 100 percent. This disease also attacks humans though it cannot be contracted directly from an equine.

As a largely consumer device, the licensing program for horseback riding instructors enrolled slightly over 750 in the 1980 fiscal year. Just over 200 riding schools or stables were also licensed.

The program to test pulling animals (horses, ponies, oxen) at fairs for the presence of drugs and stimulants continued and has been very well received by fair-goers and exhibitors alike.

PET SHOP LICENSING PROGRAM

The licensing of pet shops is primarily a disease-control measure for which we were amply rewarded during a recent outbreak of Velogenic Viscerotropic Newcastle Disease (VVND) in this country. Brought here by imported birds, usually parrots, this disease has the capability of wiping out the domestic poultry industry, should it find its way there. The record-keeping required by our pet shop licensing allowed almost instant traceback and test work, both of which confirmed that there had been no outbreak of the disease itself in Massachusetts.

POULTRY PROGRAMS

With the transfer of the Division of Poultry to the Division of Animal Health for the 1980 fiscal year supervisory and disease-control programs continued. 185 Shell Egg Inspection visits were made as part of a cooperative agreement made with the United States Department of Agriculture. 72 truckload inspections of frozen poultry were made under a similar agreement. Inspectors made just under 4000 store visits, to check for poultry law violations and to confirm the agreements under which twelve firms display the "Massachusetts Grown and Fresher" logo. Twenty-one fairs were inspected and more than 115,000 individual blood tests were made.

RABIES CONTROL

Under this program we initiate the quarantining of any animal which has bitten a person. 6959 cases were either quarantined or further investigated.

CONCLUSION

Our success has been aided in no small way by the extremely high degree of cooperation given to our personnel and our programs by both farmers and producers. We are grateful for this, as well as for continuing help of the United States Department of Agriculture, the Massachusetts Society for the Prevention of Cruelty to Animals, the University of Massachusetts and the Massachusetts Farm Bureau Federation.

The Division of Animal Health's budget for the fiscal year 1980 was $452,590, which included funding of the Division of Poultry Program.

DIVISION OF POULTRY AND POULTRY PRODUCTS
Lawrence E. Bliss, Supervisor

POULTRY STANDARDIZATION

During 1980 fiscal year, 7792 lots of eggs were inspected at the retail level to certify that the product met Massachusetts standards for size (weight) and quality, which must by statute be properly labeled on the carton. Violations were found in 54 lots, representing about .69 per cent of the total number inspected.

One hundred eighty-five (185) quarterly surveillance visits were made to egg handlers registered under the Egg Products Inspection Act.

Currently, there are thirteen (13) firms licensed to pack eggs under the logo: "Massachusetts Produced and Fresher"; the Poultry Division monitors these firms periodically.

POULTRY SERVICES

Seventy-two (72) truckloads of frozen poultry, under the U.S.D.A. School Lunch Program, were certified, as to quality, at the point of delivery.

Ninety-two (92) state institutional inspections were made with 739 cases of eggs being examined; 28 cases, or about 3.8 per cent were rejected as not meeting the bid specifications of the Commonwealth.

Thirty-one (31) days were spent by one inspector, under the U.S.D.A. Fee Grading Program in egg packing plants.

POULTRY DISEASES

Under the National Poultry Improvement Plan (NPIP), 115,567 birds, up 15 per cent from the previous year, were blood tested for evidence of Pullorum-Typhoid disease and found negative for the seventh year; 131,010 blood samples were also taken for evidence of Mycoplasma Gallisepticum and found negative. Thus, our Massachusetts poultry breeders were able to export 1,162,325 baby chicks and 912,170 hatching eggs to foreign buyers.

Division inspectors were on hand at 23 fairs and poultry shows to inspect birds for clinical symptoms of illness and/or disease, and to determine compliance of the exhibitors with the Pullorum-Typhoid testing program.

The Department filed seven bills through the Secretary of State's office for the calendar year 1980. Six of them received favorable reports from the Committee on Natural Resources and Agriculture, and the seventh bill received a favorable report from the Committee on Taxation. The first six expired in the House Ways and Means Committee and the seventh, in the Senate Ways and Means Committee.

We did have success, however, in other bills affecting agriculture for the fiscal year 1980.

Chapter 572. An Act Relative To The Operation Of Farm Vehicles. (Approved August 28, 1979)

This Act removed the fifty mile restriction on farm vehicles. Farm vehicles may now travel anywhere within the Commonwealth, or in bordering states which have a reciprocal agreement with the Registry of Motor Vehicles for the operation of similarly registered vehicles.

Chapter 693. An Act Exempting Certain Agricultural Or Aquacultural Projects From The Wetlands Protection Act. (Approved November 7, 1979)

This Act exempts aquaculture as well as agriculture from the Wetlands Protection Act.

Chapter 704. An Act Regulating The Generation, Transportation, Storage, Treatment And Disposal Of Hazardous Waste. (Approved November 9, 1979)

This Act set up a Division of Hazardous Waste in the Department of Environmental Quality Engineering and established a Hazardous Waste Advisory Committee. It has no immediate effect on agriculture.

Chapter 86. An Act Relative To The Development And Encouragement Of The Breeding Of Standardbred Horses. (Approved April 10, 1980)

This Act provides that no colt or filly shall be eligible to race in the Standardbred Program unless registered with the Department and the Massachusetts Standardbred Breeders and Owners Association.

Chapter 102. An Act Relative To The Control And Eradication Of Brucellosis In Bovine Animals. (Approved April 23, 1980)

This Act changed the effective date of Section 2 of Chapter 485 of the acts of 1978 from July 1 to January 1, 1981.

Chapter 378. An Act Further Regulating Certain Agricultural Land Use. (Approved July 3, 1980)

This Act broadened the scope of the Land Use Program in the Department. Now any person may make application for a permit to use vacant public land for propagation and cultivation of fruitbearing trees and shrubs, and nut trees.

Chapter 397. An Act Providing That Employees Of The County Cooperative Extension Service Of Suffolk County May Participate In the Commonwealth's Group Insurance Program. (Approved July 7, 1980)

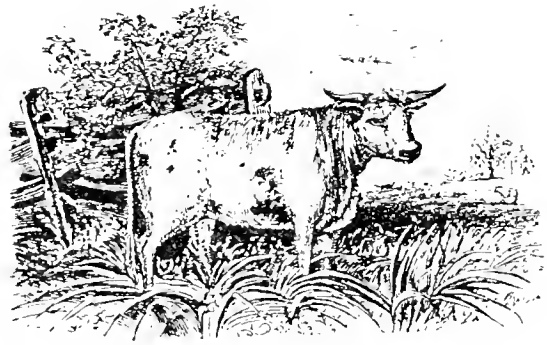
The title of this Act is self-explanatory.

Chapter 428. An Act Providing For An Institutional License For Certain Veterinarian Schools. (Approved July 9, 1980)

This Act provides that the Tufts School of Veterinary Medicine may make application for an institutional licenses for veterinarians who are not otherwise licensed,so that said veterinarians may practice veterinary medicine if such practice is conducted in conjunction with their full-time employment by the school.

Chapter 475. An Act Authorizing The Long Term Leasing Of Certain Land And Buildings At Belchertown State School From The Department of Mental Health To The Department Of Food And Agriculture, For The Purpose Of Promoting The Establishment Of A Small Farm Demonstration And Training Center. (Approved July 11, 1980)

This Act provides that the Department of Mental Health shall lease to the Department of Food and Agriculture, for a period of ten years with an option to renew said lease for an additional ten years,for purposes set forth in said title.



DAIRY FARM INSPECTION

Of the 7684 initial yearly inspections of dairy farms made by division personnel, 22 per cent or 1685 farms failed to comply with the Commonwealth of Massachusetts regulations, necessitating repeat inspections. Approximately 24 per cent of the reinspections still failed to comply, resulting in warning letters, hearings and fifteen exclusions. An additional 900 dairy farms in Maine were inspected by personnel of the Maine Dept. of Agriculture. These inspection reports may now be accepted by the Commonwealth under stipulated conditions as per Chapter 940 of the Acts of 1977.

MILK PLANT INSPECTION

Ninety-nine "first inspections" were made of milk plants, with 23 per cent not approvable, resulting in numerous reinspections before acceptable compliance was achieved.

MASTITIS CONTROL

A total of 138,706 milk samples were collected from 668 herds for delivery to the diagnostic laboratory at the University of Massachusetts, where they were analyzed. This voluntary program aids dairy farmers in the detection, treatments, and control of mastitis which results in higher production for the dairyman and in better quality for the consumer.

USDA GRADING & USPH MILK RATINGS

Division personnel licensed by the U.S. Dept. of Agriculture spent 78 days inspecting and sampling dairy products, resulting in income to the Commonwealth of $9,660.

Division personnel certified by the U.S. Public Health Service as Milk Sanitation Rating Officers fulfilled all requests by industry for Interstate Milk Shippers' raw milk supply ratings.

FINANCIAL REPORT

The appropriated budget for the fiscal year was $236,200.

DIVISION OF FAIRS
Stephen F. Quinn, Director

The fairs as a whole, enjoyed a rather large increase in paid attendance, due mainly to the gasoline crisis of the summer of 1979. It was convenient for many residents to take in the local fairs rather than traveling great distances for entertainment. However, there was a sharp decline in the number of exhibits and exhibitors. Because there wasn't any considerable increase in prizes, they reduced the number of their entries and shows due to the high cost of traveling.

2,417,401 people paid admissions to one of the various agricultural fairs conducted within the State. This figure is up 296,209 from last year. $262,421 was expended for prizes by the State and $115,358 was added by the fairs for the promotion of agriculture. 69,205 exhibits were displayed, 32,458 of which were youth, these figures are down 10,605 and 2,550 respectively from 1978.

The Massachusetts Building was again very successful with the theme "Massachusetts Grown and Fresher", incorporated into every commodity group presentation. This year the Marine Fisheries joined with us in the building and an excellent display of utilizing under developed species of fish was conducted.

The Division hired 12 fair inspectors, on a part time basis, to aid the Director in overseeing the programs. Their value is shown in the reports received on each fair, assuring that the State is in fact getting the most out of prizes awarded and rehabilitation monies allotted.

REHABILITATION PROGRAM

The rehabilitation committee met and approved allotment of $153,658 to 51 fairs, to help defray the cost of improvements of their facilities in three categories: a) public health; b) animal health; c) displays. The committee also reviewed the guidelines set for the distribution of the monies and made proper changes so as to protect the State from any chance of misused funds.

Many of the fairs where monies were allotted were on the brink of disaster. This account is a mainstay, and without it, many fairs would have to cease their operation.

FINANCIAL REPORT--DIVISION OF FAIRS

The total appropriated budget for the fiscal year was $615,600. Of this total, $340,600 were appropriated for the fair prize awards, fair inspections, promotional programs and administrative costs; $75,000 were appropriated for the Fair Rehabilitation Program, and $200,000 for the Thoroughbred and Standardbred Programs.

THOROUGHBRED HORSE PROGRAM
Peter Bundy, Supervisor

The Thoroughbred Breeding Program was enacted into law in 1969. The purpose of this program is to encourage agriculture by the breeding of Thoroughbred horses in the Commonwealth, and to maintain open spaces.

Incentive award monies are paid to the breeders of Massachusetts bred horses that finish first, second or third in any pari-mutuel races at licensed Thoroughbred race tracks in Massachusetts.

The breeders' awards amount to twenty per cent of the purse won by the horse in the race. An additional award of five per cent is paid to the owner of the stallion which sired said horse, provided the stallion stood the entire breeding season in Massachusetts, and is registered with the Massachusetts Department of Food and Agriculture.

During the fiscal year of 1980, 1,087 Massachusetts bred Thoroughbreds went to post at Suffolk Downs and four agricultural fairs. Of the number of Massachusetts breds sent postward, these home-bred horses accounted for 151 wins, 149 seconds and 177 thirds, the best percentage of Massachusetts breds ever to be competitive in open racing.

This fact proves that the quality of Thoroughbred horses raised in our State is definitely improving.

Breeder and stallion awards from the Massachusetts Thoroughbred Breeding Program amounted to $110,947.87 for this period.

The revenue derived by the Commonwealth is five per cent of the money wagered on Massachusetts breds, which is obviously a considerable sum.

Over 200 Thoroughbred mares were bred by Massachusetts stallions during this period,and the stallion roster remained approximately the same with some older stallions being retired and new ones being added to the registry.

STANDARDBRED PROGRAM

Barbara E. Dolloff, Supervisor

The Standardbred Horse Program encourages and promotes the breeding, propagation, ownership, raising, racing and marketing of Standardbred horses bred in the Commonwealth of Massachusetts. Thus it encourages the keeping of open land to promote agriculture and agricultural related industries within the Commonwealth.

There are now 49 stallions registered with the Department of Food and Agriculture, standing in service at 43 farms. Last year's breeding produced 125 foals. These foals will be eligible to be registered as "Mass Bred", and participate in the 1982 Sire Stakes Program.

There were 59 Sire Stake events, at 8 fairs, for 48 two- and three-year-old horses this year. Though the Standardbred Program is in need of an increase in allotment monies, the program was successful. The quality of breeding has improved, as reflected in the increased market price for a Massachusetts Bred Standardbred horse. In the last year, three such horses were sold for over $30,000 each, including one at $96,000. It is known that these monies will be invested back into the Massachusetts breeding program.

Governor Edward King called for a joint meeting with Greyhound, Thoroughbred and Standardbred breeding enthusiasts,to establish a committee to investigate the feasibility of promoting "Mass. Bred" dogs and horses. Though many reports were compiled by committee members interested in a viable program for their particular breed, no new proposal for legislation could be submitted.

PUBLIC INFORMATION

Telling the non-farming public about agriculture in our state becomes more important as the numbers of farms and farmers decrease in proportion to city and suburban folks.

The availability of farm land is essential to maintaining a strong agriculture in an ever urbanizing state, and so public information efforts in this area are most important.

Press releases and public events announcing farms selected to participate in the state's Agricultural Preservation Restriction Program help call attention to the need for protecting farmland in our state. An article is also written on each farm chosen to take part in this unique farmland preservation program.

News releases are prepared on other farm issues and Departmental activities such as land use, community gardens, animal health, pesticide and plant pest control programs, fairs and other farm events across the state.

The marketing and promotion of Massachusetts farm products are of course necessary to a healthy agricultural economy, and so the Department's public information program concentrates in this area.

In addition to press releases covering the production of major local crops, the Division prepared more leaflets in the series covering the nutritive value, selection and preparation of Massachusetts grown vegetables and fruits.

News media requesting information were assisted directly or referred to appropriate personnel in the Department or other public or private agencies.

The Division also compiled and publicized the listing of farmers market locations across the state, and cooperated with the Massachusetts Federation of Farmers and Gardeners Markets and the Cooperative Extension Service in promoting various direct marketing outlets for local farmers.

Public service announcements produced by Channel 5 continued to be used extensively during the summer months by TV stations across the State. Department personnel also continued to take part in various programs such as WBZ Radio's "Countryside" aired Saturday and Sunday mornings, daily market reports aired on WHDH, WEEI, and occasional food demonstration features on the Channel 5's "Good Day" and the Channel 4 "Sharon King" show.

The second annual awards for news reporting on agricultural topics were sponsored by the Department in cooperation with the Northeast Communications Officers of State Departments of Agriculture. State winners were David C. Denison, Boston Phoenix, 1st prize; Joyce Miller, Concord Patriot, 2nd prize; and Marya Dantzer-Rosenthal, Minute-Man Publications, Lexington, 3rd prize.

The Division helped in the preparation of the booklet "Northeast, USA," a food and agriculture policy endorsed by state Agriculture Commissioners and Governors and the first such regional document of its kind.

The third annual "Massachusetts Agriculture Week" took place in August, and the Division coordinated plans with the Ccoperative Extension Service, other agriculture agencies and farm leaders across the state.

PRODUCT PROMOTION

Major food chain stores recognize the need for fresh Massachusetts grown vegetables from local farmers for a successful produce department during the local production period.

They realize that competition from local farm stands and farmers markets is at its heaviest during this time and that to entice the consumer to shop at their stores, they must feature local grown vegetables as an attraction. Local food chain stores have been running full colored page advertisements in Boston newspapers using the "Massachusetts Grown and Fresher!" logo. Television commercials also show the logo with a local farmer in the promotion. We feel this is quite an accomplishment, and we are proud of the fact that a local supermarket chain is helping promote our state's agriculture in such a visible way.

The consumers are now aware that they can also buy fresh Massachusetts grown vegetables at local food markets, as well as from farm stands and farmers markets. The survival of local commercial farmers depends on volume production and the large food chain is an excellent outlet. A commercial farmer who does business with a food chain knows before he puts the seed in the ground that he has a definite market for his crop. It has become a team effort, each one doing what he knows best, the farmer growing and the food chain store merchandising. The Division of Markets assists them and encourages them to continue this good relationship. As the future of the vegetable grower in the State becomes more promising, more large food chain stores show their interest in buying "Massachusetts Grown and Fresher!" vegetables.

PROMOTIONAL ACTIVITIES

The Division offers promotional material in small amounts free of charge to those interested in promoting Massachusetts agriculture.

The Division conducted a "Taste of Massachusetts" booth at the Food and Fun Festival at the Commonwealth Pier promoting various aspects of Massachusetts agricultural products.

The Division designed and constructed the Department's exhibit at the New England Spring Flower and Garden Show. The exhibit was presented the "James Underwood Crockett Award" for "Display Best Communicating Horticultural Knowledge" from the New England Nurserymens Association Inc.

The Division also exhibits at fairs and public buildings. It also coordinates The Massachusetts Chicken Contest and New Varieties Day for the Massachusetts Flower Growers Association. The Division conducts farm tours for the press, food industry, and visiting dignitaries. The Division is the primary liason with the agricultural sector of the State for the Department.

The Division provides the general public and the farmers of the Commonwealth with informative lists: Pick-Your-Own Vegetables, Pick-Your-Own Strawberries, Pick-Your-Own Apples, Pick-Your-Own Blueberries, Where-You-Can-Cut-Your-Own Fresh Christmas Tree, Where To Buy Fresh Turkeys, and locations of Farmers Markets. A directory of Massachusetts growers, sellers, and buyers of fruits and vegetables is published by the Division to service the need of that industry.

MARKET NEWS

The Federal-State Market News Service publishes the daily "Boston Fresh Fruit and Vegetable Report", which has a circulation of 900 throughout the U.S., Canada and other countries and the "Boston Ornamental Crop Report", circulation of 300 in the U.S., Canada, Central and South America.

Market News publications under State auspices include the daily "Springfield Wholesale Market Report", the weekly "Special Apple Market Report" outlining storage holdings and market movement, and the weekly "Food Buyers Guide", listing retail price ranges of 150 fruit, vegetable, meat, poultry and fish items.

FOREIGN TRADE SECTION

A substantial increase in the number of Massachusetts agribusiness firms participating in the export programs of the Division of Markets has occurred in this fiscal year. There are now 100 firms utilizing the services and resources of the Foreign Trade Section. This is an increase of 20 firms who are either "new-to-export" or are experienced exporters utilizing our services for the first time.

A major source of the additional firms has stemmed from the Trade Section's strong support and active participation in the International Seafood Exposition held in Newport, Rhode Island on May 19-20, 1980. A total of 41 domestic fishing industry firms displayed their products to 70 foreign buyers from 15 countries of Europe, South America, Africa and the Far East.

According to the National Marine Fisheries Service sources, this international trade show of fish and fish products was perhaps the first of its kind anywhere and was judged as excellent by both exhibitors and buyers.

DIRECT MARKETING ACTIVITIES

Farmers markets in the Commonwealth are becoming second nature to the consumers and to the farmers across the state. Cities and towns are becoming more interested in them and seek guidance from the Department in their establishment. The Cooperative Extension Service also provides assistance and advice to farmers markets, which are now found at 48 locations across the state during the summer growing season. Funds have been provided to Massachusetts Federation Farmers and Gardeners Markets to assist them in promoting these markets. The Division encourages farmers to sell at these outlets and also assists in publicity and public information concerning the farmers markets.

Through the establishment of Farmers Consumer Direct Marketing Act of 1976, the New England Food Cooperative Organization (NEFCO) was able to obtain nearly $1000 for construction materials and purchase a cottage industry scale apple drier for local fruit drying. These funds were also used to purchase a used truck which is utilized to obtain produce from eastern Massachusetts growers unable to deliver to the warehouse.

In another novel method of marketing, NEFCO has worked with a number of growers who at peak harvest time find themselves short of farm labor. NEFCO arranged a work schedule with the grower for coop members to work on the farm, and NEFCO is compensated for 10 per cent of whatever crops are harvested. Direct Marketing Act funding was truly instrumental in getting a NEFCO local produce program off the ground.

The Roadside Marketing Specialist assists various direct marketing operations across the state. The specialist is in direct contact with Massachusetts growers, working with them to establish new roadside markets, organize existing markets toward more efficient operations or help solve specific marketing problems. He writes a bimonthly newsletter informing growers of marketing trends and retailing techniques. His statewide travels also allow him to work with farmers market organizations and individual growers at these markets. The advice and recommendations given to growers serve to upgrade the appearance, cleanliness and image of roadside farm markets in Massachusetts.

The promotional activities of the marketing specialist include the distribution of "Massachusetts Grown and Fresher" promotional materials and work with the Massachusetts Vegetable Growers Associations' "Vegetable of the Week" promotion program. As chairman of the Massachusetts Federation of Farmers and Gardeners Markets' promotion and exhibit committee, he has promoted farmers markets through informative exhibits and live farmers markets at the Massachusetts Farm Tour day in August, Eastern States Exhibition in West Springfield and smaller fairs and functions throughout the year. His recent survey of roadside stands in Massachusetts will provide the necessary information for a Roadside Marketing Directory to be released in the coming fiscal year.

MILK FLAVOR PROGRAM

This program provides an organoleptic evaluation service for the milk industry with the objective of preventing consumer dissatisfaction with the flavor quality of milk and milk products purchased by them.

Milk plant personnel, quality control field men and Future Farmers of America Chapter students are instructed on the types of off-flavors and are trained to recognize the flavor defects and to institute the proper corrective action with milk producer samples, blended tank shipments, and finished products.

The samples evaluated range from 5 to 250 per examination with the average monthly total including 50 finished products, 90 blended tank shipments and 755 farm samples.

INSPECTION & REGULATORY SERVICES

The Federal-State Inspection Service issues U.S.D.A. inspection certificates on shipments of fruit and vegetables at shipping points and local processing plants. These certificates which certify grade, quality, condition and size of the products are done on a prescribed fee basis and are payed by the applicant or shipper. Inspections are also made at wholesale markets and retail stores in order to insure the correct labeling and grading of apples, potatoes, seed, feed, pet food, and fertilizers. Inspectors also check to enforce the "native law", which requires the state of origin to be used whenever the word "native" is displayed.

The program provides for inspection and regulation of controlled atmosphere apple storage rooms, cider mills and roadside stands.

The annual registration of seed, feed, and fertilizer with the collections of fees and penalties and the administration of the related laws, including cooperative work with the U.S.D.A. and the F.D.A., is part of this overall program.

FINANCIAL REPORT

The budget appropriated for the Division was $395,100, of which $100,000 were directed to commodity groups for the promotion of their products. Funds are allotted according to the guidelines with the approval of the promotional Advisory Committee and the Commissioner of Food and Agriculture. Copies of these guidelines are available to interested parties.

Revenue generated by inspection and registration fees was $105,973.

Calendar Year *

SEED INSPECTION PROGRAM/OFFICIAL SAMPLES TESTED

	1977	1978	1979
Agriculture	72	62	37
Mixtures (lawn)	97	86	103
Vegetables	509	477	528
Flowers	250	206	132
Flower Mixture	5	4	3
	934	835	803

Stop sale orders 9 covering 30 lots of seed - poor germination, noxious weeds, unfit for seeding.

FRUIT & VEGETABLE INSPECTION REVENUE

	1977	1978	1979
Apples	$9,812.07	$10,061.74	$16,090.07
Cranberries	245.32	--------	577.00
Onions	3,374.26	2,979.96	1,741.96
Potatoes	8,862.26	3,251.25	4,411.57
Total	$22,293.91	$16,292.95	$22,820.60

FEED, FERTILIZER AND LIME REGISTRATION

	1977	1978	1979
Feed/a	1,929	2,008	2,014
Fertilizer/b	658	697	799
Fertilizer/c	15	14	14
Lime/d	25	29	24

FEED, FERTILIZER AND LIME REVENUE

	1977	1978	1979
Feed/a	$48,225.00	$51,900.00	$50,350.00
Fertilizer/b	16,450.00	18,200.00	20,125.00
Fertilizer/c	1,875.00	1,750.00	1,750.00
Lime/d	625.00	725.00	600.00
Fertilizer/e	8,344.77	8,849.90	10,826.73
Fertilizer/f	3,029.98	2,197.10	1,348.81
	$78,549.00	$83,422.00	$85,000.54

/a Brands
/b Specialty brands
/c Commercial plants
/d Brands
/e Tonnage
/f Penalties

*Statistics and revenue are collected on a calendar year

MILK CONTROL COMMISSION
John B. Kelley, Director

The Division of Milk Control completed one of the most challenging years of its existence since 1934 in carrying out its responsibility to the consumer of milk, the milk dealers at wholesale and retail, and to the farmer-producers of the Commonwealth.

In adjudicatory and administrative procedures, and in litigation before the Superior Court, the Commission's decisions were sustained and enforced as to the ongoing battle against predatory pricing and to sustain the priority of Massachusetts produced milk in certain situations permitted by law.

Reorganization in bankruptcy of the third largest dairy in the state tested the resources of the State, the Commission staff, and also strained to the utmost the farmers of the state. With the cooperation and assignment of the United States Trustee and Court, efforts were successful in keeping this large employer and supplier on an operating and recuperating basis.

Partly through its efforts, the Commission and staff are able to announce and confirm that milk sells to the 6,000,000 Massachusetts consumers at about the lowest price of any state in the country!

Progress was significant in the campaign involving the Director and field staff in reorganization and realignment of the butterfat testing and the holding and care of samples for payment purposes. The accuracy of their work determines the income of each and every dairy farmer and occupies much of the five field inspectors' schedule.

Successful seminars held at various locations in the State kicked off a program which will be repeated annually so that bulk tank truck drivers are made aware and monitored as to the proper execution of this function.

The Milk Control Commission provides a monthly supermarket milk price survey to the International Association of Milk Control Agencies.

Milk Control is the agency of State government which licenses all retail outlets of milk and last year more than 3,500 stores were licensed - ranging from the large supermarket chains to the so-called "mom and pop" stores.

All in all, it was a year of great progress and efforts are going forward to sponsor and lobby for legislation drafted by Commission Counsel, Peter F. Hines, Esq., to help all dairy farmers by inauguration of a Producer Security Fund to protect dairy farmers against loss when unforseen bankruptcies by dealers occur.

The Milk Control Commission is a self-sustaining agency whose income more than covers all payroll and ancillary expenses of the Division. Income derived from the milk industry for the fiscal year amounted to $246,270 and expenses for the period amounted to $214,465.

PESTICIDE PROGRAM

Lewis F. Wells, Jr., Program Supervisor

The Department of Food and Agriculture administers the Pesticide Program which controls the use and application of pesticides in Massachusetts. The registration of pesticides and the issuance of experimental permits is the province of a subcommittee of the Pesticide Board in accordance with Chapter 132B of the General Laws.

The Pesticide Board is administratively in the Department and by statute, the Commissioner of Food and Agriculture acts as chairman. The Board advises the Department as to policy in the implementation of the Massachusetts Pesticide Control Act, must approve of regulations promulgated by the Department and the acts as an appeal body to actions of the Department as it carries out the intent of the statute.

In fiscal year 1980, the Department continued to phase in the comprehensive pesticide regulatory program set forth in the statute and in regulations made during the previous year.

A key action was the negotiation of an enforcement grant with EPA which provides for conducting a program for enforcement of both the state and federal laws. Funds from this grant will provide for chemical analysis of samples taken during inspections and investigations, for the support expenses of two state inspectors, and for legal services from the Office of the Attorney General. These grant funds total $100,797.

During the fiscal year 1980, the following actions were taken by the Pesticide Program:

1. 2751 persons were certified to apply or supervise the application of restricted pesticides.
2. 408 persons were licensed to apply general use pesticides to land of another or to apply restricted pesticides under the direct supervision of certified persons.
3. 95 persons were licensed as dealers in restricted pesticides.
4. 52 investigations of pesticide incidents were carried out.

Consultation relative to proper use of pesticides was given to other state agencies, municipal agencies, and the general public as requested. It is estimated that this aspect of the program takes 20 to 25 per cent of the time of the staff.

The Pesticide Program's budget for the fiscal year 1980 was $86,745.

PLANT PEST CONTROL DIVISION
Peter C. Kuzmiski, Director

Preventing the introduction and spread of damaging agricultural plant pests and diseases into the Commonwealth is the primary goal of the Plant Pest Control Division.

This responsibility is directed towards preventing serious losses to property owners and avoiding nuisances caused by the presence and activities of these pests. The program also authorizes the unrestricted movement of plants and plant products throughout the country, so that producers can participate in fair trade competition. In addition to contributing to the economic benefit of the plant industry, the Plant Pest Control Division helps to assure a higher quality product for the consumer.

NURSERY INSPECTION

The detection of plant pests by the inspection of nurseries is necessary and beneficial for several reasons. Many pests have limits to their distribution, thus the prevention of spread on infested or infected plants helps in the containment of the pest. During nursery inspection pests that are capable of causing serious damage may be noted,so controls are suggested and applied before damage occurs.

Early detection of a pest problem will aid in preventing its spread within the nursery and will permit controls to be applied before the pest reaches serious proportions. This is very important to a nurseryman who ships his plants interstate and runs the expensive risk of having his plants rejected because of the presence of damaging pests. Nursery inspection also guarantees the consumer of purchasing healthy and pest free plants. This year there were 450 nurseries and 85 greenhouses inspected.

Agents' licenses were issued to 350 applicants. An agent is a person or establishment who buys and sells or takes orders for nursery stock, but does not grow the plants in ground.

The common pests found in nurseries this year were: aphids, lace bugs, mealy bugs, scales, and leaf chewers. Japanese Beetle populations in the nurseries were less than in the previous year. The White Fly was the predominant pest found in greenhouses.

The nursery inspection force consisted of six temporary and three permanent inspectors. The work begins on July 1 by law, and usually ends in the first week of September.

PHYTOSANITARY CERTIFICATES

Plant health certificates are issued for plants and seeds destined to other states and to foreign countries. There were 410 certificates issued for the exportation of plants and 408 certificates for the shipping of plant seed to foreign countries.

POSTENTRY QUARANTINE

Certain plants from foreign countries must be grown here for two growing seasons before they can be released from quarantine. Inspections are made during the growing season here, and releases are made after the final inspection. Plants from foreign countries were growing here at 37 sites this year. Some of these plants included, Rosa, Aesculus, Acer, Sorbus, Dianthus, Hibiscus, Hydrangea, Ulmus, and Cedrus.

WHITE PINE BLISTER RUST QUARANTINE

In order to prevent the spread of the fungus that causes the White Pine Blister Rust disease, it is necessary to restrict the planting of currants and gooseberries in certain localities of the Commonwealth.

These plants act as an alternate host of the disease. The fungus must live and grow at least a year on the currant or gooseberry before it can spread and infect the White Pine. There are 144 towns and cities where the planting of currants and gooseberries is prohibited. Control-area permits are issued to nurseries shipping these plants into non-prohibited planting sites. This year 91 control-area permits were issued.

GYPSY MOTH

The Gypsy Moth was on the increase again this year. This pest did not pose too much of a problem to the nurseries due to a spray schedule maintained by the nurserymen. However, there was an estimated defoliation rate of over 230,000 acres of woodland defoliated from 30 to 100 per cent this year. No control was attempted by state authorities. Some cities and towns did apply sprays, but they were not too successful in obtaining meaningful control.

Property owners were advised to undertake control measures on their own lands. Federal authorities treated two camp sites by applying a pesticide with ground equipment this year. These camp sites were areas where recreational vehicles frequented, and some were destined to states that did not yet have the Gypsy Moth. The chemical pesticide, Sevin, was used for the spray material. Forecasts for 1980 show at least a fifty per cent increase in this pest.

SURVEYS

Surveys were conducted this year for the presence of the Cereal Leaf Beetle, European Chafer, Red Steele disease of strawberry and noxious weeds.

The majority of Cereal Leaf Beetle larvae and adults were found to be parasitized by one of our introduced parasitic wasps, and it was concluded that further control of this pest by man was not necessary now.

The survey for European Chafer showed that this pest has not spread out of the known infested area of Eastern Massachusetts. Red Steele disease was not found in any of our strawberry plant nurseries this year. The noxious weed survey was initially done here this year as a federal cooperative project. No exotic noxious weeds were discovered, however important data useful for future surveys has been recorded, and guidelines are now available to assist in making more efficient surveys of this nature.

APIARY INSPECTION

The report of the apiary inspection work is included in this report.

COLLABORATION WITH U.S. DEPARTMENT OF AGRICULTURE

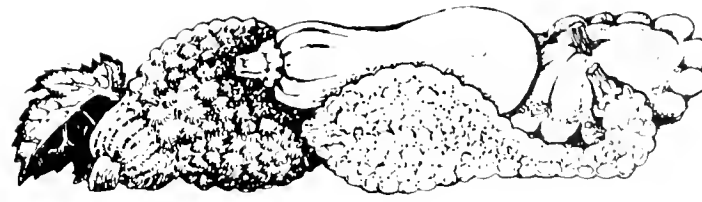
Collaboration with the Federal agency continued in the programs of Gypsy and Brown-Tail Moth quarantine enforcement, Japanese Beetle control, Black Stem Rust control, Pest Detection Survey, Port Inspection, Noxious Weed Survey and Plant Export Certification.

Two of our permanent inspectors are assigned to these collaborator programs. Field offices are located in Hadley and Waltham.

PUBLIC INFORMATION ACTIVITIES

Information relating to horticultural and vegetable plant culture, pest control, use of pesticides and many other related subjects is made available to the public via the telephone, correspondence, news media, and personal visits. Insect and plant identification is a common inquiry. The Division maintains a regular monthly radio program featuring a question and answer call show.

The fiscal budget of $92,000 allowed the maintenance of 5 permanent and 13 temporary employees this year.



APIARY INSPECTION

Thomas S. Leonard, Chief Inspector

As only two inspectors worked actively through the summer of 1979 and the inspection program started through June with four inspectors, the available statistics do not accurately reflect beekeeping in the state.

It is a fact that there are over twice as many beekeepers and hives as previously reported. It is also becoming apparent, through spot checks and reports from individuals and county organizations, that the major bee disease, American Foulbrood, is approaching 10 per cent. Most states and professional beekeepers feel that a 1 per cent A.F.B. rate is manageable and acceptable.

The honey flow in 1979 was very good, and most bees went into the winter in a strong condition. The strong hives coupled with the mild winter contributed to excessive swarming this spring. Five towns contacted the Division with complaints, with two taking the beekeeper to court. There is no state policy on keeping bees, although the ability to work with both the beekeeper and the town officials proved beneficial in resolving these complaints.

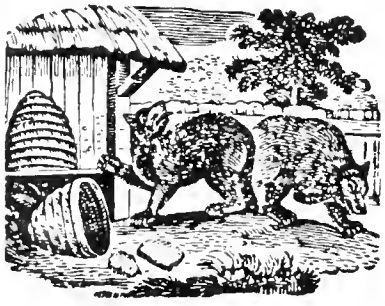
The value of honey bees as pollinators has long been recognized although not properly acknowledged. Fruit set can be more than tripled with one hive per acre on cranberry bogs and apple orchards. About 20,000 hives were rented for fruit pollination in Massachusetts, at an average of $23 per hive.

Legislation providing for the registering of bee hives and the certification of bee equipment and bees for sale within the State was again defeated this year.

The two major obstacles to the apiary program's development and growth with the expanding Massachusetts beekeeping are:

1. The recruitment of qualified inspectors.

2. The lack of understanding and cooperation of the Legislature in regard to a beekeeper's problems and needs.



MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE - APIARY INSPECTION

ANNUAL STATISTICAL REPORT

SEASON 1980

COUNTY	NO. COLONY EXAMINED		NO. COLONY OWNED		NO. COLONY A. F. B.		NO. COLONY E. F. B.		NO. COLONY TREATED		NO. COLONY DESTROYED	
	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980
BARNSTABLE	0	73	-	73	-	3	-	0	-	0	-	0
BERKSHIRE	20	0	20	-	0	-	0	-	0	-	0	-
BRISTOL	96	159	96	180	4	4	1	7	0	0	0	0
ESSEX	150	17	211	17	0	2	0	0	0	0	0	0
FRANKLIN	47	46	66	60	0	0	0	0	0	0	0	0
HAMPDEN	0	476	-	500	-	0	-	0	-	0	-	0
HAMPSHIRE	100	374	177	374	1	23	0	1	0	0	0	0
MIDDLESEX	2158	3182	3628	3182	35	42	81	64	70	30	0	0
NORFOLK	530	462	530	462	15	40	7	8	15	4	0	0
PLYMOUTH	486	469	589	589	34	50	14	39	3	41	0	1
WORCESTER	306	1600	330	1580	0	16	1	2	0	10	0	1
SUFFOLK	19	88	19	88	0	1	0	1	0	0	0	0
TOTALS	3912	6946	5666	7027	89	181	104	122	88	85	0	2

A.F.B. 1979 - 2.2% A. F. B. 1980 - 2.6% E. F. B. 1979 - 2.6% E. F. B. 1980 - 1.7%

ESTIMATE NO. COLONIES IN MASSACHUSETTS 15,500 (- means no data reported)

STATE RECLAMATION BOARD
John J. McColgan, Chairman

The Department of Food and Agriculture is represented on the State Reclamation Board by John J. McColgan and the Department of Environmental Quality Engineering by James L. Dallas. The third member position at the present time is vacant due to the retirement of Albert H. Zabriskie of the Department of Environmental Management. With the advent of Charles Cannon's retirement Elizabeth M. Costello was appointed secretary of the Reclamation Board.

This year the Board employed Mark S. Buffone as Entomologist. It has been several years since the Board has had the services of a staff member trained in entomology, and this has helped increase our program of work and services to the public this year.

As in previous years,the State Reclamation Board's main activities focused on the mosquito problems of the Commonwealth. This year the Board provided the district commissioners with administrative resources, technical assistance and recommendations relative to mosquito control practices. The Board has under its aegis ten regional districts which provide 188 municipalities of the Commonwealth with expert and trained personnel, special equipment, material, and a comprehensive plan to efficiently and effectively reduce mosquito populations.

The Board initiated a program of review and approval of the procedures of the remaining mosquito control programs of municipalities not in a district.

This year the Town of Bedford voted to re-enter the East Middlesex County Mosquito Control Project after voting itself out for the last two years. The Town of Lunenburg became a new member of the Central Massachusetts Mosquito Control Project. The City of Leominster requested to become a member of Central Massachusetts Mosquito Control District; the request was untimely, and action will be taken to include Leominster next year. Interest from citizens in the southwest area of Worcester County prompted filing of legislation to form a new mosquito control district. The proposed legislation was passed by the House but failed in the Senate. Legislation was also filed to have the South Shore Mosquito Control Project become a district organized under the provisions of Chapter 252.

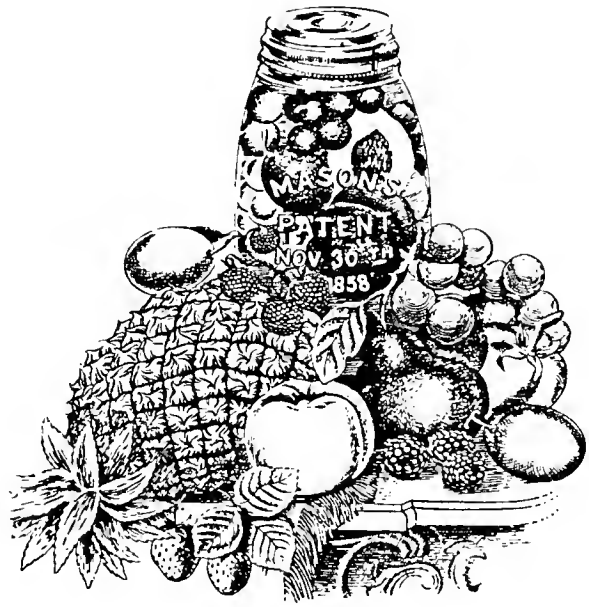
Regarding the financing of the mosquito projects; all mosquito control operations, totaling approximately $2,000,000 are financed locally. The eight organized mosquito districts funding is based on a formula involving land area and valuation. The formula is spelled out in the special legislative act under which each district is organized. East Middlesex and South Shore Mosquito Control Projects are voluntary trusts; they are funded by the cities and towns who have elected to join them through town meetings or city council vote. During the year, the mosquito control budgets that were requested for the 1981 fiscal year were cut in committee, and in some cases, significantly. The Senate Ways and Means Committee conducted a survey of all communities in each district to ensure that they were agreeable to the assessment. After this survey, the Committee reinstated these monies to full funding for each mosquito control project.

This year the Biting Fly Project continued to be a valuable service. It is currently supported by a matching funds agreement between the University of Massachusetts Extension Service and the ten regional mosquito control projects via the State Reclamation Board. Jere Downing (Biting Fly Specialist) has

prepared several informational documents relating to mosquito control for the public's education. He initiated a state-wide mosquito survey utilizing a survey tool called the light trap and has looked at newer insecticides as alternatives to current materials used for mosquito control. This year the Board has come forth with many ideas and much more effort to establish a solid foundation of technical assistance in mosquito control and policy matters.

The mosquito-climate cycle is important because mosquito breeding is greatly influenced by the amount of precipitation during the season. At the beginning of the 1980 fiscal year, weather conditions were ideal for producing mosquitoes. There was above normal rainfall in August, but the temperatures were below normal for the month and they affected mosquito activity. A very mild and dry winter led to low-to-moderate populations in the spring during which, however, there were localized areas of heavy infestation.

The budget of $54,575 covered the costs of the administrative work of the Board, services of regular employees of the Board, and necessary expenses incurred in overseeing the work of the various mosquito control projects in operation during the year.



CREDITS AND CAPTIONS

Cover: Ashfield, Massachusetts-- down the road from Lesure Farm. In 1978, Linwood Lesure was named "National Tree Farmer of the Year" by the American Forestry Institute.
Photo by Arthur Griffin.
Design by The Center for Media Development, UMass/Boston.

Inside Cover Photo Pages:

Front page (from top left, clockwise)--
Food and Agriculture Commissioner Fred Winthrop with Wallace C. Wilkie at his farm in Lakeville, the first selected for funding in the state Agricultural Preservation Restriction Program;
Governor Edward J. King with APR program participants Pauline Allard of the Rainville Trust, Uxbridge, and Albert B. Loring of Norwell;
Edward Swenson of Whitman, President of the Massachusetts Federation of Farmers and Gardeners Markets with daughter Sondra (left) and Bonnie Byrnes;
Al Volante at his farm in Needham;
Liz Walker of Channel 4 Eyewitness News at UMass Suburban Experiment Station in Waltham;
Hereford enjoying farm life in Massachusetts.

Back page (from top left, clockwise)--
Carolyn Shiel, farmstand manager at Allandale Farm in Brookline;
Governor King and part of group attending proclamation ceremonies for 1980 Massachusetts Agriculture Week;
at Fields Corner farmers market (left to right) Carol Fizer, Joe Harper, Krista Scharfenberg, Kristen McCormack and Joe Ureneck, members of Dorchester Gardenlands Preserve and Development Corporation;
at Lookout Farm in South Natick, Linda Blackman, consumer reporter at Channel 7 News, and John Johnson, farmstand manager;
Joe Finnegan (left), Manager of Little City Hall at Uphams Corner and Bob Downing of Harmony Farm in North Reading;
Maggie O'Keefe at Allandale Farm in Brookline.

Annual Report of the Massachusetts Department of Food and Agriculture:
Edited by Janet Christensen, assisted by Melanie Botelho, Simmons College student intern. Typed by Mary Lou Cafarella, assisted by Virginia McHugh.

NORTHEAST, USA

1978 CENSUS OF AGRICULTURE
PRELIMINARY REPORT
MASSACHUSETTS

AC78-P-25-000 Issued May 1980

The preliminary reports are being published on a flow basis for all counties in the United States with 10 farms or more and for each State, geographic region, and the United States. This series is intended to provide, at the earliest date, information on major data items. These items are standard for each State and county except in Table 3, Crops Harvested, where the items will vary by State according to their relative importance in the State in 1978. The 1978 data are subject to revision. Final data will be published in Volume 1, State and County Data.

Inventories of livestock and poultry and other specified items are as of December 31 of the census year. Crop and livestock production and sales data are for calendar year 1978, except for a few crops (such as citrus) for which the production year overlaps the calendar year. The volume 1 appendix will provide a more detailed description of how the census was taken along with pertinent definitions and explanations.

The 1978 census data collection program was the first to include an area segment sample to provide reliable estimates, for States, of the number and the characteristics of any farms not represented in the mail portion of the census. Estimates for such farms are an integral part of the totals shown in the State reports, but are not included in county totals, thus State totals for 1978 and 1974 are not directly comparable. The contribution of the area segment sample to State totals is shown on pages 5 through 8.

In keeping with prior practice, the dollar figures shown in this report have not been adjusted for changes in price levels between census years.

Definition of farm--In accordance with a joint agreement between the U.S. Department of Agriculture, the Office of Management and Budget, and the Bureau of the Census, announced on August 12, 1975, a farm, for statistical purposes, is any place from which $1,000 or more of agricultural products were sold, or normally would have been sold, during the census year. The previous definition (used for the 1959, 1964, 1969 censuses, and for the 1974 preliminary county reports) counted as a farm any place with less than 10 acres from which $250 or more of agricultural products were sold or normally would have been sold during the census year, or any place of 10 acres or more from which $50 or more of agricultural products were sold or normally would have been sold during the census year.

The effect of the change in definition on 1978 and 1974 data is shown for selected items in the appendix on page 4.

Sampling--Data collected from only a sample of farms are subject to sampling error. The appendix in volume 1 will contain a detailed discussion.

Special tribute is paid to the millions of farm and ranch operators and other agriculture-associated people who furnished the individual reports from which these statistical summaries were compiled. Also acknowledged with gratitude is the contributory effort of U.S. Department of Agriculture and other county-level government and private officials who offered their support and willingly assisted individuals requesting help in completing their 1978 census reports.

The following symbols are used throughout the tables:
- Zero (D) Data withheld to avoid disclosing information for individual farms
(X) Not applicable (Z) Less than half of the unit reported (NA) Not available

Table 1. Selected Summary Items: 1978 and 1974

	All farms		Farms with sales of $2,500 or more	
	1978	1974	1978	1974
Farms and land in farms:				
Farms ..... number	5 905	4 497	3 882	3 185
Land in farms ..... acres	680 513	601 734	537 717	496 050
Average size of farm ..... acres	115	134	139	156
Value of land and buildings: [1]				
Average per farm ..... dollars	169 774	128 535	197 031	150 448
Average per acre ..... dollars	1 440	961	1 399	966
Farms by size:				
Less than 10 acres ..... number	994	627	600	396
10 to 49 acres ..... number	1 798	1 185	1 029	746
50 to 179 acres ..... number	2 013	1 637	1 315	1 133
180 to 499 acres ..... number	931	876	784	752
500 to 999 acres ..... number	138	142	128	131
1,000 to 1,999 acres ..... number	25	21	21	19
2,000 acres or more ..... number	6	9	5	8
Land according to use:				
Total cropland ..... farms	5 544	4 212	3 660	2 957
acres	311 516	257 033	257 020	221 873
Harvested cropland ..... farms	5 123	4 032	3 430	2 874
acres	214 220	188 015	184 829	168 942
Cropland used only for pasture ..... farms	2 510	1 601	1 430	1 014
acres	77 487	55 467	58 373	43 669
Other cropland ..... farms	1 152	704	807	476
acres	19 809	13 551	13 818	9 262
Woodland including woodland pastured ..... farms	3 589	2 631	2 315	1 810
acres	273 786	240 463	205 790	188 792
Other pastureland and rangeland ..... farms	707	3 228	498	552
acres	31 304	104 238	23 972	33 240
Land in house lots, ponds, roads, wasteland, etc ..... farms	4 026	(2)	2 621	2 168
acres	63 907	(2)	50 935	52 145
Irrigated land ..... farms	1 029	879	895	750
acres	16 995	18 512	16 570	17 887

See footnotes at end of table

U.S. Department of Commerce
Bureau of the Census

For sale by Subscribers Services Section (Publications), Bureau of the Census, Washington, D.C. 20233, or any Department of Commerce district office. Price 25 cents per copy.

Table 1. **Selected Summary Items: 1978 and 1974 —Con.**

		All farms		Farms with sales of $2,500 or more	
		1978	1974	1978	19
Agricultural products sold and farm related income					
Market value of products sold [3]	$1,000	215 943	179 653	212 698	177 1
Average per farm	dollars	36 569	39 950	54 791	55 6
Crops	$1,000	101 461	86 453	100 103	85 3
Livestock and livestock products	$1,000	95 799	68 330	94 086	67 1
Poultry and poultry products	$1,000	18 682	24 134	18 508	23 9
Farms by value of sales					
Sales of $20,000 or more	number	1 764	1 664	1 750	1 6
$100,000 or more	number	494	347	492	3
$40,000 to $99,999	number	697	685	687	6
$20,000 to $39,999	number	573	632	571	6
Sales of less than $20,000	number	4 141	2 833	2 132	1 5
$10,000 to $19,999	number	566	537	563	5
$5,000 to $9,999	number	719	498	718	4
$2,500 to $4,999	number	852	503	851	5
Less than $2,500	number	2 004	1 295	(X)	
Value of agricultural products sold directly to individuals for human consumption	farms	1 254	(NA)	848	(N
	$1,000	9 792	(NA)	9 462	(N
Income from machine work, customwork, and other agricultural services provided for others	farms	412	386	311	2
	$1,000	836	1 307	696	1 0
Farms by type of organization					
Individual or family	number	5 019	(NA)	3 106	2 0
Partnership	number	449	(NA)	383	3
Corporation	number	375	(NA)	363	3
Family held	number	335	(NA)	325	(I
Other than family held	number	40	(NA)	38	(I
Other—cooperatives, estates or trusts, institutional, etc	number	62	(NA)	30	
Operator characteristics					
Tenure of operator					
Full owner	farms	3 858	3 015	2 309	1
Part owner	farms	1 687	1 213	1 304	1
Tenant	farms	360	269	269	
Principal occupation and residence [4]					
Farming	farms	3 069	2 560	2 572	2
Residence on farm operated	farms	2 476	(NA)	2 029	1
Residence not on farm operated	farms	384	(NA)	354	1
Other than farming	farms	2 836	1 604	1 310	
Residence on farm operated	farms	2 314	(NA)	995	1
Residence not on farm operated	farms	361	(NA)	222	1
Average age of operator [4]	years	51 9	54 2	52.3	
Sex of operator	male	5 448	(NA)	3 607	1
	female	457	(NA)	275	1
Operators reporting days of work off farm [4]					
Any	farms	3 281	1 815	1 766	
100 days or more	farms	2 838	1 505	1 422	
Selected production expenses [1]					
Livestock and poultry purchased	$1,000	11 890	8 110	11 511	7
Feed purchased for livestock and poultry	$1,000	40 933	40 395	39 576	39
Commercially mixed formula feeds	$1,000	33 733	36 735	33 147	36
Animal health costs	$1,000	1 541	(NA)	1 411	
Seeds, bulbs, plants, and trees	$1,000	7 933	6 645	7 771	6
Commercial fertilizer	$1,000	7 384	5 808	6 945	5
Other agricultural chemicals including lime	$1,000	4 072	2 768	3 870	2
Hired farm labor	$1,000	40 815	31 981	39 728	31
Workers working 150 days or more	farms	1 465	(NA)	1 323	1
	number	6 120	(NA)	5 742	4
Contract labor	$1,000	1 655	896	1 623	
Customwork and machine hire	$1,000	1 714	990	1 571	
Energy costs - petroleum products, electricity, coal, wood, coke, etc	$1,000	16 171	(NA)	15 521	
Gasoline and other petroleum products	$1,000	12 105	8 766	11 607	8
Gasoline	$1,000	4 859	(NA)	4 505	3
Diesel fuel	$1,000	1 131	(NA)	1 099	
Machinery and equipment [1]					
Estimated market value of all machinery and equipment	$1 000	128 674	84 637	112 496	72
Average per farm	dollars	21 805	19 729	28 971	23
Motortrucks including pickups	farms	4 880	3 643	3 447	2
	number	9 982	7 710	8 035	6
Wheel tractors	farms	4 773	3 675	3 200	2
	number	10 974	8 630	8 523	7

[1] 1978 data are based on a sample of farms.
[2] Data included with Other pastureland and rangeland.
[3] 1974 data include sales of forest products.
[4] 1974 data exclude corporations and other organizations.

Table 2. Livestock and Poultry: 1978 and 1974

		All farms		Farms with sales of $2,500 or more	
		1978	1974	1978	1974
Cattle and calves inventory	farms	2 601	1 994	1 626	1 409
	number	102 572	103 938	93 669	96 204
Farms by size of inventory:					
1 to 19	farms	1 418	776	521	297
	number	9 859	6 238	4 123	2 539
20 to 99	farms	894	936	823	834
	number	42 127	46 198	(D)	42 914
100 to 499	farms	284	275	277	271
	number	47 331	45 008	(D)	44 257
500 or more	farms	5	7	5	7
	number	3 255	6 494	3 255	6 494
Cows and heifers that had calved	farms	2 250	1 730	1 436	1 274
	number	60 565	62 978	56 336	59 352
Beef cows	farms	1 305	759	620	402
	number	10 275	7 650	7 262	5 161
Milk cows	farms	1 356	1 239	1 032	1 058
	number	50 290	55 328	49 074	54 191
Heifers and heifer calves	farms	1 862	(NA)	1 223	1 102
	number	33 077	(NA)	30 214	29 915
Steers and bulls including calves	farms	1 546	(NA)	971	840
	number	8 930	(NA)	7 119	6 937
Cattle and calves sold	farms	2 065	1 745	1 495	1 333
	number	55 081	48 032	52 180	45 244
Cattle fattened on grain and concentrates	farms	321	(NA)	191	123
	number	3 057	(NA)	2 700	1 797
Dairy products sold	farms	934	(NA)	873	955
	$1,000	61 835	(NA)	61 214	50 396
Hogs and pigs inventory	farms	907	465	488	313
	number	58 856	43 229	54 741	41 968
Farms by size of inventory:					
1 to 99	farms	791	370	381	220
	number	8 804	4 089	(D)	3 166
100 to 499	farms	88	71	79	69
	number	(D)	14 806	(D)	(D)
500 or more	farms	28	24	28	24
	number	(D)	24 334	(D)	24 334
Hogs and pigs used or to be used for breeding	farms	365	(NA)	262	156
	number	7 352	(NA)	6 872	5 182
Hogs and pigs sold	farms	549	309	380	240
	number	66 208	52 681	63 771	51 642
Feeder pigs sold	farms	219	86	147	62
	number	14 385	11 531	13 229	11 172
Litters farrowed between—					
Dec. 1 of preceding year and Nov. 30	farms	405	206	281	167
	number	8 947	7 191	8 437	7 016
Dec. 1 of preceding year and May 31	farms	350	165	250	135
	number	4 541	3 720	4 162	3 643
June 1 and Nov. 30	farms	303	163	247	135
	number	4 406	3 471	4 275	3 373
Sheep and lambs inventory	farms	419	264	159	98
	number	7 153	5 896	3 585	2 696
Ewes 1 year old or older	farms	354	(NA)	128	86
	number	4 870	(NA)	2 459	1 979
Sheep and lambs sold	farms	277	164	112	63
	number	4 192	3 600	2 340	1 969
Sheep and lambs shorn	farms	314	(NA)	110	54
	number	6 069	(NA)	3 157	2 191
	pounds of wool	41 023	(NA)	21 073	12 979
Horses and ponies inventory	farms	1 388	710	644	370
	number	8 124	4 667	3 747	3 375
Chickens 3 months old or older inventory	farms	945	577	437	339
	number	1 512 703	1 956 434	1 479 628	1 936 943
Hens and pullets of laying age inventory	farms	925	558	430	332
	number	1 314 420	1 682 941	1 287 304	1 665 358
Farms by size of inventory					
1 to 1,599	farms	841	456	350	233
	number	64 621	62 564	(D)	51 251
1,600 to 9,999	farms	53	61	49	58
	number	209 797	232 538	(D)	226 268
10,000 or more	farms	31	41	31	41
	number	1 040 002	(D)	1 040 002	(D)
Broilers sold	farms	49	31	25	22
	number	(D)	301 430	(D)	299 871
Turkeys sold	farms	70	(NA)	49	32
	number	(D)	(NA)	(D)	171 244

Table 3. Crops Harvested: 1978 and 1974

		All farms		Farms with sales of $2,500 or more	
		1978	1974	1978	1974
Corn for silage or green chop (green)	farms	967	(NA)	863	790
	acres	39 432	(NA)	38 245	33 273
	tons	646 248	(NA)	627 633	526 679
Irish potatoes	farms	187	226	131	163
	acres	3 504	4 266	3 456	4 180
	cwt	749 463	837 696	746 471	827 336
Hay, all (dry)	farms	3 083	2 191	1 862	1 464
	acres	133 299	110 327	107 183	94 114
	tons	263 190	225 714	229 725	201 372
Other tame dry hay (dry)	farms	2 209	(NA)	1 362	(NA)
	acres	80 435	(NA)	62 584	57 798
	tons	151 581	(NA)	129 715	119 780
Land in orchards	farms	515	366	300	249
	acres	8 566	9 366	7 573	8 913
Apples	farms	452	(NA)	272	243
	acres	7 691	(NA)	6 901	8 302
	lbs	92 202 921	(NA)	91 020 058	95 327 544
Vegetables, sweet corn or melons for sale	farms	1 095	931	897	682
	acres	15 373	(NA)	14 858	14 954
Sweet corn for sale	farms	671	(NA)	545	465
	acres	7 299	(NA)	7 037	7 619
Cranberries for sale (100-lb barrels)	farms	381	(NA)	336	304
	acres	10 062	(NA)	9 925	9 550
	100-lb	1 072 138	(NA)	1 065 572	757 413

Appendix. Effect of Definition Change for Selected Items: 1978 and 1974

		Definition used for 1974 and 1978		Definition used for 1959, 1964, and 1969		Operations excluded by current definition but not by 1959 definition	
		1978	1974	1978	1974	1978	1974
All farms	number	5 905	4 497	8 830	5 127	2 925	630
Farms with sales less than $2,500	number	2 004	1 295	4 929	1 925	2 925	630
Land in farms	acres	680 513	601 734	780 985	630 752	100 472	29 018
Total cropland	acres	311 516	257 033	339 204	262 685	27 688	5 652
Harvested cropland	acres	214 220	188 015	224 948	189 335	10 728	1 320
Value of agricultural products sold	$1,000	215 943	179 653	216 654	179 832	712	179
Crops	$1,000	101 461	86 453	101 756	86 534	295	81
Livestock, poultry, and their products	$1,000	114 481	92 464	114 899	92 555	417	91
Cattle and calves inventory	number	102 572	103 938	104 510	104 363	1 938	425
Hogs and pigs inventory	number	58 856	43 229	59 119	43 418	263	189
Chickens 3 months old or older inventory	number	1 512 703	1 956 434	1 524 253	1 959 408	11 550	2 974

ESTIMATED NUMBER AND CHARACTERISTICS OF FARMS NOT INCLUDED IN COUNTY TOTALS

The 1978 Census of Agriculture was conducted primarily by mail for maximum economy, supplemented by thorough personal canvass of a statistical area segment sample for maximum accuracy of coverage

The following portion of the State preliminary report is based on the area segment sample, and provides estimates of the number and characteristics of any farms in the State not represented in the mail portion of the 1978 census The sample design provided for reliable estimates for States but was not large enough to provide estimates for counties Thus, any data item for 1978 in the State totals portion of this preliminary report (pages 1-4) can normally be expected to be the sum of that data item as reported in the county preliminary reports plus the entry for that data item in this "not allocated to counties" portion

Data collection for the 1969 and 1974 Censuses of Agriculture was primarily by mail. The mailing lists for these censuses were compiled from the previous census and from records obtained from the Internal Revenue Service, U S Department of Agriculture, other government agencies, and nongovernment agriculture-related associations

The constant change occurring in farm operations and the time involved in obtaining source lists and combining them into a final mailing list cause the list to be somewhat out of date before it is used In addition, some farm operators, particularly for small operations, never appear on any of the source lists Evaluation studies for both the 1969 and 1974 censuses indicated that the lists were not adequate to assure complete coverage The estimates indicate that approximately 17 percent of all farms were missed in the 1969 census and 13 percent were missed in the 1974 census, representing about 3 percent of the total value of all agricultural products sold for each of the two census years

Although the aggregate value of products attributable to the farms which were missed was small both in terms of total products and farms reporting various types of products, the undercoverage was significant especially in number of farms The dual system of data collection was implemented for the 1978 census in order to minimize the effect of undercoverage on census data In addition to complete coverage of a mailing list, enumerators canvassed an area segment sample in each State and interviewed farm operators for census data This sample was designed to provide State estimates for farms not on the mailing list Data for all farms on the mailing list were used to prepare county reports Farms enumerated in the area segments but not identified on the mailing list were used as the basis for estimating the total number and characteristics of all farms in the State not on the mailing list

For 1974, data were collected only from the mailing list and the State total for a specific item is equal to the sum of the county reports No data comparable to the 1978 area segment sample estimates were included in 1974 State totals The State totals for 1978 with the area segment sample data--not allocated to counties--excluded, are directly comparable to the 1974 State totals An evaluation of coverage for the 1978 census will be provided in a special coverage report

Since the data in this report were collected from a sample of farms, all items are subject to sampling error The appendix in volume 1 will contain a detailed discussion and measures of sampling error for census data

The following symbols are used throughout the tables
- Zero (D) Data withheld to avoid disclosing information for individual farms
(X) Not applicable (Z) Less than half of the unit reported (NA) Not available

Table 1. Selected Summary Items: 1978 and 1974

		All farms		Farms with sales of $2,500 or more	
		1978	1974	1978	1974
Farms and land in farms					
Farms	number	937	(NA)	269	(NA)
Land in farms	acres	61 143	(NA)	27 563	(NA)
Average size of farm	acres	65	(NA)	102	(NA)
Value of land and buildings [1]					
Average per farm	dollars	93 557	(NA)	93 943	(NA)
Average per acre	dollars	1 434	(NA)	917	(NA)
Farms by size:					
Less than 10 acres	number	189	(NA)	47	(NA)
10 to 49 acres	number	391	(NA)	106	(NA)
50 to 179 acres	number	312	(NA)	78	(NA)
180 to 499 acres	number	45	(NA)	38	(NA)
500 to 999 acres	number	-	(NA)	-	(NA)
1,000 to 1,999 acres	number	-	(NA)	-	(NA)
2,000 acres or more	number	-	(NA)	-	(NA)
Land according to use:					
Total cropland	farms	875	(NA)	245	(NA)
	acres	34 296	(NA)	14 582	(NA)
Harvested cropland	farms	704	(NA)	144	(NA)
	acres	16 246	(NA)	6 587	(NA)
Cropland used only for pasture	farms	663	(NA)	172	(NA)
	acres	15 075	(NA)	7 322	(NA)
Other cropland	farms	128	(NA)	70	(NA)
	acres	2 975	(NA)	673	(NA)
Woodland including woodland pastured	farms	595	(NA)	200	(NA)
	acres	20 355	(NA)	10 872	(NA)
Other pastureland and rangeland	farms	45	(NA)	22	(NA)
	acres	2 366	(NA)	638	(NA)
Land in house lots, ponds, roads, wasteland, etc	farms	751	(Z)	215	(NA)
	acres	4 126	(Z)	1 471	(NA)
Irrigated land	farms	59	(NA)	37	(NA)
	acres	184	(NA)	140	(NA)

See footnotes at end of table

Table 1. **Selected Summary Items: 1978 and 1974 —Con.**

		All farms		Farms with sales of $2,500 or more	
		1978	1974	1978	1974
Agricultural products sold and farm related income:					
Market value of products sold [3]	$1,000	2 671	(NA)	2 186	(NA)
Average per farm	dollars	2 851	(NA)	8 125	(NA)
Crops	$1,000	742	(NA)	541	(NA)
Livestock and livestock products	$1,000	1 751	(NA)	1 492	(NA)
Poultry and poultry products	$1,000	178	(NA)	152	(NA)
Farms by value of sales					
Sales of $20,000 or more	number	22	(NA)	22	(NA)
$100,000 or more	number	-	(NA)	-	(NA)
$40,000 to $99,999	number	-	(NA)	-	(NA)
$20,000 to $39,999	number	22	(NA)	22	(NA)
Sales of less than $20,000	number	915	(NA)	247	(NA)
$10,000 to $19,999	number	52	(NA)	52	(NA)
$5,000 to $9,999	number	78	(NA)	78	(NA)
$2,500 to $4,999	number	117	(NA)	117	(NA)
Less than $2,500	number	668	(NA)	(X)	(X)
Value of agricultural products sold directly to individuals for human consumption	farms	194	(NA)	92	(NA)
	$1,000	227	(NA)	177	(NA)
Income from machine work, customwork, and other agricultural services provided for others	farms	14	(NA)	14	(NA)
	$1,000	5	(NA)	5	(NA)
Farms by type of organization:					
Individual or family	number	922	(NA)	254	(NA)
Partnership	number	8	(NA)	8	(NA)
Corporation	number	7	(NA)	7	(NA)
Family held	number	7	(NA)	7	(NA)
Other than family held	number	-	(NA)	-	(NA)
Other—cooperatives, estates or trusts, institutional, etc	number	-	(NA)	-	(NA)
Operator characteristics					
Tenure of operator					
Full owner	farms	678	(NA)	184	(NA)
Part owner	farms	220	(NA)	78	(NA)
Tenant	farms	39	(NA)	7	(NA)
Principal occupation and residence [4]					
Farming	farms	206	(NA)	75	(NA)
Residence on farm operated	farms	206	(NA)	75	(NA)
Residence not on farm operated	farms	-	(NA)	-	(NA)
Other than farming	farms	731	(NA)	194	(NA)
Residence on farm operated	farms	708	(NA)	187	(NA)
Residence not on farm operated	farms	23	(NA)	7	(NA)
Average age of operator [4]	years	48 6	(NA)	46.9	(NA)
Sex of operator	male	867	(NA)	245	(NA)
	female	70	(NA)	24	(NA)
Operators reporting days of work off farm [4]					
Any	farms	749	(NA)	211	(NA)
100 days or more	farms	718	(NA)	187	(NA)
Selected production expenses [1]					
Livestock and poultry purchased	$1,000	432	(NA)	319	(NA)
Feed purchased for livestock and poultry	$1,000	1 028	(NA)	595	(NA)
Commercially mixed formula feeds	$1,000	417	(NA)	240	(NA)
Animal health costs	$1,000	123	(NA)	70	(NA)
Seeds, bulbs, plants, and trees	$1,000	100	(NA)	32	(NA)
Commercial fertilizer	$1,000	211	(NA)	110	(NA)
Other agricultural chemicals including lime	$1,000	152	(NA)	113	(NA)
Hired farm labor	$1,000	332	(NA)	103	(NA)
Workers working 150 days or more	farms	92	(NA)	13	(NA)
	number	275	(NA)	38	(NA)
Contract labor	$1,000	5	(NA)	(D)	(NA)
Customwork and machine hire	$1,000	13	(NA)	1	(NA)
Energy costs - petroleum products, electricity, coal, wood, coke, etc	$1,000	357	(NA)	211	(NA)
Gasoline and other petroleum products	$1,000	285	(NA)	157	(NA)
Gasoline	$1,000	181	(NA)	89	(NA)
Diesel fuel	$1,000	44	(NA)	40	(NA)
Machinery and equipment. [1]					
Estimated market value of all machinery and equipment	$1,000	6 508	(NA)	3 225	(NA)
Average per farm	dollars	6 945	(NA)	11 988	(NA)
Motortrucks including pickups	farms	682	(NA)	255	(NA)
	number	886	(NA)	349	(NA)
Wheel tractors	farms	714	(NA)	198	(NA)
	number	1 052	(NA)	317	(NA)

[1] 1978 data are based on a sample of farms
[2] Data included with Other pastureland and rangeland
[3] 1974 data include sales of forest products
[4] 1974 data exclude corporations and other organizations

Table 2. **Livestock and Poultry: 1978 and 1974**

		All farms		Farms with sales of $2,500 or more	
		1978	1974	1978	1974
Cattle and calves inventory	farms	526	(NA)	132	(NA)
	number	5 275	(NA)	3 000	(NA)
Farms by size of inventory:					
1 to 19	farms	456	(NA)	69	(NA)
	number	2 400	(NA)	272	(NA)
20 to 99	farms	70	(NA)	63	(NA)
	number	2 875	(NA)	2 728	(NA)
100 to 499	farms	-	(NA)	-	(NA)
	number	-	(NA)	-	(NA)
500 or more	farms	-	(NA)	-	(NA)
	number	-	(NA)	-	(NA)
Cows and heifers that had calved	farms	459	(NA)	118	(NA)
	number	3 299	(NA)	2 170	(NA)
Beef cows	farms	401	(NA)	103	(NA)
	number	2 856	(NA)	1 950	(NA)
Milk cows	farms	200	(NA)	31	(NA)
	number	443	(NA)	220	(NA)
Heifers and heifer calves	farms	282	(NA)	22	(NA)
	number	854	(NA)	114	(NA)
Steers and bulls including calves	farms	212	(NA)	54	(NA)
	number	1 122	(NA)	716	(NA)
Cattle and calves sold	farms	258	(NA)	93	(NA)
	number	2 078	(NA)	1 437	(NA)
Cattle fattened on grain and concentrates	farms	29	(NA)	7	(NA)
	number	158	(NA)	70	(NA)
Dairy products sold	farms	31	(NA)	7	(NA)
	$1,000	235	(NA)	229	(NA)
Hogs and pigs inventory	farms	279	(NA)	85	(NA)
	number	5 020	(NA)	2 899	(NA)
Farms by size of inventory:					
1 to 99	farms	263	(NA)	77	(NA)
	number	2 468	(NA)	1 947	(NA)
100 to 499	farms	16	(NA)	8	(NA)
	number	2 552	(NA)	952	(NA)
500 or more	farms	-	(NA)	-	(NA)
	number	-	(NA)	-	(NA)
Hogs and pigs used or to be used for breeding	farms	84	(NA)	62	(NA)
	number	691	(NA)	517	(NA)
Hogs and pigs sold	farms	114	(NA)	77	(NA)
	number	5 527	(NA)	4 784	(NA)
Feeder pigs sold	farms	74	(NA)	46	(NA)
	number	2 375	(NA)	2 074	(NA)
Litters farrowed between—					
Dec. 1 of preceding year and Nov. 30	farms	106	(NA)	69	(NA)
	number	855	(NA)	652	(NA)
Dec. 1 of preceding year and May 31	farms	92	(NA)	62	(NA)
	number	612	(NA)	416	(NA)
June 1 and Nov. 30	farms	76	(NA)	69	(NA)
	number	243	(NA)	236	(NA)
Sheep and lambs inventory	farms	92	(NA)	8	(NA)
	number	638	(NA)	72	(NA)
Ewes 1 year old or older	farms	85	(NA)	8	(NA)
	number	530	(NA)	40	(NA)
Sheep and lambs sold	farms	39	(NA)	-	(NA)
	number	285	(NA)	-	(NA)
Sheep and lambs shorn	farms	60	(NA)	-	(NA)
	number	544	(NA)	-	(NA)
	pounds of wool	3 579	(NA)	-	(NA)
Horses and ponies inventory	farms	481	(NA)	133	(NA)
	number	2 464	(NA)	613	(NA)
Chickens 3 months old or older inventory	farms	259	(NA)	31	(NA)
	number	46 830	(NA)	36 411	(NA)
Hens and pullets of laying age inventory	farms	253	(NA)	31	(NA)
	number	32 357	(NA)	24 411	(NA)
Farms by size of inventory:					
1 to 1,599	farms	245	(NA)	23	(NA)
	number	8 357	(NA)	411	(NA)
1,600 to 9,999	farms	8	(NA)	8	(NA)
	number	24 000	(NA)	24 000	(NA)
10,000 or more	farms	-	(NA)	-	(NA)
	number	-	(NA)	-	(NA)
Broilers sold	farms	8	(NA)	8	(NA)
	number	600	(NA)	600	(NA)
Turkeys sold	farms	8	(NA)	8	(NA)
	number	160	(NA)	160	(NA)

Table 3. Crops Harvested: 1978 and 1974

		All farms		Farms with sales of $2,500 or more	
		1978	1974	1978	1974
Corn for silage or green chop (green)	farms	53	(NA)	31	(NA)
	acres	874	(NA)	789	(NA)
	tons	12 022	(NA)	11 031	(NA)
Irish potatoes	farms	36	(NA)	-	(NA)
	acres	26	(NA)	-	(NA)
	cwt.	984	(NA)	-	(NA)
Hay, all (dry)	farms	556	(NA)	130	(NA)
	acres	14 176	(NA)	5 136	(NA)
	tons	18 231	(NA)	9 788	(NA)
Other tame dry hay (dry)	farms	436	(NA)	123	(NA)
	acres	12 345	(NA)	4 811	(NA)
	tons	15 745	(NA)	8 943	(NA)
Land in orchards	farms	84	(NA)	14	(NA)
	acres	440	(NA)	203	(NA)
Apples	farms	53	(NA)	7	(NA)
	acres	355	(NA)	161	(NA)
	lbs	932 875	(NA)	924 000	(NA)
Vegetables, sweet corn or melons for sale	farms	122	(NA)	84	(NA)
	acres	399	(NA)	353	(NA)
Sweet corn for sale	farms	87	(NA)	49	(NA)
	acres	198	(NA)	169	(NA)
Cranberries for sale (100-lb barrels)	farms	-	(NA)	-	(NA)
	acres	-	(NA)	-	(NA)
	100-lb	-	(NA)	-	(NA)

Appendix. Effect of Definition Change for Selected Items: 1978 and 1974

		Definition used for 1974 and 1978		Definition used for 1959, 1964, and 1969		Operations excluded by current definition but not by 1959 definition	
		1978	1974	1978	1974	1978	1974
All farms	number	937	(NA)	2 910	(NA)	1 973	(NA)
Farms with sales less than $2,500	number	668	(NA)	2 641	(NA)	1 973	(NA)
Land in farms	acres	61 143	(NA)	120 176	(NA)	59 033	(NA)
Total cropland	acres	34 296	(NA)	52 714	(NA)	18 418	(NA)
Harvested cropland	acres	16 246	(NA)	23 402	(NA)	7 156	(NA)
Value of agricultural products sold	$1,000	2 671	(NA)	3 100	(NA)	429	(NA)
Crops	$1,000	742	(NA)	912	(NA)	170	(NA)
Livestock, poultry, and their products	$1,000	1 929	(NA)	2 188	(NA)	258	(NA)
Cattle and calves inventory	number	5 275	(NA)	6 599	(NA)	1 324	(NA)
Hogs and pigs inventory	number	5 020	(NA)	5 161	(NA)	141	(NA)
Chickens 3 months old or older inventory	number	46 830	(NA)	54 843	(NA)	8 013	(NA)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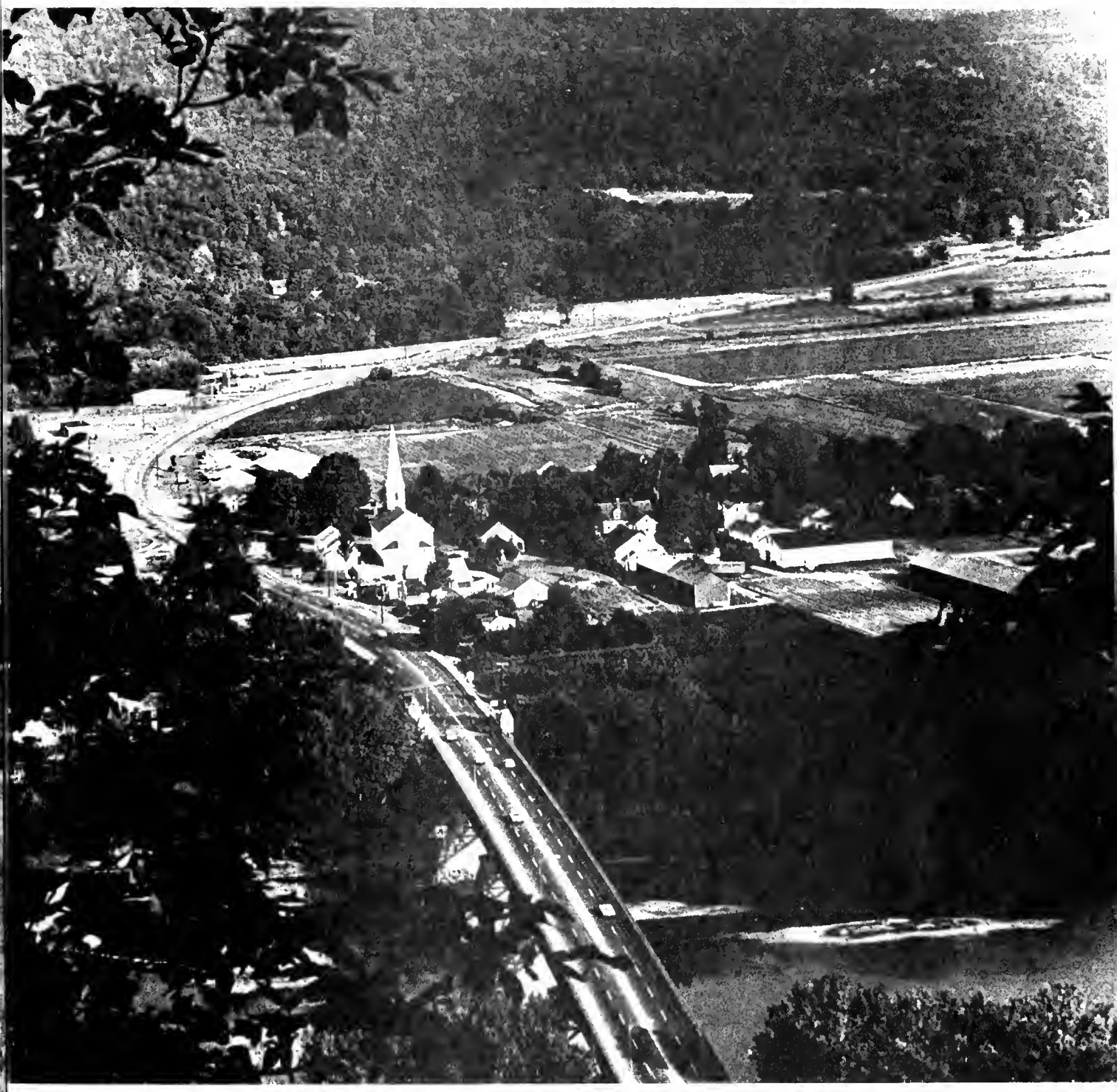
Massachusetts Agriculture 1981

Edward J. King,
Governor

John A. Bewick,
Secretary of Environmental Affairs

Frederic Winthrop, Jr.,
Commissioner of Food and Agriculture




AGRICULTURE
is Making
it i
Massachu ts

The Commonwealth of Massachusetts

Department of Food and Agriculture

Leverett Saltonstall Building, Government Center

100 Cambridge Street, Boston 02202

Dear friends of Massachusetts agriculture:

Nowhere do the economic trends of the day have any more impact than down on the farm. The costs of planting, growing, shipping and marketing our food supply are dramatically affected by the economy. In spite of tremendous odds, today's farmers are outproducing most every business in the United States. The result is a boon for consumers-- the provision of an abundant and reasonably priced food supply.

This year I have had the privilege of serving as President of the National Association of State Departments of Agriculture. With the emergence of the "New Federalism", the role of the states in many of our governmental food and farm programs is growing in significance, and I was pleased to help strengthen the partnerships between the various state agriculture departments and the federal agencies. Clearly, one of the main strengths of American agriculture is its tremendous diversity. It is essential that we enhance this diversity by promoting agriculture in every region of the country.

Here in the Northeast, it may be difficult to convince city folk that agriculture is the number one American industry, but it is a fact that agriculture provides more jobs than any other segment of the U.S. economy.

Massachusetts food production is taking on an increasingly important role in our food supply picture. With fuel and transportation costs on the rise, growing food for nearby markets makes more sense each year. Preliminary statistics for vegetable production in 1981 are promising. The sweet corn crop was four per cent larger than the previous year. The tomato and cabbage crops showed similar increases in both acreage and yield per acre.

Notwithstanding a reduction in federal price support levels, milk production has also increased, with production for the last quarter of 1981 showing a four per cent increase over the production of the same quarter a year earlier. And of course, cranberries remain our number one success story with Massachusetts producing nearly one half of the nation's output.

For many years, agriculture has been viewed as the forgotten industry in our "industrial state", but times are changing. More and more suburban and city residents are realizing the irreplaceable value of our farmland and are supporting efforts to keep the land in production.

The Department continues to work hard to encourage a healthy agricultural industry through enlightened regulation, energetic market promotion and farmland protection. You will find from reading this annual report what the Department is doing to meet these goals.

For the statistical report in this publication, we are indebted to the staff of the New England Crop and Livestock Reporting Service, who compiled the charts and statistics under the direction of Charles Hammond and Rowland Scranton. Many thanks to all who have helped in this review of the agricultural industry in Massachusetts.

Sincerely,

Frederic Winthrop, Jr.
Commissioner

TABLE OF CONTENTS

MISCELLANEOUS

SECTION II--ANNUAL REPORT, STATE DEPARTMENT OF FOOD AND AGRICULTURE

Cover: View of the fertile Connecticut River Valley, Sunderland, Massachusetts. Photo courtesy of Pioneer Valley Association.

Inside Cover Photos: (counterclockwise)

At Essex Agricultural and Technical Institute in Hathorne, Governor Edward J. King visits with students and Director Raymond F. Potter.

Governor King signs Executive Order to protect state-owned agricultural land; among those attending 1981 Agriculture Day ceremonies are (l. to r.) State Representative Theodore C. Speliotis of Danvers, State Representative F. John Monahan of Beverly, Secretary of Environmental Affairs John A. Bewick and Food and Agriculture Commissioner Frederic Winthrop, Jr.

Panelists at 1981 Agriculture Day produce and floral wholesaling seminar are (l. to r.) Telemachus Demoulas, President of Demoulas/Market Basket Stores; Angelo Eliopoulos, Demoulas produce buyer; James Segal, Purity Supreme; Robert Zoino, Shaws Supermarkets; Raymond Marcoux, Stop & Shop; George Semanie, Food Marts; Alan Huberman, M. Huberman & Son, flowers; vegetable growers John Bauer of Deerfield, Garabed Dargoonian of Andover and Angelo Arena of Concord;Clive Olson,Olson's Greenhouses.

Bob Downing of Harmony Farm in North Reading sells at a Boston Farmers Market.

Rows of tall and sturdy tomato plants are checked by Albert Volante at his Needham farm.

Cows, cranberries and apples are also growing abundantly in Massachusetts.

MASSACHUSETTS AGRICULTURAL STATISTICS

MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE

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STATISTICAL REPORTING SERVICE

WILLIAM E. KIBLER, ADMINISTRATOR

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JOAN PARKER

LEAH ROCHA

JOYCE SUPRY

ADRIENNE ZAPPIA

LIVESTOCK HIGHLIGHTS

CATTLE AND CALVES

Cattle and calves on Massachusetts farms totaled 103,000 head on January 1, 1981, down 1 percent from the total inventory on January 1, 1980. Although the numbers are 7 percent below the inventory of January 1, 1970, it remains 4 percent above the number on hand at the beginning of 1978, the lowest number in the past decade. Dairying is the primary livestock industry in the state with milk cows comprising 43 percent of the total inventory while calves under 500 pounds make up 23 percent.

Beef cows that calved on January 1, 1981 at 10,000 head were unchanged from January 1, 1980, but beef replacement heifers, 500 pounds and over at 4,000 head, were up 1,000 head from January 1, 1980. Steers 500 pounds and over at 4,000 head, were up 1,000 head from the same period the previous year. The value of the cattle and calve inventory climbed close to $81 million, almost $10 million more than the previous year. This is attributed to the continued rise of the value per head to a record high level of $785.

The 1980 calf crop in the Commonwealth totaled 45,000 calves, 2,000 less than during 1979 and the lowest number in the past decade. The number of calves born have been declining steadily since 1972 when 60,000 head were born.

Cash receipts from marketings of cattle and calves in 1980 totaled $10.3 million, 19 percent below 1979, but 50 percent above 1970. There were 17.9 million pounds marketed in 1980, compared with 21.8 million in 1979 and 31.5 million in 1970. Although the average price per hundredweight was lower in 1980 than in 1979, it was more than double the average price in 1970.

HOGS AND PIGS

The inventory of hogs and pigs on farms totaled 49,000 head on December 1, 1980, down 18 percent from December 1, 1979 and the smallest of record. The inventory included 14 percent breeding animals and 86 percent of animals intended for market. The value of the December 1, 1980 inventory totaled $3.7 million, up 10 percent from December 1, 1979, but down 20 percent from December 1, 1978. The average value per head was $74.50 on December 1, 1980, up from the $55.50 on January 1, 1979 and the $76.50 on January 1, 1978.

The 1980 pig crop at 65,000 head was down 20 percent from the 81,000 pigs in 1979. Sows' farrowing for the year at 10,000 head, were down 2,500 from the 12,500 sows that farrowed in 1979. The litter size in 1980 averaged 6.5, unchanged from 1979. The spring (December-May) pig crop for 1980 totaled 30,000,

down 23 percent from the 1979 spring crop. The 4,000 sows farrowed produced an average 7.4 pigs per litter. The 1980 fall (June-November) pig crop totaled 35,000 pigs, down 17 percent from a year ago. There were 6,000 sows farrowed averaging 5.8 pigs per litter.

Hog production totaled 16.4 million pounds during 1980, down 12 percent from 1979 and the second lowest yearly production of record. The hog production in 1977 was 15.8 million pounds. The gross income from hog production in 1980 was $6.5 million, down 20 percent from 1979. Farmers marketed 16.2 million pounds of hogs in 1980, down 9 percent from 1979 and the second lowest marketings of record. The farmers marketed 14.1 million pounds of hogs in 1977. Cash receipts from marketings totaled $6.0 million, down 24 percent from 1979 and except for 1977, the lowest since 1972. The decrease in cash receipts from 1979 was due to both a decrease in marketings and a lower price per pound. Farmers received $37.00 per cwt. of hogs in 1979, down $7.00 from the $44.00 received in 1979 and the lowest price since 1977.

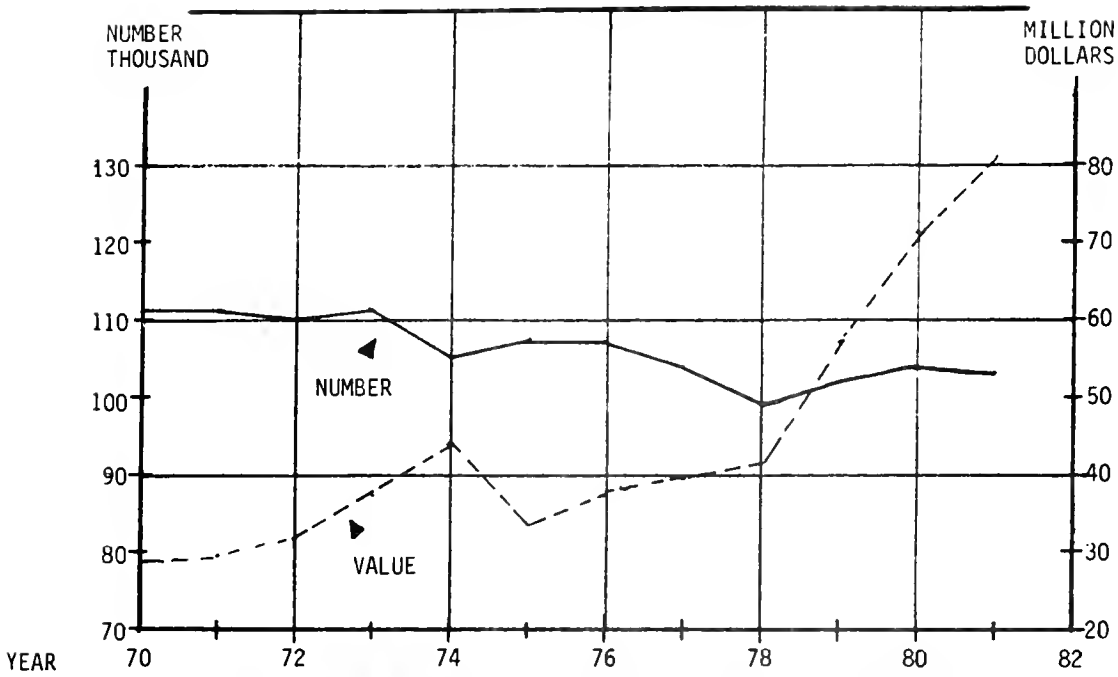
SHEEP AND LAMBS

Sheep and lambs in Massachusetts on January 1, 1981 totaled 7,200 head, 1 percent above January 1, 1980 and the largest since 1976. Inventory value of the January 1, 1981 flock at $634,000 was up 14 percent from January 1, 1980 due to increases in both inventory numbers and value per head. The January 1, 1981 value per head was $88.00, up from the $78.50 value per head on January 1, 1980 and the highest on record. The lamb crop in 1980 totaled 5,600, up 10 percent from the lamb crop in 1979. There were 428,000 pounds of lamb and mutton produced during 1980, up 12 percent from the 1979 production of 382,000 pounds. Gross income from the 1980 sheep and lamb production was $268,000, up from the 1979 gross income of $245,000, but down from the 1978 gross income of $282,000. Sheep and lamb marketings in 1980 totaled 300,000 pounds, up from the 246,000 pounds marketed in 1979, but down from the 329,000 pounds marketed in 1978. The cash receipts from marketings was $179,000, up from $163,000 in 1979, but down from $215,000 in 1978. The 1980 market prices for sheep rose $3.00 to $42.00 per hundred pounds from the 1979 market prices, but the 1980 market price for lambs decreased $8.00 to $77.00 per hundred pounds from the 1979 market price.

WOOL

Wool production at 47,000 pounds in 1980 was up 2,000 pounds from the 1979 production and the largest production since 1974. Sheep shorn in 1980 totaled 6,800 head, up 200 from the 1979 total and the largest number shorn since 1976. Weight per fleece averaged 6.9 pounds, up from the 6.8 pounds per fleece in 1979. The value of the wool production in 1980 was $41,000, up from the $38,000 in 1979 and the largest since 1966 value of production of $43,000. Farmers received 88¢ per pound of wool in 1980, up 4¢ per pound from 1979 and the highest price on record.

MASSACHUSETTS CATTLE
INVENTORY, NUMBER AND VALUE



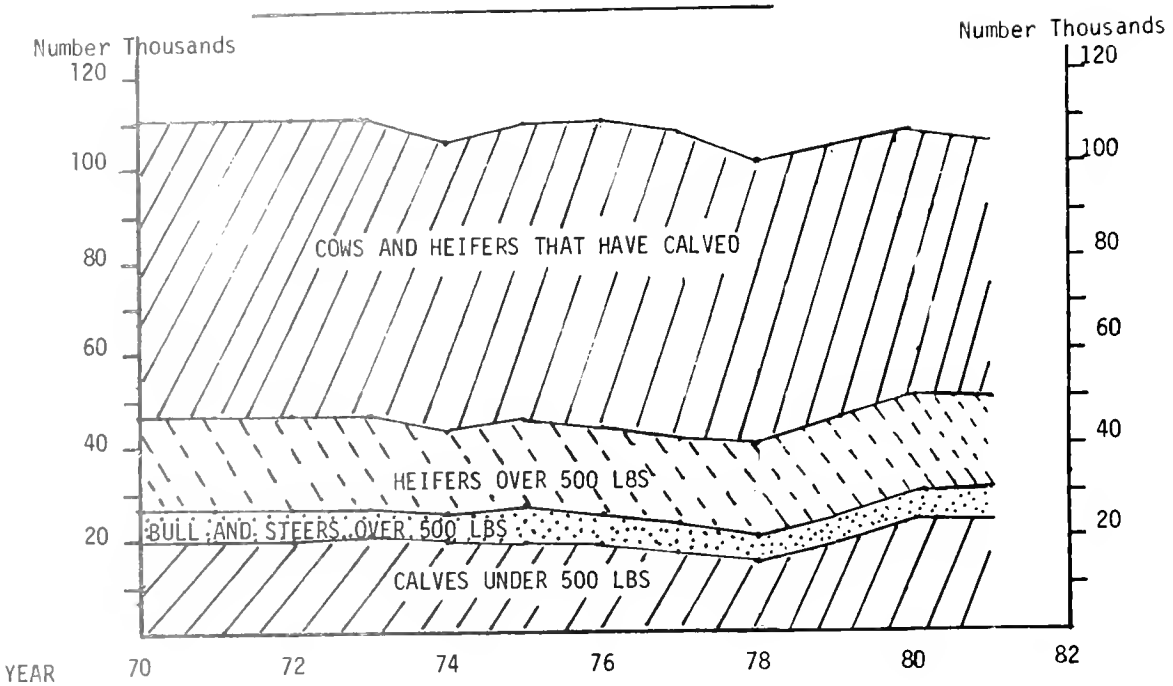
CATTLE: NUMBER AND VALUE OF ALL CATTLE AND CALVES ON FARMS
JANUARY 1, MASSACHUSETTS, 1971-1981

YEAR	NUMBER	VALUE	
		PER HEAD	TOTAL
	1,000 HEAD	DOLLARS	1,000 DOLLARS
1971	111	270.00	29,970
1972	110	290.00	31,900
1973	111	335.00	37,185
1974	105	420.00	44,100
1975	107	315.00	33,705
1976	107	345.00	36,915
1977	104	380.00	39,520
1978	99	415.00	41,085
1979	102	560.00	57,120
1980	104	685.00	71,240
1981	103	785.00	80,855

CATTLE: JANUARY 1, INVENTORY BY CLASSES, MASSACHUSETTS, 1971-1981

YEAR	ALL CATTLE AND CALVES	COWS & HEIFERS THAT HAVE CALVED		HEIFERS 500 LBS. AND OVER			STEERS 500 LBS.+	BULLS 500 LBS.+	STEERS, HEIFERS & BULLS -500 LBS.
		BEEF	MILK	BEEF COW REPLACEMENTS	MILK COW REPLACEMENTS	OTHER			
					1,000 HEAD				
1971	111	7	60	2	15	2	2	2	21
1972	110	8	58	2	15	2	2	2	21
1973	111	8	57	2	16	2	2	2	22
1974	105	8	54	2	15	2	2	2	20
1975	107	9	54	2	17	1	3	2	19
1976	107	9	55	2	17	1	3	2	18
1977	104	9	53	2	17	1	2	2	18
1978	99	8	51	2	16	1	2	2	17
1979	102	10	49	3	16	1	2	2	19
1980	104	10	45	3	16	1	3	2	24
1981	103	10	44	4	14	1	4	2	24

MASSACHUSETTS CATTLE INVENTORY NUMBERS



CATTLE AND CALVES: INVENTORY, SUPPLY, AND DISPOSITION, MASSACHUSETTS, 1970-1980

YEAR	ON HAND JAN. 1 ALL CATTLE	CALF CROP	INSHIPMENTS	MARKETINGS 1/ CATTLE	MARKETINGS 1/ CALVES	FARM SLAUGHTER CATTLE & CALVES	DEATHS CATTLE	DEATHS CALVES
				1,000 HEAD				
1970	111	60	13	28	38	1	2	4
1971	111	60	12	29	37	1	2	4
1972	110	60	11	29	33	1	2	5
1973	111	57	10	33	30	1	3	6
1974	105	55	8	27	26	1	2	5
1975	107	56	7	32	22	1	2	6
1976	107	55	7	34	22	1	2	6
1977	104	52	7	35	20	1	2	6
1978	99	50	5	23	19	2	2	6
1979	102	47	1	19	18	1	2	6
1980	104	45	1	15	21	1	3	7

1/ Excludes interfarm sales.

CATTLE AND CALVES: PRODUCTION AND INCOME, MASSACHUSETTS, 1970-1980

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 LBS. CATTLE	PRICE PER 100 LBS. CALVES	CASH RECEIPTS	VALUE OF HOME CONSUMPTION	GROSS INCOME
	1,000 POUNDS		DOLLARS			1,000 DOLLARS	
1970	22,430	31,456	20.80	30.50	6,852	340	7,192
1971	23,175	32,495	21.10	28.00	7,080	363	7,443
1972	24,660	32,020	24.20	34.00	8,025	416	8,441
1973	28,875	40,115	33.50	44.00	13,717	576	14,293
1974	30,405	32,845	27.50	28.00	9,043	473	9,516
1975	35,060	37,820	22.70	23.80	8,606	488	9,094
1976	33,620	40,230	26.00	28.50	10,512	599	11,071
1977	33,240	40,790	26.20	38.20	10,915	676	11,591
1978	27,080	26,560	41.90	57.00	11,405	1,441	12,846
1979	21,340	21,754	57.00	76.00	12,728	1,520	14,248
1980	18,890	17,890	55.00	71.00	10,299	1,656	11,955

HOGS: PRODUCTION AND INCOME, MASSACHUSETTS, 1970-1980

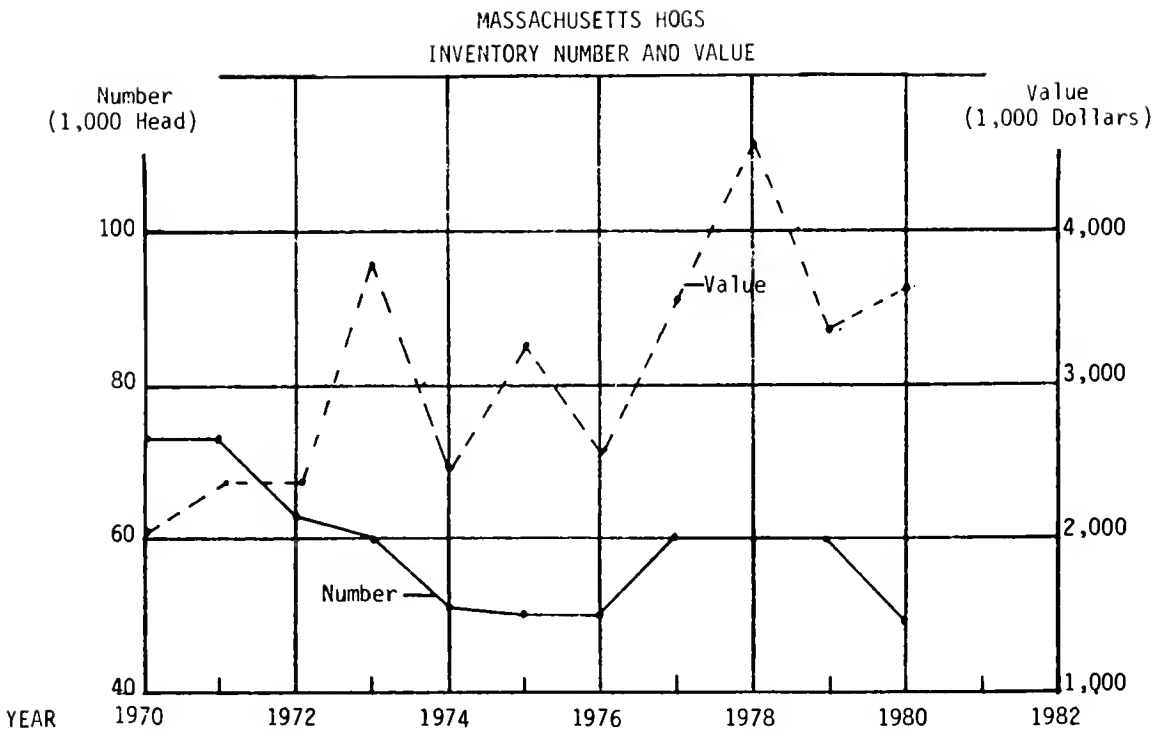
YEAR	PRODUCTION	MARKETING	PRICE PER 100 POUNDS	CASH RECEIPTS	VALUE OF HOME CONSUMPTION	GROSS INCOME
	1,000 POUNDS		DOLLARS		1,000 DOLLARS	
1970	19,139	19,998	18.50	3,540	81	3,781
1971	19,746	19,556	17.50	3,422	77	3,499
1972	19,191	19,835	25.00	4,959	110	5,069
1973	18,862	18,068	37.00	6,685	171	6,856
1974	18,764	19,910	33.00	6,570	254	6,824
1975	19,100	18,260	45.00	8,217	347	8,564
1976	17,891	17,378	45.00	7,820	354	8,174
1977	15,832	14,063	37.00	5,203	291	5,494
1978	17,211	16,640	45.00	7,488	304	7,792
1979	18,640	17,820	44.00	7,841	297	8,138
1980	16,412	16,185	37.00	5,988	500	6,488

HOGS: INVENTORY NUMBERS, PIG CROP AND DISPOSITION, MASSACHUSETTS, 1970-1980

YEAR	ON HAND DEC. 1 PREV. YEAR	PIG CROP		MARKETINGS 1/	FARM SLAUGHTER	DEATHS
		DEC.-MAY	JUNE-NOV.			
	1,000 HEAD				1,000 HEAD	
1970	83	46	47	90	1	12
1971	73	51	47	88	1	9
1972	73	44	43	89	1	7
1973	63	42	43	80	1	7
1974	60	42	41	82	1	6
1975	51	43	39	78	1	4
1976	50	45	37	75	1	6
1977	50	35	43	61	1	6
1978	60	36	41	71	1	5
1979	60	39	42	76	1	4
1980	60	30	35	71	2	3

PIG CROP: SOWS FARROWED AND PIGS SAVED, MASSACHUSETTS, 1970-1980

YEAR	SPRING FARROWINGS			FALL FARROWINGS		
	SOWS (1,000 HEAD)	PIGS PER LITTER	PIGS SAVED PER 1,000	SOWS (1,000 HEAD)	PIGS PER LITTER	PIGS SAVED PER 1,000
1970	7.4	6.2	46	7.8	6.0	47
1971	7.6	6.7	51	7.4	6.3	47
1972	7.0	6.3	44	7.0	6.2	43
1973	7.0	6.0	42	7.1	6.0	43
1974	7.0	6.0	42	6.8	6.0	41
1975	7.0	6.2	43	6.8	5.7	39
1976	6.6	6.8	45	5.7	6.5	37
1977	5.0	6.9	35	6.5	6.6	43
1978	5.0	7.2	36	6.0	6.8	41
1979	6.0	6.5	39	6.5	6.5	42
1980	4.0	7.4	30	6.0	5.8	35



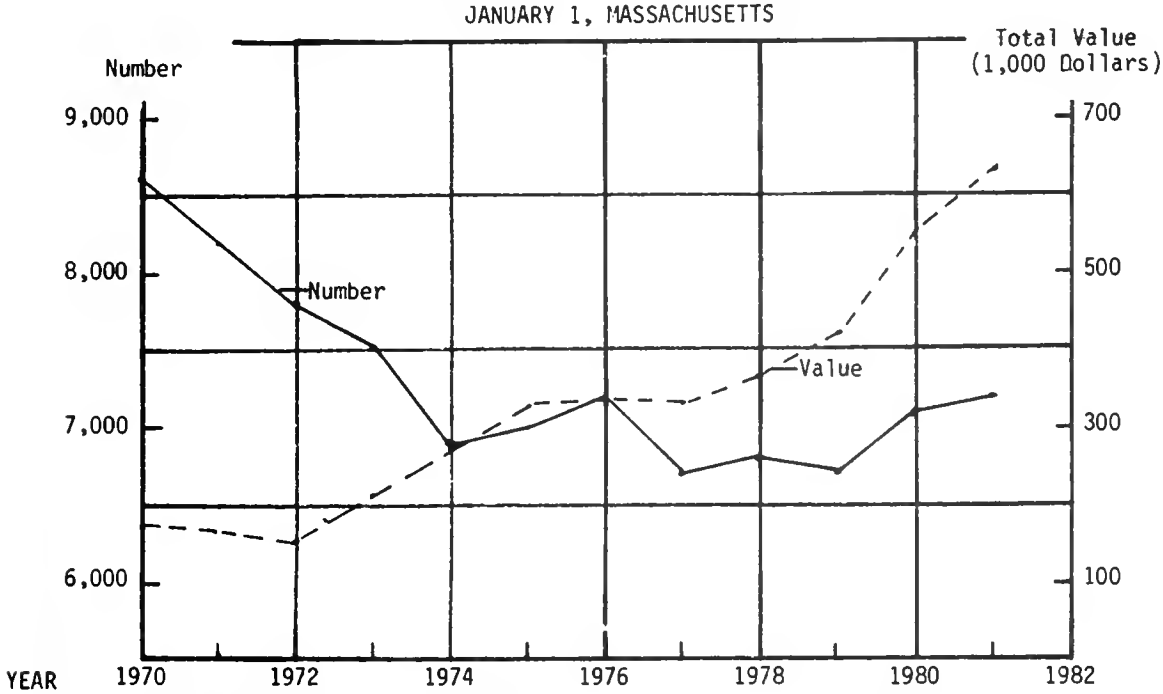
HOGS: NUMBER AND VALUE OF HOGS ON FARMS DECEMBER 1, MASSACHUSETTS 1970-1980

YEAR	NUMBER			VALUE	
	BREEDING	MARKET	TOTAL	PER HEAD	TOTAL
		1,000 HEAD		DOLLARS	1,000 DOLLARS
1970	11	62	73	28.50	2,081
1971	9	64	73	32.00	2,336
1972	9	54	63	37.50	2,363
1973	10	50	60	62.50	3,750
1974	8	43	51	48.00	2,448
1975	8	42	50	64.50	3,225
1976	7	43	50	50.50	2,525
1977	8	52	60	59.50	3,570
1978	8	52	60	76.50	4,590
1979	9	51	60	55.50	3,330
1980	7	42	49	74.50	3,651

SHEEP AND LAMBS: NUMBER AND VALUE ON FARMS,
JANUARY 1, MASSACHUSETTS, 1971-1981

YEAR	NUMBER	VALUE	
		PER HEAD	TOTAL
	1,000 HEAD	DOLLARS	1,000 DOLLARS
1971	8.2	20.00	164
1972	7.8	20.00	156
1973	7.5	28.00	210
1974	6.9	40.00	276
1975	7.0	46.50	326
1976	7.2	46.00	331
1977	6.7	48.00	322
1978	6.8	53.50	364
1979	6.7	63.00	422
1980	7.1	78.50	557
1981	7.2	88.00	634

SHEEP & LAMBS: NUMBER AND VALUE
JANUARY 1, MASSACHUSETTS



SHEEP AND LAMBS: INVENTORY NUMBER BY CLASS, JANUARY 1, MASSACHUSETTS, 1971-1981

YEAR	ALL SHEEP AND LAMBS	LAMBS			ONE YEAR AND OVER	
		ALL LAMBS	EWES	WETHERS AND RAMS	EWES	WETHERS AND RAMS
				1,000 HEAD		
1971	8.2	1.7	1.4	.3	5.9	.6
1972	7.8	1.4	1.0	.4	5.8	.6
1973	7.5	1.4	1.0	.4	5.5	.6
1974	6.9	1.4	1.0	.4	5.0	.5
1975	7.0	1.4	1.1	.4	5.1	.4
1976	7.2	1.5	1.1	.4	5.3	.4
1977	6.7	1.4	1.0	.4	4.9	.4
1978	6.8	1.6	1.1	.5	4.7	.5
1979	6.7	1.3	1.0	.3	4.9	.5
1980	7.1	1.6	1.2	.4	5.0	.5
1981	7.2	1.6	1.2	.4	5.1	.5

SHEEP AND LAMBS: INVENTORY NUMBERS, LAMB CROP AND DISPOSITION, MASSACHUSETTS 1970-1980

YEAR	ON HAND JAN. 1 ALL SHEEP AND LAMBS	LAMB CROP	MARKETING		FARM SLAUGHTER SHEEP AND LAMBS	DEATHS SHEEP AND LAMBS
			SHEEP	LAMBS		
	1,000 HEAD					
1970	8.6	6.2	1.6	3.2	.1	1.3
1971	8.2	6.2	1.5	2.8	.3	1.1
1972	7.8	5.6	1.3	2.9	.2	1.1
1973	7.5	5.3	1.4	2.7	.4	1.1
1974	6.9	5.2	.5	2.4	.2	1.1
1975	7.0	5.5	.9	2.9	.4	1.1
1976	7.2	5.6	1.5	3.3	.3	1.0
1977	6.7	5.7	.8	3.4	.4	1.0
1978	6.8	5.3	1.0	2.9	.5	1.0
1979	6.7	5.1	.8	2.5	.5	.9
1980	7.1	5.6	1.2	2.7	.6	1.0

SHEEP AND LAMBS: PRODUCTION AND INCOME, MASSACHUSETTS, 1970-1980

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 LBS.		CASH RECEIPTS	VALUE OF HOME CONSUMPTION	GROSS INCOME
			SHEEP	LAMBS			
	1,000 POUNDS		DOLLARS		1,000 DOLLARS		
1970	391	454	8.40	26.00	80	3	89
1971	440	443	10.00	25.50	91	9	100
1972	382	397	12.00	32.50	98	7	105
1973	366	395	14.00	41.00	112	21	133
1974	349	318	17.00	37.00	91	10	101
1975	372	296	26.00	68.00	158	35	193
1976	382	393	28.00	72.00	209	35	244
1977	431	357	29.00	72.00	198	46	244
1978	406	329	38.00	84.00	215	67	282
1979	382	246	39.00	85.00	163	82	245
1980	428	300	42.00	77.00	179	89	268

WOOL: FARM PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1970-1980

YEAR	SHEEP SHORN	WEIGHT PER FLEECE	SHORN WOOL PRODUCTION	PRICE PER POUND	VALUE
	1,000 HEAD	POUNDS	1,000 POUNDS	CENTS	1,000 DOLLARS
1970	7.9	7.2	57	41	23
1971	7.7	6.9	53	31	16
1972	7.2	7.2	52	34	18
1973	6.9	7.2	50	71	36
1974	6.6	7.4	49	62	30
1975	6.4	7.2	46	31	14
1976	6.7	6.9	46	60	28
1977	6.2	7.1	44	78	34
1978	6.3	6.8	43	74	32
1979	6.6	6.8	45	84	38
1980	6.8	6.9	47	88	41

MISCELLANEOUS LIVESTOCK

BEES AND HONEY

Apiarists in Massachusetts kept 12,000 bee colonies in 1980, unchanged since 1974. There were 288,000 pounds of honey produced in 1980, down 27 percent from 1979 and 31 percent lower than 1978. The decreased production was mostly due to bad weather for bees making honey. Yield per colony in 1980 was 24 pounds compared to 33 pounds in 1979 and 35 pounds in 1980. The 1980 value of production of honey was $294,000, down from the $329,000 in 1979 and $433,000 in 1978.

BEES, HONEY AND BEESWAX: COLONIES OF BEES, PRODUCTION, PRICE PER POUND AND VALUE OF PRODUCTION, MASSACHUSETTS, 1971-1980

YEAR	COLONIES OF BEES	HONEY				BEESWAX		
		Yield Per Colony	Production	Price Per Pound	Value Of Production	Production	Price Per Pound	Value Of Production
	1,000	Pounds	1,000 Pounds	Cents	1,000 Dollars	1,000 Pounds	Cents	1,000 Dollars
1971	9	25	225	42.2	95	5	80	4
1972	9	19	171	50.0	86	3	75	2
1973	9	26	234	66.8	156	4	90	4
1974	12	16	192	81.2	156	4	110	4
1975	12	27	324	96.9	314	8	110	9
1976	12	19	228	101.0	230	4	110	4
1977	12	22	264	103.0	272	5	150	8
1978	12	35	420	103.0	433	6	160	10
1979	12	33	396	83.1	329	6	160	10
1980	12	24	288	102.0	294	6	185	11

MINK

Mink pelt production in Massachusetts in 1980 totaled 17,400 pelts, 600 fewer than the total produced in 1979. Of the pelts produced in 1980, 36 percent were pastel, 30 percent were demibuff and 13 percent were pearl. Mink females bred to produce kits in 1981 totaled 3,900, only 75 percent of the bred females for the 1980 crop.

MINK: PRODUCTION, RANCHES AND FEMALES BRED TO PRODUCE KITS, MASSACHUSETTS, 1978-1981

COLOR CLASS	PELTS PRODUCED			RANCHES			FEMALES BRED TO PRODUCE KITS			
	1978	1979	1980	1978	1979	1980	1978	1979	1980	1981
Demibuff	5,400	4,900	5,200				1/	1/	1,500	1,000
Pastel	6,500	5,400	6,300				3,200	2,600	1,500	1,000
Pearl	1/	2,500	2,300		N.A.		1/	800	730	700
Standard	1,500	1,600	1,200				1/	690	700	660
Others	6,600	3,600	2,400				2,500	1,310	970	540
TOTAL	20,000	18,000	17,400	16	12	14	5,700	5,400	5,200	3,900

1/ Included in Others to avoid disclosing individual operations.

DAIRY HIGHLIGHTS

MILK PRODUCTION

Milk production in Massachusetts during 1980 totaled 565 million pounds, slightly lower than the previous year's production of 566 million pounds. Production per cow at 12,283 pounds continued an upward trend that started in 1974 and has set new records each of the last two years.

MILK DISPOSITION AND BLEND PRICE

Dairymen in Massachusetts marketed a total of 556 million pounds of milk during 1980, equaling the 1979 total. Of the total amount marketed, 14.4 million quarts were retailed directly to consumers by farmers. Milk used on farms totaled 9.0 million pounds, of which 4.0 million pounds were for food and drink, unchanged from 1979 and 5.0 million pounds were fed to calves, 1 million pounds below the 1979 level.

The annual wholesale milk blend price averaged $13.70 per hundredweight for 1980, 90¢ higher than in 1979. The blend price during the year had a low of $12.80 per hundredweight in June and a high of $14.80 in November. The total value of milk produced in 1980 was $80.6 million, up $5.4 million from the 1979 total.

MANUFACTURED DAIRY PRODUCTS

A total of 5.1 million pounds of cheese was produced in Massachusetts during 1980, down 18 percent from the 1979 production of 6.3 million pounds. Ice cream production totaled 44 million gallons, almost 4 percent more than the 1979 production. There was 9.8 million gallons produced in 1980, down 6 percent from the previous year. Milk sherbet production totaled 2 million gallons, 163,000 gallons more than in 1979.

MASSACHUSETTS MILK COWS ON FARMS, BY QUARTERS, 1971-1980

MONTH	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
	Thousands of Head									
MAR 31	60	58	56	54	55	55	52	50	49	46
JUN 30	59	57	55	54	54	54	51	48	48	46
SEP 30	58	57	54	54	54	53	51	47	47	46
DEC 31	58	57	54	54	55	53	51	46	46	45
ANNUAL	59	57	55	54	55	54	51	49	48	46

MASSACHUSETTS MILK PRODUCTION PER COW, BY QUARTERS, 1971-1980

MONTH	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
	Pounds									
JAN - MAR	2,700	2,793	2,714	2,704	2,725	2,735	2,850	2,900	2,920	3,109
APR - JUN	2,949	2,965	2,880	2;891	2,960	2,950	3,060	3,110	3,090	3,220
JUL - SEP	2,810	2,649	2,612	2,673	2,720	2,760	2,890	2,920	2,940	3,000
OCT - DEC	2,694	2,628	2,612	2,713	2,620	2,700	2,870	2,820	2,980	3,020
ANNUAL	11,153	11,035	10,818	10,981	10,927	11,074	11,706	11,673	11,792	12,283

MASSACHUSETTS MILK PRODUCTION, BY QUARTERS. 1971-1980

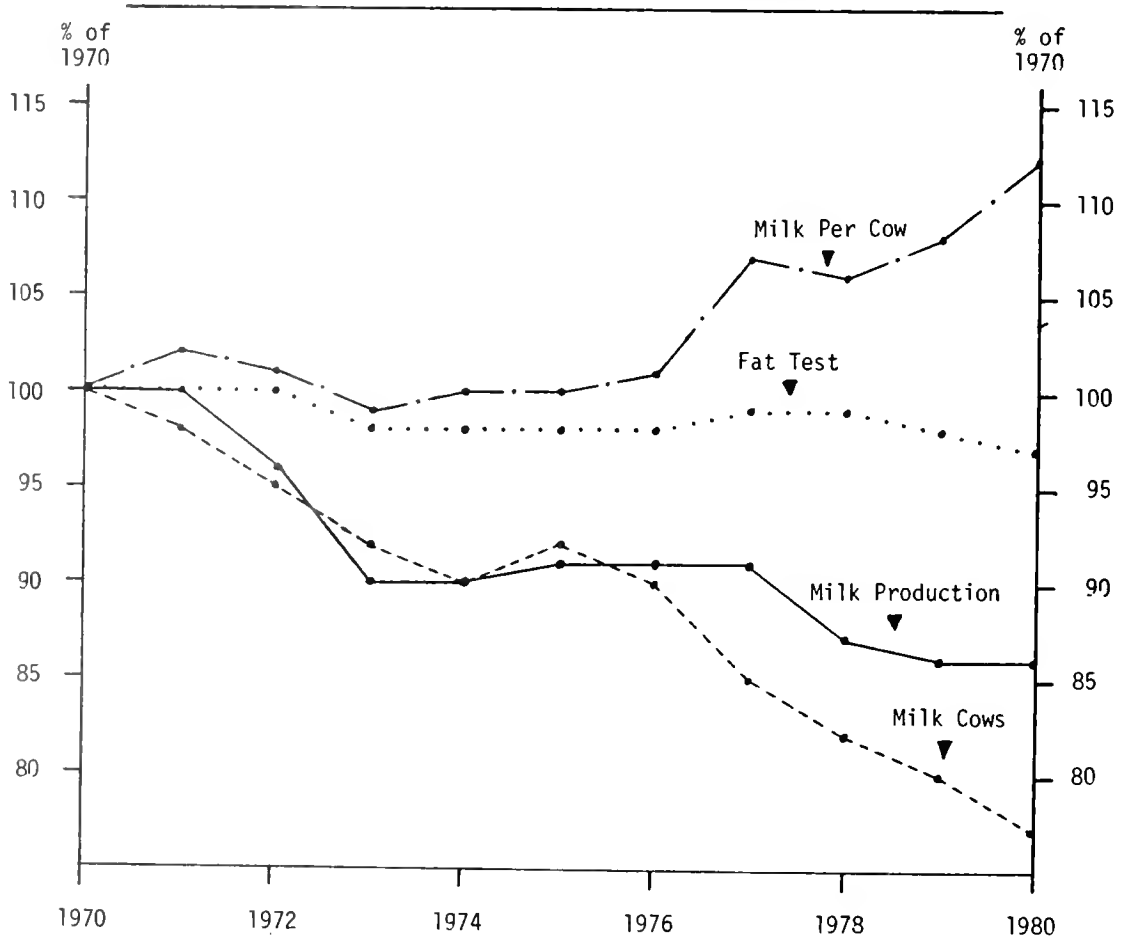
MONTH	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
	Million Pounds									
MAR	162	162	152	146	150	150	148	145	143	143
JUN	174	169	161	159	160	159	156	149	148	148
SEP	163	151	141	147	147	146	147	140	138	138
DEC	159	147	141	141	144	143	146	138	137	136
ANNUAL	658	629	595	593	601	598	597	572	566	565

MILK: FARM PRODUCTION AND VALUE OF MILK AND MILK PRODUCTS SOLD, MASSACHUSETTS, 1970-1980

YEAR	NUMBER OF MILK COWS ON FARMS 1/	PRODUCTION 2/					FARM VALUE OF MILK PRODUCED 3/
		PER MILK COW		PERCENTAGE OF FAT IN ALL MILK PRODUCED	TOTAL		
		MILK	MILKFAT		MILK	MILKFAT	
	Thousands	Pounds		Percent	Million Pounds		1,000 Dollars
1970	60	10,967	408	3.72	658	24	48,758
1971	59	11,153	414	3.71	658	24	49,218
1972	57	11,035	409	3.71	629	23	48,370
1973	55	10,818	395	3.65	595	22	51,646
1974	54	10,981	402	3.66	593	22	59,241
1975	55	10,927	404	3.63	601	22	61,122
1976	54	11,074	405	3.66	598	22	67,215
1977	51	11,706	431	3.68	597	22	67,103
1978	49	11,673	437	3.67	572	21	68,406
1979	48	11,792	429	3.64	566	21	75,165
1980	46	12,283	443	3.61	565	20	80,569

1/ Average number on farms during year, excluding heifers not yet fresh.
2/ Excludes milk sucked by calves.
3/ Valued at average returns per 100 pounds of milk in combined marketings of milk and cream, includes value of milk fed to calves.

TREND IN MILK COWS, PRODUCTION AND FAT TEST, MASSACHUSETTS, 1971 - 1980



MILK: QUANTITY MARKETED, PRICE AND CASH RECEIPTS, MASSACHUSETTS, 1970-1980

YEAR	SOLD TO PLANTS			SOLD DIRECTLY TO CONSUMERS			COMBINED MARKETINGS		
	QUANTITY	PRICE PER CWT.	CASH RECEIPTS	QUANTITY	PRICE PER QUART	CASH RECEIPTS	QUANTITY	PRICE PER CWT.	CASH RECEIPTS
	Million Pounds	Dollars	1,000 Dollars	Million Quarts	Cents	1,000 Dollars	Million Pounds	Dollars	1,000 Dollars
1970	595	6.82	40,579	23.3	31.0	7,209	645	7.41	47,788
1971	600	6.96	41,760	20.9	31.0	6,488	645	7.48	48,248
1972	580	7.23	41,934	17.2	32.0	5,507	617	7.69	47,441
1973	550	8.22	45,210	15.3	35.0	5,372	583	8.68	50,582
1974	550	9.50	52,250	14.4	40.0	5,768	581	9.99	58,018
1975	555	9.65	53,558	15.8	40.0	6,326	589	10.17	59,884
1976	550	10.70	58,850	16.7	42.0	7,032	586	11.24	65,882
1977	550	10.70	58,850	16.7	42.0	7,032	586	11.24	65,882
1978	530	11.50	60,950	14.9	43.0	6,400	562	11.98	67,350
1979	525	12.80	67,200	14.4	46.0	6,633	556	13.28	73,833
1980	525	13.70	71,925	14.4	51.0	7,354	556	14.26	79,279

MILK: QUANTITIES USED AND MARKETED BY FARMERS, MASSACHUSETTS, 1970-1980

YEAR	TOTAL PRODUCED	MILK USED ON FARMS WHERE PRODUCED			MILK MARKETED BY FARMERS		
		USED FOR MILK, CREAM AND BUTTER	FED TO CALVES	TOTAL	SOLD TO PLANTS AND DEALERS	SOLD DIRECTLY TO CONSUMERS	TOTAL
	Million Pounds						
1970	658	8	5	13	595	50	645
1971	658	8	5	13	600	45	645
1972	629	7	5	12	580	37	617
1973	595	7	5	12	550	33	583
1974	593	7	5	12	550	31	581
1975	601	7	5	12	555	34	589
1976	598	7	5	12	550	36	586
1977	597	6	5	11	550	36	586
1978	572	4	5	9	530	32	562
1979	566	4	6	10	525	31	556
1980	565	4	5	9	525	31	556

MILK: SOLD TO PLANTS, MONTHLY AND ANNUAL AVERAGE PRICE PER 100 POUNDS RECEIVED BY FARMERS, MASSACHUSETTS, 1970-1980

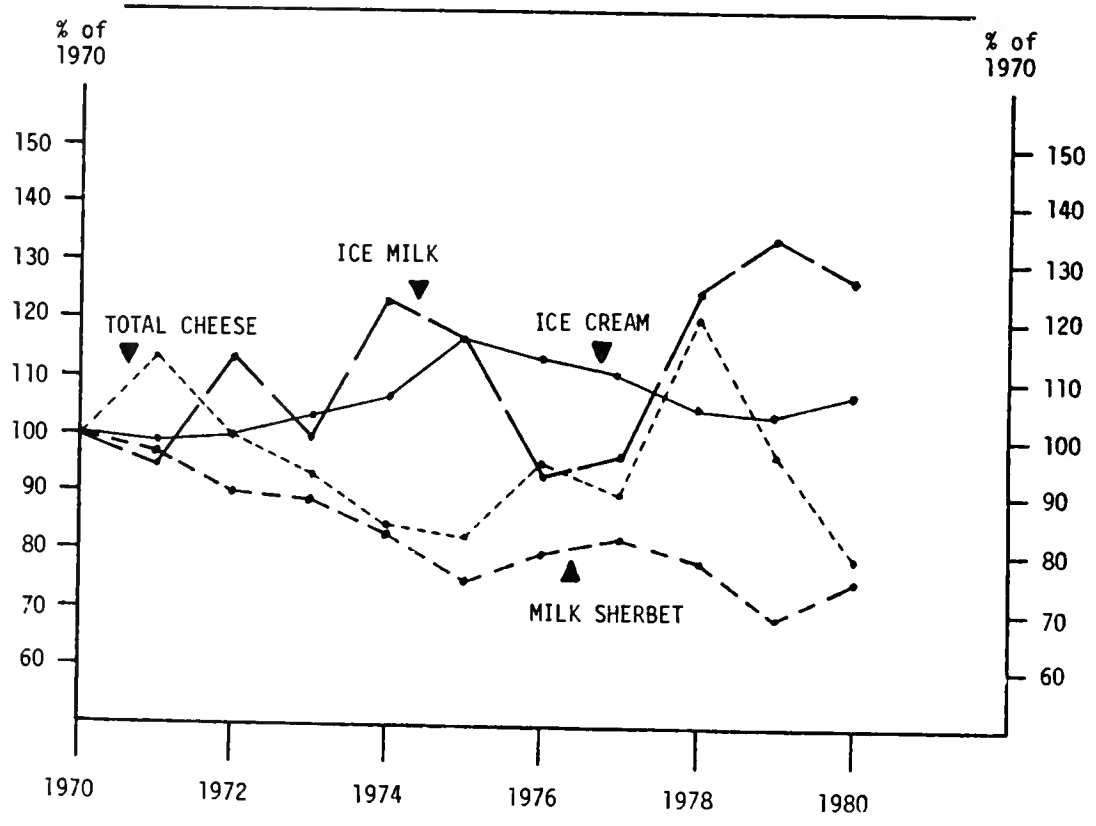
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL AVERAGE
	Dollars												
1970	6.95	6.85	6.65	6.50	6.30	6.20	6.65	6.90	7.15	7.35	7.30	7.20	6.82
1971	7.05	7.00	6.90	6.65	6.45	6.30	6.70	7.00	7.30	7.40	7.45	7.25	6.94
1972	7.20	7.25	7.00	6.75	6.65	6.50	6.95	7.45	7.75	7.95	7.95	7.65	7.24
1973	7.70	7.75	7.55	7.30	7.15	7.20	7.75	8.55	9.25	9.55	9.80	9.70	8.22
1974	9.80	9.90	9.85	9.80	9.25	8.50	8.90	9.40	9.70	9.80	10.00	9.45	9.50
1975	9.05	9.00	8.75	8.60	8.35	8.35	9.00	9.60	10.30	10.80	11.10	11.20	9.45
1976	11.10	10.80	10.70	10.00	9.90	9.75	10.40	11.00	11.30	11.50	11.20	11.70	10.70
1977	10.60	10.50	10.20	10.20	9.90	10.00	10.50	10.90	11.20	11.40	11.40	11.20	10.65
1978	11.10	11.20	11.00	10.70	10.70	10.60	11.00	11.60	12.10	12.70	12.90	12.70	11.50
1979	12.70	12.80	12.50	12.20	12.00	12.00	12.50	13.10	13.40	13.80	13.90	13.40	12.80
1980	13.60	13.40	13.30	13.00	13.00	12.80	13.30	13.70	14.20	14.70	14.80	14.70	13.70

MANUFACTURED DAIRY: PRODUCTION MAJOR PRODUCTS, MASSACHUSETTS, 1970-1980

YEAR	TOTAL CHEESE 1/	ICE CREAM	ICE MILK 2/	MILK SHERBET 2/
	1,000 Pounds		1,000 Gallons	
1970	6,430	40,944	7,822	2,645
1971	7,268	40,455	7,514	2,556
1972	6,416	41,025	8,802	2,393
1973	5,976	42,302	7,742	2,330
1974	5,412	43,607	9,611	2,186
1975	5,288	47,761	9,177	1,985
1976	6,123	46,320	7,246	2,116
1977	5,786	45,255	7,483	2,180
1978	7,780	42,909	9,779	2,102
1979	6,255	42,463	10,454	1,829
1980	5,099	43,986	9,817	1,992

1/ Excluding cottage cheese.
2/ Includes hard and soft-serve and freezer-made milk shake.

PRODUCTION TRENDS FOR CHEESE, ICE CREAM, ICE MILK AND MILK SHERBET, MASSACHUSETTS, 1970-1980



POULTRY HIGHLIGHTS

CHICKENS

The December 1, 1980 inventory of chickens on farms (excluding broilers) in Massachusetts totaled 1.8 million birds, a 4 percent rise over a year ago, and 13 percent above the inventory on December 1, 1978. The inventory revealed that the number of hens of laying age on December 1, 1980 increased 4 percent, while the number of pullets of laying age jumped 7 percent over 1979 levels. Total value of all chickens on hand in the state on December 1, also rose from a year ago, reaching $4.1 million. The increase was partially a result of a larger 1980 inventory and as a result of an increase in the per head value of the birds. Poultrymen marketed 3.9 million pounds of poultry during 1980 at 8.3 cents per pound compared to 5.0 million pounds at 13.2 cents per pound the previous year.

EGGS

Massachusetts egg production was 326 million in 1980, down 4 percent from the previous year and also the lowest amount in 10 years. The decline in egg production parallels the general decline in layer numbers over the past decade. The annual average number of hens and pullets of laying age on hand in 1980 was reduced to 1.3 million, 3 percent below 1979. Gross income to egg producers was $20.2 million, down 3 percent from the previous year.

TURKEYS

Massachusetts farmers raised 126,000 turkeys during 1980, down from 140,000 the year before. With the 1980 price per pound reaching 78.0 cents. The value of production increased to $1.9 million. The 1980 price per pound was 13.0 cents above the 1979 price per pound.

CHICKENS: NUMBER, VALUE, AND CLASSES OF CHICKENS ON FARMS
DECEMBER 1, MASSACHUSETTS 1970-1980

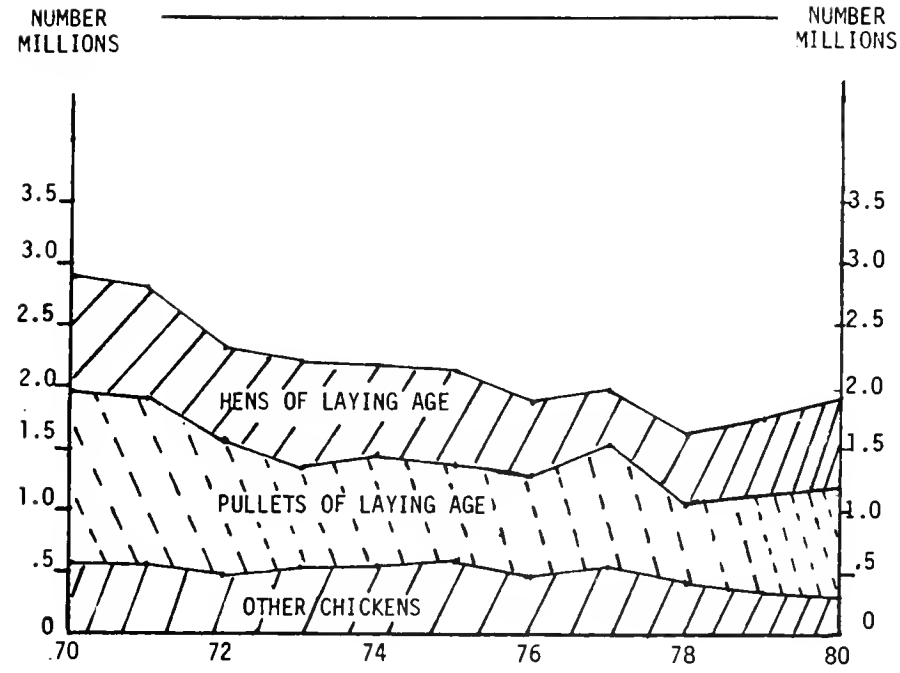
YEAR	ALL CHICKENS	VALUE		HENS AND PULLETS OF LAYING AGE		OTHER CHICKENS
		PER HEAD	TOTAL	HENS	PULLETS	
	1,000 HEAD	DOLLARS	1,000 DOLLARS	1,000 HEAD		
1970	2,852	1.90	5,419	884	1,415	553
1971	2,769	1.85	5,171	886	1,313	570
1972	2,279	1.40	4,280	729	1,069	481
1973	2,240	2.00	4,480	896	807	537
1974	2,237	2.10	4,698	772	939	526
1975	2,091	2.35	4,914	725	786	580
1976	1,870	2.40	4,488	593	782	495
1977	1,990	2.05	4,080	465	1,005	520
1978	1,580	2.05	3,239	550	620	410
1979	1,726	2.15	3,711	617	755	354
1980	1,790	2.30	4,117	644	811	335

CHICKENS: PRODUCTION, DISPOSITION, CASH RECEIPTS AND GROSS INCOME, MASSACHUSETTS, 1970-1980 1/

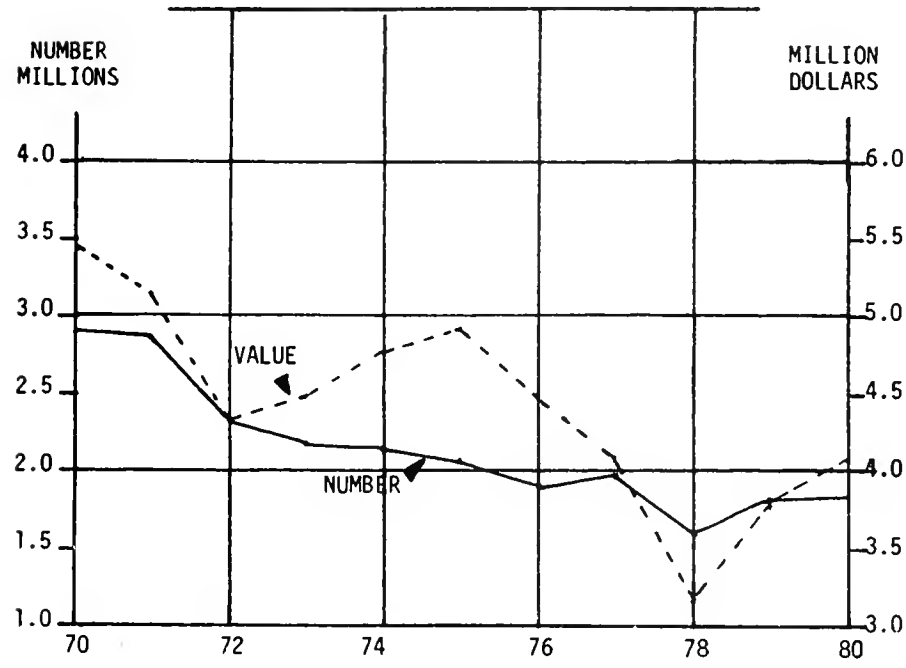
YEAR	NUMBER OF BIRDS			LIVEWEIGHT			PRICE PER LB.	CASH RECEIPTS	VALUE OF CHICKENS CONSUMED	GROSS INCOME
	PRODUCED 2/	CONSUMED 3/	SOLD	PRODUCED 2/	CONSUMED 3/	SOLD				
	1,000			1,000 POUNDS			CENTS	1,000 DOLLARS		
1970	1,352	18	1,520	8,102	85	8,816	9.6	846	8	854
1971	1,628	13	1,672	8,869	61	9,196	8.5	782	5	787
1972	1,902	12	1,628	10,089	55	8,791	9.5	835	5	840
1973	1,730	12	1,830	8,944	55	9,699	15.4	1,494	8	1,502
1974	1,870	12	1,697	10,831	55	10,012	10.3	1,031	6	1,037
1975	1,411	11	1,806	7,375	51	9,572	10.3	986	5	991
1976	1,676	11	1,746	8,639	51	9,063	13.3	1,277	7	1,284
1977	1,630	11	1,499	9,120	51	8,245	11.3	932	6	938
1978	1,510	11	1,909	8,484	51	10,500	12.3	1,292	6	1,298
1979	1,057	11	900	5,835	51	4,950	13.2	653	7	660
1980	793	11	718	4,332	51	3,949	8.3	328	4	332

1/ Does not include commercial broilers.
2/ Production is the number (or pounds) available for utilization during the year, i.e., sales plus home consumption, plus or minus change in inventory.
3/ Consumed in farm households on farms where produced.

MASSACHUSETTS CHICKENS:
CLASSES OF CHICKENS ON FARMS



MASSACHUSETTS CHICKEN INVENTORY:
NUMBER AND VALUE



EGGS, NUMBER OF HENS AND PULLETS OF LAYING AGE, RATE OF LAY AND PRODUCTION, MASSACHUSETTS, 1970-1980

YEAR	HENS & PULLETS ANNUAL AVERAGE	RATE OF LAY 1/	EGG PRODUCTION
	Thousands	Number	Millions
1970	2,370	220	521
1971	2,274	225	512
1972	2,010	232	466
1973	1,721	228	393
1974	1,610	234	376
1975	1,669	241	402
1976	1,430	240	343
1977	1,487	239	354
1978	1,413	241	341
1979	1,387	244	339
1980	1,345	242	326

1/ Annual rate of lay per layer on hand. (Eggs produced during year divided by average number of layers.)

EGGS: PRODUCTION, PRICE, CASH INCOME AND VALUE, MASSACHUSETTS, 1970-1980

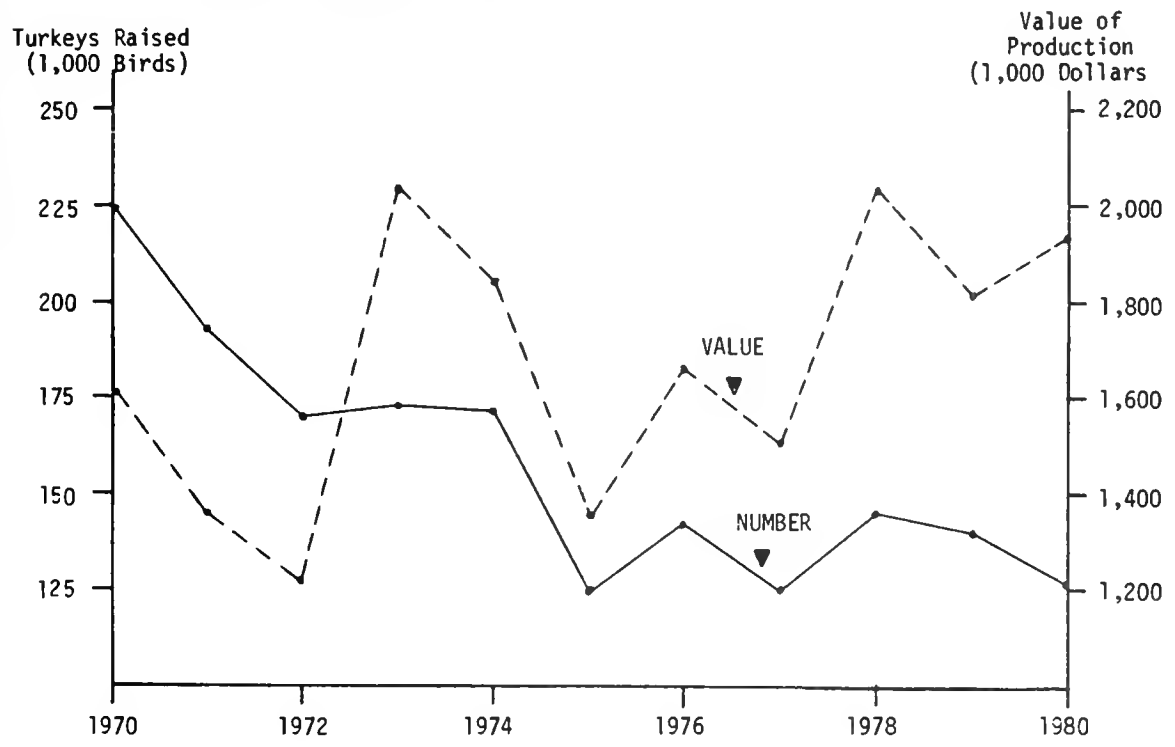
YEAR	EGGS PRODUCED	EGGS SOLD	PRICE PER DOZEN	CASH INCOME FROM SALES	GROSS INCOME
	Millions		Cents	1,000 Dollars	
1970	521	519	50.9	22,014	22,099
1971	512	511	44.5	18,949	18,986
1972	466	465	42.9	16,624	16,660
1973	393	392	62.9	20,548	20,600
1974	376	375	64.5	20,156	20,210
1975	402	401	66.2	22,122	22,177
1976	343	342	72.1	20,549	20,609
1977	355	354	69.9	20,621	20,679
1978	341	340	66.2	18,757	18,812
1979	339	338	73.8	20,787	20,849
1980	326	325	74.5	20,177	20,239

TURKEYS: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1971-1980

YEAR	TURKEYS RAISED		POUNDS PRODUCED 1/	PRICE PER POUND 2/	VALUE OF PRODUCTION
	HEAVY	LIGHT			
	1,000		1,000 Pounds	Cents	1,000 Dollars
1971	173	19	3,840	35.5	1,363
1972	141	29	3,383	36.0	1,218
1973	144	29	3,287	62.0	2,038
1974	139	33	3,268	57.0	1,863
1975	106	19	2,375	58.0	1,378
1976	122	21	2,860	58.0	1,659
1977	110	15	2,600	58.0	1,508
1978	128	18	2,993	68.0	2,035
1979	133	7	2,800	65.0	1,820
1980	126	-	2,470	78.0	1,927

1/ Includes home consumption.
2/ Liveweight equivalent price.

TURKEYS: NUMBER RAISED AND VALUE OF PRODUCTION, MASSACHUSETTS



CROP HIGHLIGHTS

The value of production in 1980 from corn silage, hay, potatoes and tobacco produced in Massachusetts totaled $59.4 million. Corn silage at 19.4 million was the largest componet of the total with hay at $19.1 million a close second.

CORN SILAGE

Bay State farmers produced a record high silage crop in 1980 of 680,000 tons, 3 percent greater than the record crop set the previous year. Corn silage was cut from 40,000 acres in 1980, with a yield of 17 tons per acre. Both the acreage cut and yield equaled record high levels set in 1978 and 1979 respectively.

HAY

The production of hay totaled 258,000 tons in 1980. This was 9 percent below the 1979 total but 7 percent above the 1970 level. Alfalfa and alfalfa mixtures accounted for 25 percent of the total production in 1980. Alfalfa production of 65,000 tons in 1980 was cut from 27,000 acres at a rate of 2.4 tons per acre. All other hay was cut from 92,000 acres at a rate of 2.1 tons per acre.

POTATOES

Potato production during 1980 totaled 748,000 hundredweight equaling the 1979 production. Both the acreage and yield were unchanged from the previous year. Growers received an average price of $7.50 per hundredweight, almost $2.00 more than the 1979 average and the highest value during the past decade. The value of production was $5.6 million, 34 percent higher than the previous year.

TOBACCO

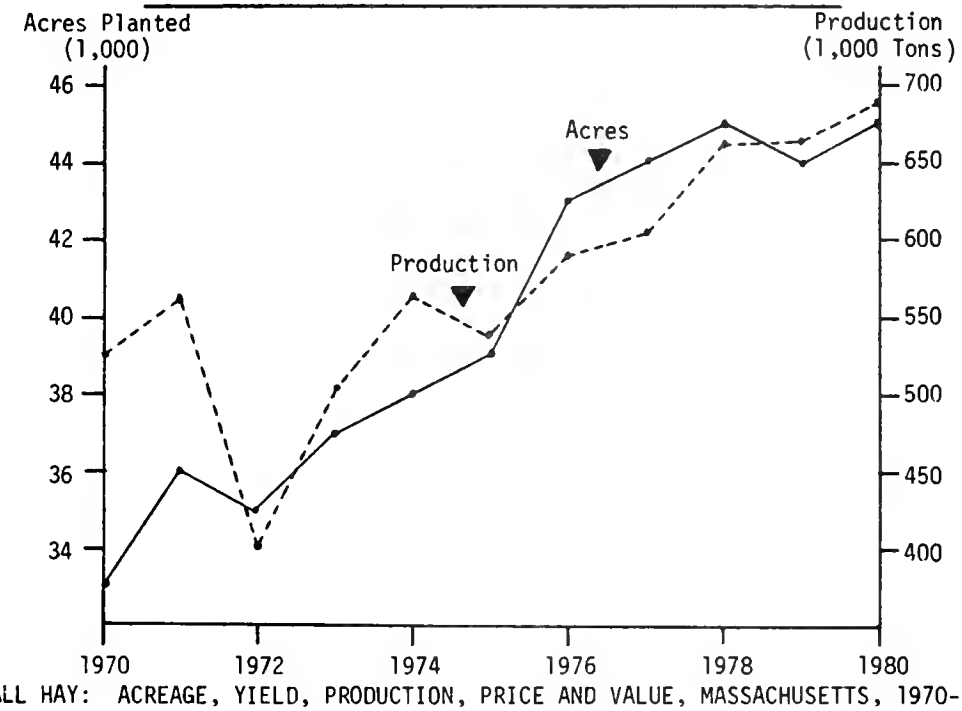
Shade tobacco production in the Commonwealth during 1980 totaled 1.4 million pounds, 309,000 pounds more than during the previous year. Area harvested in 1980 totaled 940,000 acres, 170 acres more than in 1979, and halting the downward trend that began in 1974. Yield per acre in 1980 was 1,475 pounds compared with 1,400 pounds in 1979. Growers received an average of $9.80 per pound in 1980, compared with $8.50 in 1979.

Havana Seed production totaled 480,000 pounds in 1980. This was 18 percent above the 1979 level and the highest production since 1972. The value of the crop totaled $629,000, as the growers received an average of $1.31 per pound.

CORN: ACREAGE, YIELD AND PRODUCTION, MASSACHUSETTS, 1970-1980

YEAR	ACREAGE PLANTED FOR ALL PURPOSES	HARVESTED FOR SILAGE		
		ACRES	PER ACRE	PRODUCTION
	1,000	1,000	Tons	1,000 Tons
1970	33	32	16.5	528
1971	36	34	16.5	561
1972	35	33	12.0	396
1973	37	35	14.5	508
1974	38	35	16.0	560
1975	39	36	15.0	540
1976	43	38	15.5	589
1977	44	38	16.0	608
1978	45	40	16.5	660
1979	44	39	17.0	663
1980	45	40	17.0	680

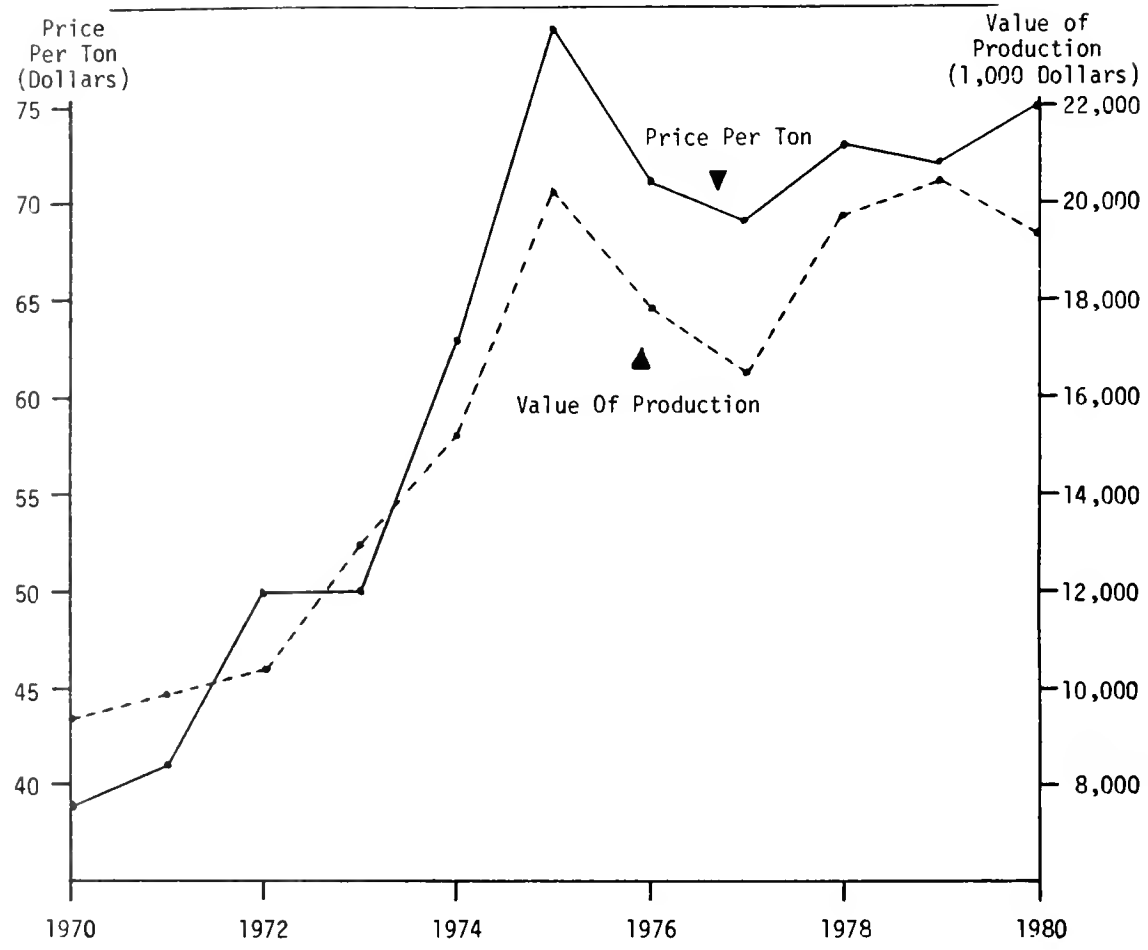
MASSACHUSETTS CORN
Acres Harvested For Silage and Production



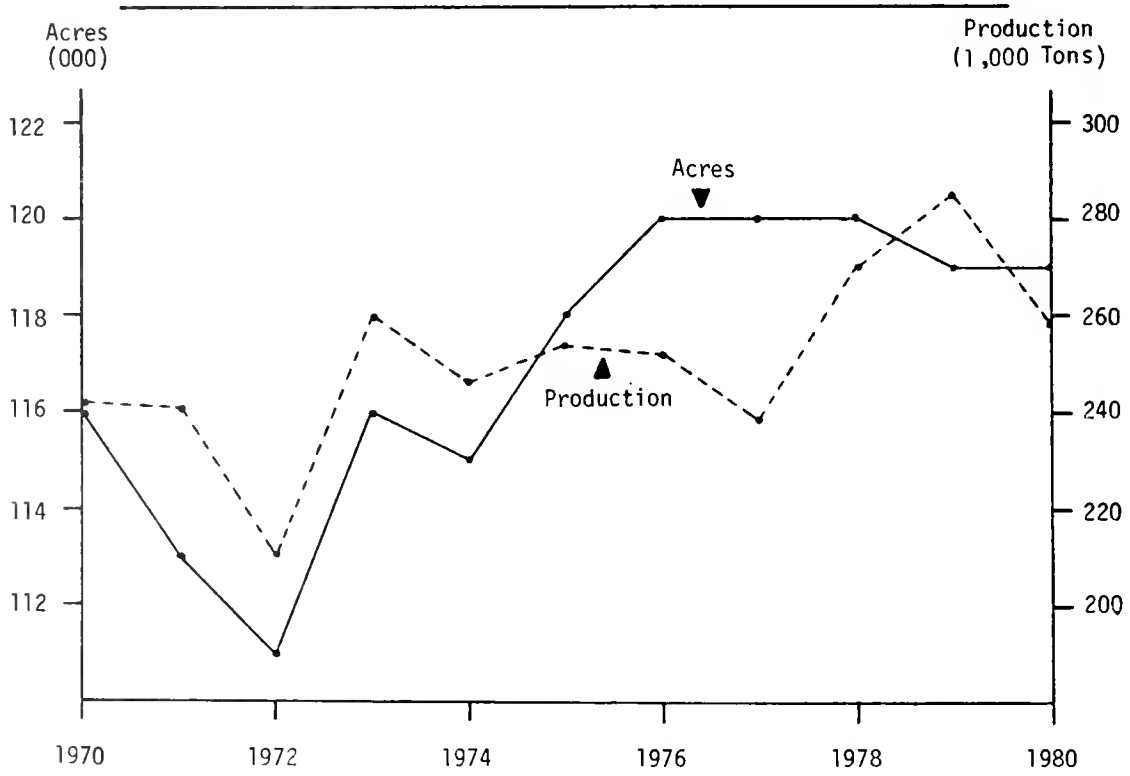
ALL HAY: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1970-1980

CROP YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION	PRICE PER TON	VALUE OF PRODUCTION
	1,000	Tons	1,000 Tons	Dollars	1,000 Dollars
1970	116	2.09	242	39.00	9,438
1971	113	2.13	241	41.00	9,881
1972	111	1.87	208	50.00	10,400
1973	116	2.24	260	50.00	13,000
1974	115	2.12	244	63.00	15,327
1975	118	2.18	257	79.00	20,303
1976	120	2.10	252	71.00	17,892
1977	120	1.99	239	69.00	16,491
1978	120	2.26	271	73.00	19,783
1979	119	2.39	285	72.00	20,520
1980	119	2.17	258	75.00	19,350

MASSACHUSETTS, ALL HAY
Price Per Ton and Value of Production



MASSACHUSETTS, ALL HAY
Acreage and Production



ALFALFA HAY: ACREAGE, YEILD AND PRODUCTION, MASSACHUSETTS, 1970-1980

CROP YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
	1,000	Tons	1,000 Tons
1970	29	2.65	77
1971	28	2.55	71
1972	26	2.25	59
1973	26	2.55	66
1974	25	2.55	64
1975	26	2.60	68
1976	26	2.45	64
1977	28	2.30	64
1978	28	2.60	73
1979	27	2.90	78
1980	27	2.40	65

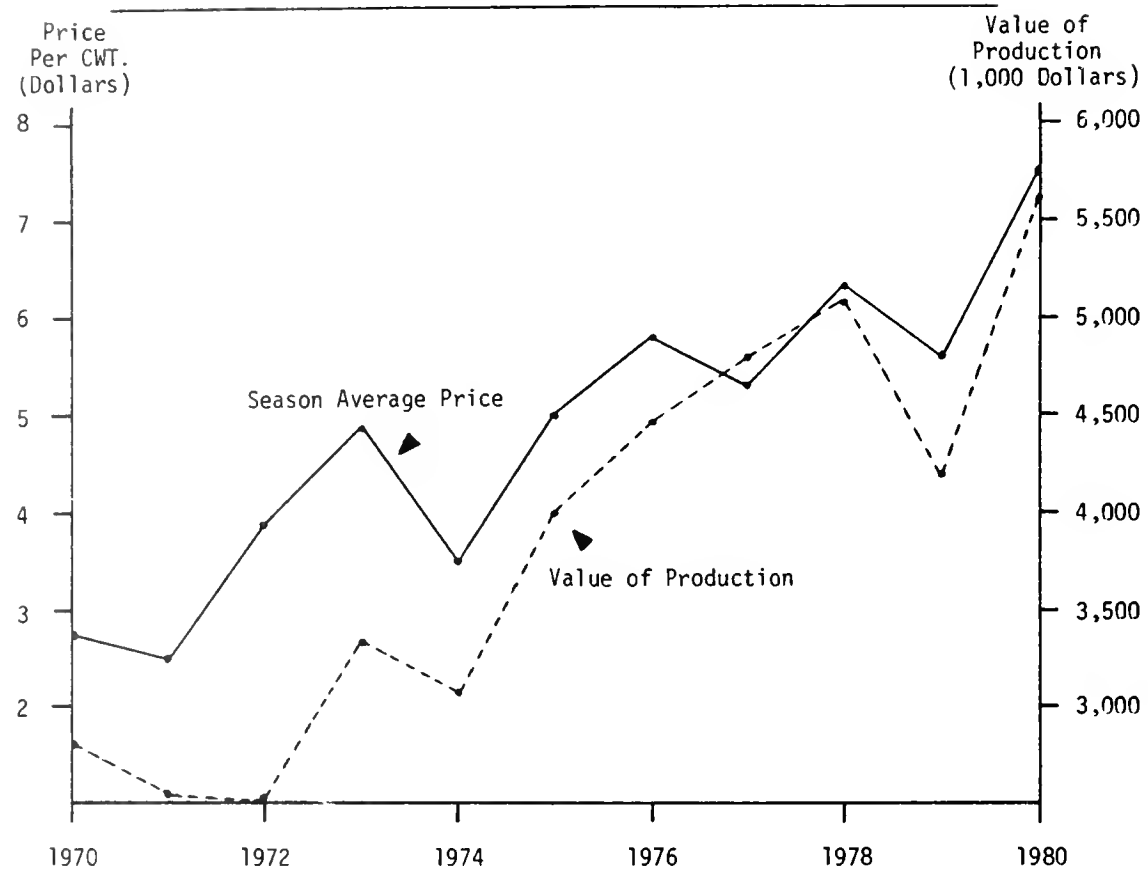
ALL OTHER HAY: ACREAGE, YIELD AND PRODUCTION, MASSACHUSETTS, 1970-1980

CROP YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
	1,000	Tons	1,000 Tons
1970	87	1.90	165
1971	85	2.00	170
1972	85	1.75	149
1973	90	2.15	194
1974	90	2.00	180
1975	92	2.05	189
1976	94	2.00	188
1977	92	1.90	175
1978	92	2.15	198
1979	92	2.25	207
1980	92	2.10	193

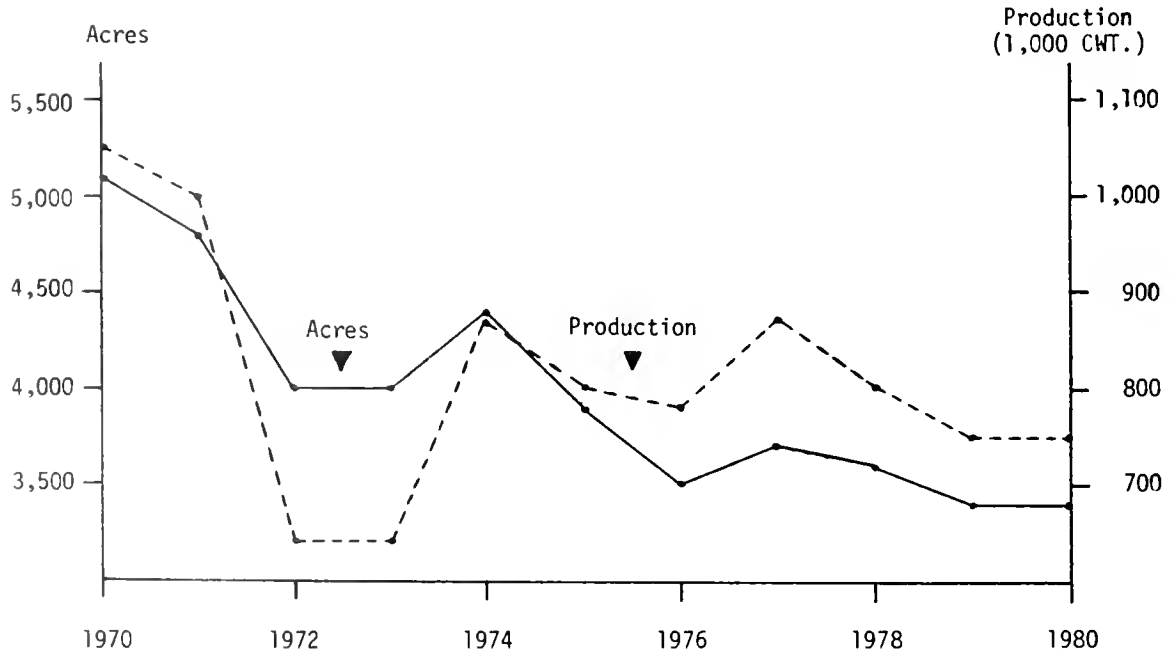
POTATOES: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1970-1980

CROP YEAR	ACREAGE HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	SEASON AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
	Acres	Cwt.	1,000 Cwt.	Dollars	1,000 Dollars
1970	5,100	205	1,046	2.69	2,814
1971	4,800	210	1,008	2.50	2,520
1972	4,000	160	640	3.90	2,496
1973	4,000	160	640	4.90	3,336
1974	4,400	200	880	3.50	3,080
1975	3,900	205	800	5.00	4,000
1976	3,500	220	770	5.80	4,466
1977	3,700	240	888	5.40	4,795
1978	3,600	225	810	6.30	5,103
1979	3,400	220	748	5.60	4,189
1980	3,400	220	748	7.50	5,610

MASSACHUSETTS POTATOES
Season Average Price and Value of Production



MASSACHUSETTS POTATOES
Harvested Acres and Production



TOBACCO, SHADE TYPE: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1970-1980

YEAR	ACREAGE HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
	Acres	Pounds	1,000 Pounds	Dollars	1,000 Dollars
1970	1,850	1,535	2,840	4.00	11,360
1971	1,300	1,725	2,243	4.00	8,972
1972	1,150	1,250	1,438	4.85	6,974
1973	1,300	1,210	1,573	5.15	8,101
1974	1,300	1,610	2,093	6.00	12,558
1975	1,250	1,335	1,669	6.40	10,682
1976	1,050	1,480	1,554	5.40	8,392
1977	980	1,600	1,568	6.00	9,408
1978	860	1,300	1,118	7.50	8,385
1979	770	1,400	1,078	8.50	9,163
1980	940	1,475	1,387	9.80	13,593

TOBACCO, HAVANA SEED: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1970-1980

YEAR	ACREAGE HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
	Acres	Pounds	1,000 Pounds	Dollars	1,000 Dollars
1970	370	1,950	722	0.61	440
1971	310	2,050	636	0.61	388
1972	260	1,850	481	0.62	298
1973	210	1,850	389	0.72	280
1974	160	2,040	326	0.82	267
1975	170	1,650	281	0.98	275
1976	160	1,819	291	0.87	253
1977	180	1,880	338	0.98	331
1978	170	2,000	340	1.10	374
1979	220	1,850	407	1.20	488
1980	240	2,000	480	1.31	629

FRUIT AND VEGETABLE HIGHLIGHTS

CRANBERRIES

A new record production was set in the Bay State in 1980 with 1,185,000 barrels produced in 1980. This was 5,000 barrels greater than the previous record set in 1978 and almost 10 percent greater than the 1979 crop. Producers received an average of $33.20 per barrel which places the value of production at $39 million, 37 percent above the 1979 crop.

APPLES

Apple production from commercial orchards in the Commonwealth totaled 2.4 million 42 pound units, up 5 percent from 1979. Value of production reached only $14.6 million, 2 percent below the 1979 crop as the average price of $6.13 per unit was 38 cents below the 1979 average. The fruit quality was good although hail damage occurred in some orchards. Dry weather caused an early drop and limited fruit sizing in some areas.

PEACHES

There were 42,000, 48 pound units of peaches produced in 1980, 11 percent more than the 1979 total. Although the average price received was almost a dollar less at $14.29 per unit, the value of production was still 4 percent higher than 1979 and the highest for the past 10 years.

SWEET CORN

The Commonwealth's sweet corn production in 1980, at 634,000 hundredweight rose 9 percent above the 1979 crop. Acreage harvested increased 4 percent and yield per acre was 5 percent above last year. Growers received an average of $9.09 per hundredweight in 1980, a 10¢ per unit increase over the 1979 average.

TOMATOES

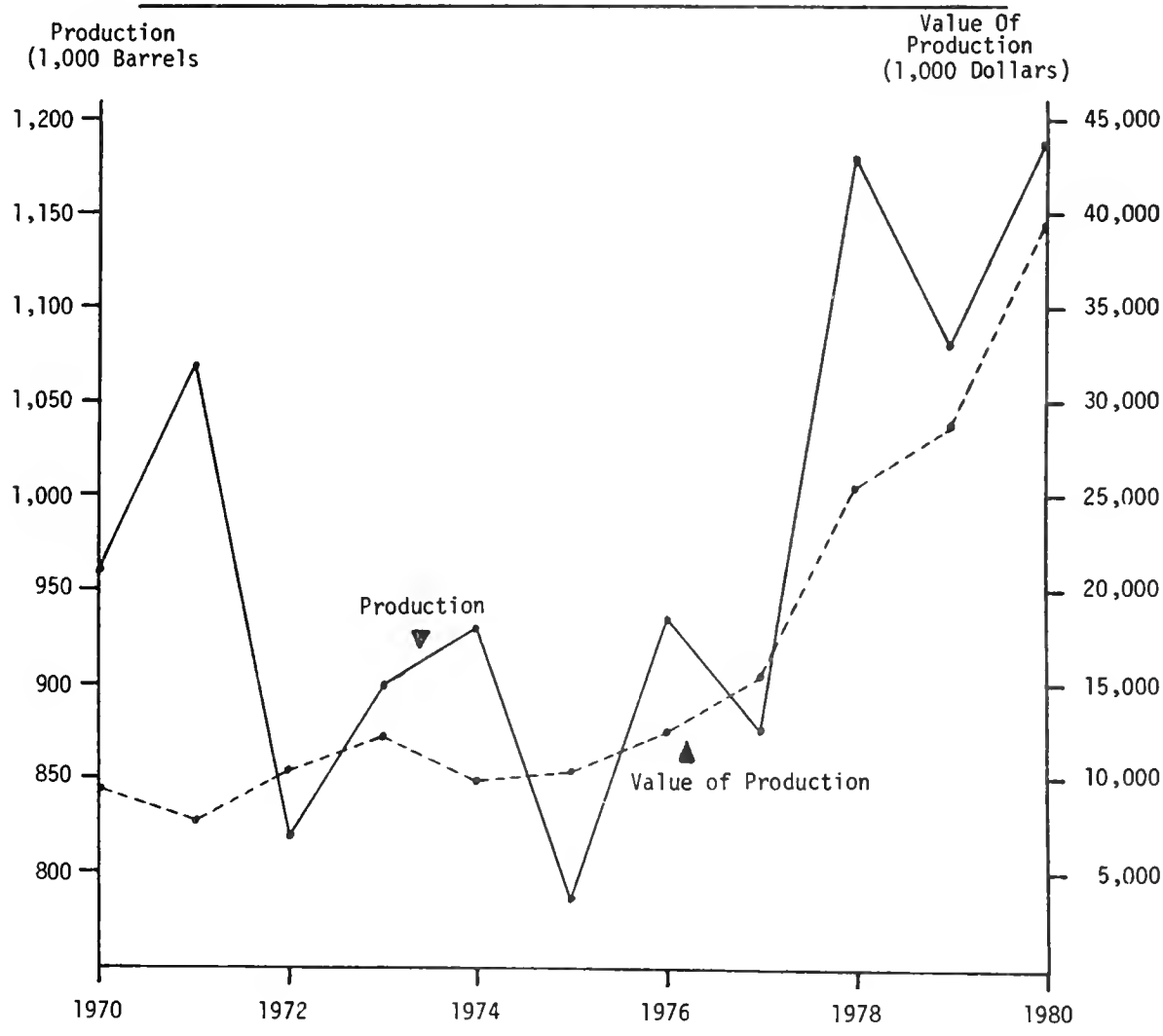
The 1980 tomato crop totaled 168,000 hundredweight, 42 percent above 1979 and the highest production in the past decade. Both increased acreage and high yields attributed to the large production. The value of the crop at $3.6 million, was 26 percent above last year but the average per hundredweight of $21.70 was $2.90 below the 1979 average.

CRANBERRIES: ACREAGE, YIELD, PRODUCTION, UTILIZATION, PRICE AND VALUE, MASSACHUSETTS, 1970-1980

YEAR	ACRES	YIELD PER ACRE	PRODUCTION 1/	UTILIZATION			SEASON AVERAGE PRICE PER BARREL 3/	VALUE OF UTILIZED PRODUCTION 4/
				FRESH SALES	PROCESSED	SHRINKAGE 2/		
		Barrels		1,000 Barrels			Dollars	1,000 Dols.
1970	11,200	85.4	957	210	607	47	10.70	9,245
1971	11,200	95.7	1,072	239	441	57	10.70	7,886
1972	11,200	73.1	819	170	600	49	12.60	10,319
1973	11,200	80.4	901	246	563	92	13.60	12,254
1974	11,200	83.2	932	167	491	274	10.70	9,972
1975	11,200	70.1	785	162	508	115	13.00	10,205
1976	11,200	83.5	935	220	630	85	13.40	12,529
1977	11,200	78.1	875	207	576	92	17.70	15,488
1978	11,200	105.4	1,180	247	833	100	21.60	25,488
1979	11,200	96.4	1,080	130	880	70	26.60	28,728
1980	11,200	105.8	1,185	110	1,016	59	33.20	39,342

1/ Includes cranberries that were put in set aside under the Cranberry Marketing Order.
2/ Berries paid for by processors and lost because of dehydration and berry breakdown after delivery.
3/ Equivalent return at first delivery point, screen basis.
4/ Excludes cranberries that were put in set aside under the Cranberry Marketing Order.

MASSACHUSETTS CRANBERRIES
Production and Value of Production



APPLES: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1970-1980

YEAR	PRODUCTION 1/			PRICE PER UNIT	VALUE OF UTILIZED PRODUCTION
	TOTAL	NOT UTILIZED 2/	HAVING VALUE		
	1,000 - 42 Pound Units			Dollars	1,000 Dollars
1970	2,619	52	2,567	2.65	6,802
1971	2,738	238	2,500	2.75	6,878
1972	2,167	---	2,167	3.90	8,454
1973	1,976	---	1,976	5.59	11,039
1974	2,548	167	2,381	4.33	10,300
1975	2,500	167	2,333	4.37	10,192
1976	2,262	---	2,262	6.13	13,870
1977	2,262	72	2,190	5.38	11,776
1978	2,500	---	2,500	5.80	14,490
1979	2,262	---	2,262	6.51	14,870
1980	2,381	---	2,381	6.13	14,600

1/ Estimates relate to production in orchards of 100 or more trees.
2/ Abandoned because of economic reasons

COMMERCIAL APPLE PRODUCTION BY VARIETY, MASSACHUSETTS, 1970-1980

YEAR	CORTLAND	DELICIOUS	GOLDEN DELICIOUS	MCINTOSH	NORTHERN SPY	ROME BEAUTY	OTHER	TOTAL PRODUCTION
	1,000 - 42 Pound Units							
1970	193	271	33	1,638	43	43	398	2,619
1971	250	326	38	1,748	26	57	293	2,738
1972	124	248	36	1,481	14	17	248	2,167
1973	188	264	33	1,236	17	40	198	1,976
1974	143	260	40	1,764	21	45	274	2,548
1975	205	293	31	1,614	17	43	298	2,500
1976	210	288	55	1,360	21	45	283	2,262
1977	195	252	36	1,462	17	38	262	2,262
1978	171	331	38	1,538	21	31	369	2,500
1979	181	329	40	1,405	14	31	262	2,262
1980	190	324	36	1,500	19	36	276	2,381

PEACHES: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1970-1980

YEAR	PRODUCTION	PRICE PER UNIT	VALUE OF PRODUCTION
	1,000, 48 Pound Units	Dollars	1,000 Dollars
1970	73	5.27	385
1971	79	5.05	399
1972	35	8.26	289
1973	58	9.66	560
1974	35	8.74	306
1975	42	9.52	400
1976	35	12.63	442
1977	42	10.48	440
1978	38	13.74	522
1979	38	15.15	576
1980	42	14.29	600

SWEET CORN: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1970-1980

CROP YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	1,000 Cwt.	Dollars	1,000 Dollars
1970	7,800	75	585	6.01	3,516
1971	8,200	78	640	6.22	3,981
1972	7,100	75	533	6.93	3,694
1973	8,000	78	624	6.20	3,869
1974	8,200	62	508	8.90	4,521
1975	8,200	81	664	7.10	4,714
1976	7,400	72	533	7.71	4,109
1977	7,200	60	432	8.90	3,845
1978	6,500	88	572	7.00	4,004
1979	6,900	84	580	8.99	5,214
1980	7,200	88	634	9.09	5,763

TOMATOES: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1970-1980

CROP YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	1,000 Cwt.	Dollars	1,000 Dollars
1970	750	190	143	12.50	1,788
1971	750	200	150	12.50	1,875
1972	700	190	133	17.70	2,354
1973	730	195	142	17.40	2,471
1974	700	175	123	16.50	2,030
1975	630	210	132	18.00	2,376
1976	620	195	121	21.40	2,589
1977	660	190	125	20.40	2,550
1978	670	210	141	21.80	3,074
1979	620	190	118	24.60	2,903
1980	800	210	168	21.70	3,646

MAPLE SYRUP

The 1980 Maple syrup production in Massachusetts totaled 18,000 gallons, compared with 30,000 gallons in 1979. The lack of good sap runs was attributed to the limited snow cover that allowed the ground to freeze to a deep level. The weather during the season was also characterized as too warm. The season opened about March 6, and closed about April 6, about the same as the 1979 season. The color of the syrup was primarily medium similar to the 1979 crop.

The price of maple syrup continues to increase, reaching $18.40 per gallon, 16 percent above the 1979 price. Although the price was much higher than 1979, with the reduced production, the value of $331,000 was well below the record high value set in 1979.

MAPLE SYRUP: PRODUCTION, DISPOSITION, PRICE AND VALUE, MASSACHUSETTS, 1970-1980

YEAR	PRODUCTION	SOLD	SEASON AVERAGE PRICE PER GALLON	VALUE OF PRODUCTION
	1,000 Gallons	1,000 Gallons	Dollars	1,000 Dollars
1970	32	31	6.70	214
1971	25	24	7.80	195
1972	28	27	8.70	244
1973	20	19	9.40	188
1974	25	24	11.20	280
1975	31	30	10.70	332
1976	27	25	12.75	319
1977	27	25	13.00	351
1978	28	26	14.10	367
1979	30	28	15.90	477
1980	18	17	18.40	331

MAPLE SYRUP PRICES: BY TYPE OF SALE AND SIZE OF CONTAINER, MASSACHUSETTS, 1971-1980

YEAR	RETAIL					WHOLESALE					ALL SALES EQUIVALENT PER GALLON
	GAL	½ GAL	QUART	PINT	½ PINT	GAL	½ GAL	QUART	PINT	½ PINT	
	Dollars										
1971	7.40	4.00	2.40	1.50	1.05	6.60	3.65	2.30	1.35	.85	7.80
1972	8.10	4.55	2.75	1.90	1.15	7.30	4.30	2.60	1.55	1.00	8.70
1973	9.00	5.00	3.10	2.25	1.25	8.30	4.60	2.85	1.80	1.10	9.40
1974	10.50	5.90	3.55	2.30	1.40	9.00	5.00	3.00	1.85	1.20	11.20
1975	11.10	6.20	3.75	2.50	1.50	10.00	5.45	3.30	2.05	1.15	10.70
1976	11.65	6.45	3.90	2.55	1.50	10.35	5.75	3.35	2.20	1.35	12.75
1977	12.30	6.90	4.05	2.65	1.80	11.20	6.05	3.70	2.40	1.50	14.20
1978	13.10	7.40	4.29	2.81	1.86	11.66	6.59	3.79	2.41	1.49	14.10
1979	14.88	8.37	4.84	3.12	2.13	12.53	7.13	4.09	2.66	1.77	15.90
1980	17.66	9.69	5.88	3.69	2.46	16.25	8.94	4.73	3.07	1.98	18.40

FOLIAGE PLANTS FOR INDOOR OR PATIO USE: NUMBER OF PRODUCERS, SQUARE FEET IN PRODUCTION, NEW VALUE OF SALES, MASSACHUSETTS, 1973-1980

YEAR	NUMBER OF PRODUCERS	SQUARE FEET IN PRODUCTION	AVERAGE VALUE PER SQUARE FOOT	PERCENTAGE OF SALES AT WHOLESALE	NET VALUE OF SALES 1/
		1,000 Square Feet			1,000 Dollars
1973	35	175	3.34	89	584
1974	76	581	5.24	76	3,203
1975	135	1,040	4.49	55	4,670
1976	131	965	4.92	62	4,743
1977	112	926	6.00	30	5,555
1978	127	927	5.36	56	4,970
1979	104	715	6.31	75	4,513
1980	84	981	6.68	42	6,555

1/ Gross value of sales less cost of plant material purchased from other growers for growing on.

REPORTED TOTAL AVERAGE AREA USED FOR PRODUCTION AND DERIVED AVERAGE VALUE PER UNIT: CARNATIONS, CHRYSANTHEMUMS, POTTED LILLIES AND POTTED POINSETTIAS, MASSACHUSETTS, 1975-1980 1/

YEAR	CARNATIONS		CHRYSANTHEMUMS			POTTED LILLIES	POTTED POINSETTIAS
	STANDARD	MINIATURE	STANDARD	POMPON	POTTED		
			1,000 Square Foot Production Area				
1975	333	178	425	400	723		
1976	342	209	341	417	576	336	952
1977	238	123	296	445	309	367	813
1978	149	132	257	366	427	295	1,009
1979	88	98	225	292	501	294	1,044
1980	50	56	157	283	544	193	980
			Average Value Per Square Foot - Dollars				
1975	2.05	2.31	1.71	1.44	2.09		
1976	2.31	1.81	2.31	1.46	2.46	2.69	1.86
1977	2.43	2.07	2.43	1.32	2.79	2.19	1.86
1978	1.50	2.58	2.56	1.77	2.45	2.62	2.04
1979	2.74	2.83	2.90	2.05	2.98	3.44	2.04
1980	3.00	2.98	2.58	2.21	3.54	3.80	2.38

1/ Value figures for all plants are equivalent wholesale value of all sales.

CUT FLOWERS: NUMBER OF PRODUCERS, PRODUCTION, SALES, PRICE & VALUE, MASSACHUSETTS, 1973-1980

TYPE AND CROP YEAR	PRODUCERS 2/	SALES	PERCENTAGE OF SALES AT WHOLESALE	WHOLESALE PRICE	VALUE OF SALES AT 1/ WHOLESALE
	Number	1,000 Blooms	Percent	Cents	1,000 Dollars
STANDARD CARNATIONS					
1973	58	11,140	93	11.1	1,237
1974	45	9,403	75	11.1	1,044
1975	34	5,549	65	12.3	683
1976	27	5,853	93	10.3	603
1977	24	3,851	89	11.2	431
1978	19	1,603	92	14.0	224
1979	14	1,238	84	20.0	241
1980	9	752	96	20.0	150
MINIATURE CARNATIONS		1,000 Bunches			
1973	26	271	83	125	339
1974	27	278	50	120	334
1975	23	273	65	151	412
1976	24	256	83	148	379
1977	20	222	89	115	255
1978	15	252	99	135	340
1979	15	175	96	158	277
1980	7	105	98	159	167
HYBRID TEA ROSES		1,000 Blooms			
1973	11	14,161	99	18.9	3,243
1974	9	19,708	97	21.0	4,139
1975	9	13,483	69	23.9	3,222
1976	10	12,636	100	19.7	2,489
1977	13	10,575	100	26.2	2,771
1978	9	12,514	99	26.0	3,254
1979	11	13,651	99	24.4	3,331
1980	12	10,565	98	25.8	2,726
MINIATURE OR SWEETHEART ROSES		1,000 Blooms			
1973	8	9,635	100	11.4	1,098
1974	9	8,930	97	14.7	1,313
1975	9	9,114	72	11.7	1,066
1976	9	6,174	100	12.5	772
1977	9	6,537	100	16.3	1,066
1978	9	5,401	99	17.0	918
1979	8	7,020	99	17.3	1,214
1980	9	8,889	99	18.5	1,644
STANDARD CHRYSANTHEMUMS		1,000 Bunches			
1973	88	2,983	81	29.9	892
1974	52	2,412	92	21.0	748
1975	54	2,341	92	31.1	728
1976	70	1,774	85	44.5	789
1977	58	1,721	92	41.7	718
1978	57	1,545	90	42.5	657
1979	53	1,355	83	48.1	652
1980	47	841	76	48.1	405

CUT FLOWERS: NUMBER OF PRODUCERS, PRODUCTION, SALES, PRICE & VALUE, MASSACHUSETTS, 1973-1980, CONT.

TYPE AND CROP YEAR	PRODUCERS 2/	SALES	PERCENTAGE OF SALES AT WHOLESALE	WHOLESALE PRICE	VALUE OF SALES AT 1/ WHOLESALE
	Number	1,000 Bunches	Percent	Cents	1,000 Dollars
POMPON CHRYSANTHEMUMS					
1973	115	558	55	128	714
1974	70	371	68	131	486
1975	102	377	67	153	577
1976	87	367	71	166	609
1977	89	356	54	165	587
1978	75	360	77	180	648
1979	60	338	58	177	598
1980	63	335	64	187	626
POTTED CHRYSANTHEMUMS		1,000 Pots			
1973	59	414	83	184	762
1974	60	503	68	193	971
1975	111	747	79	202	1,509
1976	115	609	78	233	1,419
1977	85	421	78	205	863
1978	87	402	63	260	1,045
1979	93	562	70	266	1,495
1980	73	762	45	253	1,928
SNAPDRAGONS		1,000 Stems			
1976	52	2,651	88	16.8	445
1977	50	1,792	89	19.7	353
1978	57	1,674	90	20.0	335
1979	40	1,416	88	20.3	287
1980	36	982	87	28.0	275
POTTED GERANIUMS		1,000 Pots			
1976	242	5,755	82	88	5,064
1977	225	3,183	52	75	2,387
1978	230	3,125	66	85	2,656
1979	220	3,631	61	91	3,304
1980	190	3,111	57	94	2,924
POTTED LILLIES		1,000 Pots		Dollars	
1976	111	364	87	2.48	903
1977	108	322	80	2.50	805
1978	101	258	73	3.00	774
1979	93	329	78	3.07	1,010
1980	78	245	68	2.99	733
POTTED POINSETTIAS		1,000 Pots			
1976	146	634	79	2.79	1,769
1977	139	741	68	2.05	1,519
1978	136	750	67	2.75	2,063
1979	120	751	75	2.83	2,125
1980	112	760	57	3.07	2,333

1/ Equivalent wholesale value of all sales.
2/ Beginning with 1974, number of producers is number who produce and sell $10,000 or more of fresh (cut) flowers, flowering and foliage plants, bedding plants and cultivated florist greens. Previously, the definition included growers who sold $2,000 or more of the above mentioned items.

FERTILIZER CONSUMPTION: BY KINDS AND OF PRIMARY NUTRIENTS, MASSACHUSETTS, 1970-1980

YEAR ENDED JUNE 30	KIND OF FERTILIZER				PRIMARY NUTRIENTS		
	MIXED FERTILIZER	PRIMARY NUTRIENTS MATERIALS	SECONDARY & MICRO-NUTRIENTS	TOTAL FERTILIZER	N	AVAILABLE P_2O_5	K_2O
	Tons				Tons		
1970	52,953	16,580	63	69,596	8,159	6,325	6,071
1971	47,774	23,298	51	71,123	7,727	6,842	5,514
1972	54,997	17,183	54	72,234	8,853	6,295	6,126
1973	59,643	17,045	50	76,738	10,095	7,726	6,899
1974	61,540	15,810	23	77,373	8,999	7,031	7,246
1975	51,814	15,216	36	67,066	7,866	5,588	6,049
1976	55,548	15,335	150	71,033	8,803	5,984	6,779
1977	53,094	14,882	28	68,004	9,015	5,872	6,607
1978	71,471	14,970	62	86,503	11,501	7,644	8,552
1979	58,397	11,393	224	70,014	10,275	6,220	7,530
1980	50,417	15,207	117	65,741	9,092	5,462	6,380

FARMS: NUMBER AND ACREAGE, MASSACHUSETTS, 1970-1980

YEAR	NUMBER	AVERAGE SIZE	LAND IN FARMS
		Acres	Acres
1970	6,200	121	750,000
1971	5,900	122	720,000
1972	5,700	123	700,000
1973	5,500	124	680,000
1974	5,500	124	680,000
1975	5,800	121	700,000
1976	6,300	111	700,000
1977	6,200	111	690,000
1978	5,900	115	680,000
1979	6,200	110	680,000
1980	5,900	115	680,000

PRICES PAID BY FARMERS: INDEX NUMBERS, ANNUAL AVERAGE, UNITED STATES, 1965-1980, BY YEARS (1977=100)

YEAR	COMMODITIES & SER., INTEREST, TAXES & WAGE RATES	PRODUCTION ITEMS INTEREST, TAXES, & WAGE RATES	PRODUCTION ITEMS	INTEREST PAYABLE PER ACRE	TAXES PAYABLE PER ACRE	WAGE RATES FOR HIRED FARM LABOR 1/
1965	47	45	48	22	46	38
1966	49	47	50	25	49	41
1967	49	48	50	28	53	44
1968	51	49	50	31	58	48
1969	53	51	52	35	63	53
1970	55	54	54	38	68	57
1971	58	56	57	42	72	59
1972	62	60	61	46	75	63
1973	71	72	73	54	77	69
1974	81	81	83	65	81	79
1975	89	89	91	76	87	85
1976	95	95	97	87	94	93
1977	100	100	100	100	100	100
1978	108	109	108	118	100	107
1979	123	125	125	144	107	117
1980	139	140	138	179	114	127

1/ Simple average of quarterly indexes seasonally adjusted.

INDEX NUMBERS OF PRICES RECEIVED BY FARMERS, BY COMMODITY GROUPS, UNITED STATES ANNUAL AVERAGE, 1965-1980 (1977=100)

YEAR	CROPS								LIVESTOCK & PRODUCTS				ALL FARM PRODUCTS
	FOOD GRAINS	FEED GRAINS AND HAY	TOBACCO	COTTON	OIL BEARING CROPS	FRUIT	COMMERCIAL VEGETABLES	ALL CROPS	DAIRY PRODUCTS	POULTRY AND EGGS	MEAT ANIMALS	ALL LIVESTOCK	
1965	59	55	53	48	41	65	53	53	44	63	56	54	54
1966	67	57	57	42	45	67	57	55	50	69	62	60	58
1967	64	55	57	37	41	61	57	52	52	57	60	57	55
1968	58	50	58	38	40	82	61	52	54	61	61	60	56
1969	56	53	61	34	38	62	60	50	57	69	71	67	59
1970	59	57	62	36	41	59	59	52	59	64	72	67	60
1971	61	59	64	40	46	67	65	56	61	59	72	67	62
1972	70	57	70	48	51	72	65	60	63	60	88	77	69
1973	138	90	74	54	93	84	76	91	74	101	118	104	98
1974	192	134	85	85	96	86	81	117	86	94	98	94	105
1975	155	127	93	68	81	85	92	105	90	103	100	98	101
1976	129	120	93	99	85	80	91	102	100	102	101	101	102
1977	100	100	100	100	100	100	100	100	100	100	100	100	100
1978	122	101	109	91	93	148	105	106	109	106	134	124	115
1979	147	114	118	96	103	144	110	116	124	111	166	147	132
1980	165	132	125	118	102	127	113	125	135	112	156	144	134

FARM PRODUCTION EXPENSES, MASSACHUSETTS, 1969-1979

YEAR	CURRENT FARM OPERATING EXPENSES						
	FEED	LIVESTOCK	SEED 1/	FERTILIZER AND LIME	REPAIRS AND OPERATION OF CAPITAL ITEMS 2/	MISCELLANEOUS 3/	HIRED LABOR 4/
	Million Dollars						
1969	27.2	4.7	3.0	3.9	12.8	16.7	32.0
1970	28.9	4.0	3.1	3.6	13.0	17.3	32.0
1971	27.6	3.9	3.2	3.7	13.6	18.4	33.4
1972	25.8	4.2	3.4	3.9	13.2	20.0	33.2
1973	37.2	4.7	4.2	5.6	14.1	20.9	38.8
1974	47.3	3.2	5.5	8.5	17.1	24.4	37.1
1975	45.0	2.4	5.4	6.8	19.6	27.2	37.2
1976	44.8	2.7	6.3	6.2	24.3	27.4	40.4
1977	42.5	3.2	6.7	5.8	25.3	25.7	46.8
1978	37.9	3.3	7.2	8.0	27.6	30.3	48.0
1979	41.5	1.8	7.9	7.0	34.4	39.2	55.1

1/ Includes bulbs, plants and trees.

2/ Repairs and maintenance of buildings, repairs and operation of motor vehicles and other machinery, and petroleum fuel and oil used in the farm business.

3/ Includes binding, cotton ginning, Federal crop insurance, containers, diary supplies, electricity, greenhouse and nursery, grazing fees, harness and saddlery, net insurance premiums (fire, wind and crop hail), irrigation, livestock marketing service (excludes feed and transportation), milk hauling, miscellaneous hardware (includes blacksmithing), machine hire and custom work, miscellaneous livestock and poultry supplies, pesticides, small hand tools, short term interest, telephones (business share), veterinary services and medicines (plus insem.) and other miscellaneous.

4/ Includes cash wages, perquisites, and Social Security taxes paid by employers.

FARM PRODUCTION EXPENSES (Continued), MASSACHUSETTS, 1969-1979

YEAR	TOTAL CURRENT FARM OPERATING EXPENSES	DEPRECIATION 1/	TAXES ON FARM PROPERTY	INTEREST ON FARM MORTGAGE DEBT	NET RENT TO NON-FARM LANDLORDS 2/	TOTAL PRODUCTION EXPENSES
	Million Dollars					
1969	100.3	18.4	9.9	2.2	-1.0	129.8
1970	102.0	18.7	10.4	2.4	-1.1	132.4
1971	103.8	20.5	11.3	2.6	-1.3	137.0
1972	103.8	21.0	11.7	3.0	-1.3	138.2
1973	125.4	22.2	12.8	3.6	-1.5	162.6
1974	142.9	25.6	12.6	4.5	-1.5	184.1
1975	143.7	29.6	13.3	5.8	-1.2	191.2
1976	152.2	31.9	14.1	6.5	-1.0	203.7
1977	156.0	30.2	15.4	6.0	-.4	207.2
1978	162.3	33.6	16.4	5.8	-.4	217.7
1979	186.9	36.8	16.8	5.2	-.3	245.4

1/ Includes depreciation and accidental damage to farm buildings and depreciation of motor vehicles and other farm machinery and equipment.

2/ Minus sign reflects a net income position rather than a net expense position.

CASH RECEIPTS FROM FARM MARKETING AND GOVERNMENT PAYMENTS, MASSACHUSETTS, 1950-1979

Year	CASH INCOME FROM FARM MARKETING			Government Payments	Total Marketings & Government Payments
	Crops	Livestock & Livestock Products	Total Crops and Livestock		
			(000) Dollars		
1950	54,652	126,957	181,609	559	182,168
1955	52,897	119,563	172,460	438	172,898
1960	60,121	104,608	164,729	672	165,401
1965	69,124	91,117	160,241	645	160,886
1970	71,590	85,340	156,930	619	157,549
1975	100,904	100,594	201,498	593	202,091
1976	110,269	109,106	219,375	599	219,974
1977	118,699	105,056	223,755	575	224,330
1978	111,990	134,613	246,603	773	247,376
1979	137,838	117,881	255,719	592	256,311

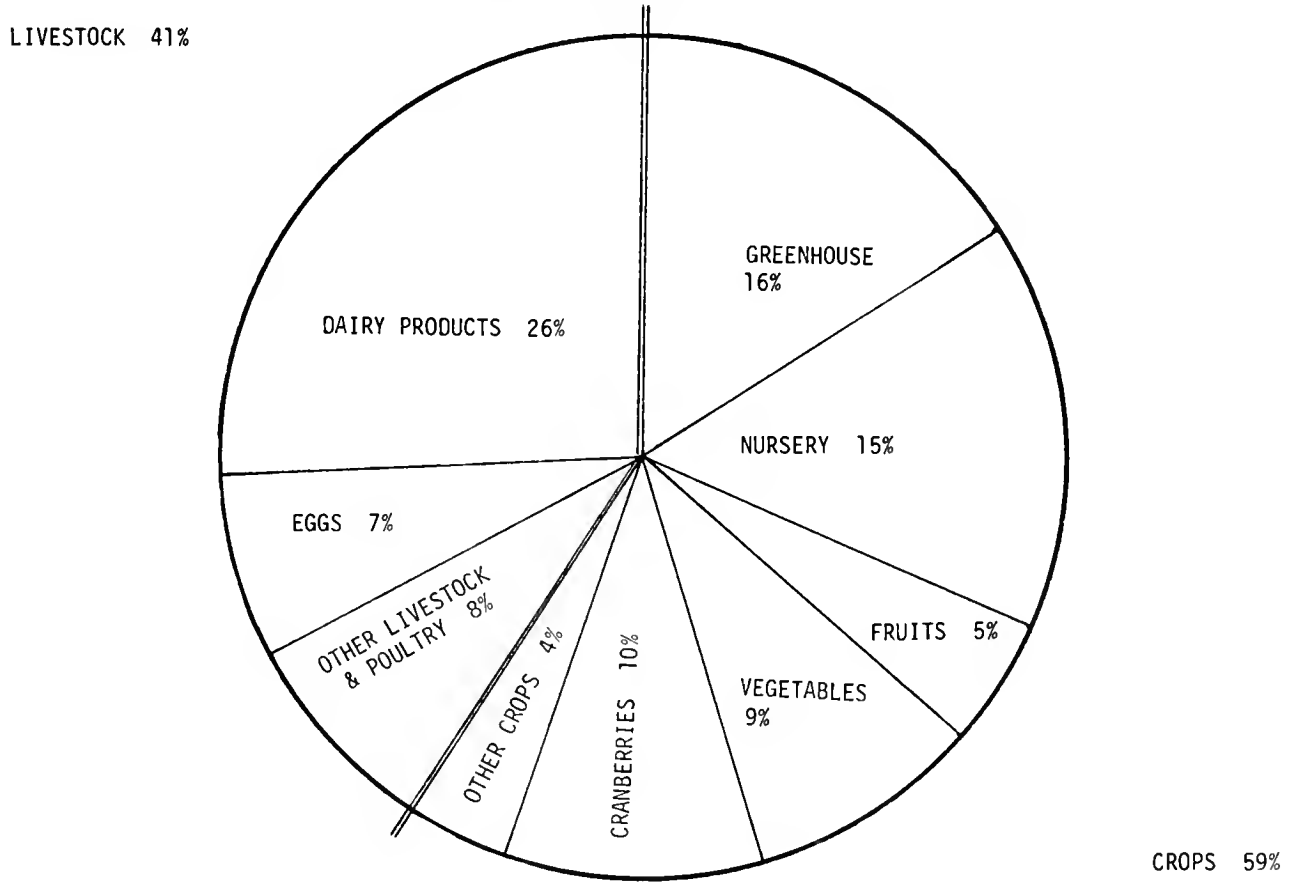
REALIZED GROSS AND NET INCOME FROM FARMING: MASSACHUSETTS, 1950-1979

ITEM	1950	1955	1960	1965	1970	1975	1977	1978	1979
					Million Dollars				
Cash Receipts From Farm Marketing	181.6	172.5	164.7	160.2	156.9	201.5	223.8	246.6	255.7
Government Payments	.6	.4	.7	.6	.6	.6	.6	.8	.6
Non-Money Income	19.3	15.4	15.5	12.3	13.3	21.3	24.8	27.0	29.2
Other Farm Income	.1	.6	.7	1.2	1.5	3.2	3.2	3.5	4.3
Gross Farm Income	201.6	188.9	181.6	174.5	172.3	226.5	252.3	277.8	289.7
Farm Production Expenses	147.2	138.3	135.6	127.4	132.0	191.2	207.2	217.7	245.4
Realized Net Farm Income	54.4	50.7	46.1	47.0	40.4	35.3	45.2	60.2	44.4
Net Change Farm Inventories	-2.1	-1.2	1.3	-.5	.2	-1.3	-32.2	-.9	4.2
Total Net Farm Income	52.3	49.5	47.3	46.5	40.6	34.1	12.9	59.3	48.6
Estimated Number Farms (000)	29.1	18.0	13.0	8.7	6.2	5.8	6.2	5.9	6.2
Average Net Farm Income (dollars)	1,797	2,750	3,639	5,345	6,548	6,200	2,087	10,043	7,835

CASH RECEIPTS FROM FARM MARKETINGS, MASSACHUSETTS, 1978-1980

COMMODITY	1978	1979	1980
		Thousand Dollars	
HAY	2,242	2,463	2,375
TOBACCO	8,860	8,404	10,833
POTATOES	4,495	4,810	4,134
CABBAGE	1,127	878	1,237
SWEET CORN	4,438	5,817	5,763
TOMATOES	2,529	2,386	3,103
MISCELLANEOUS VEGETABLES	15,104	15,032	13,374
APPLES	13,050	11,793	13,092
PEACHES	493	544	570
CRANBERRIES	25,488	27,972	30,562
BERRIES	1,403	1,611	1,365
MISCELLANEOUS FRUITS	243	249	260
MAPLE PRODUCTS	367	445	288
FOREST PRODUCTS	1,189	1,308	1,308
GREENHOUSE & NURSERY	84,077	92,447	94,440
MISCELLANEOUS CROPS	104	121	127
TOTAL CROPS	165,209	176,280	182,831
CATTLE & CALVES	11,404	12,727	10,298
HOGS	7,488	7,841	5,988
SHEEP & LAMBS	214	163	178
DAIRY PRODUCTS	67,350	73,833	79,279
CHICKENS	1,288	653	328
EGGS	19,021	20,638	20,177
TURKEYS	2,035	1,820	1,927
MISCELLANEOUS LIVESTOCK & POULTRY	5,455	5,762	5,471
TOTAL LIVESTOCK	114,255	123,437	123,646
TOTAL ALL COMMODITIES	279,464	299,717	306,477

MASSACHUSETTS CASH RECEIPTS - 1980



UNITED STATES: CIVILIAN PER CAPITA CONSUMPTION OF MAJOR FOOD COMMODITIES, 1970-1979 1/

Commodity	1970	1973	1974	1975	1976	1977	1978 2/	1979 2/
				Pounds				
Meats:	151.4	142.6	152.5	145.4	155.3	154.6	149.7	147.7
Beef	84.1	81.1	86.4	88.9	95.7	93.2	88.9	79.6
Veal	2.4	1.5	1.9	3.5	3.3	3.2	2.5	1.7
Lamb and Mutton	2.9	2.4	2.0	1.8	1.7	1.5	1.4	1.4
Pork	62.0	57.6	62.2	51.2	54.6	56.7	56.9	65.0
Fish (edible weight)	11.8	12.9	12.2	12.3	13.0	12.8	13.4	13.7
Poultry Products:								
Eggs	39.5	37.3	36.6	35.4	34.8	34.5	35.2	35.7
Chicken (ready-to-cook)	40.5	40.7	41.1	40.6	43.3	44.9	47.7	51.8
Turkey (ready-to-cook)	8.0	8.5	8.9	8.6	9.2	9.2	9.4	10.2
Dairy Products:								
Cheese	11.5	13.7	14.6	14.5	15.8	16.4	17.3	18.1
Condensed and evaporated milk	7.1	6.0	5.6	5.0	5.0	4.5	4.2	4.4
Fluid milk and cream (product weight)	296.0	293.0	288.0	291.1	292.0	288.4	285.9	284.2
Ice Cream (product weight)	17.7	17.5	17.5	18.7	18.1	17.7	17.8	17.7
Fats and Oils--Total Fat Content	53.0	54.3	53.2	53.4	56.1	54.4	55.6	57.6
Butter (actual weight)	5.3	4.8	4.6	4.8	4.4	4.4	4.5	4.5
Margarine (actual weight)	11.0	11.3	11.3	11.2	12.2	11.6	11.4	11.6
Lard	4.7	3.4	3.2	3.0	2.7	2.3	2.2	2.3
Shortening	17.3	17.3	17.0	17.3	18.1	17.6	18.2	19.2
Other edible fats and oils	18.2	20.8	20.3	20.3	22.0	21.6	22.6	23.4
Fruits:								
Fresh	79.3	74.2	76.9	81.3	83.7	79.6	81.6	80.5
Citrus	28.1	26.9	27.1	28.7	28.5	25.2	26.3	24.3
Noncitrus	51.2	47.3	49.8	52.6	55.2	54.4	55.3	56.2
Processed:								
Canned fruit	23.3	21.3	19.6	19.3	19.2	20.0	19.0	19.2
Canned Juice	14.6	15.9	14.6	16.2	16.2	15.6	17.4	17.4
Frozen (including juices)	9.8	11.2	11.2	12.6	12.2	11.8	11.3	12.3
Chilled citrus juices	4.7	5.3	5.2	5.7	6.2	5.8	6.4	6.4
Dried	2.7	2.6	2.4	3.0	2.6	2.5	2.0	2.2
Vegetables:								
Fresh 3/	91.0	93.0	95.0	94.1	94.2	91.8	93.3	97.2
Canned	53.0	57.7	56.9	55.1	55.7	56.2	54.1	55.0
Frozen (excluding potatoes)	9.7	10.7	10.2	9.7	10.2	10.3	10.8	11.1
Potatoes 4/	115.3	114.4	112.3	120.3	114.4	119.8	122.9	123.0
Sweetpotatoes 4/	5.2	4.6	4.9	5.0	4.9	4.5	5.0	5.0
Grains:								
Wheat flour 5/	110.0	112.0	110.0	113.0	118.0	114.0	115.0	112.0
Rice	6.7	7.0	7.6	7.7	7.2	7.6	5.8	9.2
Other:								
Coffee	10.4	10.1	9.5	9.0	9.4	6.7	7.9	7.8
Tea	.7	.8	.8	.8	.8	.9	.7	.7
Cocoa	3.1	3.4	3.0	2.6	3.0	2.7	2.7	2.7
Peanuts (shelled)	5.9	6.6	6.4	6.5	6.3	6.6	6.6	6.6
Dry edible beans	5.9	6.4	6.7	6.5	6.3	6.1	5.9	6.1
Melons	21.2	19.8	17.1	17.3	18.6	19.3	20.1	18.9
Sugar (refined)	101.8	101.5	96.6	90.2	94.7	95.7	93.1	91.3

1/ Quantity in pounds, retail weight unless otherwise shown. Data on calendar year basis except for dried fruits, fresh citrus fruits, peanuts, and rice which are on a crop-year basis. 2/ Preliminary. 3/ Commercial production for sale as fresh produce. 4/ Including fresh equivalent of processed. 5/ White, whole wheat, and semolina flour including use in bakery products.

MASSACHUSETTS: ESTIMATED TOTAL POPULATION, July 1, 1950-1979 1/

Year	Total Population	Year	Total Population
1950	4,691,000	1976	5,769,000
1960	5,149,000	1977	5,768,000
1970	5,697,000	1978	5,771,000
1975	5,778,000	1979 2/	5,769,000

1/ U.S. Department of Commerce, Bureau of the Census.
2/ Preliminary.

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At the conclusion of Fiscal 1981, the Agricultural Preservation Restriction Program has purchased restrictions on 19 properties involving 1556 acres of farmland. They were located in 10 counties and 16 municipalities. Another 15 properties with 1247 acres of land were under signed purchase agreements. The goal of retaining a farmland base for Massachusetts food and livestock production is becoming realized. In addition, the benefits of the rural landscape and farm employment in many municipalities are being maintained.

The Program provides farmland owners the opportunity to realize the value of their property's "development rights" without the land being taken out of production or developed. The Commonwealth compensates the landowner for his willingness to place a permanent restriction on his land prohibiting all non-farm uses and allowing for only agricultural uses. The land, once restricted, is still privately owned and it can be leased, sold, devised, etc., but only for agricultural purposes.

Farmers and other farmland owners voluntarily apply to the Program for consideration. Following review of the application by Department staff,the property is field inspected and then presented to the Agricultural Lands Preservation Committee for action. If approved, the application will become a finalist and an appraisal of the property's market value and agricultural value will be conducted. The landowner is offered the difference between the market value and agricultural value. If the landowner concurs, a final vote of the Committee is needed. Following a successful vote, the purchase agreement is signed and a title search is completed. Once clear title is established, the landowner is compensated for the restriction that is recorded with his deed.

The Program is one of five state programs now operating in the country. They include New Jersey, Maryland, Connecticut, New Hampshire and Massachusetts. Several county programs are also active. Purchasing development rights/restrictions is one of the few permanent solutions available for preserving productive farmland.

At the end of the 1981 fiscal year, over 235 applications had been submitted to the Department of Food and Agriculture for funding consideration. The applications represented 121 cities and towns in 12 counties across the Commonwealth. A total of over 22,000 acres have been proposed for restriction with asking prices exceeding $55 million.

A total of $15 million has been appropriated to the Program, but as seen above, this sum falls far short of the application demand. A $10 million request has been made in the 1982 Capital Outlay Budget. An annual appropriation is needed to satisfy demand for the Program and to maintain administrative continuity.

Total program expenditures at end of the fiscal year amounted to $3,197,035. On the average, the cost of restricting Massachusetts farmland is $2000 per acre. Fifty-five additional properties involving over 5000 acres are under appraisal for Program consideration. Fiscal 1982 should be a successful year for farmland preservation in Massachusetts.

Agricultural Preservation Restriction Program
From January 1, 1979 to June 30, 1981

County	Number	Acreage	No.of Cities & Towns Represented	Asking Price
Barnstable	1	65	1	$ .3 million
Berkshire	10	1794	6	2.4 million
Bristol	21	1755	11	6.2 million
Dukes	4	342	3	1.5 million
Essex	29	2610	12	13.3 million
Franklin	15	1573	7	1.9 million
Hampden	11	1162	7	1.7 million
Hampshire	35	3529	10	3.6 million
Middlesex	31	1967	17	10.2 million
Norfolk	15	812	9	2.0 million
Plymouth	22	2411	13	5.6 million
Worcester	43	5728	25	8.6 million
State Total	236	23,069	121	$57.3 million

Update as of December 31, 1981:

37 farm properties protected totalling 3261 acres.
5 farm properties under purchase agreement totalling 563 acres.
43 farm properties under appraisal totalling 5100 acres.

Total in Process:

95 farm properties totalling 8924 acres.

DIVISION OF AGRICULTURAL LAND USE
Susan Redlich, Director

The Division of Agricultural Land Use works to promote the wise use of the natural resources essential to agriculture--land, soil, and water--and to ensure the protection and availability of these resources for those who work the land, both rural and urban. The fragile and finite nature of these natural resources necessitates their long term conservation in order to produce food for the citizens of the Commonwealth, maintain the viability of the farm economy, and safeguard the quality of our natural environment.

To further these objectives, during the past year, the Division was instrumental in the formation of the Suffolk County Conservation District, which will enable interested residents of Suffolk County to become involved in the conservation of the land, soil, and water of Suffolk County. The Division also facilitated the distribution and planting of thousands of food bearing trees and shrubs on public lands as part of the Massachusetts Fruition Program. The Massachusetts Seed Program was also effectively carried out and this program provided low-cost seeds to low income, elderly, and beginning gardeners, greatly facilitating home food production.

The Division has also been involved with an extensive natural resource mapping project of state-owned institutional lands. The maps will be used in making planning decisions for the future use of these properties. By carrying out its numerous projects and activities, the Division also provided training and educational opportunities for a number of student interns.

The Division continued to coordinate and promote Boston area farmers markets, and organize and secure land for community gardens. The Division also takes an active role in the state's environmental review process and advocates the protection of agricultural land.

Since the control and/or eradication of major domestic animal diseases is the goal and purpose of the Division of Animal Health, our success directly affects the prices we pay for food, clothing, and our own good health. Caught between the horns of inflation and transportation, farmers must rely on efficient disease control if they are to produce the food we need. This is an important area, one in which the government profits both the producer and the consumer.

In past years, this Division has functioned with four Veterinary Health Officers, ten Animal/Poultry Inspectors and an office staff of fourteen. Retirements, hiring freezes and a reduction in positions have left us with a working complement of fifteen. Although we have been fortunate to have had help from USDA-APHIS and to have had no important new disease outbreak, our resources are at this point, strained far beyond the safety point.

BRUCELLOSIS

This disease in both cattle and swine affects human health in the form of Undulant Fever. Its total eradication in Massachusetts is within our grasp. A very large loose-housed and chronically infected herd was removed from quarantine this year and has remained disease-free for more than three months. Two small herds came up infected. One was depopulated and infection brought swiftly under control in the second. We confidently hope to be disease-free in bovine brucellosis within calendar 1981. Well over half of the State is also disease-free in swine brucellosis. Since we are now the only New England State with a problem in this area, we have given its eradication high priority. Failure to pass a particular piece of legislation continues to hamper our efforts with swine brucellosis.

TUBERCULOSIS

Another disease with high human-health impact, tuberculosis, is resurgent in the world, particularly in its cities. Eradication remains a continuing program; laxity will guarantee a problem. Our dairy herds are currently on a three year testing rotation, with a number tested oftener. A total of just under 43,000 animals (in over 800 herds) were tested with no reactors revealed. This is one of our two highest priority programs, one for which our low field staffing can cause problems. We require two more years of complete freedom from this disease in order to qualify as a tuberculosis-free state. This rating would mean a great deal to our farmer-producers as well as to all of New England. Few people realize the incidence of disease, in particular Tuberculosis and Brucellosis, is lower in the Northeast than in any other portion of the country, but constant surveillance will be necessary to maintain a desirable position.

HOG CHOLERA AND RELATED DISEASES

The entire nation has been free of this disease for two years, but since it is endemic in neighboring countries, constant effort is expended in prevention.

Hog Cholera, Swine Pseudorabies and Vesicular-Exanthema may be transmitted through the feeding of un-cooked garbage to swine and the law we have which mandates such cooking is our primary prevention and control procedure. We are indebted to USDA-APHIS for all swine-testing conducted here.

EQUINE PROGRAM

Massachusetts requires a negative Coggins Test (for Equine Infectious Anemia) to be conducted within six months prior to entry. Just under 11,000 such tests were conducted with seven positives. Since this disease is now of such a low incidence here, we have lengthened to 24 months the test period required for Massachusetts-owned horses to be shown here. This relieves the horse owner of a necessity of an annual test and will not, we feel, contribute in any way to the spread of this disease. As always, we sent out press releases urging horse owners to vaccinate their animals against Eastern-Western Encephalitis. No equine deaths from this were confirmed in this state though several occurred in nearby New Hampshire.

Licensing of Riding Schools and Stables (an animal protective device) and Horseback Riding Instructors, considered a consumer protective measure, continues, though the position of supervisor of Riding Academies has been unfilled for two years. Agents of the Massachusetts SPCA conduct the surveillances for us with regard to stable licensing. These two programs are important sources of revenue for this Division.

PET SHOP LICENSING

The licensing of Pet Shops is primarily a disease control measure, especially in the area of parrots and other psittacine birds. Recent outbreaks of VVND (Velogenic Viscerotropic Newcastle Disease) in parrots have allowed USDA-APHIS agents to trace every exposed bird sold into Massachusetts Pet Shops. Since this disease has the capability of wiping out the domestic poultry industry, we have good reason to thank the pet shop owners in general for their interest and co-operation in this regard.

RABIES

This disease remains endemic in the wildlife population and remains a constant, though admittedly low-level, threat to residents of this State. Since skunks remain a source, their sale as pets was made illegal a year ago. This Division initiates the quarantine of any animal which has bitten a person. More than 6,000 quarantines were completed. More than 600 animal brains were submitted to the Wasserman Laboratory for definitive rabies analysis.

POULTRY

This section of the Division has been hurt severely by two retirements. We're only four field men to blood test (105,000 birds tested) to inspect at shows and fairs (29 shows), to do retail store inspections (over 2,700 stores inspected), to check on Massachusetts-Grown-And Fresher logo use, to conduct USDA-Egg Products Act inspections and to take care of a myriad of other poultry diseases. This section is severely under-manned. Our State remains officially pullorum-clean and we are very proud of the work these men do, as well as the co-operation of the State's producers, but maintaining a disease-free status in the poultry industry with four men may not prove possible.

CONCLUSION

Our co-operative agreements with the United States Department of Agriculture-Animal Plant Health Inspection Services (USDA-APHIS) have proven invaluable in attaining our present high-degree of freedom from diseases such as Brucellosis and Tuberculosis. The agents of MSPCA have helped us enormously with pet shop work and all of our equine programs. We are indebted to the Farm Bureau Federation for their legislative help. The licensed veterinarians who conduct fee-basis tests and vaccinations for us have made it possible to cover the State far more closely than ever would have been possible without them. The office of the Division of Animal Health is severely under-staffed.

We hope against considerable odds to be able to maintain a high position of freedom from disease in our domestic flocks. We and the farmers and the producers we serve recognize the need for financial responsibility, but a major disease outbreak could and would cost far more than present savings could ever justify.

The Division of Animal Health's budget for fiscal year 1981 was $462,400 which included funding the Division of Poultry.

In fiscal year 1981 there were no major changes in the agricultural laws. There were, however, seven amendments to the law, some of them significant to those affected.

Ch. 378 of the Acts of 1980 was entitled "an Act further regulating certain agricultural land use." What it did in effect was add a definition of "Arbor". The definition reads as follows: "An area of land devoted to the propagation and cultivation of fruit bearing trees and shrubs and nut trees." This amendment authorized the Division of Land Use to purchase such trees and shrubs and plant them in various places throughout the Commonwealth.

Ch. 397 provided that the employees of Suffolk County Cooperative Extension Service may participate in the Commonwealth's group insurance program.

Ch. 428 provided that the Board of Veterinary Medicine shall have the authority to grant to the Veterinary School in Grafton an institutional license under which veterinarians who are not otherwise licensed may practice veterinary medicine if such practice is conducted in conjunction with their full time employment at the school.

Ch. 430 provided that all dogs and cats shipped into the Commonwealth for commercial resale shall be inoculated against distemper and that such dog or cat be accompanied by an official health certificate, a copy of which must be sent to the Commissioner of Food and Agriculture. It also provided that no pet shop shall import into the Commonwealth any cat or dog less than eight weeks of age.

Ch. 475 provided that the Department of Mental Health shall lease to the Department of Food and Agriculture for a period of ten years with an option to renew certain lands at the Belchertown State School.

Ch. 557 was an Act clarifying exemption of tractors used by farmers from the sales tax. It provides that the tax shall be imposed only on the difference between the sales price of the vehicle purchased and the amount allowed on the vehicle traded in on such purchase.

Ch. 59 of the Acts of 1981 provides that, subject to the rules promulgated by the Commissioner of Food and Agriculture, the Director of Animal Health may prohibit the importation of female cattle for breeding purposes over five months of age without an official certificate of vaccination.

Both consumers and dairy farmers benefit from the strict health and sanitation laws and regulations affecting the supply of milk in the Commonwealth. Under the law, dairy farms in the state selling milk here as well as those out-of-state shipping milk into Massachusetts must be inspected and licensed. This program helps ensure a wholesome product to consumers and a continually desirable and marketable product for farmers.

The flavor of milk is quality checked by another departmental program carried out under the Division of Markets.

The number of dairy farms licensed by the Division of Dairying in the last ten years has dropped by about 22 percent. This decrease is offset, however, by an increase in the size of existing farms.

The geographical area covered in the inspection of these farms has also broadened farther and farther, particularly into New York state. Larger farms with more equipment that is also more complicated, and fewer inspectors with greater mileage to cover, have made our work extremely frustrating.

We made approximately 7500 "original farm inspections" and approved 79 percent during the 1981 fiscal year. Those farms not approved were later reinspected and most were approved. Others went out of business or changed to markets not requiring Massachusetts licensing. We have attempted to approve or recommend exclusion on the first reinspection. This has worked reasonably well at saving time and expense, and has helped in upgrading the overall farm conditions.

Our four mastitis sample collectors sampled approximately 750 herds, 46,000 cows and collected approximately 181,000 milk samples which they delivered to the diagnostic laboratory at the University of Massachusetts in Amherst. These samples were analyzed and the results forwarded to the herd owners and their veterinarians. If the farmer follows the recommendations resulting from the laboratory analysis of his milk samples, he can save hundreds of dollars that otherwise would be lost to reduced milk production, reduced cow value, and veterinary expense.

Our USDA work has been curtailed this year due to the shortage of manpower. We were unable to complete a request from the USDA for resampling Non-Fat Dry Milk in Lawrenc during the month of August. The Syracuse office of USDA agreed to do the work until we were again able to, or until the cooperative agreement was terminated. We have continued, however, to do the weighing and sampling of dry milk being offered to the Commodity Credit Corporation by Agri-Mark, Inc. from their West Springfield plant. The income from this work for the year was $6,537.36, down from the previous year income of $9,664.30.

A total of 73 milk plants were inspected by the Division this year. Twenty-five of these were pasteurization plants located outside the Commonwealth. Others were receiving plants or stations located throughout the Massachusetts milk shed.

Division personnel certified by the U.S. Public Health Service as milk sanitation rating officers completed all industry requests for interstate milk shipper ratings.

The appropriated budget for the fiscal year was $266,066.

DIVISION OF FAIRS
Stephen F. Quinn, Director

The fairs, as a whole, enjoyed a rather good season and with the lack of rain through the summer most fairs enjoyed increases in attendance. The large increase in the total is due to the rejuvenation of the Brockton, Middleboro and Weymouth fairs. Their added attendance was up over 300,000. With good weather and an increase in prize monies, exhibits were able to show a large increase over last season; the total also broke records which were set the previous year.

With gas prices stabilizing there was no problem getting about; however due to the cost, a trend seems to be setting in where people are partaking in more nearby functions for their entertainment.

All looks well for the immediate future for the Agricultural Fairs.

2,929,656 people paid admissions in 1980 to one of the various agricultural fairs conducted within the state. This figure is up 512,255 from last year. $264,581 were expended for prizes by the state and $121,634 were added by the fairs for the promotion of agriculture. 89,217 exhibits were displayed, 38,186 of which were youth; these figures are up 20,012 and 5,728 respectively from 1979.

The Massachusetts Building exhibits at the Eastern States Exposition in West Springfield again enjoyed a tremendous reception from the 1,090,000 people who visited the "Big E." This year's theme adopted the new logo of the State Department of Commerce and Development, "Make it in Massachusetts." New exhibits from the Extension Service, Massachusetts Horticultural Society and the Department of Agricultural Stabilization Conservation Service, along with the expanded exhibits of the Massachusetts Flower Growers, Hampden County Bee Keepers and the Commerce Department gave a much needed change to our building.

The Division again employed the use of 12 part-time fair inspectors to help aid the Division in its monitoring of the agricultural prizes and the use of the rehabilitation funds.

REHABILITATION PROGRAM

The Rehabilitation Committee met in the West Springfield office of the Department. It first adopted the revised guidelines for allotting monies to fairs, then proceeded to approve $104,135 from requests of $445,460 to 41 fairs.

The Division this year also participated in re-establishing the "Wool Blanket Program". Meetings last winter with interested wool growers were held to reactivate this unique marketing opportunity. The Division was instrumental in organizing and incorporating the "Massachusetts Wool Board" as a non-profit corporation for the promotion of wool and lamb products within the Commonwealth.

Over 14,000 pounds of raw wool were collected at three pooling sites across the state. The wool was sent to the Charlton Wool Mills for weaving and is due some time in December. Through the manufacturing of the wool into blankets, a readily marketable product, it is our goal to pay the growers a higher price for their wool than otherwise could be achieved. All is proceeding well.

FINANCIAL REPORT -- DIVISION OF FAIRS

The total appropriated budget for the fiscal year was $710,300. Of this total, $422,800 were appropriated for the fair prize awards, fair inspections, promotional programs and administrative costs; $87,500 were appropriated for the rehabilitation program, up $12,500 over last year, and $200,000 for the Thoroughbred and Standardbred Programs.

The Massachusetts Breeding Program, enacted into law in 1969, provides cash awards of 20 percent of purse won, to breeders of horses that finish 1st, 2nd, 3rd in pari-mutuel running horse races within the Commonwealth. An additional award of 5 percent of purse won is paid to the owner of the stallion which sired said horse and stands the entire breeding season in the state, and is registered with the Massachusetts Department of Food and Agriculture.

The purpose of the program is to encourage the breeding of Thoroughbred horses in the state, and to maintain open spaces and promote agriculture.

During the 1981 fiscal year, 1284 Massachusetts bred Thoroughbreds started at Suffolk Downs and four agricultural fairs. These horses accounted for 128 wins, 143 2nds, and 145 3rds, indicating that Massachusetts breds are definitely competitive in open racing.

Breeder incentive awards amounted to $123,777, and stallion owner awards were $15,089 for the fiscal year. A deficiency budget of $20,000 was filed as the annual appropriation was not enough to cover the monies due for the awards.

Over 200 Thoroughbred mares were bred to Massachusetts stallions in this period, and the number of Thoroughbred stallions standing in Massachusetts increased from 40 to 45.

The formation of the Massachusetts Thoroughbred Breeders Association Inc. was a positive step for horse farmers, as an organized breeders group was needed to present a solid front to the state legislature in procuring positive legislation for the Massachusetts horse breeder. The new breeders association has, in fact, filed legislation that, if enacted, would create a healthy financial climate for the neophyte horse farmer.

STANDARDBRED PROGRAM
Barbara E. Dolloff, Supervisor

The Standardbred Horse Breeding Program encourages and promotes the breeding, propagation, ownership, raising, racing and marketing of Standardbred horses bred in the Commonwealth of Massachusetts. Thus it encourages the keeping of open lands to promote agriculture and agricultural related industries within the Commonwealth.

There was a slight decrease in the number of stallions registering to stand in service in the Commonwealth. This was due to a new registration fee of $100 per stud, imposed by the Massachusetts Standardbred Breeders and Owners Association. The 43 stallions that were registered are of better quality, however, and many outside mares were brought in to be mated with them. This should produce a more marketable foal than in the past. It should be stated here that the program has been producing some outstanding foals and is growing, but with this new stallion band, we look forward to a much improved crop overall. This crop will be eligible to race in the sire stakes program of 1984.

There were 106 two and three-year old horses eligible, according to class, to 59 events at 8 fairs. Of this figure, 51 horses did participate. Purse payments including entry fees totaled $82,914.

Legislation was introduced this past spring, to enhance the breeding program. If this is passed by the legislature and signed into law by Governor King, it can be projected that a rapid growth will occur. Many owners of Standardbred stallions and mares are anxiously awaiting passage of this legislation, so that they may return their stock to the Commonwealth and participate in a viable program.

DIVISION OF MARKETS
John J. Fitzgerald, Director

The function of the Division of Markets is to create the best possible climate for the state's agricultural products and to help with a variety of programs aimed at insuring that these products do move through marketing channel phases in an orderly manner.

The marketing of farm products in Massachusetts involves cash receipts to farmers of more than 300 million dollars and an agribusiness worth several billion dollars annually. Food stores represent the largest retail business in Massachusetts, with some 5714 food stores generating sales of over four billion dollars.

The Division role includes providing certain essential market information, shipping point inspections, timely product promotion, consumer protection and regulatory services.

AGRICULTURAL COMMODITY PROMOTIONS - Guy L. Paris

Funds from this account are allotted to commodity associations for the purpose of promoting Massachusetts agricultural products.

Rules and regulations specify that each commodity group receiving promotional funds must submit affidavits of promotional program expenditures, with comments regarding the usage of these funds eight months after receipt of said funds.

The Division of Markets was allotted $85,000 to disperse to commodity groups. Many of these commodity groups raised money from their own members to exceed four times the amount they received from the Department. The original sum of $85,000 grew to $350,000 which was spent for the promotion of Massachusetts agricultural products through various commodity promotional programs.

DIVISION PROMOTIONAL ACTIVITIES

The objectives of Divisional promotional programs are to continue and expand the use of the "Massachusetts Grown and Fresher!" trademark.

Many of the consumers in the Commonwealth are aware of this logo and are insisting that retailers offer Massachusetts grown produce bearing the logo.

One retailer tested consumer preference regarding film bagged carrots; those marketed with the logo outsold the unmarked ones by five to one.

We are beginning to see more large food markets advertising "Massachusetts Grown and Fresher!" in their newspaper ads, which include flowers and eggs as well as fruits and vegetables.

The Division provides retail outlets with "Massachusetts Grown and Fresher!" printed material, assists in their promotional programs and offers suggestions in their advertising.

The Division activities also included the following:

Exhibited at the Massachusetts State Building during the Eastern States Exposition.

Designed and constructed a 17th Century Herb Garden at the Boston Common during the Boston 350th Jubilee.

Designed and constructed a commercial greenhouse displaying hydroponically grown vegetables at the New England Flower and Garden Show. The Department received a gold medal for this exhibit.

Conducted a "Taste of Massachusetts" exhibit at the New England Hotel-Motel and Restaurant Show; also supervised the Massachusetts Chicken Cooking Contest during the show.

Exhibited at Commonwealth Pier during National Port Day.

Assisted with the development of Massachusetts Horticultural Coop, Inc., a farmers flower market coop at the New England Produce Center.

Planned a seminar on the opportunities for produce wholesaling at Gardner Auditorium at the State House which was attended by Governor Edward J. King, Environmental Affairs Secretary John A. Bewick, Food and Agriculture Commissioner Frederic Winthrop, Jr., several executives of retail food supermarkets, retail market produce buyers, wholesale produce commission merchants, as well as many fruit, vegetable, flower growers and egg producers.

The Division also promoted Massachusetts agriculture through the publications of information pamphlets listing local "Pick-Your-Own" vegetables, strawberries, blueberries, apples and other fruits, "Cut-Your-Own" Christmas trees, Massachusetts turkey farms and locations of Massachusetts Farmers and Gardeners markets.

MARKET NEWS

The Division cooperates with the U.S. Department of Agriculture collecting, publishing and distributing by telephone, mail, radio and newspapers, timely information on market supplies and demand, commercial movement, and daily market prices at the Boston Wholesale Fruit and Vegetable Market, the Boston Flower Exchange and the Springfield Farmers Market. It is through market reports that growers, retailers, and shippers are informed of marketing conditions and prices. Many of today's prices are established in retail food and flower stores throughout Massachusetts based on information received by Market News reports.

Great care is taken to make these reports complete, accurate and readable. Also, all employees of the Market News section must be ready to answer any questions on marketing and other agricultural topics. They must be knowledgeable of the functions and the responsibilities of the Department of Food and Agriculture, so they can refer people to the proper divisions when asked.

Market News publicationsinclude a weekly Special Apple Report outlining apple storage holdings, wholesale market prices, f.o.b. apple prices, and movement of apples at the wholesale market place and also on the farm. A consumers' weekly Buyers Guide listing retail prices of fruit, vegetables, meat, poultry, eggs, and fish informs consumers of the current retail prices for these commodities. This report also assists the farmer who grows or produces these products in determining the price he should charge at his stand or farmers markets.

PUBLIC INFORMATION - Janet Christensen

Communicating to the public the most current facts concerning the agricultural situation in Massachusetts and related activities of the Department is the major goal of this program.

As the most efficient means of reaching the largest number of people is through the mass media, the important events and issues are explained in press releases for distribution to newspapers, radio and TV stations and various trade publications.

The public information officer assists representatives of the press on any inquiries concerning Department activities or food and agricultural topics, referring calls to subject matter specialists in the Department or other agencies when necessary.

The protection of farmland in Massachusetts is of great concern to those involved with agriculture, and this issue and the goals of the Agricultural Preservation Restriction Program must be brought to the public's attention.

Efforts to encourage related interviews and stories in the print and broadcast media have been well received.

Informing the public about Massachusetts grown crops and their availability is another key assignment. The series of leaflets on the nutrition and use of various local vegetables and fruits which was developed over the past few years has gained wider distribution through cooperation with the New England Vegetable Growers Association.

Publicity concerning farmers markets has added considerable emphasis to the entire "Massachusetts grown" campaign. With the assistance of student interns, a list of market locations, times and dates is compiled each year and a concerted effort is made to advise the public. The public information officer serves on the Board of the Massachusetts Federation of Farmers and Gardeners Markets.

She also prepared food demonstrations on local crops for the Sharon King Program on WBZ-TV as well as the Massachusetts New England Hotel, Motel and Restaurant Show.

Mutual interests and goals of public information officials in the Northeast and the U.S. were furthered through meetings of their regional and national associations. This year the Public Information Officer served as President of the Communication Officers of State Departments of Agriculture.

The TV public service announcements featuring Commissioner Winthrop promoting the summer harvest of Massachusetts grown crops were again distributed and used by TV stations across the state.

The Public Information Officer also promoted the observance of American Agriculture Day on March 19, 1981 and informed the press about the two significant events planned -- the Direct Wholesaling Seminar at the State house and the signing by Governor King of an Executive Order to protect state owned agricultural lands.

Other current topics covered in press releases and brochures concerned animal health, community gardens and insect nuisance and plant pest problems such as the gypsy moth and the Mediterranean fruit fly.

ROADSIDE MARKETING - Craig Richov

Roadside marketing represents a $30 million industry in Massachusetts and 1980 estimates put the number of roadside stands and markets at over 700. Working closely with market operators as a marketing consultant is the Department's Roadside Marketing Specialist. To help keep Massachusetts a leader in direct marketing, the specialist writes a bimonthly newsletter to inform growers of marketing trends and retailing techniques. His attendance at the National Direct Marketing Conference in Washington, D.C., the New York State Roadside Marketing Conference in Kingston, New York and the New England Apple Institute's Roadside Marketing Conference in Springfield, helped keep him aware of current problems and breakthroughs in the industry.

The Roadside Marketing Specialist also provided services to growers who requested his assistance in establishing retail marketing outlets and in improving the operation of existing markets. Plans for new roadside markets were provided in Stow, Ipswich and Holden, and improved market layouts were worked out for over 20 stands across the state. The advice and recommendations given to growers serves to upgrade the appearance, image and effectiveness of farm markets in Massachusetts. The Massachusetts farm families and their products have been a continuing source of pride for the entire Commonwealth.

Promotional activities of the marketing specialist included the distribution of "Massachusetts Grown and Fresher" publicity materials and assistance with the Massachusetts Vegetable Growers Association's "Vegetable of the Week" promotion program. As chairman of the Massachusetts Federation of Farmers and Gardeners Markets' promotion and exhibit committee, he also promoted farmers markets through informative exhibits and live farmers markets at the Eastern States Exhibition in West Springfield and smaller fairs and functions throughout the year.

FARMERS MARKETS

From the Cape to the Berkshires, farmers markets increased in popularity with both buyers and sellers.

As well as offering vegetables, many markets also sold other items such as fresh strawberries and raspberries in season, basil, mint, eggs, honey, maple syrup and flowering plants.

Over the past few years, farmers markets have mushroomed across Massachusetts, increasing from some seven locations in 1976 to the current total of forty-four. More local farmers each year are selling direct to the consumer at urban and suburban farmers markets, while more shoppers are enjoying their convenient locations and excellent products.

The state Food and Agriculture Department also encourages farmers in "direct marketing" at roadside farm stands and in direct sales to supermarkets, institutions and the restaurant trade. Growers or potential buyers are urged to contact the Department's Division of Markets at (617) 727-3018 for assistance.

FOREIGN TRADE SECTION - Schiva Gandhi

The number of Massachusetts agribusiness firms participating in the export programs of the Division of Markets has remained fairly stable in this fiscal year. There are approximately 100 firms ("new-to-export" or experienced exporters) utilizing the services and resources of the Foreign Trade Section. However, it has been noticed that these firms were much more active this year in utilizing the various services provided by this Section. Moreover, there has been a marked increase in enquiries on agricultural statistics, the latest developments in foreign markets and other information relating to foreign trade by individuals thinking of entering the export market.

A major source of their interest has stemmed from reading about the various trade shows and exhibits. The Foreign Trade Section periodically mails out particulars about a trade show that might be of interest to Massachusetts exporting firms to establish new global markets or enlarge the market for their products in their current global area of concentration. One such trade show that this Section is currently concentrating on disseminating information about is The United States International Food Show (USIFS), to be held in New York Coliseum April 14-18, 1982. This is the first large-scale and most comprehensive international food exhibition ever staged in this country. Already a large number of representatives of food manufacturing companies and processors, as well as official organizations in all sectors of food and drink industry have indicated that they are eager to participate in the USIFS, for it provides them with an ideal opportunity to introduce new products, identify new markets and new trends in food processing, as well as boost sales in national and international markets.

A greater number of "new-to-export" firms are finding that an easy way to introduce their products to food buyers in a large number of countries, at no cost, is through the monthly newsletter CONTACTS for U.S. Farm Products. To participate in this program the export representative of a firm describes the product in 100 words or less, including the firms address, bank reference, phone number etc., and this information is forwarded via the State Department of Agriculture to the Foreign Agricultural Service of the United States Department of Agriculture for compilation in the monthly newsletter and translation into various languages. This Newsletter then goes to Agricultural attachés, who in turn distribute the information to the food trade in their country(ies) of responsibility. The major emphasis of this program is on new exporters and/or new export products.

INSPECTION & REGULATORY SERVICES - James M. Cassidy

The Federal-State Inspection Service issues U.S.D.A. inspection certificates on shipments of fruit and vegetables at shipping points and local processing plants. These certificates which certify grade, quality, condition and size of the products are done on a prescribed fee basis and are payed by the applicant or shipper. Inspections are also made at wholesale markets and retail stores in order to insure the correct labeling and grading of apples, potatoes, seed, feed, pet food, and fertilizers. Inspectors also check to enforce the "native law", which requires the state of origin to be used whenever the word "native" is displayed.

The program provides for inspection and regulation of controlled atmosphere apple storage rooms, cider mills and roadside stands.

The annual registration of seed, feed, and fertilizer with the collections of fees and penalties and the administration of the related laws, including cooperative work with the U.S.D.A. and the F.D.A., is part of this overall program.

FINANCIAL REPORT

The Division Budget appropriated for fiscal year 1981 was $334,908, which was $60,192 less than the fiscal year 1980 budget.

Calendar Year *

SEED INSPECTION PROGRAM/OFFICIAL TESTED

	1977	1978	1979	1980
Agriculture	72	62	37	54
Mixtures (lawn)	97	86	103	100
Vegetables	509	477	528	445
Flowers	250	206	132	173
Flower Mixture	5	4	3	0
	934	835	803	772

Stop sale orders 32 covering 96 lots of seed - poor germination, noxious weeds, unfit for seeding.

FRUIT & VEGETABLE INSPECTION REVENUE

	1977	1978	1979	1980
Apples	$9,812.07	$10,061.74	$16,090.07	$11,084.50
Cranberries	245.32	-------	577.00	-------
Onions	3,374.20	2,979.96	1,741.96	219.10
Potatoes	8,862.26	3,251.25	4,411.57	826.68
	$22,293.91	$16,292.95	$22,820.60	$12,130.28

FEED, FERTILIZER AND LIME REGISTRATION

	1977	1978	1979	1980
Feed/a	1,929	2,008	2,014	1,922
Fertilizer/b	658	697	799	732
Fertilizer/c	15	14	14	12
Lime	25	29	24	31

FEED, FERTILIZER AND LIME REVENUE

	1977	1978	1979	1980
Feed/a	$48,225.00	$51,900.00	$50,350.00	$48,050.00
Fertilizer/b	16,450.00	18,200.00	20,125.00	18,300.00
Fertilizer/c	1,875.00	1,750.00	1,750.00	1,500.00
Lime/d	625.00	725.00	600.00	775.00
Fertilizer/e	8,344.77	8,849.90	10,826.73	15,722.29
Fertilizer/f	3,029.98	2,197.10	1,348.81	3,929.57
Total	$78,549.00	$83,422.00	$85,000.54	$88,276.86

/a Brands
/b Specialty brands
/c Commercial plants
/d Brands
/e Tonnage
/f Penalties

*Statistics and revenue are collected on a calendar year.

Revenue generated by inspection and registration fees totaled $100,407.14.

The 1981 Legislature took direct action - which taken together with administrative thrust - transfers the functions of the Division into the newly created Division of Regulatory Services in attempts to streamline the operation of the entire Department of Food & Agriculture. Budget cuts reduced the staff from ten persons to five charged with the responsibilities of enforcing the milk control laws set forth in Chapters 94 & 94A of the General Laws.

In a subsequent move, the three Member Commission voted to remain as a standby, advisory board rendering help and assistance wherever needed.

After many years of outstanding public service on the board, Commissioner Richard Bonneville of South Hadley - a true leader in the milk field as a dealer - announced his retirement.

Counsel was most active in the course of the year in activity before the Legislature, providing expert testimony in favor of the Agri-Bond Bill of great concern to ALL farmers and food processors in an era of tough financing and prohibitive interest rates. Passage is deemed essential.

In adjudicatory and administrative procedures, and in litigation before the Superior Court, decisions are sustained and enforced as to the ongoing battle against predatory pricing and to sustain the priority of Massachusetts produced milk in certain situations permitted by law.

Reorganization in bankruptcy of the third largest dairy in the state has tested the resources of the State, the staff, and also strained to the utmost the farmers of the state. With the cooperation and assignment of the United States Court, efforts were successful in keeping this large employer and supplier on an operating and recuperating basis.

Partly through its efforts, the Milk Control staff is able to announce and confirm that milk sells to the 6,000,000 Massachusetts consumers at about the Lowest price of any state in the country!

Our agency of State government licenses all retail outlets of milk and last year more than 3,500 stores were licensed - ranging from the large supermarket chains to the so-called "mom and pop" stores.

PESTICIDE PROGRAM

Lewis F. Wells, Jr., Program Supervisor

Regulation of pesticides in Massachusetts is carried out under authority granted by Chapter 132B of the General Laws. Control of the use and application of pesticides is vested in the Department of Food and Agriculture.

The Pesticide Board which is chaired by the Commissioner of Food and Agriculture has three functions: (1) Providing advice to the Department of Food and Agriculture as to policy relative to the implementation of the Massachusetts Pesticide Control Act (Chapter 132B), (2) Approving of all regulations promulgated by the Department and, (3) Acting as an appeal body accessible to any person agrieved by an action of the Department as it enforces the law and its rules and regulations which pertain to pesticides. The registration of pesticide products and the issuance of experimental permits are the responsibility of a subcommittee of the Pesticide Board.

The Pesticide Program is concerned, to a great extent, with day to day regulatory functions: licensing, inspection, investigation, and the taking of enforcement action when indicated. The program staff also acts as the administrative and technical staff of the Pesticide Board and the subcommittee of that Board and provides technical consultation to other state agencies, municipalities, and to the general public. The latter function, although not specifically found in the law, fills a great need in this time of rapidly changing knowledge and attitudes as regards pesticides and their effects on humans and other components of the environment. The focus of the staff's activities in this regard is first to aid in the determination of whether or not pesticide use is indicated. If pesticide use is indicated, those pesticide uses which are legally possible under the circumstances at hand are discussed. Finally, advice is given as to which of such uses are most suitable for the situation at hand and what precautions or operational proceedures will be likely to minimize the environmental impact of those pesticides which are used.

This technical consultation function of the Pesticide Program is as valuable as the enforcement aspects of the total program whose major goal is to change the pattern of pesticide use so as to lessen environmental impact.

During Fiscal Year 1981, the wide scope of the program's actions included the following:

1. 3649 persons were certified to apply or supervise the application of restricted pesticides.

2. 577 persons were licensed to apply general use pesticides to land of another for hire or to apply restricted pesticides in such circumstances under the direct supervision of certified persons.

3. 115 persons were licensed as dealers in restricted pesticides.

4. 197 inspections and investigations of pesticides incidents were carried out.

5. 24 enforcement actions were taken.

The following data summarize the enforcement aspects of the program:

INSPECTION AND INVESTIGATION	PROJECTED	ACTUAL
Use	25	54
Producer	30	35
Marketplace	30	108
Imports	3	-
Special Regulation	4	-

SAMPLES COLLECTED	PROJECTED	ACTUAL
Use	75	91
Producer	30	57
Marketplace	30	4
Imports	-	-
Special Registrations	-	-

ENFORCEMENT ACTIONS TAKEN		
Administrative Orders	-	23
Civil or Criminal Actions	-	1
Licensure Revocation	-	-

The Pesticide Program budget in fiscal year 1981 was as follows:

State Appropriations	$ 86,745
Federal Grant Funds	
Certification of Applicators of Restricted Pesticides	$ 31,496
Enforcement	$ 18,305
Total Funds Available	$ 136,546

In fiscal year 1982, the level of funding from federal sources in the certification program will fall to approximately $15,000. The federal funding for fiscal year 1982 for enforcement activities will rise to approximately $213,082.

Federal grant periods do not coincide with state budget years; therefore, the enforcement grant figures for fiscal year 1982 include payments to UMass Medical Center for laboratory services rendered in our fiscal year 1981 as well as grant money transferred to the Office of the Attorney General for legal services rendered to this program during the same period.

PLANT PEST CONTROL DIVISION
Peter C. Kuzmiski, Director

Each year the hazards of spreading potential pests on plants and plant products seem to be increasing. The movement of plants between domestic and foreign areas has become commonplace. Travel time now between global areas has diminished to the point where pests of exotic origin can land here in the matter of a few hours. This jet age of travel has made it imperative that new methods of pest detection and control continue to be developed to protect our agricultural and environmental plant production.

The inspection of plants in nurseries throughout the Commonwealth is a primary function of the Division. Growing plants are examined to ensure that they are free from injurious plant pests. Nursery inspection allows the plants to enter interstate commerce and to compete in fair trade. Early detection of a pest problem will help to prevent its spread within the nursery, allowing controls to be applied before the condition becomes a major problem. Also, healthy, true-to-name, and pest free plants are guaranteed to the consumer as a result of this inspection service.

Each year from 400 to 500 nurseries and greenhouses are inspected and certified. Plants bought and sold, but not grown by individuals or establishments, must also be certified through our nursery agents' license procedure. We have from 300 to 400 agents licensed annually.

Surveys or trapping is done to determine the presence or population density of insect pests. This year the Gypsy Moth was a very destructive pest to our woodland and ornamental trees. Over 2 million acres of defoliation was recorded this year. Again the ravages of this pest emphasize the importance of continuing the development of comprehensive methods of control, with less hazard to the environment. Surveys for this pest were made in and around nurseries during the summer and fall months. Trapping for a pest of lawns and gardens, (European Chafer) was conducted this year with no new finds. Strawberry and blueberry nurseries were also inspected for specific pests of these fruit plants.

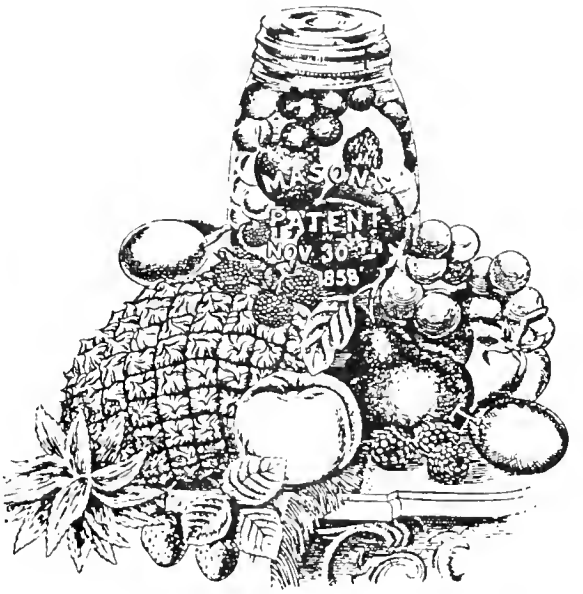
Fruit plants that are closely watched are the currant and gooseberry. These plants act as an alternate host for a serious disease called White Pine Blister Rust. In order to prevent the spread of the causal fungus of this disease, the planting of currants or gooseberries is prohibited in certain cities and towns. There are 144 planting sites where this planting is prohibited. The presence of young White Pine stands determines the restrictions of planting in these areas.This is one of our active state plant quarantines that has been in effect since 1966 when the federal quarantine was discontinued and the state assumed the responsibility. This Division by statute has the sole authority to promulgate and enforce state plant quarantines.

Domestic and foreign plant quarantines are enforced by our personnel in collaboration with the U.S. Department of Agriculture. These quarantines involve the Gypsy Moth, Brown-Tail Moth, Japanese Beetle, Black Stem Rust, and Post Entry Quarantine. Surveys include Noxious Weeds, Pest Detection, and foreign plant export certification. The Gypsy Moth, Brown-Tail Moth and Japanese Beetle quarantines involve measures to prevent the artificial spread of the insects by inspecting and/or treating regulated articles that may help cause such spread. These articles may include plants, soil, outdoor furniture, vehicles, stone products, and any article capable of harbouring any form of the insect.

One of our beneficial insects is, of course, the honeybee. The inspection of honeybees for their freedom from contagious bee diseases is an important activity of the Division. Besides the production of honey and beeswax, the pollination of our food and fiber crops is the important contribution of this insect. Each year we inspect between 6000 and 7000 colonies of honeybees. Assistance is given to new beekeepers, if necessary, to promote good beekeeping practices. There are over 12,000 known colonies of honeybees in the state and this is a conservative figure, no doubt, as many colonies remain unknown due to the lack of a honeybee colony registration law. Legislation providing for the registering of beehives was again defeated this year.

Throughout the year, the Division is busy disseminating information to the public sector relating to many agricultural subjects. Inquiries regarding plant culture, pest control, pesticide use, plant and pest identification are common calls. Information is made available through the media, telephone, and personal visits. The Division maintains a regular weekly and monthly radio program.

Personnel include five permanent and as many as thirteen temporary employees. The budget to sustain the Division this year was $100,200.



MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE - APIARY INSPECTION

ANNUAL STATISTICAL REPORT

SEASON 1981

COUNTY	NO. COLONY EXAMINED		NO. COLONY OWNED		NO. COLONY A.F.B.		NO. COLONY E.F.B.		NO. COLONY TREATED		NO. COLONY DESTROYED	
	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981	1980	
BARNSTABLE	73	-	73	-	3	-	0	-	0	-	0	
BERKSHIRE	0	-	0	-	0	-	0	-	0	-	0	
BRISTOL	159	202	180	202	4	1	7	8	0	-	0	
ESSEX	17	-	17	-	2	-	0	-	0	-	0	
FRANKLIN	46	-	60	-	0	-	0	-	0	-	0	
HAMPDEN	476	291	500	291	0	7	0	0	0	0	0	
HAMPSHIRE	374	239	374	239	23	11	1	2	0	0	0	
MIDDLESEX	3182	235	3182	344	42	24	64	0	30	0	0	
NORFOLK	462	-	462	-	40	-	8	-	4	-	0	
PLYMOUTH	469	173	589	296	50	33	39	3	41	0	0	
WORCESTER	1600	707	1580	713	16	32	2	2	10	0	0	
SUFFOLK	88	50	88	53	1	0	1	0	0	0	0	
TOTALS	6946	1897	7027	2138	181	107	122	15	85	0	0	

A.F.B. 1980 - 2.6% | A.F.B. 1981 - 5.6% | E.F.B. 1980 - 1.7% | E.F.B. 1981 - .7%

ESTIMATE NO. COLONIES IN MASSACHUSETTS 15,000

December 30, 1981

P.C. Kuzmiski, Director
Plant Pest Control

STATE RECLAMATION BOARD
John J. McColgan, Chairman

This year the State Reclamation Board welcomed Mr. Gilbert A. Bliss, Director of Forest and Parks, to the Board. Mr. Bliss is the third member of the Board representing the Department of Environmental Management.

The Reclamation Board had its hands full when the South Shore Mosquito Control Project was terminated. This mosquito control project was established as a voluntary trust; ten municipalities on the south shore area funded the project through voluntary contributions raised at town meetings. For the first time, the Reclamation Board had responsibility to liquidate a mosquito project. The monies received are being reimbursed to those member communities of the south shore with the satisfaction of the South Shore Commission.

During Fiscal 81, the Town of Lexington voted to re-enter the East Middlesex County Mosquito Control Project after voting out previous years. The Town of Wellesley opted to withdraw from the mosquito control project. Central Massachusetts Mosquito Control Project gained one city but lost four towns. The city of Leominster voted to be a member of the CMMCP and the Towns of Bolton, Hopkinton, Sterling, and Stow withdrew from the project.

The Town of Milton via letter of the Selectmen thanked the Norfolk County Mosquito Control Project for their effective efforts in fighting the mosquito populations. The Town of Milton withdrew, citing Proposition 2½ as the reason. NCMCP accepted the Town of Braintree as a member this year; previously, Braintree was a member of South Shore Mosquito Control Project.

The Town of Monterey received legislative approval to withdraw from Berkshire County Mosquito Control Project.

The Towns of Duxbury, Hingham, Hull, Norwell, and Scituate, previous members of the terminated South Shore Mosquito Control Project, entered the existing Plymouth County Mosquito Control Project. Again this year interest was expressed in a mosquito control project in the southwest area of Worcester County. The proposed legislation was not successful.

This year the Board voted and approved a policy statement in regards to aerial adulticide application for mosquito control. The policy statement provides guidelines to municipalities and mosquito control projects relative to sound pesticide choices for controlling mosquitoes. It would limit the use of certain registered pesticides during conditions that would warrant alternative choices. This year the Board sponsored two bills compatible with the above policy statement. One bill, an act relative to mosquito control by cities and towns in mosquito control projects or districts, was signed into law by Governor King. (Chapter 302 Acts and Resolves). This law allows municipalities within an organized mosquito control project to raise monies for mosquito abatement in addition to the amount assessed by the project. The mosquito control would be under the supervision of the mosquito control project.

Another bill (An Act Relative to Mosquito Control by cities and towns not in Mosquito Control or Districts) is still pending in the Ways and Means Committee. This bill will require Boards of Health to file annually on or before June 1st a detailed report of its proposed mosquito control program. The municipality may proceed with said mosquito control programs after approval by the Board.

Regarding the financing of the mosquito control projects; all mosquito control operation expended a little over $2,000,000 which was financed locally. Funding for the eight organized mosquito control districts is derived from a formula in legislation relative to total land area and finalized equalized valuation. East Middlesex Mosquito Control Project is a voluntary trust; it is funded by cities and towns who have elected to join them through town meetings on city council vote.

At the beginning of Fiscal Year 1981, weather conditions were favorable to management of mosquito populations, as were the very dry conditions which persisted through the latter part of the summer. Nonetheless, a great amount of mosquito work was performed by mosquito crews to complement the work nature had provided. During the Spring of Fiscal Year 1981, rainfall was not excessive but the pesky biting "springbrood" mosquitos were heavy in certain parts of the Commonwealth.

The budget of $47,000 covered the cost of the administrative work of the Board, services of regular employees of the Board, and necessary expenses incurred in overseeing the work of the nine mosquito control projects in operation during the year.

Throughout the year the Entomologist, Mark Buffone, provided information to the public relative to mosquito control programs, pesticides used for mosquito control, and identification of various pests. The Entomologist collaborated with various agencies, especially the Pesticide Board, on matters concerning mosquito control. The Reclamation Board's affiliation with the University of Massachusetts via the Extension Biting Fly Specialist has been a continued asset.

This year, a special effort was pursued by the East Middlesex Mosquito Control Project to investigate the new microbial insecticide called Bacillus Thuringiensis isaelensis via large scale aerial applications in cooperation with the Division of Fisheries and Wildlife. This unique biological insecticide is looking good in regards to effectiveness and safety to the environment.

Massachusetts Department of Food and Agriculture
100 Cambridge Street
Boston, MA 02202

Massachusetts Agriculture 1982

Edward J. King,
Governor

John A. Bewick,
Secretary of Environmental Affairs

Frederic Winthrop, Jr.,
Commissioner Food and Agriculture

Dairy and vegetable farmer Stephen Verrill speaks at his farm in Concord during ceremonies to award direct marketing grants and citations for participation in state Agricultural Preservation Restriction Program. Officiating at the April 17 event were Frederic Winthrop, Jr. (left), Commissioner of the Massachusetts Department of Food and Agriculture, and U.S. Secretary of Agriculture John R. Block (seated right).

The Commonwealth of Massachusetts

Department of Food and Agriculture

Leverett Saltonstall Building, Government Center

100 Cambridge Street, Boston 02202

Dear friends of Massachusetts agriculture:

A look back at year's end provides insight for the future.

Combined in this publication are a review of the activities of this Department during fiscal year 1982, and also a statistical summary of farm production in Massachusetts for the 1981 crop year.

Cash receipts from farm marketings rose from $296,864,000 in 1980 to a high of $321,540,000. Receipts were up or held steady in 18 of the 25 major farm categories. Dramatic increases were noted in cranberry, dairy and maple production, though the adverse impact of inflation has not been factored into these statistics.

Crop production for 1982 will surely be affected by the severe rains and flooding that inundated the state during June. A bright note will most likely be cranberry production, as all indications are that we will see the largest crop ever in Massachusetts, which is again this year the leading cranberry producing state.

The development of new markets for our native agricultural products continued as a priority during the past year, as you will read in our Departmental annual report. You will note, too, that there has been significant progress in our efforts to protect farmland across the state. I hope that you will review the charts and statistics in the section in this Agricultural Preservation Restriction Program as well as the yearly reports from all of our various Divisions and offices. Their achievements are impressive.

As in past years, the statistical report in this publication was compiled by the New England Crop and Livestock Reporting service of the U.S. Department of Agriculture. We are grateful for their fine work and for all the contributions of the staff in the Massachusetts Department of Food and Agriculture.

Sincerely,

Frederic Winthrop, Jr.
Commissioner

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MISCELLANEOUS

PHOTOGRAPHS OF DEPARTMENT ACTIVITIES

SECTION II--ANNUAL REPORT, STATE DEPARTMENT OF FOOD AND AGRICULTURE

COVER PHOTO:

At bogs owned by Decas Cranberry Company in Carver, helicopter lifts a large crate containing 1000 pounds (10 barrels) of cranberries. This technique speeds up the harvest operation, dramatically reduces damage to cranberry vines, and saves on labor expenses. Also, it helps increase cranberry production! Waiting to assist in the innovative harvest procedure used on dry harvested bogs is John C. Decas (left). Photo by UPI photographer George Riley.

MASSACHUSETTS AGRICULTURAL STATISTICS

MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE

FREDERIC WINTHROP, JR., COMMISSIONER

100 CAMBRIDGE STREET

BOSTON, MASSACHUSETTS 02202

(617) 727-3000

UNITED STATES DEPARTMENT OF AGRICULTURE

JOHN R. BLOCK, SECRETARY

STATISTICAL REPORTING SERVICE

WILLIAM E. KIBLER, ADMINISTRATOR

COMPILED BY:

NEW ENGLAND CROP AND LIVESTOCK REPORTING SERVICE

6 LOUDON ROAD

CONCORD, NEW HAMPSHIRE 03301

CHARLES W. HAMMOND, AGRICULTURAL STATISTICIAN IN CHARGE

ROWLAND R. SCRANTON, ASSISTANT STATISTICIAN IN CHARGE

BEVERLY A. LACROIX, ADMINISTRATIVE

STATISTICIANS

RICHARD BLOOD

JOHN KETCHAM

TOM MARR

DAVID MUELLER

ROBIN J. RIPPLE

SUPERVISORY FIELD ENUMERATORS

HELEN BARDWELL, HATFIELD

JEAN GIBBS, CARVER

SUPPORT STAFF

LYNNE ARSENAULT

MARY BOURGEOIS

JOSEPHINE EYSSI

CAROLYN HANSON

LAWRENCE KELLY

JOAN PARKER

LEAH ROCHA

JOYCE SUPRY

ADRIENNE ZAPPIA

LIVESTOCK HIGHLIGHTS

CATTLE AND CALVES

The inventory of cattle and calves in Massachusetts on January 1, 1982 totaled 96,000 head, 8 percent less than January 1, 1981. This inventory consisted of 45,000 milk cows; 10,000 beef cows; 17,000 heifer replacements; 6,000 steers and bulls and 18,000 calves. The current trend is for more beef cows and fewer milk cows. The 1981 calf crop (calves born) of 45,000 head was unchanged from 1980. The inventory value on January 1, 1982 averaged a record high value of $800 per head, $15 more than the previous year. With the reduced inventory number, the value only totaled $76.8 million, 6 percent below the record total value set on January 1, 1981.

The 1981 production of cattle and calves totaled 46,000 head with a total live weight of 24.0 million pounds, 1.4 million pounds less than 1980 production. Marketings in 1981 numbered 46,000 head of cattle and calves at a total live weight of 25.6 million pounds, up 2.3 million pounds from 1980.

SHEEP AND LAMBS

Sheep and lamb inventory in Massachusetts on January 1, 1982 totaled 8,000 head, 11 percent above January 1, 1981 and the largest number since January 1, 1971. Sheep and lamb inventory numbers have been increasing since 1979. Inventory value for the January 1, 1982 flock was a record high $872,000, up 38 percent from January 1, 1981, due to increases in both inventory numbers and value per head. The January 1, 1982 value per head was a record high $109, up from the $88 value per head on January 1, 1981. The lamb crop in 1981 totaled 6,800 head, up 21 percent from the lamb crop in 1980 and the largest lamb crop since 1969.

The 1981 production of sheep and lambs numbered 4,800 head with a total live weight of 423,000 pounds, down 1 percent from the total live weight produced in 1980. Gross income from the 1981 sheep and lamb production was a record high $286,000, up from the 1980 gross income of $268,000. Sheep and lamb marketings numbered 4,000 head at a total live weight of 207,000 pounds, down 31 percent from the live weight in 1980 and the lowest since 1944.

WOOL

Wool production of 49,000 pounds in 1981 was up 2,000 pounds from the 1980 total and the largest production since 1974. There were 7,000 head of sheep shorn in 1981, 200 above the 1980 total and the largest number shorn since 1972. Weight per fleece averaged 7.0 pounds in 1981, up from the 6.9 pounds per fleece in 1980. The value of wool production in 1981 was $44,000 or $3,000 more than in 1980 and the largest since 1957. Farmers received a record 90¢ per pound for wool in 1981, up 2¢ per pound from the 88¢ per pound in 1980.

HOGS AND PIGS

The inventory of hogs and pigs in Massachusetts on December 1, 1981 totaled 49,000 head, unchanged from the record low set in 1980. The inventory included 12 percent breeding animals and 88 percent animals intended for market. The value of the December 1, 1981 inventory totaled $3.9 million, 7 percent more than on December 1, 1980, but 15 percent below the record high 1978 inventory value. The average value per head was a record high $79.50 on December 1, 1981, up from the $74.50 on December 1, 1980.

The pig crop for 1981 (December 1980-November 1981) of 58,000 head was down 11 percent from the 65,000 in 1980. Sows farrowing for the year totaled 9,000 head, 1,000 below the number that farrowed in 1980. The litter size in 1981 averaged 6.4 pigs, below the 6.5 pigs per litter in 1980. The spring (December-May) pig crop for 1981 totaled 26,000 head, down 13 percent from the 1980 spring crop. The 1981 fall (June-November) pig crop totaled 32,000, down 9 percent from the 1980 fall crop.

The 1981 hog production of 56,000 head, with a record low total live weight of 13.3 million pounds, was down 19 percent from the total live weight production in 1980. The gross income from hog production in 1981 was $5.8 million, down 11 percent from the $6.5 million in 1980. Farmers marketings in 1981 of 55,000 head, with a total live weight of 12.8 million pounds, were 21 percent fewer pounds than in 1980 and the lowest since 1926.

HONEY PRODUCTION

Apiarists in Massachusetts kept 11,000 bee colonies in 1981, 1,000 colonies less than in 1980. Although weather conditions were favorable in 1981 for honey production, many colonies were damaged from spraying for the gypsy moths which held production to 253,000 pounds, down from the 288,000 pounds in 1980. Yield per colony in 1981 was 23 pounds compared to 24 pounds in 1980. The 1981 value of production was $279,000, less than the $294,000 in 1980. Apiarists in 1981 received a record high average price of $1.04 per pound, up from the $1.02 per pound received in 1980.

CATTLE: NUMBER AND VALUE OF ALL CATTLE AND CALVES ON FARMS JANUARY 1, MASSACHUSETTS, 1971-1982

YEAR	NUMBER	VALUE	
		PER HEAD	TOTAL
	1,000 Head	Dollars	1,000 Dollars
1971	111	270	29,970
1972	110	290	31,900
1973	111	335	37,185
1974	105	420	44,100
1975	107	315	33,705
1976	107	345	36,915
1977	104	380	39,520
1978	99	415	41,085
1979	102	560	57,120
1980	104	685	71,240
1981	104	785	81,640
1982	96	800	76,800

CATTLE: JANUARY 1, INVENTORY BY CLASSES, MASSACHUSETTS, 1971-1982

YEAR	ALL CATTLE AND CALVES	COWS & HEIFERS THAT HAVE CALVED		HEIFERS 500 LBS. & OVER			STEERS 500 LBS. +	BULLS 500 LBS. +	STEERS, HEIFERS & BULLS -500 LBS.
		BEEF	MILK	BEEF COW REPLACEMENTS	MILK COW REPLACEMENTS	OTHER REPLACEMENTS			
					1,000 Head				
1971	111	7	60	2	15	2	2	2	21
1972	110	8	58	2	15	2	2	2	21
1973	111	8	57	2	16	2	2	2	22
1974	105	8	54	2	15	2	2	2	20
1975	107	9	54	2	17	1	3	2	19
1976	107	9	55	2	17	1	3	2	18
1977	104	9	53	2	17	1	2	2	18
1978	99	8	51	2	16	1	2	2	17
1979	102	10	49	3	16	1	2	2	19
1980	104	10	45	3	16	1	3	2	24
1981	104	10	45	4	14	1	4	2	24
1982	96	10	45	3	13	1	4	2	18

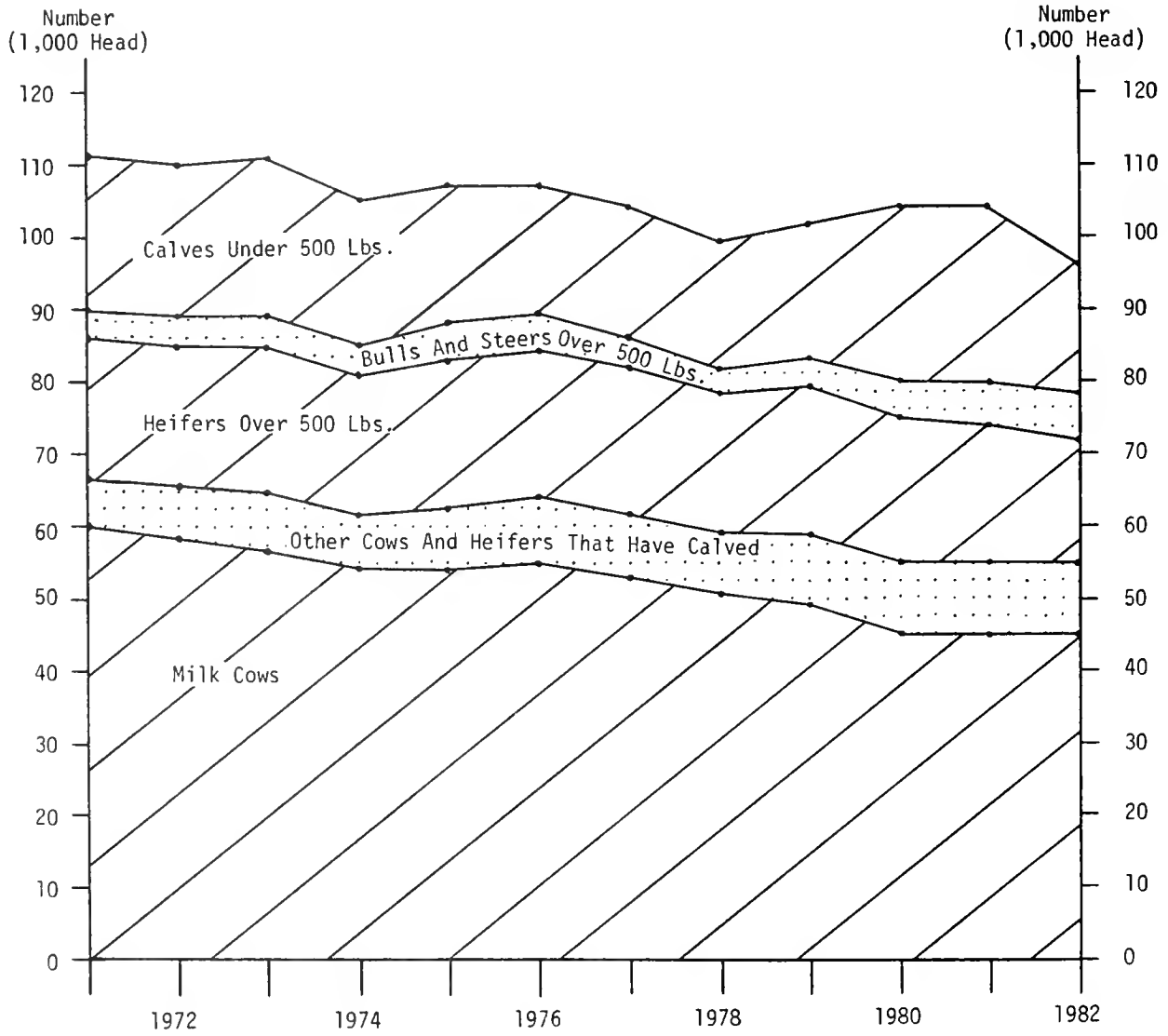
CATTLE AND CALVES: PRODUCTION AND INCOME, MASSACHUSETTS, 1971-1981

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS		VALUE OF HOME CONSUMPTION	GROSS INCOME
			CATTLE	CALVES		
	1,000 Pounds		Dollars		1,000 Dollars	
1971	23,175	32,495	21.10	28.00	363	7,443
1972	24,660	32,020	24.20	34.00	416	8,441
1973	28,875	40,115	33.50	44.00	576	14,293
1974	30,405	32,845	27.50	28.00	473	9,516
1975	35,060	27,812	22.40	24.20	925	7,217
1976	33,620	40,230	26.00	28.50	559	11,071
1977	33,240	40,790	26.20	38.20	676	11,591
1978	27,080	26,560	41.90	57.00	1,441	12,846
1979	21,340	21,754	57.00	76.00	1,520	14,248
1980	25,430	23,300	55.00	71.00	1,656	14,673
1981	24,040	25,570	50.00	63.00	1,290	14,390

CATTLE AND CALVES: INVENTORY, SUPPLY, AND DISPOSITION, MASSACHUSETTS, 1971-1981

YEAR	ALL CATTLE ON HAND JAN. 1	CALF CROP	INSHIPMENTS	MARKETINGS		FARM SLAUGHTER	DEATHS	
				CATTLE	CALVES	CATTLE AND CALVES	CATTLE	CALVES
				1,000 Head				
1971	111	60	12	29	37	1	2	4
1972	110	60	11	29	33	1	2	5
1973	111	57	10	33	30	1	3	6
1974	105	55	8	27	26	1	2	5
1975	107	56	7	32	22	1	2	6
1976	107	55	7	34	22	1	2	6
1977	104	52	7	35	20	1	2	6
1978	99	50	5	23	19	2	2	6
1979	102	47	1	19	18	1	2	6
1980	104	45	1	21	14	1	3	7
1981	104	45	1	24	22	1	2	5

MASSACHUSETTS CATTLE INVENTORY NUMBERS



HOGS: NUMBER AND VALUE ON FARMS DECEMBER 1, MASSACHUSETTS, 1970-1981

YEAR	NUMBER			VALUE	
	BREEDING	MARKET	TOTAL	PER HEAD	TOTAL
	1,000 Head			Dollars	1,000 Dollars
1970	11	62	73	28.50	2,081
1971	9	64	73	32.00	2,336
1972	9	54	63	37.50	2,363
1973	10	50	60	62.50	3,750
1974	8	43	51	48.00	2,448
1975	8	42	50	64.50	3,225
1976	7	43	50	50.50	2,525
1977	8	52	60	59.50	3,570
1978	8	52	60	76.50	4,590
1979	9	51	60	55.50	3,330
1980	7	42	49	74.50	3,651
1981	6	43	49	79.50	3,896

HOGS: PIG CROP, SOWS FARROWED AND PIGS SAVED, MASSACHUSETTS, 1971-1981

YEAR	SPRING CROP (DEC - MAY)			FALL CROP (JUN - NOV)			TOTAL PIG CROP
	SOWS	PIGS PER LITTER	PIGS SAVED	SOWS	PIGS PER LITTER	PIGS SAVED	
	1,000 Head	Head	1,000 Head	1,000 Head	Head	1,000 Head	1,000 Head
1971	7.6	6.7	51	7.4	6.3	47	98
1972	7.0	6.3	44	7.0	6.2	43	87
1973	7.0	6.0	42	7.1	6.0	43	85
1974	7.0	6.0	42	6.8	6.0	41	83
1975	7.0	6.2	43	6.8	5.7	39	82
1976	6.6	6.8	45	5.7	6.5	37	82
1977	5.0	6.9	35	6.5	6.6	43	78
1978	5.0	7.2	36	6.0	6.8	41	77
1979	6.0	6.5	39	6.5	6.5	42	81
1980	4.0	7.4	30	6.0	5.8	35	65
1981	4.0	6.6	26	5.0	6.4	32	58

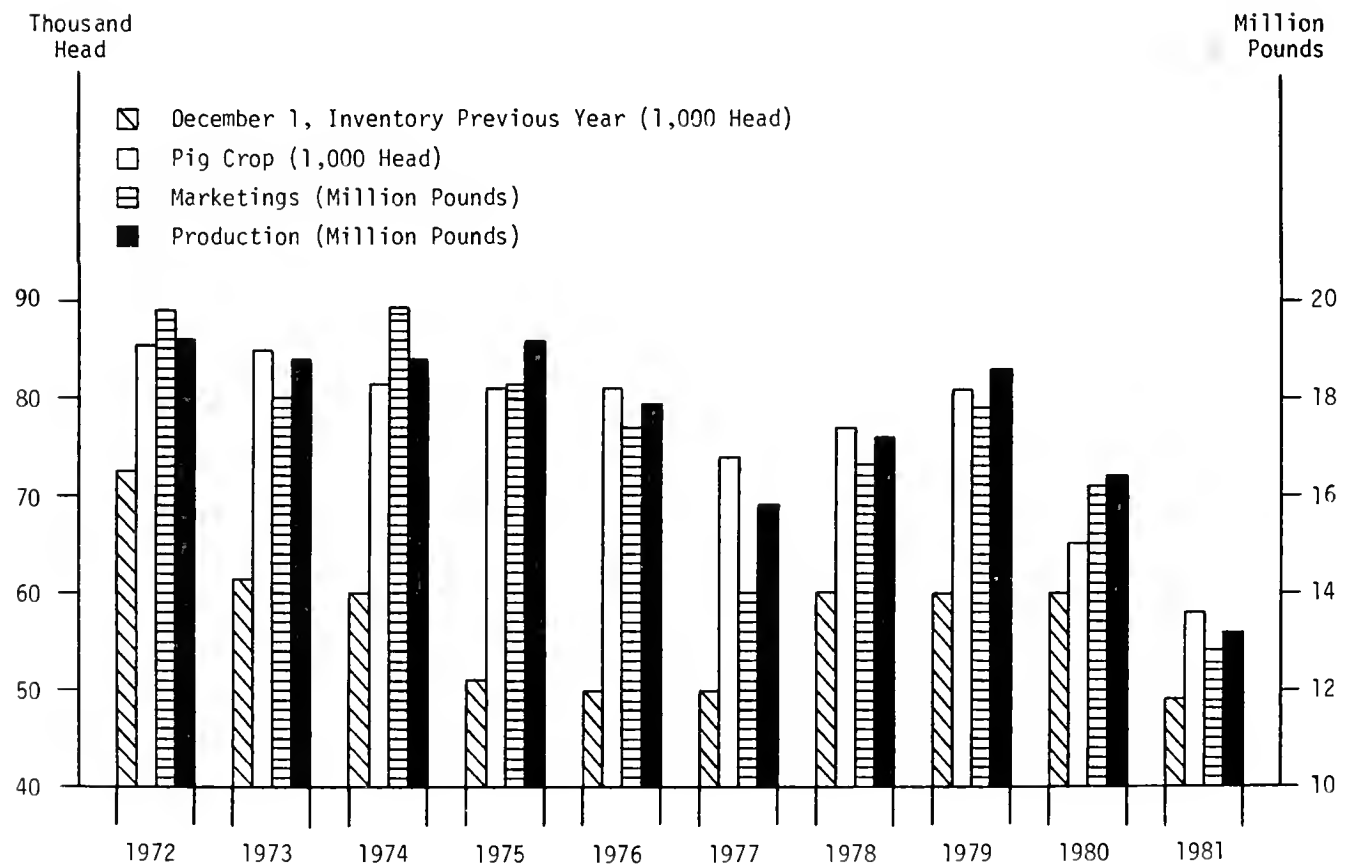
HOGS: INVENTORY NUMBER, PIG CROP AND DISPOSITION, MASSACHUSETTS, 1971-1981

YEAR	ON HAND DECEMBER 1st PREVIOUS YEAR	PIG CROP		MARKETINGS	FARM SLAUGHTER	DEATHS
		DEC - MAY	JUN - NOV			
			1,000 Head			
1971	73	51	47	88	1	9
1972	73	44	43	89	1	7
1973	63	42	43	80	1	7
1974	60	42	41	86	1	5
1975	51	43	39	78	1	4
1976	50	45	37	75	1	6
1977	50	35	43	61	1	6
1978	60	36	41	71	1	5
1979	60	39	42	76	1	4
1980	60	30	35	71	2	3
1981	49	26	32	55	1	2

HOGS: PRODUCTION AND INCOME, MASSACHUSETTS, 1971-1981

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS	VALUE OF HOME CONSUMPTION	GROSS INCOME
	1,000 Pounds		Dollars	1,000 Dollars	
1971	19,746	19,556	17.50	77	3,499
1972	19,191	19,835	25.00	110	5,069
1973	18,862	18,068	37.00	171	6,856
1974	18,764	19,910	33.00	254	6,824
1975	19,100	18,260	45.00	347	8,564
1976	17,891	17,378	45.00	354	8,174
1977	15,832	14,063	37.00	291	5,494
1978	17,211	16,640	45.00	304	7,792
1979	18,640	17,820	44.00	297	8,138
1980	16,412	16,185	37.00	500	6,488
1981	13,267	12,825	43.00	290	5,805

TREND IN DECEMBER 1 INVENTORY, PIG CROP, MARKETINGS AND PRODUCTION, MASSACHUSETTS, 1972-1981



SHEEP AND LAMBS: INVENTORY NUMBER BY CLASS AND VALUE, JANUARY 1, MASSACHUSETTS, 1971-1982

YEAR	LAMBS			ONE YEAR AND OVER		ALL SHEEP AND LAMBS	VALUE	
	ALL LAMBS	EWES	WETHERS AND RAMS	EWES	WETHERS AND RAMS		PER HEAD	TOTAL
	1,000 Head			1,000 Head		1,000 Head	Dollars	1,000 Dollars
1971	1.7	1.4	.3	5.9	.6	8.2	20.00	164
1972	1.4	1.0	.4	5.8	.6	7.8	20.00	156
1973	1.4	1.0	.4	5.5	.6	7.5	28.00	210
1974	1.4	1.0	.4	5.0	.5	6.9	40.00	276
1975	1.5	1.1	.4	5.1	.4	7.0	46.50	326
1976	1.5	1.1	.4	5.3	.4	7.2	46.00	331
1977	1.4	1.0	.4	4.9	.4	6.7	48.00	322
1978	1.6	1.1	.5	4.7	.5	6.8	53.50	364
1979	1.3	1.0	.3	4.9	.5	6.7	63.00	422
1980	1.6	1.2	.4	5.0	.5	7.1	78.50	557
1981	1.6	1.2	.4	5.1	.5	7.2	88.00	634
1982	1.9	1.4	.5	5.6	.5	8.0	109.00	872

SHEEP AND LAMBS: INVENTORY NUMBERS, LAMB CROP AND DISPOSITION, MASSACHUSETTS, 1971-1981

YEAR	ALL SHEEP AND LAMBS ON HAND JANUARY 1	LAMB CROP	MARKETINGS		FARM SLAUGHTER SHEEP AND LAMBS	DEATHS SHEEP AND LAMBS
			SHEEP	LAMBS		
	1,000 Head					
1971	8.2	6.2	1.4	3.8	0.3	1.1
1972	7.8	5.6	1.5	3.1	0.2	1.1
1973	7.5	5.3	1.5	2.9	0.4	1.1
1974	6.9	5.2	1.2	2.6	0.2	1.1
1975	7.0	5.5	0.9	2.9	0.4	1.1
1976	7.2	5.6	1.5	3.3	0.3	1.0
1977	6.7	5.7	1.1	3.1	0.4	1.0
1978	6.8	5.3	1.0	2.9	0.5	1.0
1979	6.7	5.1	0.8	2.5	0.5	0.9
1980	7.1	5.6	1.2	2.7	0.6	1.0
1981	7.2	6.8	0.7	3.3	0.8	1.2

SHEEP AND LAMBS: PRODUCTION AND INCOME, MASSACHUSETTS, 1971-1981

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS		VALUE OF HOME CONSUMPTION	GROSS INCOME
			SHEEP	LAMBS		
	1,000 Pounds		Dollars		1,000 Dollars	
1971	440	443	10.00	25.50	9	100
1972	382	397	12.00	32.50	7	105
1973	366	395	14.00	41.00	21	133
1974	349	318	17.00	37.00	10	101
1975	372	296	26.00	68.00	35	193
1976	382	393	28.00	72.00	35	244
1977	431	357	29.00	72.00	46	244
1978	406	329	38.00	84.00	67	282
1979	382	246	39.00	85.00	82	245
1980	428	300	42.00	77.00	89	268
1981	423	207	45.00	100.00	127	286

WOOL: FARM PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	SHEEP SHORN	WEIGHT PER FLEECE	SHORN WOOL PRODUCTION	PRICE PER POUND	VALUE
	1,000 Head	Pounds	1,000 Pounds	Cents	1,000 Dollars
1971	7.7	6.9	53	31	16
1972	7.2	7.2	52	34	18
1973	6.9	7.2	50	71	36
1974	6.6	7.4	49	62	30
1975	6.4	7.2	46	31	14
1976	6.7	6.9	46	60	28
1977	6.2	7.1	44	78	34
1978	6.3	6.8	43	74	32
1979	6.6	6.8	45	84	38
1980	6.8	6.9	47	88	41
1981	7.0	7.0	49	90	44

BEES, HONEY AND BEESWAX: COLONIES OF BEES, PRODUCTION, PRICE PER POUND AND VALUE OF PRODUCTION, MASSACHUSETTS, 1971-1981

YEAR	COLONIES OF BEES	HONEY				BEESWAX		
		YIELD PER COLONY	PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION	PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
	1,000	Pounds	1,000 Pounds	Cents	1,000 Dollars	1,000 Pounds	Dollars	1,000 Dollars
1971	9	25	225	42.2	95	5	.80	4
1972	9	19	171	50.0	86	3	.75	2
1973	9	26	234	66.8	156	4	.90	4
1974	12	16	192	81.2	156	4	1.10	4
1975	12	27	324	96.9	314	8	1.10	9
1976	12	19	228	101.0	230	4	1.10	4
1977	12	22	264	103.0	272	5	1.50	8
1978	12	35	420	103.0	433	6	1.60	10
1979	12	33	396	83.1	329	6	1.60	10
1980	12	24	288	102.0	294	6	1.85	11
1981	11	23	253	104.0	279	4	1.93	8

DAIRY HIGHLIGHTS

MILK PRODUCTION

Milk production from Massachusetts farms totaled 578 million pounds in 1981, 1 percent more than in 1980, and the largest production since 1977. The average number of milk cows in Massachusetts during 1981 was 46,000 head, unchanged from the 1980 record low. The number of milk cows have generally been on a decline since 1944. The 1981 rate per cow of 12,565 pounds continues the long term upward trend with an increase of 174 pounds above the 1980 average.

MILK DISPOSITION AND BLEND PRICE

Dairymen in the Commonwealth marketed 569 million pounds in 1981, an increase of 9 million pounds from the 1980 total and the largest amount since 1977. The average price received for milk marketed in 1981 averaged $15.11 per cwt., 87¢ greater than the 1980 average, and continuing the upward trend. With both an increase in the amount marketed and average price, the 1981 cash receipts rose 8 percent above 1980 and totaled almost $86 million.

MANUFACTURED DAIRY

Massachusetts ice cream production during 1981 totaled 43 million gallons, 2 percent below 1980 but 2 percent above 1979. Although ice cream production was down in the Commonwealth, the production of cheese, ice milk and milk sherbet was all above the 1980 totals.

MANUFACTURED DAIRY: PRODUCTION MAJOR PRODUCTS, MASSACHUSETTS, 1971-1981

YEAR	TOTAL CHEESE	ICE CREAM	ICE MILK	MILK SHERBET
	1,000 Pounds		1,000 Gallons	
1971	7,268	40,455	7,514	2,556
1972	6,416	41,025	8,802	2,393
1973	5,976	42,302	7,742	2,330
1974	5,412	43,607	9,611	2,186
1975	5,288	47,761	9,177	1,985
1976	6,123	46,320	7,246	2,116
1977	5,786	45,255	7,483	2,180
1978	7,780	42,909	9,779	2,102
1979	6,255	42,463	10,454	1,829
1980	5,099	43,986	9,817	1,992
1981	8,559	43,193	10,173	2,089

MILK COWS: AVERAGE NUMBER ON FARMS, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1971 - 1981

YEAR	JAN - MAR	APR - JUN	JUL - SEPT	OCT - DEC	ANNUAL
			1,000 Head		
1971	60	59	58	58	59
1972	57	57	57	57	57
1973	56	55	54	54	55
1974	54	54	54	54	54
1975	55	54	54	55	55
1976	55	54	53	53	54
1977	52	51	51	51	51
1978	50	48	48	49	49
1979	49	48	47	46	48
1980	46	46	46	46	46
1981	45	45	46	46	46

MILK PRODUCTION: AVERAGE PER COW, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1971 - 1981

YEAR	JAN - MAR	APR - JUN	JUL - SEPT	OCT - OEC	ANNUAL
			Pounds		
1971	2,700	2,950	2,810	2,740	11,150
1972	2,795	2,965	2,650	2,580	11,035
1973	2,715	2,930	2,610	2,610	10,818
1974	2,705	2,945	2,720	2,610	10,981
1975	2,725	2,960	2,720	2,620	10,927
1976	2,735	2,950	2,760	2,700	11,074
1977	2,850	3,060	2,890	2,870	11,706
1978	2,900	3,110	2,920	2,820	11,673
1979	2,920	3,090	2,940	2,980	11,792
1980	3,110	3,240	3,000	3,050	12,391
1981	3,180	3,350	3,090	3,080	12,565

MILK PRODUCTION, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1971 - 1981

YEAR	JAN - MAR	APR - JUN	JUL - SEPT	OCT - DEC	ANNUAL
			Million Pounds		
1971	162	174	163	159	658
1972	162	169	151	147	629
1973	152	161	141	141	595
1974	146	159	147	141	593
1975	150	160	147	144	601
1976	150	159	146	143	598
1977	148	156	147	146	597
1978	145	149	140	138	572
1979	143	148	138	137	566
1980	143	149	138	140	570
1981	143	151	142	142	578

MILK: QUANTITY MARKETED, PRICE AND CASH RECEIPTS, MASSACHUSETTS, 1971 - 1981

YEAR	SOLD TO PLANTS			SOLD DIRECTLY TO CONSUMERS			COMBINED MARKETINGS		
	QUANTITY	PRICE PER CWT.	CASH RECEIPTS	QUANTITY	PRICE PER QUART	CASH RECEIPTS	QUANTITY	PRICE PER CWT.	CASH RECEIPTS
	Million Pounds	Dollars	1,000 Dollars	Million Quarts	Cents	1,000 Dollars	Million Pounds	Dollars	1,000 Dollars
1971	600	6.96	41,760	20.9	31	6,488	645	7.48	48,248
1972	580	7.23	41,934	17.2	32	5,507	617	7.69	47,441
1973	550	8.22	45,210	15.3	35	5,372	583	8.68	50,582
1974	550	9.50	52,250	14.4	40	5,768	581	9.99	58,018
1975	555	9.65	53,588	15.8	40	6,326	589	10.17	59,884
1976	550	10.70	58,850	16.7	42	7,032	586	11.24	65,882
1977	550	10.70	58,850	16.7	42	7,032	586	11.24	65,882
1978	530	11.50	60,950	14.9	43	6,400	562	11.98	67,350
1979	525	12.80	67,200	14.4	46	6,633	556	13.28	73,833
1980	530	13.70	72,610	14.0	51	7,116	560	14.24	79,726
1981	540	14.60	78,840	13.5	53	7,149	569	15.11	85,989

MILK: QUANTITIES USED AND MARKETED BY FARMERS, MASSACHUSETTS, 1971 - 1981

YEAR	TOTAL PRODUCED	MILK, USED ON FARMS WHERE PRODUCED			MILK MARKETED BY FARMERS		
		USED FOR MILK, CREAM AND BUTTER	FED TO CALVES	TOTAL	SOLD TO PLANTS AND DEALERS	SOLD DIRECTLY TO CONSUMERS	TOTAL
	Million Pounds						
1971	658	8	5	13	600	45	645
1972	629	7	5	12	580	37	617
1973	595	7	5	12	550	33	583
1974	593	7	5	12	550	31	581
1975	601	7	5	12	555	34	589
1976	598	7	5	12	550	36	586
1977	597	6	5	11	550	36	586
1978	572	5	5	10	530	32	562
1979	566	4	6	10	525	31	556
1980	570	4	6	10	530	30	560
1981	578	4	5	9	540	29	569

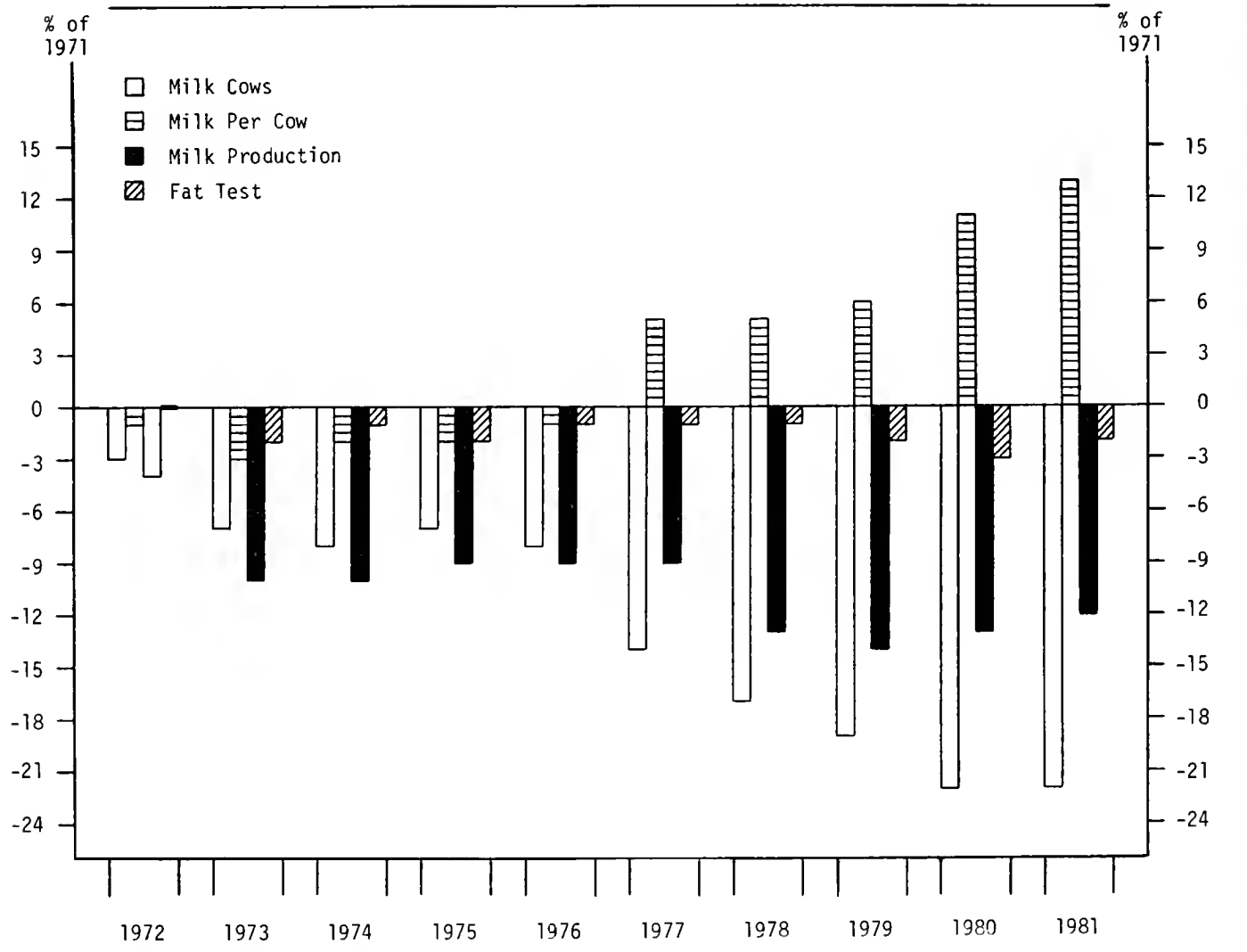
MILK: SOLD TO PLANTS, MONTHLY AND ANNUAL AVERAGE PRICE PER 100 POUNDS RECEIVED BY FARMERS, MASSACHUSETTS, 1971 - 1981

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL AVERAGE
	Dollars												
1971	7.05	7.05	6.90	6.65	6.45	6.30	6.75	7.05	7.30	7.40	7.45	7.30	6.96
1972	7.20	7.25	7.00	6.70	6.65	6.50	6.95	7.45	7.80	7.95	7.95	7.65	7.23
1973	7.70	7.75	7.55	7.30	7.20	7.20	7.75	8.55	9.25	9.55	9.80	9.70	8.22
1974	9.80	9.90	9.85	9.80	9.25	8.50	8.90	9.40	9.70	9.80	10.00	9.45	9.50
1975	9.55	9.50	9.15	8.95	8.50	8.35	9.05	9.65	10.30	10.80	11.10	11.20	9.65
1976	11.10	10.80	10.70	10.00	9.90	9.75	10.40	11.00	11.30	11.50	11.20	10.70	10.70
1977	10.60	10.50	10.20	10.20	9.90	10.00	10.50	10.90	11.20	11.40	11.40	11.20	10.70
1978	11.10	11.20	11.00	10.70	10.70	10.60	11.00	11.60	12.10	12.70	12.90	12.70	11.50
1979	12.70	12.80	12.50	12.20	12.00	12.00	12.50	13.10	13.40	13.80	13.90	13.40	12.80
1980	13.60	13.40	13.30	13.00	13.00	12.80	13.30	13.70	14.20	14.70	14.80	14.70	13.70
1981	14.90	14.70	14.50	14.30	14.00	13.80	14.30	14.60	14.90	15.20	15.00	14.80	14.60

MILK: FARM PRODUCTION AND VALUE OF MILK AND MILK PRODUCTS SOLD, MASSACHUSETTS, 1971-1981

YEAR	NUMBER OF MILK COWS ON FARMS	PRODUCTION					FARM VALUE OF MILK PRODUCED
		PER MILK COW		PERCENTAGE OF FAT IN ALL MILK PRODUCED	TOTAL		
		MILK	MILKFAT		MILK	MILKFAT	
	Thousands	Pounds		Percent	Million Pounds		1,000 Dollars
1971	59	11,153	414	3.71	658	24	49,218
1972	57	11,035	409	3.71	629	23	48,370
1973	55	10,818	395	3.65	595	22	51,646
1974	54	10,981	402	3.66	593	22	59,241
1975	55	10,927	397	3.63	601	22	61,122
1976	54	11,074	405	3.66	598	22	67,215
1977	51	11,706	431	3.68	597	22	67,103
1978	49	11,673	428	3.67	572	21	68,526
1979	48	11,792	429	3.64	566	21	75,165
1980	46	12,391	447	3.61	570	21	81,168
1981	46	12,565	456	3.63	578	21	87,336

TREND IN MILK COWS, PRODUCTION AND FAT TEST, MASSACHUSETTS, 1972-1981



POULTRY HIGHLIGHTS

CHICKENS

The December 1, 1981 inventory of chickens on farms (excluding broilers) in Massachusetts totaled 1.6 million birds, 10 percent below a year ago, and 7 percent below the inventory on December 1, 1979. The inventory revealed that the number of hens of laying age on December 1, 1981 increased 1 percent, while the number of pullets of laying age was 23 percent below the 1980 total. Total value of all chickens on hand in the state on December 1 was $4.1 million, slightly lower than the year before. Poultrymen marketed 9.1 million pounds of poultry during 1981 at 9.0 cents per pound compared to 6.3 million pounds at 8.3 cents per pound the previous year.

EGGS

For the fourth consecutive year, egg production declined as 321 million eggs were produced, 2 percent lower than the previous year and the lowest since 1932. The average daily rate of lay per 100 birds was a record 67.4 eggs per day, surpassing the previous record of 67.0 set in 1979. A record 86.0 cents per dozen allowed egg producers to gross 23.0 million dollars, the largest amount since 1969.

TURKEYS

Massachusetts farmers during 1981 raised 145,000 turkeys, 19,000 more than the year before. The value of production increased to $2.3 million, due to the increased numbers as the price per pound was 1¢ lower than the 1980 average.

POULTRY: INVENTORY BY CLASS AND VALUE, MASSACHUSETTS, DECEMBER 1, 1970-1981

YEAR	CHICKENS, EXCLUDING BROILERS						VALUE PER HEAD	TOTAL VALUE
	HENS AND PULLETS OF LAYING AGE		PULLETS NOT OF LAYING AGE		OTHER	TOTAL		
	HENS	PULLETS	3 MONTHS AND OLDER	UNDER 3 MONTHS				
	1,000 Head						Dollars	1,000 Dollars
1970	884	1,415	228	271	54	2,852	1.90	5,419
1971	886	1,313	288	249	33	2,769	1.85	5,123
1972	729	1,069	228	221	32	2,279	1.40	3,191
1973	896	807	251	255	31	2,240	2.00	4,480
1974	772	939	224	271	31	2,237	2.10	4,698
1975	725	786	293	268	19	2,091	2.35	4,914
1976	593	782	239	241	15	1,870	2.40	4,488
1977	465	1,005	290	180	50	1,990	2.05	4,080
1978	550	620	196	174	40	1,580	2.05	3,239
1979	617	755	126	197	31	1,726	2.15	3,711
1980	644	811	108	209	18	1,790	2.30	4,117
1981	650	622	141	153	37	1,603	2.55	4,088

POULTRY: AVERAGE NUMBER OF LAYERS BY MONTH AND ANNUAL, MASSACHUSETTS, 1971-1981

MONTH	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
						Thousands					
DECEMBER 1/	2,313	2,188	1,800	1,717	1,751	1,504	1,434	1,447	1,253	1,342	1,412
JANUARY	2,339	2,166	1,813	1,676	1,742	1,496	1,501	1,402	1,338	1,320	1,362
FEBRUARY	2,325	2,091	1,790	1,602	1,715	1,474	1,515	1,440	1,400	1,331	1,322
MARCH	2,298	2,026	1,740	1,565	1,743	1,429	1,509	1,500	1,480	1,339	1,326
APRIL	2,235	2,036	1,717	1,536	1,718	1,401	1,514	1,503	1,435	1,332	1,334
MAY	2,200	2,046	1,704	1,530	1,668	1,408	1,539	1,484	1,385	1,318	1,293
JUNE	2,227	2,005	1,674	1,533	1,637	1,428	1,519	1,392	1,395	1,300	1,220
JULY	2,271	1,974	1,668	1,550	1,662	1,415	1,521	1,340	1,421	1,309	1,195
AUGUST	2,314	1,944	1,680	1,591	1,679	1,400	1,515	1,388	1,416	1,355	1,211
SEPTEMBER	2,280	1,904	1,675	1,633	1,614	1,399	1,435	1,395	1,365	1,383	1,272
OCTOBER	2,256	1,894	1,687	1,676	1,566	1,406	1,401	1,383	1,373	1,387	1,368
NOVEMBER	2,233	1,841	1,700	1,705	1,537	1,398	1,440	1,280	1,384	1,420	1.329
ANNUAL	2,274	2,010	1,721	1,610	1,669	1,430	1,487	1,413	1,387	1,345	1,304

EGGS: DAILY RATE OF LAY BY MONTHS AND ANNUAL, MASSACHUSETTS, 1971-1981

MONTH	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
						Percent					
DECEMBER 1/	61.4	62.6	63.0	65.4	64.0	65.5	65.3	63.1	67.0	67.3	66.3
JANUARY	62.4	63.7	61.7	64.7	64.5	65.0	65.2	64.5	67.1	66.0	63.9
FEBRUARY	62.2	63.7	62.8	64.1	64.1	64.5	63.9	66.0	67.6	67.3	64.8
MARCH	61.5	63.9	62.7	64.2	64.6	65.8	64.4	65.0	67.9	67.5	68.1
APRIL	61.2	63.6	64.5	64.4	67.0	67.8	65.5	65.7	67.1	67.6	67.5
MAY	61.8	63.3	66.3	65.2	68.0	68.3	66.9	67.2	64.9	66.1	70.0
JUNE	62.6	64.8	63.8	65.4	67.5	67.3	69.3	67.9	64.7	66.7	71.0
JULY	62.3	64.9	60.7	65.0	66.3	66.0	66.0	67.4	66.4	66.5	67.5
AUGUST	61.5	63.7	61.0	63.6	66.0	64.0	63.4	66.2	66.7	61.9	69.3
SEPTEMBER	60.7	62.1	62.1	61.7	65.8	62.3	64.4	66.3	67.3	62.7	68.1
OCTOBER	60.7	61.6	61.8	62.0	65.8	63.5	65.1	66.8	67.0	67.5	66.0
NOVEMBER	61.4	63.9	63.2	63.5	66.3	65.3	64.7	66.8	67.9	68.1	67.7
ANNUAL	61.7	63.3	62.6	64.0	66.0	65.5	65.4	66.1	67.0	66.2	67.4

EGGS: TOTAL PRODUCTION BY MONTHS AND ANNUAL, MASSACHUSETTS, 1971-1981

MONTH	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
						Million					
DECEMBER 1/	44	42	35	35	35	31	29	28	26	28	29
JANUARY	45	43	35	34	35	30	30	28	28	27	27
FEBRUARY	41	39	31	29	31	28	27	27	27	26	24
MARCH	44	40	34	31	35	29	30	30	31	28	28
APRIL	41	39	33	30	35	28	30	30	29	27	27
MAY	42	40	35	31	35	30	32	31	28	27	28
JUNE	42	39	32	30	33	29	32	28	27	26	26
JULY	44	40	31	31	34	29	31	28	29	27	25
AUGUST	44	38	32	31	34	28	30	28	29	26	26
SEPTEMBER	42	35	31	30	32	26	28	28	28	26	26
OCTOBER	42	36	32	32	32	28	28	29	29	29	28
NOVEMBER	41	35	32	32	31	27	28	26	28	29	27
ANNUAL	512	466	393	376	402	343	355	341	339	326	321

1/ Previous year

CHICKENS: PRODUCTION, DISPOSITION AND GROSS INCOME, MASSACHUSETTS, 1971-1981

YEAR	NUMBER OF BIRDS			LIVEWEIGHT			PRICE PER POUND	GROSS INCOME
	PRODUCED	CONSUMED	SOLD	PRODUCED	CONSUMED	SOLD		
	1,000 Head			1,000 Pounds			Cents	1,000 Dollars
1971	1,630	13	1,700	8,895	61	9,350	8.5	800
1972	1,503	12	1,981	8,273	55	10,697	9.5	1,021
1973	1,673	12	1,700	8,676	55	9,010	15.4	1,396
1974	1,706	12	1,697	10,037	55	10,012	10.3	1,037
1975	1,371	11	1,506	7,111	51	7,982	10.3	827
1976	1,090	11	1,300	6,186	51	7,150	13.3	958
1977	1,331	11	1,200	7,475	51	6,600	11.3	752
1978	901	11	1,300	5,134	51	7,150	12.3	885
1979	1,057	11	900	5,835	51	4,950	13.2	660
1980	1,225	11	1,150	6,708	51	6,325	8.3	529
1981	1,474	11	1,650	8,266	51	9,075	9.0	822

EGGS: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	EGGS PRODUCED	EGGS SOLD	PRICE PER DOZEN	CASH INCOME FROM FARM SALES	GROSS INCOME
	Millions		Cents	1,000 Dollars	
1971	512	511	44.5	18,950	18,987
1972	466	465	42.9	16,624	16,660
1973	393	392	62.9	20,547	20,599
1974	376	375	64.5	20,156	20,210
1975	402	401	66.2	22,122	22,177
1976	343	342	72.1	20,549	20,609
1977	355	354	69.9	20,621	20,679
1978	341	340	66.2	18,757	18,812
1979	339	338	73.8	20,787	20,849
1980	326	325	74.5	20,177	20,239
1981	321	320	86.0	22,933	23,005

TURKEYS: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	TURKEYS RAISED		NUMBER PRODUCED	POUNDS PRODUCED	PRICE PER POUND	VALUE OF PRODUCTION
	HEAVY	LIGHT				
	1,000			1,000 Pounds	Cents	1,000 Dollars
1971	173	19	192	3,840	35.5	1,363
1972	141	29	170	3,383	36.0	1,218
1973	144	29	173	3,287	62.0	2,038
1974	139	33	172	3,268	57.0	1,863
1975	106	19	125	2,375	58.0	1,378
1976	122	21	143	2,860	58.0	1,659
1977	110	15	125	2,600	58.0	1,508
1978	128	18	146	2,993	68.0	2,035
1979	133	7	140	2,800	65.0	1,820
1980	126	0	126	2,470	78.0	1,927
1981	145	0	145	3,045	77.0	2,345

CROP HIGHLIGHTS

CORN SILAGE

Massachusetts farmers made a record high of 780,000 tons of corn silage in 1981, 15 percent more than in 1980. A yield of 20 tons per acre compared with 17 the preceding year was responsible for the increase. Value of the crop of nearly $20 million was 3 percent more than in 1980.

A dry spring allowed soil tillage earlier than normal. Frosts didn't occur until later than normal in the fall, so the crop matured well. Harvest difficulty was caused by fall rains.

HAY

Production of all hay in 1981 totaled 278,000 tons, 8 percent more than in 1980. Increased acreage and higher yield both contributed to the increase. Value of the 1981 crop at $22 million, was 14 percent more than the 1980 crop. Rains in early summer interfered with curing the first cutting, but helped growth of the second cutting. Alfalfa came through the winter well and yielded well.

POTATOES

Potato production in 1981 totaled 743,000 hundredweight, 1 percent less than the 1980 total. One hundred fewer acres were harvested in 1981 than in 1980, but yield was 225 hundredweight per acre, compared with 220 for 1980. Because of lower price, the value of the 1981 crop is expected to be $4.6 million, 17 percent less then the value of the 1980 crop.

TOBACCO

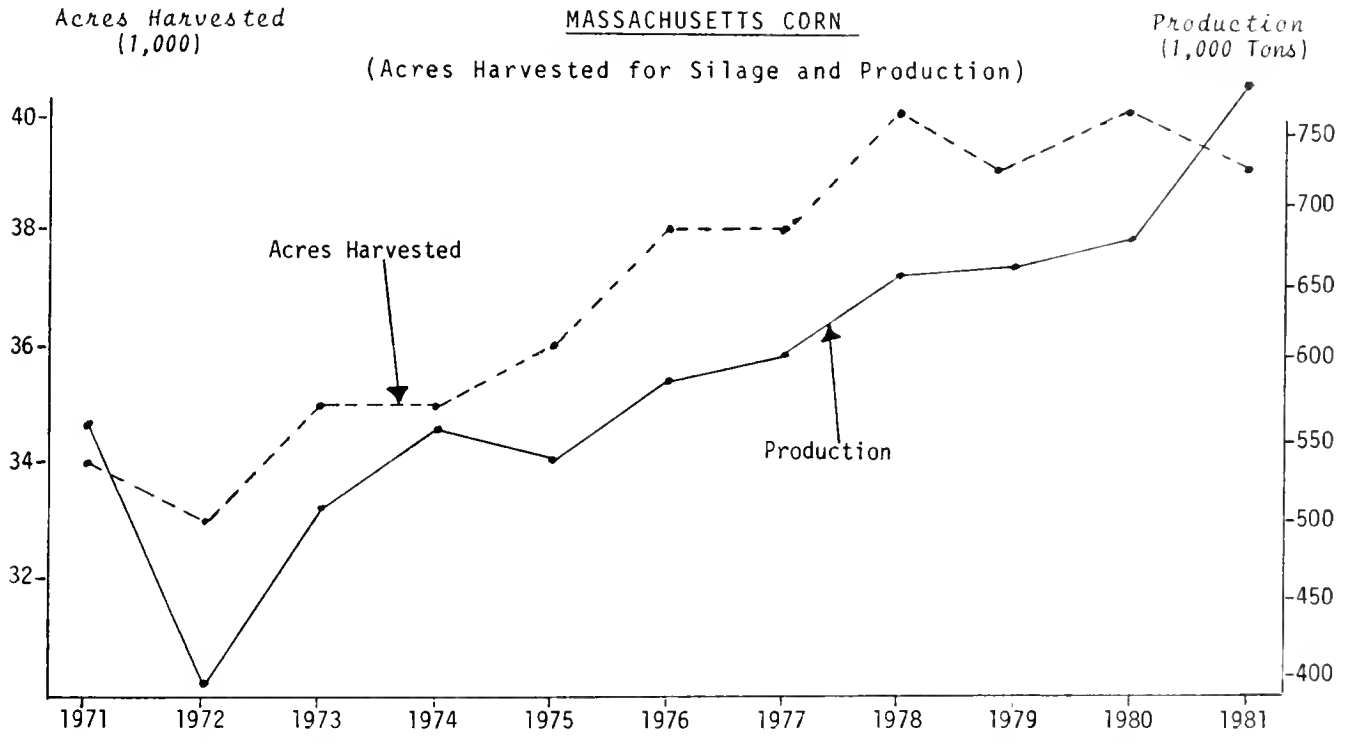
Production of all tobacco in 1981 totaled nearly two million pounds and had a value of $15.0 million, compared with 1980 production of 1.9 million pounds and a value of $14.2 million.

Shade tobacco production was 14,180,000 pounds in 1981, 4 percent more than the year before. Acreage, at 900, was down 40 acres from last year. Yield, at 1,500 pounds per acre, was 25 pounds higher than in the preceding year.

Havana Seed production, at 552,000 pounds in 1981, was 10 percent more than in 1980. Although acreage in 1981 of 240 was down slightly from the 1980 level, yield of 2,300 pounds per acre in 1981 compared with 2,000 the year before, more than compensated for the slight decline in acreage.

CORN: ACREAGE, YIELD, PRODUCTION AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	AREA PLANTED FOR ALL PURPOSES	SILAGE			
		AREA HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	VALUE OF PRODUCTION
	1,000 Acres	1,000 Acres	Tons	1,000 Tons	1,000 Dollars
1971	36	34	16.5	561	6,732
1972	35	33	12.0	396	5,346
1973	37	35	14.5	508	7,366
1974	38	35	16.0	560	10,080
1975	39	36	15.0	540	11,475
1976	43	38	15.5	589	12,987
1977	44	38	16.0	608	13,923
1978	45	40	16.5	660	14,850
1979	44	39	17.0	663	16,575
1980	45	40	17.0	680	19,380
1981	46	39	20.0	780	19,968



ALL HAY: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION	PRICE PER TON	VALUE PRODUCTION
	1,000	Tons	1,000 Tons	Dollars	1,000 Dollars
1971	112	2.15	241	41.00	9,881
1972	109	1.88	205	51.00	10,455
1973	112	2.25	252	50.00	12,600
1974	115	2.12	244	63.00	15,183
1975	118	2.18	257	79.00	19,355
1976	120	2.10	252	71.00	18,034
1977	120	1.99	239	69.00	16,077
1978	120	2.26	271	73.00	19,783
1979	119	2.39	285	72.00	20,520
1980	119	2.17	258	76.00	19,608
1981	121	2.30	278	80.50	22,379

ALFALFA HAY: ACREAGE, YIELD AND PRODUCTION, MASSACHUSETTS, 1971-1981

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
	1,000	Tons	1,000 Tons
1971	31	2.55	79
1972	28	2.25	63
1973	28	2.55	71
1974	25	2.55	64
1975	26	2.60	68
1976	26	2.45	64
1977	28	2.30	64
1978	28	2.60	73
1979	27	2.90	78
1980	27	2.40	65
1981	28	2.80	78

ALL OTHER HAY: ACREAGE, YIELD AND PRODUCTION, MASSACHUSETTS, 1971-1981

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
	1,000	Tons	1,000 Tons
1971	81	2.00	162
1972	81	1.75	142
1973	84	2.15	181
1974	90	2.00	180
1975	92	2.05	189
1976	94	2.00	188
1977	92	1.90	175
1978	92	2.15	198
1979	92	2.25	207
1980	92	2.10	193
1981	93	2.15	200

POTATOES: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	SEASON AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	1,000 Cwt.	Dollars	1,000 Dollars
1971	4,800	210	1,008	2.50	2,520
1972	4,000	160	640	3.90	2,496
1973	4,000	160	640	4.90	3,336
1974	4,400	200	880	3.50	3,080
1975	3,900	205	800	5.00	4,000
1976	3,500	220	770	5.80	4,466
1977	3,700	240	888	5.40	4,795
1978	3,600	225	810	6.30	5,103
1979	3,400	220	748	5.60	4,189
1980	3,400	220	748	7.50	5,610
1981	3,300	225	743	6.25	4,644

TOBACCO, SHADE TYPE: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
		Pounds	1,000 Pounds	Dollars	1,000 Dollars
1971	1,300	1,725	2,243	4.00	8,972
1972	1,150	1,250	1,438	4.85	6,974
1973	1,300	1,210	1,573	5.15	8,101
1974	1,300	1,610	2,093	6.00	12,558
1975	1,250	1,335	1,669	6.40	10,682
1976	1,050	1,480	1,554	5.40	8,392
1977	980	1,600	1,568	6.00	9,408
1978	860	1,300	1,118	7.50	8,385
1979	770	1,400	1,078	8.50	9,163
1980	940	1,475	1,387	9.80	13,593
1981	900	1,500	1,418	10.00	14,180

TOBACCO, HAVANA SEED: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
		Pounds	1,000 Pounds	Dollars	1,000 Dollars
1971	310	2,050	636	0.61	388
1972	260	1,850	481	0.62	298
1973	210	1,850	389	0.72	280
1974	160	2,040	326	0.82	267
1975	170	1,650	281	0.98	275
1976	160	1,819	291	0.87	253
1977	180	1,880	338	0.98	331
1978	170	2,000	340	1.10	374
1979	220	1,850	407	1.20	488
1980	250	2,000	500	1.31	655
1981	240	2,300	552	1.40	773

CRANBERRIES

Cranberry production of 1,180,000 barrels in 1981 was only 5,000 barrels short of the record 1980 crop. Value of the 1981 crop is estimated at $39.5 million, just slightly less than the 1980 crop's value.

Bloom was heavy and bees were active during the blooming period, giving a heavy set of fruit. Dry weather during late summer was the main concern as reservoir water levels were low for frost protection and harvest. Rains arrived in time for water harvesting and frost held off until the crop was harvested. Color was good, but berry size was small to medium.

APPLES AND PEACHES

Commercial apple production of nearly 2 million 42-pound units in 1981 was 17 percent less than in 1980. Total value of the 1981 crop, $16.3 million, was 11 percent more than the 1980 crop's value because of higher price. Peach production of 4,000 48-pound units in 1981 was only one-tenth of the preceding year's crop. The total value of the 1981 crop was $70,000. Bud damage from cold during winter and spring was the reason for the smaller apple and peach crops.

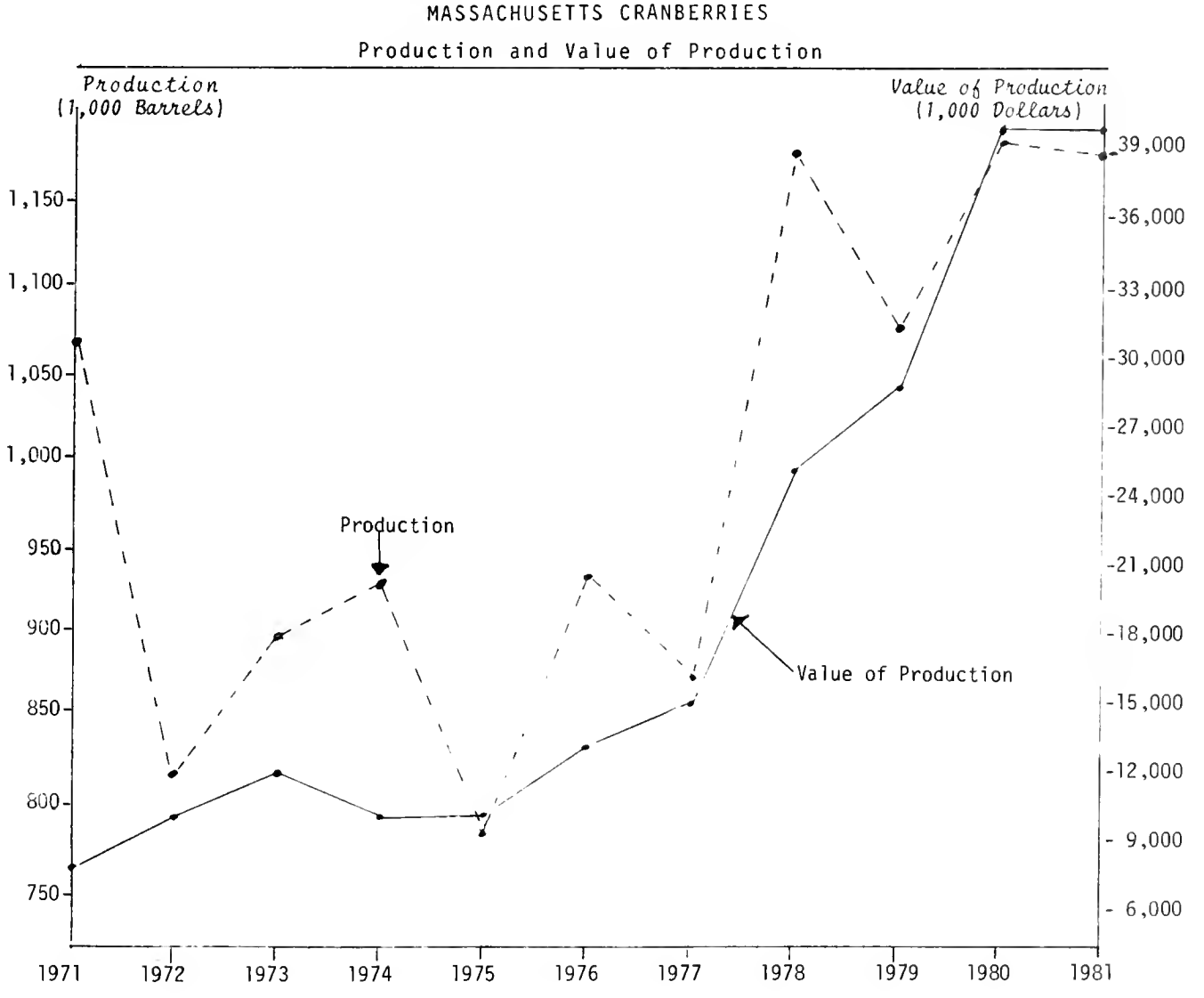
VEGETABLES

Commercial growers in Massachusetts produced 748,000 cwt. of sweet corn; 222,000 cwt. of cabbage and 163,000 cwt. of tomatoes for sale on the fresh produce market in 1981. Sweet corn production was 4 percent above 1980; cabbage, 43 percent above; and tomatoes, 14 percent above. The aggregate value of the three commodities of $13.5 million was 24 percent more than the equivalent 1980 value.

CRANBERRIES: ACREAGE, YIELD, PRODUCTION, UTILIZATION, PRICE AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	ACRES	YIELD PER ACRE	PRODUCTION 1/	UTILIZATION			SEASON AVERAGE PRICE PER BARREL 3/	VALUE OF UTILIZED PRODUCTION 4/
				FRESH SALES	PROCESSED	SHRINKAGE 2/		
		Barrels	Barrels		1,000 Barrels		Dollars	1,000 Dollars
1971	11,200	95.7	1,072	239	441	57	10.70	7,886
1972	11,200	73.1	819	170	600	49	12.60	10,319
1973	11,200	80.4	901	246	563	92	13.60	12,254
1974	11,200	83.2	932	167	491	274	10.70	9,972
1975	11,200	70.1	785	162	508	115	13.00	10,205
1976	11,200	83.5	935	220	630	85	13.40	12,529
1977	11,200	78.1	875	207	576	92	17.70	15,488
1978	11,200	105.4	1,180	247	833	100	21.60	25,488
1979	11,200	96.4	1,080	130	880	70	26.60	28,728
1980	11,200	105.8	1,185	110	1,016	59	33.50	39,698
1981	11,200	105.4	1,180	n/a	n/a	n/a	n/a	39,530

1/ Includes cranberries that were put in set aside under the Cranberry Marketing Order.
2/ Berries paid for by processors and lost because of dehydration and berry breakdown after delivery.
3/ Equivalent return at first delivery point, screen basis.
4/ Excludes cranberries that were put in set aside under the Cranberry Marketing Order.



APPLES: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	PRODUCTION 1/			PRICE PER UNIT	VALUE OF UTILIZED PRODUCTION
	TOTAL	NOT UTILIZED 2/	HAVING VALUE		
	1,000 - 42 Pound Units			Dollars	1,000 Dollars
1971	2,738	238	2,500	2.75	6,878
1972	2,167	---	2,167	3.90	8,454
1973	1,976	---	1,976	5.59	11,039
1974	2,548	167	2,381	4.33	10,300
1975	2,500	167	2,333	4.37	10,192
1976	2,262	---	2,262	6.13	13,870
1977	2,262	72	2,190	5.38	11,776
1978	2,500	---	2,500	5.80	14,490
1979	2,262	---	2,262	6.51	14,725
1980	2,381	---	2,381	6.13	14,600
1981	1,976	---	1,976	8.23	16,268

1/ Estimates relate to production in orchards of 100 or more trees.
2/ Abandoned because of economic reasons.

COMMERCIAL APPLE PRODUCTION BY VARIETY, MASSACHUSETTS, 1971-1981

YEAR	CORTLAND	DELICIOUS	GOLDEN DELICIOUS	MCINTOSH	NORTHERN SPY	ROME BEAUTY	OTHER	TOTAL PRODUCTION
	1,000 - 42 Pound Units							
1971	250	326	38	1,748	26	57	293	2,738
1972	124	248	36	1,481	14	17	248	2,167
1973	188	264	33	1,236	17	40	198	1,976
1974	143	260	40	1,764	21	45	274	2,548
1975	205	293	31	1,614	17	43	298	2,500
1976	210	288	55	1,360	21	45	283	2,262
1977	195	252	36	1,462	17	38	262	2,262
1978	171	331	38	1,538	21	31	369	2,500
1979	181	329	40	1,405	14	31	262	2,262
1980	190	324	36	1,500	19	36	276	2,381
1981	183	190	36	1,286	1/	24	257	1,976

1/ Included in other varieties.

PEACHES: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	PRODUCTION	PRICE PER UNIT	VALUE OF PRODUCTION
	1,000 - 48 Pound Units	Dollars	1,000 Dollars
1971	79	5.04	399
1972	35	8.16	289
1973	58	9.60	560
1974	35	8.64	306
1975	42	9.60	400
1976	35	12.48	442
1977	42	10.56	440
1978	38	13.92	522
1979	38	15.36	576
1980	42	14.40	600
1981	4	16.80	70

SWEET CORN: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	1,000 Cwt.	Dollars	1,000 Dollars
1971	8,200	78	640	6.22	3,981
1972	7,100	75	533	6.93	3,694
1973	8,000	78	624	6.20	3,869
1974	8,200	62	508	8.90	4,521
1975	8,600	81	697	7.10	4,949
1976	8,200	72	590	7.71	4,549
1977	7,800	60	468	8.90	4,165
1978	7,200	88	634	7.00	4,438
1979	7,700	84	647	8.99	5,817
1980	8,200	88	722	9.09	6,563
1981	8,800	85	748	11.70	8,752

TOMATOES: ACREAGE, YIELD, PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	1,000 Cwt.	Dollars	1,000 Dollars
1971	750	200	150	12.50	1,875
1972	700	190	133	17.70	2,354
1973	730	195	142	17.40	2,471
1974	700	175	123	16.50	2,030
1975	630	210	132	18.00	2,376
1976	590	195	115	21.40	2,461
1977	560	190	106	20.40	2,162
1978	550	210	116	21.80	2,529
1979	510	190	97	24.60	2,386
1980	680	210	143	21.70	3,103
1981	760	215	163	20.10	3,276

MAPLE SYRUP

Production of maple syrup in the spring of 1981 totaled 40,000 gallons, more than twice the poor crop of 1980, and the highest total since 1966. This is expecially noteworthy because it directly followed one of the poorest sugaring seasons in several years. The sap that flowed in 1981 was exceptionally sweet and produced especially light syrup. Valued at a season average price of $18.70 per gallon, the syrup produced in 1981 had a total value of $748,000, more than twice the 1980 crop's value.

MAPLE SYRUP: PRODUCTION, DISPOSITION, PRICE AND VALUE, MASSACHUSETTS, 1971-1981

YEAR	PRODUCTION	SOLD	SEASON AVERAGE PRICE PER GALLON	VALUE OF PRODUCTION
	1,000 Gallons	1,000 Gallons	Dollars	1,000 Dollars
1971	25	24	7.80	195
1972	28	27	8.70	244
1973	20	19	9.40	188
1974	25	24	11.20	280
1975	31	30	10.70	332
1976	27	25	12.75	319
1977	27	25	13.00	351
1978	28	26	14.10	367
1979	30	28	15.90	477
1980	18	17	18.40	331
1981	40		18.70	748

MAPLE SYRUP PRICES: BY TYPE OF SALE AND SIZE OF CONTAINER, MASSACHUSETTS, 1971-1981

YEAR	RETAIL					WHOLESALE					ALL SALES EQUIVALENT PER GALLON
	GAL	½ GAL	QUART	PINT	½ PINT	GAL	½ GAL	QUART	PINT	½ PINT	
	Dollars										
1971	7.40	4.00	2.40	1.50	1.05	6.60	3.65	2.30	1.35	.85	7.80
1972	8.10	4.55	2.75	1.90	1.15	7.30	4.30	2.60	1.55	1.00	8.70
1973	9.00	5.00	3.10	2.25	1.25	8.30	4.60	2.85	1.80	1.10	9.40
1974	10.50	5.90	3.55	2.30	1.40	9.00	5.00	3.00	1.85	1.20	11.20
1975	11.10	6.20	3.75	2.50	1.50	10.00	5.45	3.30	2.05	1.15	10.70
1976	11.65	6.45	3.90	2.55	1.50	10.35	5.75	3.35	2.20	1.35	12.75
1977	12.30	6.90	4.05	2.65	1.80	11.20	6.05	3.70	2.40	1.50	14.20
1978	13.10	7.40	4.29	2.81	1.86	11.66	6.59	3.79	2.41	1.49	14.10
1979	14.88	8.37	4.84	3.12	2.13	12.53	7.13	4.09	2.66	1.77	15.90
1980	17.66	9.69	5.88	3.69	2.46	16.25	8.94	4.73	3.07	1.98	18.40
1981	18.69	10.73	6.23	4.07	2.59	16.44	9.39	5.39	3.33	2.01	18.70

FOLIAGE PLANTS FOR INDOOR OR PATIO USE: NUMBER OF PRODUCERS, SQUARE FEET IN PRODUCTION, NET VALUE OF SALES, MASSACHUSETTS, 1971-1981

YEAR	NUMBER OF PRODUCERS	SQUARE FEET IN PRODUCTION	AVERAGE VALUE PER SQUARE FOOT	PERCENTAGE OF SALES AT WHOLESALE	NET VALUE OF SALES 1/
		1,000 Square Feet			
1971	32	175	3.67	91	643
1972	46	246	3.52	95	865
1973	35	175	3.34	89	584
1974	76	581	5.24	76	3,203
1975	135	1,040	4.49	55	4,670
1976	131	965	4.92	62	4,743
1977	112	926	6.00	30	5,555
1978	127	927	5.36	56	4,970
1979	104	715	6.31	75	4,513
1980	84	611	7.15	53	4,370
1981	94	688	6.28	60	4,319

1/ Gross value of sales less cost of plant material purchased from other growers for growing on.

REPORTED TOTAL AVERAGE AREA USED FOR PRODUCTION AND DERIVED AVERAGE VALUE PER UNIT: CARNATIONS, CHRYSANTHEMUMS, POTTED LILLIES AND POTTED POINSETTIAS, MASSACHUSETTS, 1975-1981 1/

YEAR	CARNATIONS		CHRYSANTHEMUMS			POTTED LILLIES	POTTED POINSETTIAS
	STANDARD	MINIATURE	STANDARD	POMPON	POTTED		
			1,000 Square Foot Production Area				
1975	333	178	425	400	723	---	---
1976	342	209	341	417	576	336	952
1977	238	123	296	445	309	367	813
1978	149	132	257	366	427	295	1,009
1979	88	98	225	292	501	294	1,044
1980	50	56	173	283	544	193	980
1981	39	44	195	270	435	241	967
			Average Value Per Square Foot - Dollars				
1975	2.05	2.31	1.71	1.44	2.09	---	---
1976	2.31	1.81	2.31	1.46	2.46	2.69	1.86
1977	2.43	2.07	2.43	1.32	2.79	2.19	1.86
1978	1.50	2.58	2.56	1.77	2.45	2.62	2.04
1979	2.74	2.83	2.90	2.05	2.98	3.44	2.04
1980	3.00	2.98	2.58	2.21	3.54	3.80	2.38
1981	2.51	2.91	3.29	2.13	3.31	3.96	2.26

1/ Value figures for all plants are equivalent wholesale value of all sales.

CUT FLOWERS: NUMBER OF PRODUCERS, PRODUCTION, SALES, PRICE AND VALUE, MASSACHUSETTS, 1974-1981

TYPE AND YEAR	PRODUCERS 2/	SALES	PERCENTAGE OF SALES AT WHOLESALE	WHOLESALE PRICE	VALUE OF SALES AT WHOLESALE 1/
	Number	1,000 Blooms	Percent	Cents	1,000 Dollars
Standard Carnations					
1974	45	9,403	75	11.1	1,044
1975	34	5,549	65	12.3	683
1976	27	5,853	93	10.3	603
1977	24	3,851	89	11.2	431
1978	19	1,603	92	14.0	224
1979	14	1,238	84	20.0	241
1980	9	752	96	20.0	150
1981	5	704	97	13.9	98
Miniature Carnations		1,000 Bunches		Dollars	
1974	27	278	50	1.20	334
1975	23	273	65	1.51	412
1976	24	256	83	1.48	379
1977	20	222	89	1.15	255
1978	15	252	99	1.35	340
1979	15	175	96	1.58	277
1980	7	105	98	1.59	167
1981	6	65	99	1.97	128
Hybrid Tea Roses		1,000 Blooms		Cents	
1974	9	19,708	97	21.0	4,139
1975	9	13,483	69	23.9	3,222
1976	10	12,636	100	19.7	2,489
1977	13	10,575	100	26.2	2,771
1978	9	12,514	99	26.0	3,254
1979	11	13,651	99	24.4	3,331
1980	12	9,445	98	30.2	2,852
1981	9	7,346	99	36.0	2,645
Miniature Or Sweetheart Roses		1,000 Blooms		Cents	
1974	9	8,930	97	14.7	1,313
1975	9	9,114	72	11.7	1,066
1976	9	6,174	100	12.5	772
1977	9	6,537	100	16.3	1,066
1978	9	5,401	99	17.0	918
1979	8	7,020	99	17.3	1,214
1980	9	6,472	99	24.2	1,566
1981	9	4,812	99	24.8	1,193
Standard Chrysanthemums		1,000 Bunches		Cents	
1974	52	2,412	92	31.0	748
1975	54	2,341	92	31.1	728
1976	70	1,774	85	44.5	789
1977	58	1,721	92	41.7	718
1978	57	1,545	90	42.5	657
1979	53	1,355	83	48.1	652
1980	47	1,110	82	51.6	573
1981	38	1,171	79	54.8	642

(continued on next page)

CUT FLOWERS: NUMBER OF PRODUCERS, PRODUCTION, SALES, PRICE AND VALUE, MASSACHUSETTS, 1974-1981

TYPE AND YEAR	PRODUCERS 2/	SALES	PERCENTAGE OF SALES AT WHOLESALE	WHOLESALE PRICE	VALUE OF SALES AT WHOLESALE 1/
	Number	1,000 Blooms	Percent	Dollars	1,000 Dollars
Pompon Chrysanthemums					
1974	70	371	68	1.31	486
1975	102	377	67	1.53	577
1976	87	367	71	1.66	609
1977	89	356	54	1.65	587
1978	75	360	77	1.80	648
1979	60	338	58	1.77	598
1980	63	335	64	1.87	626
1981	51	314	66	1.83	575
Potted Chrysanthemums		1,000 Pots			
1974	60	503	68	1.93	971
1975	111	747	79	2.02	1,509
1976	115	609	78	2.33	1,419
1977	85	421	78	2.05	863
1978	87	402	63	2.60	1,045
1979	93	562	70	2.66	1,495
1980	73	762	45	2.53	1,928
1981	81	512	77	2.81	1,439
Snapdragons 3/		1,000 Stems		Cents	
1976	52	2,651	88	16.8	445
1977	50	1,792	89	19.7	353
1978	57	1,674	90	20.0	335
1979	40	1,416	88	20.3	287
1980	36	982	87	28.0	275
1981	33	947	83	29.7	281
Potted Geraniums 3/		1,000 Pots		Dollars	
1976	242	5,755	82	.88	5,064
1977	225	3,183	52	.75	2,387
1978	230	3,125	66	.85	2,656
1979	220	3,631	61	.91	3,304
1980	190	3,111	57	.94	2,924
1981	185	2,733	69	.95	2,596
Potted Lillies 3/		1,000 Pots		Dollars	
1976	111	364	87	2.48	903
1977	108	322	80	2.50	805
1978	101	258	73	3.00	774
1979	93	329	78	3.07	1,010
1980	78	245	68	2.99	733
1981	78	293	78	3.26	955
Potted Poinsettias 3/					
1976	146	634	79	2.79	1,769
1977	139	741	68	2.05	1,519
1978	136	750	67	2.75	2,063
1979	120	751	75	2.83	2,125
1980	112	760	57	3.07	2,333
1981	107	660	74	3.31	2,185

1/ Equivalent wholesale value of all sales. 2/ Beginning with 1973, number of producers is number who produce and sell $10,000 or more of fresh (cut) flowers, flowering and foliage plants, bedding plants and cultivated florist greens. Previously, the definition included growers who sold $2,000 or more of the above mentioned items. 3/ Data for years prior to 1976 not available.

CROP AND LIVESTOCK PRODUCTION: RANK AMONG STATES, MASSACHUSETTS AND NEW ENGLAND, 1981

ITEM	UNIT	MASSACHUSETTS			NEW ENGLAND		
		PRODUCTION	RANK	% US TOTAL	PRODUCTION	RANK	% US TOTAL
		1,000			1,000		
CROPS:							
Cranberries	barrels	1,180	1	44.3	1,180	1	44.3
Apples	pounds	83,000	14	1.1	279,000	8	3.6
Peaches	pounds	200	32	*	NA		
Corn for Silage	tons	780	29	.7	4,374	7	3.8
Hay	tons	278	43	.2	2,047	27	1.4
Potatoes	cwt.	743	30	.2	28,696	3	8.6
Tobacco	pounds	1,818	16	.1	6,993	13	.3
Vegetables - Processing - All	tons	9	29	.1	22	25	.2
Fresh:							
Cabbage	cwt.	222	16	1.1	NA		
Sweet Corn	cwt.	748	7	5.4	NA		
Tomatoes	cwt.	163	18	6.2	NA		
Maple Syrup	gallons	40	8	2.8	792	1	56.2
LIVESTOCK AND POULTRY:							
Eggs	each	321,000	40	.5	3,251,000	6	4.7
Milk	pounds	578,000	40	.4	4,882,000	7	3.7
Honey	pounds	253	44	.1	1,190	34	6
Wool	pounds	49	37	.1	286	29	.3
Calves	head	22	43	.2	247	15	2.4
Cattle	head	24	43	.1	131	38	.3
Hogs & Pigs	head	55	42	.1	141	34	.1
Lambs	head	3	37	.1	19	29	.3
Sheep	head	1	39	.1	4	30	.3

FARMS: NUMBER AND LAND, MASSACHUSETTS AND NEW ENGLAND, 1971-1982 1/

YEAR	MASSACHUSETTS			NEW ENGLAND		
	NUMBER OF FARMS	AVERAGE SIZE	LAND IN FARMS	NUMBER OF FARMS	AVERAGE SIZE	LAND IN FARMS
	Number	Acres	1,000 Acres	Number	Acres	1,000 Acres
1971	5,900	122	720	29,790	193	5,743
1972	5,700	123	700	28,760	192	5,510
1973	5,500	124	680	28,040	192	5,378
1974	5,500	124	680	27,740	192	5,318
1975	5,800	121	700	26,120	197	5,135
1976	6,300	111	700	27,960	185	5,165
1977	6,200	111	690	28,300	182	5,155
1978	5,900	115	680	28,700	180	5,165
1979	6,200	110	680	29,900	172	5,145
1980	5,900	115	680	30,360	169	5,145
1981	5,600	118	660	30,420	170	5,185
1982 2/	5,400	119	640	30,520	170	5,185

1/ A farm is a place that sells or normally would sell $1,000 of agricultural products.
2/ Preliminary

COMMERCIAL FERTILIZER: CONSUMPTION BY KIND & PLANT NUTRIENTS, MASSACHUSETTS, 1965-1981

YEAR ENDED JUNE 30	KIND OF FERTILIZER				PRIMARY NUTRIENTS		
	MIXED FERTILIZER	PRIMARY NUTRIENT MATERIALS	SECONDARY & MICRO-NUTRIENTS	TOTAL FERTILIZER	N	AVAILABLE P_2O_5	K_2O
				Tons			
1965	76,830	16,415	76	93,321	8,522	8,856	8,122
1970	52,953	16,580	63	69,596	8,159	6,325	6,071
1975	51,814	15,216	36	67,066	7,866	5,588	6,049
1976	55,548	15,335	150	71,033	8,803	5,984	6,779
1977	53,094	14,882	28	68,004	9,015	5,872	6,607
1978	71,471	14,970	62	86,503	11,501	7,644	8,552
1979	58,397	11,393	224	70,014	10,275	6,220	7,530
1980	50,417	15,207	117	65,741	9,081	5,444	6,375
1981	57,810	10,504	466	68,780	9,057	7,170	6,506

PRICES PAID BY FARMERS: INDEX NUMBERS, ANNUAL AVERAGE, UNITED STATES, 1971-1981, BY YEARS (1977=100)

YEAR	COMMODITIES & SER., INTEREST TAXES & WAGE RATES	PRODUCTION ITEMS INTEREST, TAXES, & WAGE RATES	PRODUCTION ITEMS	INTEREST PAYABLE PER ACRE	TAXES PAYABLE PER ACRE	WAGE RATES FOR HIRED FARM LABOR 1/
1971	58	56	57	42	72	59
1972	62	60	61	46	75	63
1973	71	72	73	54	77	69
1974	81	81	83	65	81	79
1975	89	89	91	76	87	85
1976	95	95	97	87	94	93
1977	100	100	100	100	100	100
1978	108	109	108	118	100	107
1979	123	125	125	141	107	117
1980	138	139	138	168	117	127
1981	150	150	148	195	124	136

1/ Simple average of quarterly indexes seasonally adjusted.

INDEX NUMBERS OF PRICES RECEIVED BY FARMERS, BY COMMODITY GROUPS, UNITED STATES ANNUAL AVERAGE, 1971-1981 (1977=100)

YEAR	CROPS								LIVESTOCK & PRODUCTS				ALL FARM PRODUCTS
	FOOD GRAINS	FEED GRAINS AND HAY	TOBACCO	COTTON	OIL BEARING CROPS	FRUIT	COMMERCIAL VEGETABLES	ALL CROPS	DAIRY PRODUCTS	POULTRY AND EGGS	MEAT ANIMALS	ALL LIVESTOCK	
1971	61	59	64	40	46	67	65	56	61	59	72	67	62
1972	70	57	70	48	51	72	65	60	63	60	88	77	69
1973	138	90	74	54	93	84	76	91	74	101	118	104	98
1974	192	134	85	85	96	86	81	117	86	94	98	94	105
1975	155	127	93	68	81	85	92	105	90	103	100	98	101
1976	129	120	93	99	85	80	91	102	100	102	101	101	102
1977	100	100	100	100	100	100	100	100	100	100	100	100	100
1978	122	101	109	91	93	148	105	105	109	106	134	124	115
1979	147	114	118	96	103	144	110	116	124	111	166	147	132
1980	165	132	125	114	102	124	113	125	135	112	156	144	134
1981	166	141	140	111	110	129	136	134	142	116	150	143	138

FARM BALANCE SHEET (Excluding Farm Households), MASSACHUSETTS, JANUARY 1, 1977-1981

ITEM	1977	1978	1979	1980	1981
			Million Dollars		
Assets:					
Real Estate 1/	663.0	725.4	831.6	896.0	949.2
Livestock and Poultry 2/	46.7	49.0	65.3	78.8	89.3
Machinery and Motor Vehicles 3/	146.7	154.0	181.5	199.7	209.6
Crops 4/	19.5	17.8	26.2	22.8	25.2
Financial Assets	46.4	48.3	52.0	71.1	51.1
Total Farm Assets	922.2	994.4	1,156.5	1,268.5	1,324.4
Claims:					
Real Estate Debt 5/	71.6	62.9	64.1	76.3	86.6
Non-Real Estate Debt 6/	54.0	55.7	103.7	128.1	128.5
Total Farm Debt	125.6	118.6	167.8	204.4	215.1
Equity	796.7	875.8	988.7	1,064.1	1,109.2

1/ Excludes value of operator dwellings.
2/ Excludes horses, mules, and broilers.
3/ Includes only farm share value for trucks and autos.
4/ All crops held on farms including crops under CCC and crops held off farms by farm operators.
5/ Excludes debt on operator dwellings.
6/ Excludes debt for non-farm purposes.

FARM PRODUCTION EXPENSES, MASSACHUSETTS, 1976-1980

CURRENT FARM OPERATING EXPENSES	1976	1977	1978	1979	1980
			Million Dollars		
Feed	44.8	42.5	37.9	42.6	45.4
Livestock	2.7	3.2	3.3	1.4	1.3
Seed	6.3	6.7	7.2	7.9	9.1
Fertilizer and Lime	6.2	5.8	8.0	7.2	7.8
Repairs and Operation of Capital Items	24.3	25.3	30.1	37.1	43.1
Hired Labor	40.4	46.8	48.0	55.3	62.9
Miscellaneous	27.4	25.7	33.3	41.9	45.3
Total Current Farm Operating Expenses	152.2	156.0	167.7	193.4	214.9
Depreciation and Other Consumption of Farm Capital	31.9	30.2	35.3	39.0	44.3
Taxes on Farm Property	14.1	15.4	14.1	14.2	15.1
Interest on Farm Mortgage Debt	6.5	6.0	5.8	6.5	7.3
Net Rent to Non-Operator Landlord	-1.0	-.4	-.2	-.1	-.1
Total Production	203.7	207.2	222.9	253.0	281.4

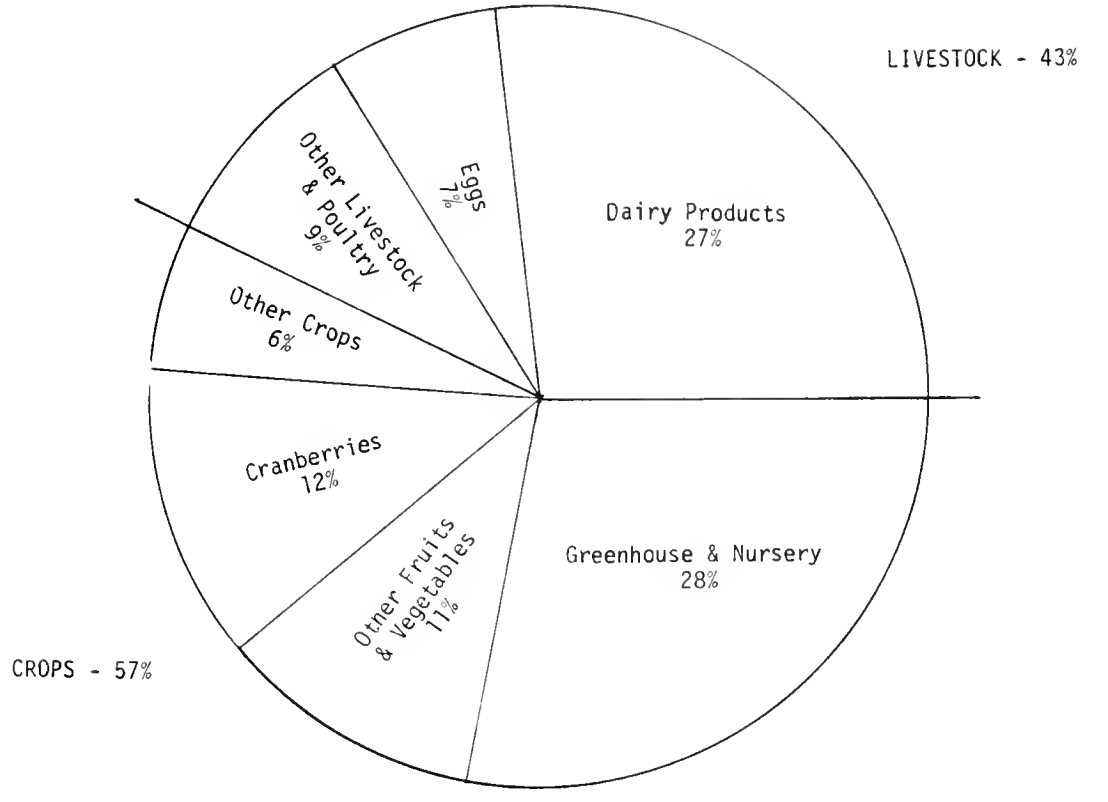
GROSS INCOME AND NET INCOME FROM FARMING, MASSACHUSETTS, 1950-1980

ITEM	1950	1960	1970	1975	1976	1977	1978	1979	1980
				Million Dollars					
Gross Farm Income:									
Cash Receipts From Farm Marketing	181.6	164.7	156.9	201.5	219.4	257.7	279.6	299.8	308.5
Government Payment	.6	.7	.6	.6	.6	.6	.8	.6	.7
Non-Money Income	19.3	15.5	13.3	21.3	23.2	24.2	26.8	29.8	32.3
Other Farm Income	.1	.7	1.5	3.2	3.5	3.2	3.5	4.3	4.5
Total	201.6	181.6	172.3	226.5	246.7	285.7	310.6	334.5	346.0
Farm Production Expenses	147.2	135.6	132.0	191.2	203.7	207.2	222.9	253.0	281.4
Net Farm Income Before Inventory Adjustment	54.4	46.1	40.4	35.3	42.9	78.5	87.8	81.5	64.6
Net Change in Farm Inventory	-2.1	1.3	.2	-1.3	4.1	28.7	5.0	.8	-5.5
Net Farm Income After Inventory Adjustment	52.3	47.3	40.6	34.1	47.0	107.2	92.8	82.3	59.1

CASH RECEIPTS FROM FARM MARKETINGS, MASSACHUSETTS, 1979-1981

COMMODITY	1979	1980	1981
		Thousand Dollars	
LIVESTOCK AND LIVESTOCK PRODUCTS			
Cattle and Calves	12,728	13,017	13,100
Hogs	7,841	5,988	5,515
Sheep and Lambs	163	179	161
Dairy Products	73,833	79,726	85,989
Chickens	653	525	817
Eggs	20,638	20,177	22,933
Turkeys	1,820	1,927	2,345
Miscellaneous Poultry	2,573	2,308	2,875
Miscellaneous Livestock	3,189	3,151	3,118
Total Livestock and Livestock Products	123,438	126,998	136,853
CROPS			
Hay	2,463	2,346	2,509
Tobacco	8,404	10,833	14,895
Potatoes	4,153	4,338	5,136
Cabbage	878	1,237	1,465
Sweet Corn	5,817	6,563	8,752
Tomatoes	2,386	3,103	3,276
Miscellaneous Vegetables	3,298	2,345	2,371
Apples	11,799	13,103	12,590
Peaches	544	570	35
Cranberries	27,972	30,562	39,176
Berries	1,611	1,365	1,404
Miscellaneous Fruits	249	260	283
Maple Products	445	313	788
Forest Products	1,308	1,308	1,308
Greenhouse and Nursery	92,447	91,372	90,556
Miscellaneous Crops	231	248	143
Total Crops	164,005	169,866	184,687
TOTAL RECEIPTS	287,443	296,864	321,540

MASSACHUSETTS CASH RECEIPTS - 1981



FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1980

EXPENDITURE 2/	NORTHEAST		UNITED STATES	
	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/
	Dollars	1,000 Dollars	Dollars	1,000 Dollars
TOTAL FARM PRODUCTION EXPENDITURES	46,982	8,022,615	56,392	136,646,084
LIVESTOCK & POULTRY:	4,556	778,047	7,187	17,355,912
Cattle Purchased	3,128	534,074	5,844	14,162,128
Hogs & Pigs Purchased	151	25,781	446	1,081,389
Sheep & Lambs Purchased	10	1,731	75	181,972
Poultry Purchased	900	153,619	422	1,023,463
Other Livestock & Poultry Purchased	254	43,344	285	690,373
Other 5/	114	19,499	89	216,587
FARM SERVICES:	4,678	798,845	8,803	21,332,066
Custom Hire	293	50,049	842	2,040,937
Veterinarian, Medicine & Supplies	607	103,676	432	1,045,774
Hired Transportation For Delivery To Farm	104	17,727	84	202,493
Insurance	838	143,164	849	2,057,047
Marketing Expenses (Crop & Livestock)	1,170	199,715	958	2,320,865
Miscellaneous Farm Business	634	108,230	713	1,728,555
Rent	1,032	176,285	4,926	11,936,395
Cash Rent	730	124,645	1,580	3,829,423
Share Rent	302	51,640	3,346	8,106,972
FEED:	9,054	1,545,983	8,294	20,097,505
Grains	2,332	398,243	2,643	6,404,907
Hays & Forages	313	53,509	831	2,014,710
Mixed Or Formula Feeds	6,177	1,054,769	4,399	10,660,234
Other Feeds, Additives and Ingredients	222	37,923	326	788,960
Pasture & Grazing Livestock	9	1,538	94	228,693
WAGES & CONTRACT LABOR:	5,204	888,615	4,169	10,103,288
Cash Wages	3,998	682,681	3,255	7,886,203
Contract Labor	253	43,211	314	761,097
Total Perquisites Furnished	953	162,723	601	1,455,988
INTEREST:	2,701	461,219	4,365	10,575,982
Farm Real Estate	1,696	289,647	2,304	5,582,159
Operating Loans 6/	1,005	171,571	2,061	4,993,822
Landlord Farm Real Estate	54	9,289	140	338,114
FERTILIZER, LIME & SOIL CONDITIONERS: 7/	3,032	517,708	4,198	10,171,929
Custom Applied Fertilizer	473	80,740	1,370	3,320,612
Not Custom Applied Fertilizer	2,227	380,309	2,291	5,552,507
Lime & Soil Conditioners	315	53,874	179	432,885
FUELS & ENERGY:	3,273	558,850	4,094	9,919,884
Gasoline - Delivered Bulk To Farm	943	161,008	1,105	2,678,195
Gasoline - Purchased At Service Station	203	34,714	326	791,094
Diesel Fuel	746	127,330	1,306	3,165,271
Fuel Oil & Kerosene	312	53,281	67	163,108
L.P. Gas	165	28,181	280	678,782
Natural Gas	27	4,545	112	270,438
Motor Oil, Grease & Special Fluids	110	18,751	157	380,181
Electricity (Excluding Irrigation)	735	125,443	223	540,422
Electricity For Irrigation	8	1,284	511	1,239,070
FARM & MOTOR SUPPLIES:	3,184	543,645	2,904	7,037,474
Motor Vehicle Operating Costs Other Than Fuels	1,656	282,705	1,996	4,836,030
Miscellaneous Farm Supplies	921	157,269	690	1,673,038
Marketing Containers	607	103,671	218	528,406

See Footnotes, page 33

FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1980

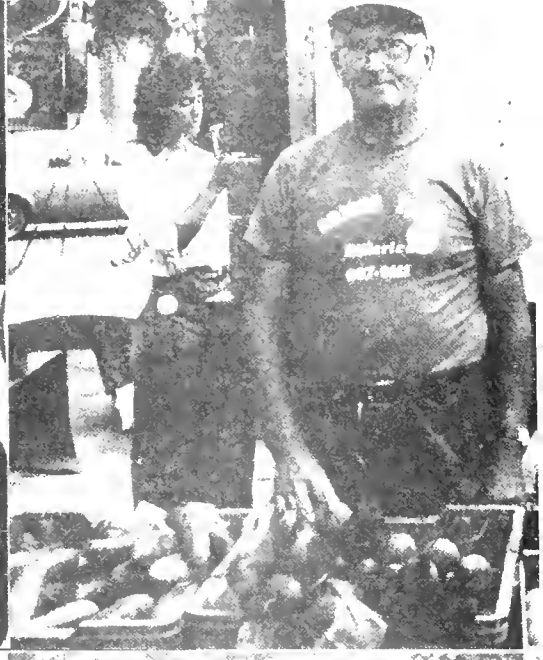
EXPENDITURE 2/	NORTHEAST		UNITED STATES	
	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/
	Dollars	1,000 Dollars	Dollars	1,000 Dollars
BUILDING, FENCING & FARM IMPROVEMENTS: 8/	2,888	493,193	2,779	6,734,298
New Building Construction & Remodeling	1,730	295,484	1,461	3,540,257
Building Maintenance & Repair	481	82,134	261	632,267
Fencing Expenses	142	24,198	147	356,511
Maintenance & Repairs (Other)	144	24,592	274	662,952
New Construction Improvements (Other)	361	61,617	618	1,496,413
TRACTORS & SELF-PROPELLED MACHINERY:	1,466	250,355	2,580	6,251,644
Tractors	1,172	200,066	1,514	3,668,299
Tractors, New	776	132,574	906	2,194,604
Tractors, Used	295	67,492	608	1,473,695
Self-Propelled Machinery	269	45,993	999	2,421,883
Leasing Or Rental, Tractors	19	3,262	51	124,372
Leasing Or Rental, Self-Propelled	2	293	15	37,091
OTHER FARM MACHINERY, IMPLEMENTS & LIVESTOCK EQUIP:	2,593	442,842	1,975	4,786,324
Farm Machinery, Not Self-Propelled	1,326	226,407	1,409	3,413,288
Dairy, Poultry & Other Livestock Equipment	1,079	184,201	337	816,638
Repair & Maintenance Livestock Equipment	163	27,785	169	410,036
Leasing Or Rental Other Farm Machinery & Equipment	26	4,448	60	146,361
SEEDS & PLANTS:	1,307	223,175	1,615	3,912,317
Seed For Field Crops And Small Grains	670	114,403	1,111	2,692,940
TAXES:	1,433	244,665	1,116	2,703,737
Farm Real Estate	1,078	184,039	829	2,008,859
Other Property Tax 6/	355	60,627	287	694,877
Landlord Farm Real Estate	344	58,733	566	1,372,224
AUTOS, TRUCKS & OTHER VEHICLES: 9/	821	140,196	1,061	2,570,907
Autos	91	15,517	158	381,839
Trucks	593	101,342	772	1,871,032
Trucks, New	328	55,985	455	1,102,926
Trucks, Used	266	45,358	317	768,106
AGRICULTURAL CHEMICALS: 7/ 10/	775	132,404	1,267	3,070,000
Pesticides For Crops & Crop Storage	719	122,800	1,114	1,047,544
Pesticides For Livestock, Poultry & Buildings	45	7,710	49	120,666
UNALLOCATED OTHER EXPENSES:	17	2,871	9	22,817

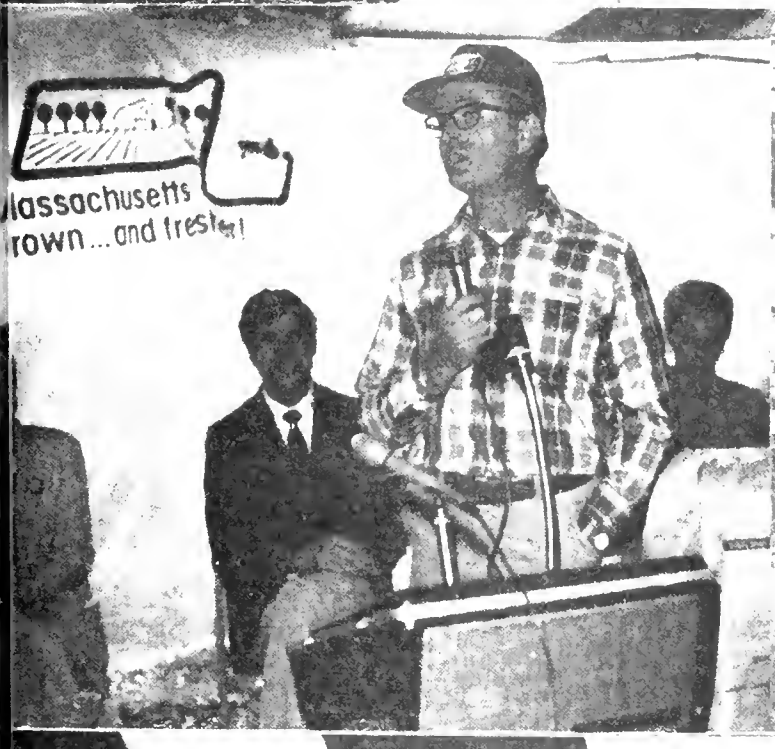
1/ Includes eleven states: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.
2/ Farm share.
3/ Total expenditure divided by number of farms.
4/ Totals may not add, due to rounding.
5/ Excludes veterinarian fees, medicine and breeding fees.
6/ Includes landlord expenditures.
7/ Landlord expenditure included only in total.
8/ "All Other Improvements" included in total only.
9/ "Other Vehicles" included in total only.
10/ Includes seed treatments.

UNITED STATES: CIVILIAN PER CAPITA CONSUMPTION OF MAJOR FOOD COMMODITIES, 1973-1980 1/

COMMODITY	1973	1974	1975	1976	1977	1978	1979	1980 2/
	Pounds							
Meats:	141.5	151.2	143.7	153.0	152.3	146.9	144.9	147.6
Beef	80.5	85.6	87.9	94.4	91.8	87.2	78.1	76.5
Veal	1.5	1.9	3.4	3.3	3.2	2.4	1.7	1.5
Lamb and Mutton	2.4	2.0	1.8	1.6	1.5	1.4	1.3	1.3
Pork	57.1	61.7	50.6	53.7	55.8	55.9	63.8	68.3
Fish (edible weight):	12.8	12.1	12.2	12.9	12.7	13.4	13.0	12.7
Canned	5.0	4.7	4.3	4.2	4.6	5.0	4.8	4.5
Poultry Products:								
Eggs	36.7	36.0	35.1	34.3	34.0	34.6	35.3	34.6
Chicken (ready-to-cook)	40.4	40.7	40.1	42.7	44.1	46.7	50.6	50.0
Turkey (ready-to-cook)	8.5	8.8	8.5	9.1	9.1	9.1	9.9	10.5
Dairy Products:								
Cheese (excluding cottage)	13.6	14.6	14.3	15.7	16.1	17.0	17.2	17.6
Condensed and evaporated whole milk	5.9	5.6	5.3	5.0	4.3	4.1	4.1	3.8
Fluid milk and cream (product weight)	272.0	262.0	267.0	264.0	260.0	257.0	254.0	250.0
Ice cream (product weight)	17.3	17.4	18.5	17.9	17.5	17.4	17.1	17.3
Fats and Oils — Total fat content	53.3	52.4	52.3	54.8	53.0	54.6	55.8	55.9
Butter (actual weight)	4.8	4.5	4.7	4.3	4.3	4.4	4.5	4.4
Margarine (actual weight)	11.1	11.1	11.0	11.9	11.4	11.2	11.2	11.2
Lard	3.3	3.2	2.8	2.6	2.2	2.2	2.5	2.5
Shortening	17.1	16.9	17.0	17.7	17.2	17.8	18.4	18.3
Other edible fats and oils	20.3	19.8	19.9	21.5	21.0	22.1	22.4	22.7
Fruits:								
Fresh	73.5	76.0	80.4	82.5	79.3	79.6	80.3	84.0
Citrus	26.5	26.6	28.4	28.1	25.5	25.7	23.8	27.8
Noncitrus	47.0	49.4	52.0	54.4	53.8	53.9	56.5	56.2
Processed:								
Canned fruit	21.2	19.5	19.2	18.9	19.2	18.1	18.1	17.4
Canned juice	15.0	13.1	14.7	14.6	13.7	16.5	17.0	17.3
Frozen (including juices)	12.1	12.0	14.1	13.6	14.1	12.6	12.6	12.7
Chilled citrus juices	5.2	5.2	5.6	6.1	5.7	6.1	5.5	5.9
Dried	2.5	2.4	2.9	2.6	2.5	2.1	2.7	2.9
Vegetables:								
Fresh 3/	89.8	91.6	90.3	91.4	93.4	95.3	97.5	99.9
Canned (excluding potatoes)	54.0	52.9	51.9	53.0	53.1	51.9	52.3	49.8
Frozen (excluding potatoes)	10.6	10.1	9.6	9.8	10.2	10.7	11.2	10.4
Fresh potatoes	49.3	46.0	51.7	48.1	51.5	47.7	49.4	49.3
Frozen potato products	13.2	13.1	13.7	14.6	15.7	17.2	17.7	16.9
Sweet potatoes 4/	4.5	4.7	4.9	4.8	4.4	4.9	4.9	4.4
Grains:								
Wheat flour 5/	113	111	114	119	115	115	117	117
Rice	7.0	7.5	7.6	7.1	7.5	5.7	9.4	9.3
Other:								
Coffee	10.0	9.6	9.2	9.4	6.9	7.9	8.5	7.8
Cocoa	3.4	3.0	2.6	3.0	2.6	2.7	2.6	2.6
Peanuts (shelled)	6.6	6.4	6.6	6.2	6.3	6.8	6.8	6.1
Dry edible beans	6.4	6.6	6.4	6.1	6.0	5.7	6.3	6.5
Melons	19.6	17.0	17.2	18.3	18.1	19.8	18.8	16.9
Sugar (refined)	100.8	95.6	89.1	93.4	94.2	91.4	89.3	83.6
Corn sweeteners 6/	23.5	25.6	28.8	31.9	35.3	39.2	43.6	48.5

1/ Quantity in pounds, retail weight unless otherwise shown. Data on calendar year basis except for dried fruits, fresh citrus fruits, peanuts, dry beans and rice which are on a crop-year basis. 2/ Preliminary. 3/ Commercial production for sale as fresh produce. 4/ Table stock and processed. 5/ White, whole wheat, and semolina flour. 6/ Fructose and glucose.

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The Agricultural Preservation Restriction (APR) Program was established by the legislature in December, 1977, to protect the Commonwealth's rapidly diminishing farmland resources through the purchase of Agricultural Preservation Restrictions, commonly known as development rights. It is a voluntary program whereby farmland owners apply to the Department of Food and Agriculture to sell a restriction on all or a portion of their property. After field inspections, a screening and selection process, appraisals, and approval by the Agricultural Lands Preservation Committee, the Commonwealth acquires these deed restrictions, which run in perpetuity, and prohibit all non-agricultural uses. Title to the land still rests with the landowner who enjoys all the traditional rights of property ownership, except the right to develop the land for non-agricultural purposes.

Since the program's inception, more than 5,605 acres have been protected statewide. There are also more than 4,700 acres currently under consideration. During the past four years the legislature has appropriated five million dollars each year for a total of twenty million dollars to fund the program. The Massachusetts program is now the largest, most active statewide purchase of development rights program in the country and is being used as a model by other states considering similar farmland protection techniques.

The Division of Land Use within the Department of Food and Agriculture is responsible for administering the Agricultural Preservation Restriction Program. Since 1978, two full time staff members and various appraisal and legal consultants have been providing the needed expertise to implement and manage this unique farmland protection effort.

Background

During the last 40 years, the Commonwealth of Massachusetts has lost nearly three-fourths of its land in farms and one half of its productive cropland as a result of unbanization and changes in the agricultural economy. Tremendous changes have occurred in regards to agricultural technology and resource use; farm size, mechanization and capital investment have all increased substantially. Land is used more intensively today and productivity per acre has increased. Consequently, there are fewer farms, farmers and farm laborers. Total farm production has declined somewhat, though not in equal proportion to the decline in the agricultural land base.

As more and more farmland is lost permanently to urbanization, it has become apparent that agriculture is in serious jeopardy of being lost as a viable component of the Massachusetts economy. Sprawling urban development and land speculation subvert farming and inflate the value of available land beyond the financial reach of farmers. If one farm in an area is sold for speculation or development, then all the farmers in the vicinity begin to lose faith in agriculture's future. Often, the necessary investments in livestock, equipment, soil fertility and farm buildings are not made and farm income begins to fall. Because of high land values and development pressures very few farms are transferred to the next generation and the agricultural community becomes debilitated. In some cases this transition has happened prematurely and excellent agricultural land becomes idle. When land is lost or idled, society loses the benefit of

its productive use. The underlying philosophy of the APR program is that this loss of productive cropland must be curtailed and deflected to the state's millions of non-farm acres, if agriculture is to have a permanent role in the Massachusetts economy.

APR Program Objectives

Together with the Farmland Assessment Act (Chapter 61A M.G.L.), the APR Program is the cornerstone of the state's agriculture land protection policy. The main objective of the Agricultural Preservation Restriction Program is to try to arrest the continued conversion of productive land through deed restriction and revitalize the agricultural industry by making land more accessible to farmers and their operations more financially secure. The specific goals of the Program include the following:

1. To retain the best and most productive agricultural land remaining in the Commonwealth;

2. To provide an opportunity for farmers to purchase farmland at affordable prices;

3. To help farmland owners overcome estate planning problems;

4. To provide working capital to enable farm operations to become more financially stable;

5. To address other personal ownership problems such as age, health, and retirement and;

6. To develop a positive attitude among farmers, agribusinessmen, landowners and urbanites that agriculture in Massachusetts is here to stay and that state government recognizes and supports agriculture's important contributions to the state's economy and rural character.

The Agricultural Preservation Restriction Program is the only means for farmland owners to realize the cash equity in their land and at the same time ensure it will remain open and undeveloped. The value of the Agricultural Preservation Restriction (or development rights) is the difference between the full market value of the land and the land's agricultural value. In return for paying for the APR, the Commonwealth receives a deed restriction, in perpetuity, prohibiting any and all activities detrimental to the land's present or future agricultural potential. This cash payment is an investment in the state's agricultural land resource, which will be repaid time and again through the operation of a viable agricultural ecomony.

Purchasing development rights is a unique method for retaining productive farmland in areas under urban pressure. It is less costly than purchasing the land in fee, and can be more effectively administered than the complicated alternative of transferring development rights. Also, purchasing development rights is more permanent than farmland assessment, zoning or agricultural districting. However, no single method is the sole panacea for the loss of agricultural land. As the degree of urban pres-

sure changes, so does the agricultural land policy package. Typically, in state-wide areas, several programs and methods must interact together to accomplish the goal of farmland retention.

Land Trust Assistance

The Massachusetts APR Program works in many ways. In cases where landowners wish to sell only their development rights, the Commonwealth acts alone; however, if landowners want to sell all their real estate the assistance of a local or regional land trust can be employed. A trust can purchase the whole farm and enter into a purchase agreement in a short time period. Typically, once the development rights have been appraised according to state guidelines, they are approved and purchased by the Department of Food and Agriculture. The residual agricultural value of the land and buildings can then be sold to a farmer. In areas of high land values, some part of the farm offered for sale may lend itself to limited development. This option helps lower the cost of the development rights and still retains the most productive farmland. The assistance of land trusts to the Commonwealth's APR Program has proved to be very worthwhile.

Status of APR Program

In May 1980, the Commonwealth's first agricultural preservation restriction was recorded. The recording of the first restriction meant that the total selection and acquisition process worked and that all state agencies and procedures necessary to complete such acquisitions had been identified and met. The so-called selection/acquisition pipeline had been defined and was fully operational (Table 1). The average time period for completing an acquisition is 12 months.

A summary of agricultural restriction acquisitions by fiscal year is in Table 2. Over the three year period, a total of 42 properties with 3,650 acres have been restricted. The total acquisition cost was $6,800,575 or $1863 per acre. Municipalities and private groups contributed 5 percent of the acquisition monies. The statute enables municipalities to be co-holders of the deed restriction with the Department of Food and Agriculture if they provide assistance that is acceptable to the Agricultural Lands Preservation Committee. Contributions are particularly encouraged in cities and towns where land values are high and where farmland possesses only local importance.

Applications for the program have been received by the Department since January, 1979. Since that time 266 applications have been received. They are located in 12 counties and 134 municipalities. A total of 26,730 acres of land are under application and the owners' asking prices exceed $65 million (Table 3). New applications are continually being received.

The general status of all applications received as of June 30, 1982 is categorized in Table 4. One of six status categories is available. Status A are those applications that have received payment and the property has been restricted. Payment is pending for Status B applications until a title search has been completed and cooperating state agencies provide their approval.

Applications in categories C and D are under appraisal. If agreement as to value is obtained, then they will proceed to Status B if the Agricultural Lands Preservation Committee approves. As soon as additional funding is received by the program, applications in group E will be nominated for appraisal. Status F applications have been rejected for not meeting minimum program criteria and long run program objectives. Without significant changes, the application would not be reconsidered. Applications in category F are low priority compared to groups A-E. However, over time the application could be selected if land improvements were made or if significant financial contribution was made by local government.

A summary of program expenditures is presented in Table 5. As of June 30, 1982 the APR Program has expended $9,954,451 and committed $8,024,000 to projects under appraisal. It is noted that municipalities have also contributed a sum of $365,457.50. These contributions come close to paying for the administrative costs of the program, which permits the Commonwealth's dollars to be spent almost entirely on restriction purchases.

Purchasing of development rights (restrictions) in Massachusetts is saving key agricultural land for local food production. Many other economic and environmental benefits are being realized. Farmland that otherwise would have been lost to development is now in the hands of younger farmers so that production will continue (Appendix A). Massachusetts taxpayers will have the opportunity to enjoy fresh fruits and vegetables, pick-your-own opportunities, a more varied landscape and the maintenance of agricultural businesses.

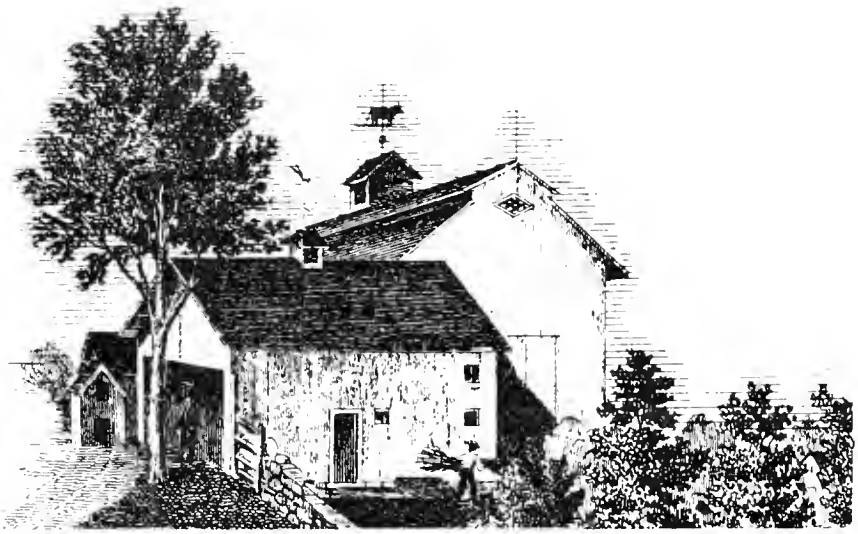
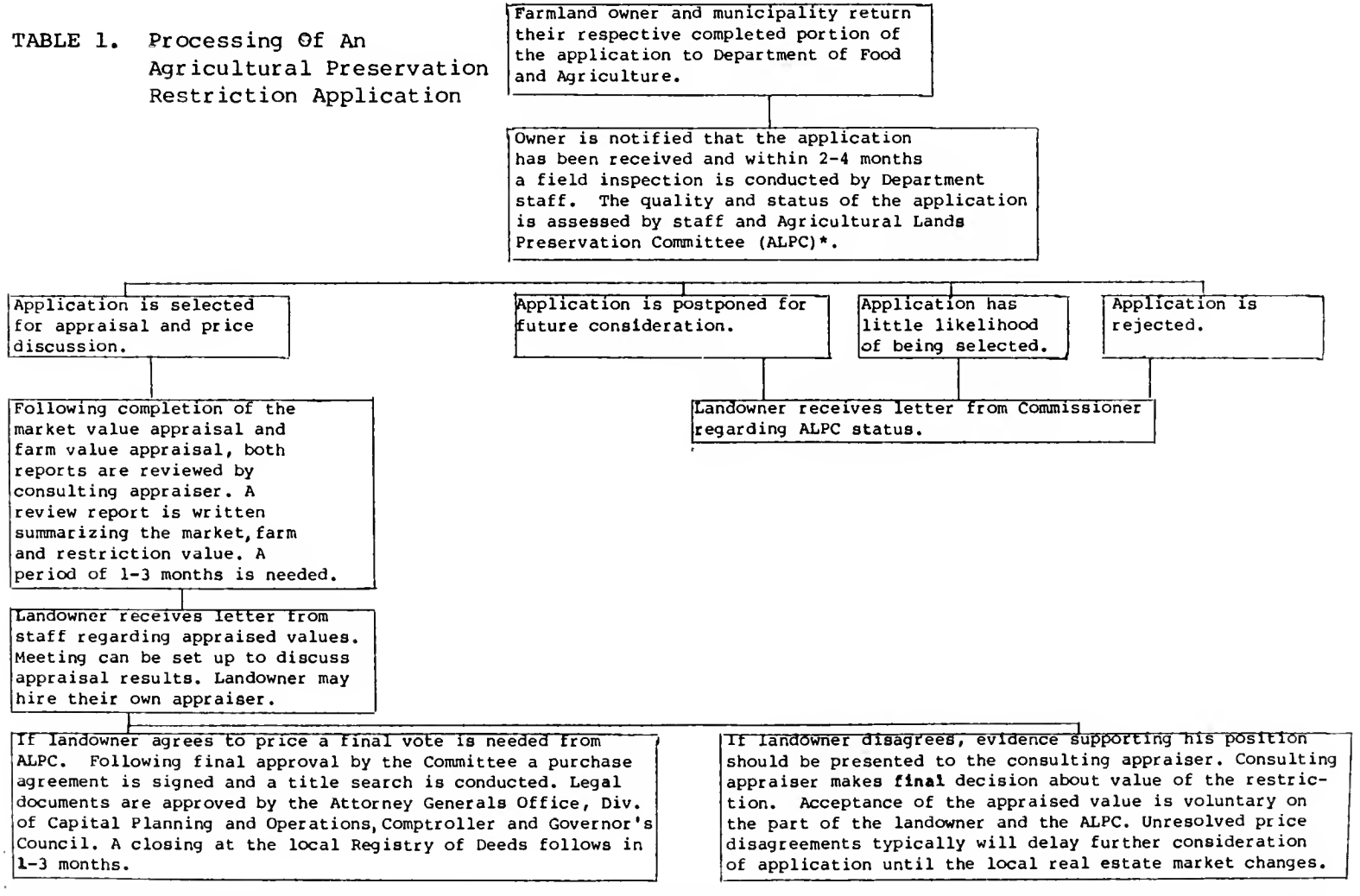


TABLE 1. Processing Of An Agricultural Preservation Restriction Application



*Members of Agricultural Lands Preservation Committee as established by statute: Commissioner, Dept. of Food & Agriculture, Secretary of Environmental Affairs, Secretary of Communities & Development, Chairman, Board of Food & Agriculture, four public appointments by Governor, two of whom must be farmers.

Table 2. Summary of Agricultural Preservation Restriction Program Acquisitions By Fiscal Year, 1980-82.

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Total
Acquisitions Completed	2	16	24	42
Number of Acres	97	1431	2122	3650
Acquisition Cost	$280,000.00	$2,776,225.00	$3,744,350.00	$6,800,575.00
Town or Private Contributions	$ 25,500.00	$ 161,372.50	$ 178,585.00	$ 365,457.50
Net Commonwealth Cost	$254,500.00	$2,614,852.50	$3,565,765.00	$6,435,117.50

Table 3. County Location and Number of APR Applications Received as of June 30, 1982

County	Number of Applications	Acreage	Asking Price	Municipalities Represented
Barnstable	3	301	$1.8 Million	3
Berkshire	12	2197	$2.9 Million	7
Bristol	23	1940	$6.7 Million	11
Dukes	4	342	$1.5 Million	3
Essex	32	2821	$13.8 Million	13
Franklin	16	1775	$2.3 Million	7
Hampden	12	1173	$2.1 Million	7
Hampshire	39	4046	$4.1 Million	12
Middlesex	35	2117	$10.9 Million	20
Norfolk	15	702	$2.1 Million	8
Plymouth	24	2708	$5.9 Million	15
Worcester	51	6608	$11.9 Million	28
TOTALS	266	26,730	$66.0 Million	134

Table 4. Status of All Applications Received by APR Program as of June 30, 1982

Status	Number of Applications	Acres	Purchase/Asking Price
A. Acquisition completed and deed restriction recorded.	42	3,650	$ 6,800,573
B. Final vote of approval received and purchase agreement signed.	20	1,955	$ 2,754,175
C. Voted to appraise and negotiate purchase price.	46	4,734	$ 8,024,000
D. Voted to appraise and negotiate purchase price but landowners have refused offer.	16	2,885	$ 3,533,000*
E. Eligible candidates but sufficient funding is currently unavailable.	125	13,024	$ 23,255,000*
F. Rejected for not meeting minimum program criteria and objectives.	17	482	$ 1,779,000*
TOTAL PROJECTS	266	26,730	$ 46,145,748**

*Asking Prices.

**This total differs from the $66 million stated in Table 2 because final appraised values are typically 70-80 percent of asking price. Status D through F involves asking prices while A through C are appraised values. New applications to the program are received every week.

Table 5. Summary of Program Expenditures as of June 30, 1982

Expenditure Item	Expenditure Amount	
Restriction Purchases		
Completed (42 properties)	$6,800,575	
Under Signed Agreement (20 properties)	$2,754,175	
	TOTAL	9,554,750
Administration Costs		
Appraisal Services	$ 315,284	
Farmland Appraisal Study Report	$ 25,750	
Legal Services	$ 54,909	
Supplies and Equipment	$ 3,758	
	TOTAL	399,701
Anticipated Restriction Purchases of applications under appraisal (43 properties)	TOTAL	10,500,000
Anticipated Administration Costs associated with the anticipated restriction purchase	TOTAL	150,000
Pending applications that cannot be appraised unless more funds are allocated	125 properties with asking prices exceeding $23,000,000.	

NOTE: A total of $20,000,000 has been appropriated by the Legislature for the APR Program. As shown above a total of $9,954,451 has been expended for restriction purchases and administration. It is anticipated that the 43 properties presently under appraisal will require approximately $10,500,000 and the associated administration cost of $150,000. The asking price of pending applications totals $23,000,000. Without an additional appropriation, no action can be taken on these applications nor on new applications which continue to be regularly submitted.

The Division of Land Use works to promote the wise and productive use of Massachusetts' agricultural resources. Through several programs created to encourage preservation and utilization of farmland for agriculture, the Division strives to strengthen the local farm economy and improve the climate for a viable agricultural community.

The most important resource for agriculture is land. Massachusetts' agricultural land base has been shrinking as good farmland is converted to roads, industrial parks and houses. Since 1945, about one and one-half million acres have been lost to urban conversion and abandonment. The Division is attempting to slow this trend on both public and private farmland.

Public Lands

Although farming programs are no longer a part of most state institutions today, there are still thousands of acres of farmland surrounding Massachusetts state hospitals, schools and prisons. When many of the state institutions were built in the late 1800's, they were sited on some of the Commonwealth's best farmland. The institutions raised their own food and large investments were made for drainage and other agricultural improvements. The Division works to make these lands accessible to farmers and gardeners for agricultural uses. This is accomplished by entering into agreements with the controlling state agencies for management of the land, and leasing or lending the parcels to interested parties.

This year, the Division administered leases to six commercial farmers for about 250 acres of state land. In addition, several other state agencies have independent leases with farmers for several hundred more acres.

Two other state programs also promote the productive use of public lands. Through the Community Gardening Program, about 20 community gardens (some as large as 400 individual plots) were sited on state-owned land this year. Through the Massachusetts Fruition Program, several thousand fruit and nut trees and shrubs were planted on public and public-access lands by community groups. (These programs are described in detail later in this Report.)

In addition, the Division is working to ensure the protection of state lands from conversion to non-farm uses through implementation of Executive Order No. 193 which discourages the sale or lease of state-owned agricultural lands for non-agricultural purposes.

Farmland Preservation

The largest of the Division's programs is the Agricultural Preservation Restriction (APR) Program, whereby the state buys the development rights to private farmland. The next section of this report covers the APR Program.

Community Gardening

This year there were over 200 community garden sites across the state, including the 20 on state-owned sites, involving over 10,000 households in home food production. The Division maintains an inventory of garden locations and coordinators, and serves as a clearinghouse of information for these groups. We help to secure land for garden space by negotiating agreements with both public and private land owners.

Mass Seed Program

The Division also runs the Massachusetts Seed Program. This involves sending free and low-cost vegetable seeds to youth, low-income and elderly people, and members of community garden groups. There were over 6,000 participants in this year's Seed Program.

Fruition

The Massachusetts Fruition Program was created in 1980 to promote the growing of food-producing trees, shrubs and vines on publicly-accessible lands. Interested community groups apply to the Division to receive free plants in exchange for an agreement to take care of them.

Plants are distributed in the Spring and Fall at five regional distribution sites to school and church groups, conservation commissions, town tree and parks departments and community garden groups. This year, pears, sour and bush cherries, juneberries, quinces, mulberries and elderberries, apples, blueberries, blackberries, black and red raspberries, black and English walnuts, butternuts and Chinese chestnuts were distributed, bringing the total number of Fruition trees planted throughout the state to almost 7,500.

Environmental Impact Review

By participating in the planning process and monitoring decisions that may affect agricultural lands, the Division tries to prevent further loss or destruction of agricultural resources. We actively participate in the environmental impact review process which is required by the Massachusetts Environmental Policy Act.

New Programs

A primary function of the Division has been to work directly with federal agricultural agencies and local groups to get new programs started and put landowners in contact with other agricultural professionals. This year the staff worked with the Executive Office of Energy Resources to solicit federal funds for energy conservation for small dairies, greenhouses and fruit storage facilities. If these funds are granted, the Division may help to administer a program of loan subsidies for energy conservation measures for these agricultural businesses.

DIVISION OF ANIMAL HEALTH
Mabel A. Owen, Director

The control and eradication of important domestic animal diseases is not only crucial to human health, it is one of the areas of regulatory service which truly benefits both the consumer and the producer. Energy and transportation costs escalate. The practice of good disease control is one of the few profit areas still under the producer-farmer's control. With an administrative staff of eight and a field staff of fourteen Veterinarians and Inspectors, the Division of Animal Health works in close cooperation with the animal owning sector of Agriculture to ensure that the food produced here will provide profit and good health to farmer and consumer alike.

BRUCELLOSIS

Since this bovine-porcine disease readily attacks man in the form of Undulant Fever, its eradication from our cattle and swine herds is imperative. With one relatively small dairy herd still under quarantine and less than six swine herds known to be infected, complete eradication is well within reach. Since Massachusetts is an importing state, with regard to both cattle and swine, it is difficult to keep disease out and we rely extensively on surveillance procedures and widespread testing. All dairy herds are subject to a BRT (Brucellosis Ring Test) every sixty days. All imports are retested and an MCI (Market Cattle Inspection) is conducted at slaughter plants. Brucellosis, once located, can be eradicated through herd depopulation or through a repeated test-and-remove-infected-animals procedure. The former is quick; the latter more costly of time though usually much less of a financial loss to the farmer. Total herd depopulation is the preferred method with swine. Since no state indemnity funds are available, it is imperative that we do our best to keep this disease out of our herds. Federal Uniform Methods and Rules, in effect as of January 1, 1982, classify Massachusetts an "A" state in Brucellosis. We hope to attain "Zero" status within Fiscal Year 1984.

TUBERCULOSIS

In humans, tuberculosis is endemic the world over and has, in recent years, made a resurgence in major United States cities. This has led to increased vigilance against the disease on farms and all cattle (dairy goats) in Massachusetts are tested regularly, although we are fortunate not to have had a reactor in more than two years. Testing and the MCI program will continue; this disease is still very real. During fy 1982, 18,715 cattle were tested, representing close to 85% of our known cattle population.

HOG CHOLERA AND OTHER SWINE DISEASES

The entire country has been free of Hog Cholera during fy 1982 although strong surveillance procedures continue in use. With greatly increasing numbers of tourists and world travellers, the risk of importing disease increases every year. Massachusetts permits the feeding of meat-containing garbage to swine, but requires that it be cooked before feeding. This heat treatment is the main protection we have against the possibility that raw pork, from another country, becomes the means of introducing either Hog Cholera or African Swine Fever.

During fy 1982 two swine herds were found suspect to the presence of PRV (Swine Pseudorabies Virus) and the depopulation of the breeding swine on both premises is under way. Legislation against the importation of swine from other than pseudorabies-free sources will be filed.

EQUINE PROGRAMS

Licensing of Horseback-riding Instructors and Riding Schools or Stables continues to be well-received. The former program, consumer protective in intent, has received considerable attention from neighboring states contemplating a similar program. Approximately 800 persons hold the Instructor License. The majority work as Coaches, but most of the A-Level (Advanced) licenses are held by owner/operators of sizeable Riding Academies. The quality of Riding instruction available in Massachusetts is very high. Much is due to the presence here of the United States Olympic Team, but no small part results from the licensing program and the solid floor it puts under the sport of riding. Rules and Regulations under the law requiring the licensing of Horse Auctions and Transporters were promulgated in fy 1982 and actual licensing is expected to be in operation in early 1983.

Ten thousand nine hundred sixty-one equines were tested for Equine Infectious Anemia (The Coggins Test) in fy 1982, twelve of which were positive. As in past years, almost all of the positives were found through the testing program conducted at a large sale barn in Massachusetts. The presence of acute EIA in both Vermont and New Hampshire underlines the necessity of keeping this program in place. Permission for Massachusetts-owned equines to attend Massachusetts Shows and Fairs with a negative Coggins Test dated within 24 months prior to show date was granted as of January 1, 1981 and appears to be working well. It results in some saving to Massachusetts horse owners and appears to have had, and be having, no negative impact on the EIA-control program.

Although vaccination against Equine Encephalitis (EEE-WEE) is not mandatory, the Division of Animal Health issues a public notice each spring, urging horse and pony owners to have their animals vaccinated. Considered 100% effective, the widespread use of this vaccination is very probably responsible for the fact that no equine deaths from this disease have been reported over the last three fiscal years. Once again, the Chief Veterinary Health Officer, Dr. Victor P. LaBranche, emphasizes that human beings cannot contract this disease from horses and ponies. The term "Equine" in its name indicates only that equines, as well as humans, may contract the disease which is transmitted to them from domestic or wild birds by mosquitoes.

A more extensive program to drug-test pulling animals (horses, ponies or oxen) at Fairs was inaugurated in fy 1982. Testing for the presence of illegal stimulants was conducted at the Massachusetts Racing Commission Laboratory and all tests were negative. This program has been exceptionally well received by all people who compete in these popular fair events.

PET SHOP LICENSING

Pet Shop licensing is conducted mainly as a disease-prevention and trace-back procedure. During fy 1982, as in several previous years, illegally imported psittacine birds (parrots) caused sporadic outbreaks of Velogenic Visceratropic Disease (VVND) in several areas of the country. Complete traceback of exposed birds was possible in Massachusetts, largely

due to the excellence of the record keeping in the licensed Pet Shops where most of such birds are sold. This ability to trace every exposed bird is of the utmost importance in the prevention here of a disease which easily has the capability of wiping out the poultry industry.

GUARD DOG BUSINESS LICENSING

A law requiring the licensing of guard dog businesses was passed late in fy 1982. Rules and Regulations for this have been proposed and hearings are scheduled in fy 1983. As with Pet Shops and Riding Stables, the Guard Dog business premises will be inspected by agents of the Massachusetts Society for the Prevention of Cruelty to Animals and the Animal Rescue League of Boston.

POULTRY PROGRAM

With severely depleted field personnel in the poultry division, much of the work load had to be prioritized. As a result, disease blood-testing was completed at the expense of store inspections, which are done to check the weight and quality of all eggs being sold and ensure proper adherence to the quality control mandated by the use of the "Massachusetts Grown and Fresher" logo. The two Poultry Inspectors hired in the last month of fy 1982 strengthened the store inspections and resulted in an immediate rise in both the number of stores visited and the quality of the products offered. Since Massachusetts exports a high number of carefully-bred chicks each year, (1.6 million in fy 1982), blood-testing and disease freedom in the breeder flocks is extremely important to the state's agricultural economy. With the Division at full strength for the first time in two years we expect to be able to maintain our present high calibre of disease freedom and also show an improvement in the amount and quality of the store egg inspection.

RABIES CONTROL

Under this program we initiate the quarantining of any animal which has bitten a person. With rabies recently confirmed in ground animals in Massachusetts for the first time in many years, we have noted a greatly increased public and media interest in this disease as well as animal vaccinations against it.

IN CONCLUSION

The goal of this Division is good health, especially in the areas where human health is also involved, directly or indirectly. That we have had success in the total control of or eradication of some very important diseases is due primarily to the effort and dedication of all Division of Animal Health employees, both administrative and professional. We are also indebted to the excellent cooperation this office has always had from the Massachusetts' farming community, agents of the MSPCA, our federal counterparts at USDA-APHIS, the University of Massachusetts at Amherst and the Massachusetts Farm Bureau Federation. We have also had invaluable support from within the Department of Food and Agriculture, the Secretary of Environmental Affairs, the Legislature and the Executive Office of the Commonwealth. We are deeply appreciative for the help each has offered and feel the state's present status, in animal health, reflects this joint effort.

The budget appropriated for the Division for FY 1982 was $458,197.

There were several bills filed in the Legislature in 1981 affecting the agricultural industry as well as the Department.

Chapter 59. An Act relative to brucellosis in bovine animals. April 3rd, with emergency preamble.

This bill authorizes the Director of Animal Health to prohibit the importation of female cattle over five months of age and for breeding purposes, without an official certification of vaccination.

Chapter 257. An Act further regulating the employment of minors. June 18th.

This Act authorizes the employment of minors 16 years of age or older, provided that such minors are enrolled in a course of study and training in a cooperative vocational training program, including cooperative agricultural programs.

Chapter 302. An Act relative to mosquito control by cities and towns in mosquito control districts, July 2nd.

Clause 36C of said Section 5 was inserted into the law and provides that a city or town within a mosquito control district may appropriate further money for the abatement of mosquitos, but that the program shall be under the supervision and control of the mosquito control project of which such city or town is a member.

Chapter 351. Budget of the Commonwealth FY 1982, July 21.

Most of the amendments affecting agriculture in calendar year 1981 will be found in the outside sections of the Appropriations Act.

Chapter 351 had a record breaking 295 outside sections. Most of them created new laws. The General Court has since banned the practice of creating new laws in any future Appropriations Act.

Section 254 of this Act, through Section 269, reorganizes the Department. Section 254 sets up new Divisions and Bureaus within the Department by amending Section 6 of Chapter 128.

The other sections, 255 through 269, change the wording in the various laws so as to conform with the amendment to Section 6.

There are errors and omissions which we are trying to rectify.

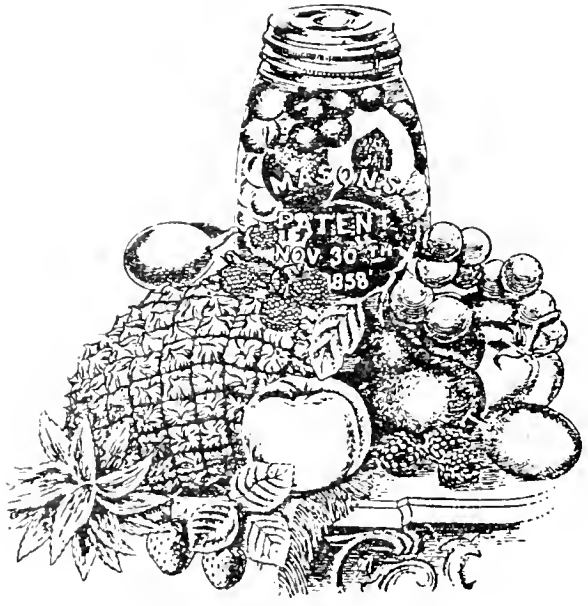
Chapter 363. An Act authorizing the town of Monterey to withdraw from the Berkshire County Mosquito Control Project.

Chapter 554. An Act authorizing the Hampshire, Franklin, Hampden Agricultural Society to hold a ten day horse racing meeting.

Chapter 558. An Act further regulating racing days in the Commonwealth. Approved Nov. 18. Effective Nov. 19.

The bill, among other things, amends paragraph (g) of Section 2 of Chapter 128 of the General Laws. It rewrote the entire paragraph which deals with the Massachusetts Thoroughbred Breeding Program. It also authorized the Department to establish rules and regulations affecting the program.

Chapter 701. An Act relative to the retirement rights of persons employed by the County Cooperative Extension Service in Suffolk County. December 24.



All fluid milk sold in Massachusetts, and all milk handled by milk and pasteurization plants licensed by Massachusetts, must come from dairy farms that are licensed by the Commissioner of the Department of Food & Agriculture. The inspection work is carried out by the Bureau of Dairying. The geographical area covered is all of New England plus a gradual westward expansion from eastern through central New York state.

In the year ending June 30, 1982, Bureau personnel made 8,103 dairy farm inspections and 1,928 reinspections. Those farms that still did not conform to Massachusetts laws and regulations were processed through our exclusionary procedure, which resulted in thirty-four Department Hearings and the subsequent exclusion of thirteen dairy farms from Massachusetts markets. Other non-conforming farms either shifted markets or went out of business.

The mastitis sample collecting program, which is operated in conjunction with the diagnostic laboratory at the University of Massachusetts in Amherst, used four inspectors full time, and they sampled 641 herds, 3,511 cows and delivered 138,352 samples to the laboratory. These samples were analyzed and the results forwarded to the herd owner and his veterinarian. Implementation of appropriate control measures by producers results in better quality and increased production.

Inspection and grading work performed for U.S.D.A. through a cooperative agreement was continued, but on a reduced schedule due to our manpower shortage. Sampling of original vendor lots of dry skimmed milk, manufactured by Massachusetts companies for purchase by U.S.D.A., is continuing. Also, inspection surveys of manufacturing facilities for U.S.D.A. license continue to be carried out. The sampling of U.S.D.A. dry skimmed milk powder already in storage at locations in Lawrence, Lowell and Chicopee has been discontinued because of manpower requirements. Income from grading and sampling work performed in the fiscal year is $6,829.00

The Bureau inspected 79 milk plants for licensing this year. Of these 79 plants, 24 were out of state pasteurization plants whose products were sold within the state.

Bureau personnel certified by the United States Public Health Service as Milk Sanitation Rating Officers completed all Massachusetts dairy industry requests for Interstate Milk Shipper raw milk sanitation and enforcement ratings.

DIVISION OF FAIRS
Stephen F. Quinn, Director

In spite of cold, rainy and raw days--probably the worst fall weather in some years--our fairs managed to break records in attendance and exhibits.

This is not only the first year we recorded over 3,000,000 patrons visiting one of the agricultural fairs within the state, but the total attendance of 4,160,643 is an all time high and is an increase of 25 percent over last year.

A total of $315,168 were expended for prizes by the state and $136,770 were added by the fair societies themselves for the promotion of agriculture. Exhibits displayed numbered 88,522 and 38,206 were exhibits planned by youth or youth groups.

The Massachusetts Building exhibits at the Eastern States Exhibition in West Springfield enjoyed a tremendous reception in spite of the fact that the weather was poor on seven out of the twelve days. Nevertheless, 1,016,051 patrons, down 73,949 from the previous year, came to see the exhibits and spend enough money to make the fair the most profitable of all times.

New exhibits included a few manufacturing companies who process within the state and utilize our raw agricultural products. They were the Oxford Pickle Company, Friendly Ice Cream, and Carando Meats. The fairgoers truly enjoyed a sample of their products. The Soil Conservation Service did a great job with an exhibit on soil erosion and measures to prevent it.

Ten part-time fair inspectors were employed again this year to help aid the Division in its monitoring of the agriculture prizes and the use of rehabilitation monies.

The rehabilitation committee met in Ashland at the 4-H Center in December and approved $80,500 from request of $361,085, from 49 fairs.

The wool blanket program established during the previous year received national recognition as a great direct marketing approach in assisting the wool industry.

Growers who took part in the program received $1.25 per pound for their wool as opposed to those who sold directly into the New England pool, who received only 78 cents per pound. Over twelve hundred blankets were manufactured and sold to obtain this goal. This year we expect to manufacture over two thousand blankets with the raw price of wool at forty cents per pound. Nationally there is a great need to further promote the concept of this program.

The total appropriated budget for the fiscal year was $759,613. Of this total $472,113 were appropriated for the fair prize awards, fair inspections, promotional programs, and administration costs; $87,500 were appropriated for the rehabilitation program to help assist with the upkeep at the fair grounds; $200,000 for the Thoroughbred and Standardbred programs. With the enactment of Chapter 558 of the Acts of 1981 further promoting the equine industry in the State, three new accounts were set up within the Division and were funded through a supplementary budget. The Thoroughbred Program received $220,000; The Standard-Bred Program received $152,031 and the Tufts School of Veterinary Medicine received $65,657 for equine research, scholarships and loans.

THOROUGHBRED HORSE PROGRAM
Pete Bundy, Supervisor

The Massachusetts Thoroughbred Breeding Program was greatly enlarged in November of 1981 with the passage of Chapter 558 of the General Laws of 1981.

Previously, the program was strictly a breeder and stallion incentive award program. Cash prizes of 20% of purse monies won were awarded to breeders of winning thoroughbred horses. An additional 5% of purse monies won was awarded to the owner of the registered Massachusetts Thoroughbred stallion which sired the winner. These purse monies had to be won at Massachusetts thoroughbred race tracks.

With passage of the new legislation, the breeder awards have been increased to 25%, and stallion owners' awards to 15% of 1st, 2nd, and 3rd place purse monies won. Also, an owners' award of 5% of purses won has been established. The new law also provides for funding of purse monies for stakes races restricted to Massachusetts bred Thoroughbred horses.

Obviously, the intent of this legislation is to promote the breeding of Thoroughbred horses in the Commonwealth, and to encourage "horse-farming" and the preservation of agricultural land in Massachusetts.

The Thoroughbred Breeding Program is now funded from 80% of one-Quarter of one percent of the total handle at Suffolk Downs. The remaining 20% of one-Quarter of one percent is used to help fund equine research and scholarships at Tufts School of Veterinary Medicine. These monies are subject to appropriation by the Massachusetts legislature.

Another step in enhancing Thoroughbred Breeding in the State was the funding of the Massachusetts Thoroughbred Breeders Association in 1981. This group has been working with our Department of Food and Agriculture, and has been most helpful in promoting Thoroughbred breeding in Massachusetts.

As a result of the new program, several new Thoroughbred stallions have been brought to Massachusetts to stand at stud. Most of these stallions have excellent bloodlines, and mare owners in the state will be anxious to breed to them. New breeders are registering foals, and the Thoroughbred census in the state appears to have nearly doubled, though it is too early in the program to estimate an accurate picture of the census three or four years hence.

In the fiscal year July 1st, 1981-June 30, 1982, breeder, owner, and stallion awards amounted to $222,814.25 for Massachusetts-bred thoroughbreds racing at Suffolk Downs and three agricultural fairs. In this period, Massachusetts-bred went postward 1,179 times accounting for 139 wins, 169 2nds, and 136 thirds.

STANDARDBRED PROGRAM
Barbara E. Dolloff, Supervisor

The Standardbred Horse Breeding Program encouraqes and promotes the breeding, propagation, ownership, raising, racing and marketing of Standardbred horses bred in the Commonwealth of Massachusetts. Thus it encourges the keeping of open lands to promote agriculture and agricultural related industries within the Commonwealth.

Fiscal 1982 brought many positive changes to the program with the enactment of Chapter 558, Acts of 1981 of the General Laws. Monies for this program will now be derived from ½ of 1% of the total handle at harness tracks located within the Commonwealth. This money is taken from the 3% tax on wagering that is paid daily by the track to the Commonwealth.

The horsemen have responded to the new legislation by investing heavily in new farms, building and repairing of barns, purchasing farm machinery and the breeding and buying of Massachusetts bred standardbred horses.

Ther are 49.4% more acres being utilized by stallions in this program since passage of Chapter 558. Stallion registration has increased by 60% and yearling registration is up by 43%. Though the breeding reports for this period have not been received as of this writing, an unofficial survey indicates a 120% growth.

Appropriation for fiscal year 1982 was $100,000.00. Total expenditures for the program were $99,921.52; $83,023.00 of this was used for purses and $2,248.52 for promotional expenses.

DIVISION OF MARKETS
John J. Fitzgerald, Director

The Division of Markets functions as a regulatory and a marketing agency in the Department of Food and Agriculture.

The Promotional and Information Section, supervised by Assistant Director Guy L. Paris, is involved in various activities such as commodity promotions, which are conducted with the cooperation of commodity groups.

In fiscal year 1982, promotional funds which were shared equally with commodity groups were eliminated from the budget. Many of the programs which were administered during the past ten years ceased.

It is now promising that fiscal year 1983 will bring new funds and the commodity promotional programs will resume.

With limited funds, the Division continued and expanded the "Massachusetts Grown and Fresher" trademark program. Many retail outlets used this logo in their weekly newspaper ads. Massachusetts agricultural products are also promoted through the publication of pamphlets listing local "Pick-your-Own" vegetables, strawberries, blueberries, apples and other fruits, "Cut-your-Own" Christmas trees, fresh Massachusetts turkeys, and locations of Farmers and Gardeners markets.

This section has been very active this year in developing sales contacts for large food market product buyers.

It also cooperates with U.S. Department of Agriculture Market News Service in collecting, publishing and distributing by telephone, mail, radio and newspapers timely information on market prices, supplies, and demand of fresh fruit and vegetables at the Boston Market and at the Springfield Market.

Prices and other information related to marketing of ornamental crops at the Boston Flower Exchange are compiled and published in the same manner as those of fresh fruits and vegetables.

It is through these reports that growers, retailers and shippers are informed of marketing conditions and prices.

Other marketing information released by this section includes weekly Special Apple Reports and a weekly Food Buyers Guide.

Milk flavoring program provides an organoleptic evaluation service for the milk industry with the objective of guaranteeing consumer satisfaction with the flavor quality of milk they purchase. Samples taken from milk plants and milk producers range from 5 to 250 per examination with the average monthly total including 50 finished products, 90 blended tank shipment and 755 farm samples.

The budget appropriated for the Division for fiscal year 1982 was $295,100.00.

PUBLIC INFORMATION - Janet Christensen

In a state where the vast majority of residents do not live in the midst of a farming community, the public information program helps "build a constituency" for local agriculture as well as advise farmers about Departmental programs.

The better informed the public is about the current farm situation and the industry, the greater the likelihood of understanding and support for the various activities aimed toward boosting local agricultural production.

In an urban state such as Massachusetts, for example, protecting farmland from commercial development is essential and related efforts such as the Agricultural Preservation Restriction Program can benefit from wide public exposure.

News releases and publications of the Department also aim to increase the demand for local farm products so that farmers will be encouraged to grow more, not less. Information about what's in season and where it's available is offered to food editors, radio and TV stations. Also, a series of brochures about local crops, their nutritional value and uses has been widely distributed to the press and at roadside farm stands and farmers markets across the state.

Other topics covered in news releases include community gardening, fairs and various Departmental activities and agricultural events. This year the Pesticide Bureau of the Department initiated a "Pesticide Information Center" and the public information office has cooperated with the Bureau in its effort to better inform the public about all aspects of pesticides and current issues such as gypsy moths, mosquito control and the use of herbicides on rights-of-way.

This office also coordinated press activities for the National Association of State Departments of Agriculture during its 1981 annual fall meeting in Boston and hosted the concurrent annual meeting of the Communications Officers of State Departments of Agriculture.

Credit is due to the outstanding assistance offered through student internships from Simmons College, Framingham State College and the University of Massachusetts at Amherst. The enthusiastic help of several students from these schools this past year was indispensable to the completion of a wide variety of public information projects.

Farmers markets continued to be one of the media's favorite agricultural topics. This year the listing of markets across the state tallied to a total of forty-six, a significant growth from the 1976 listing of seven locations. The public information officer serves on the board of the Massachusetts Federation of Farmers Markets and assists in the publication of the Federation newsletter.

Direct marketing grants, made possible by funding to the state from the U.S. Department of Agriculture, were also publicized by this office. Awarded during a visit to Massachusetts by U.S. Secretary of Agriculture John R. Block, the grants were made to "foster innovations in increasing the marketing of farm products directly from farmers to local institutions, supermarkets, grocery stores and other retail outlets". The matching grants totaling $40,000 were made to twelve local businesses and associations.

ROADSIDE MARKETING - Craig Richov

To keep Massachusetts a leader in direct marketing, farm marketers in the Commonwealth are offered the consulting services of the Department's Roadside Marketing Specialist. The Specialist visited over 200 farms this year, and his recommendations to grower-retailers are intended to further upgrade the appearance, image and success of the the $30 million plus roadside marketing industry. His monthly Newsletter informs growers of current marketing trends and retailing techniques and successes. Plans for new roadside markets were provided in Lakeville, Westport and Northboro, and improved market layouts were recommended for over 20 stands across the state. The Specialist also held a marketing seminar and market tour during the New England Vegetable Growers Conference in December.

Promotional activities of the marketing specialist include the distribution of "Massachusetts Grown and Fresher" promotional materials and participation with the Massachusetts Vegetable Growers Association Marketing and Promotion Committee. A fall harvest display and information booth promoted Massachusetts products at the Massachusetts Building at the Eastern States Exposition in West Springfield and provided fair goers with information on roadside stands, farmers markets and pick-your-own operations. As chairman of the Massachusetts Federation of Farmers and Gardeners Markets promotion and exhibits committee, the Roadside Marketing Specialist has promoted farmers markets through informative exhibits and actual live farmers markets at the Eastern States Exposition and smaller fairs and functions throughout the year.

FOREIGN TRADE SECTION - Dr. Schiva Gandhi

In this fiscal year, the economic trends of the day have had a tremendous impact on the Massachusetts agribusiness firms participating in the export programs of the Division of Markets. European community processing subsidies, a strong U.S. dollar and the economic recession in Europe have served to reduce U.S. exports to the European community. Lesser developed countries strapped for foreign exchange have been concentrating on importing only "essential and necessary commodities". Faced with these harsh realities and eager to tap all potential world markets, the hundred or so Massachusetts firms (new-to-export or experienced exporters) have been actively utlizing the services and resources of the Foreign Trade Section. Thus there has been a marked increase in inquiries on agricultural statistics, latest developments in foreign markets and other information relating to foreign trade.

An interested producer, who has a good quality product that is selling well in the domestic market, and has a definite interest in market expansion, has been encouraged to try the export markets. These companies, as well as established exporters, are developing a large number of sales from TORS (Trade Opportunity Referral Service) contacts, as well as Export Briefs. Increasing numbers of Massachusetts firms are introducing their food and agricultural products to foreign markets through the FAS publication CONTACTS, which is translated into various languages and distributed worldwide. Buyers in foreign countries are in turn contacting Massachusetts exporters, listed in each publication, for possible purchases.

Cabled sales leads for various food and agricultural products received from buyers throughout the world are frequently channeled via EUSAFEC (Eastern U.S. Agricultural and Food Export Council, Inc.) representatives and USDA Export Service Division to the Foreign Trade Section. These sales leads are in turn disseminated through this office to various producers and exporters of agricultural food products in the State for further action.

Trade delegations and foreign buyers visiting Massachusetts often contact the Foreign Trade Section. This section, in conjunction with other agencies, informs the producers and exporters of such visits and provides liason service between buyers and sellers, as well as acquainting them with the products available from the State of Massachusetts.

EUSAFEC program committee meetings are regularly attended throughout the year. At these meetings the members formulate policies to be adopted and initiatives to be taken to increase the exports of food and other agricultural products.

This year EUSAFEC sponsored the first U.S. International Food Show which took place in the New York Coliseum. The general concensus is that the show was an outstanding success and the vast majority of exhibitors are looking forward to the next show. Representatives of food manufacturing companies and processors as well as official organizations in all sectors of the food and drink industry are always eager to receive information on the upcoming food and agricultural expositions, for it provides them with an ideal opportunity to introduce new products, identify new markets and new trends in food processing, as well as boost sales in national and international markets.

The Foreign Trade Section is currently concentrating on disseminating information on the NASDA National Food & Agricultural Exposition to take place at the World Congress Center, Atlanta, Georgia on May 17-19, 1983. The first national food show ever to be held in the U.S., the Exposition is sponsored jointly by the National Association of State Departments of Agriculture (NASDA) and the Foreign Agricultural Service of the USDA. For three days, Atlanta's World Congress Center will be an international marketplace, where buyers, suppliers and brokers will examine, compare and discuss the most comprehensive range of fresh, frozen and processed food, beverages and wines ever assembled under one roof.

Among our many regulatory services, of major importance is the Federal-State Inspection Service. For 63 continuous years all state agriculture departments in the nation have cooperated with the U.S.D.A. in providing shipping point fruit and vegetable inspections for their own states' farm products.

This inspection service is offered to any financially interested parties within the Commonwealth on a fee basis and thus the program becomes self-sustaining. All fees are retained by the Commonwealth except for a very small administrative cost retained by the U.S.D.A.

For many years this Inspection Service in Massachusetts, through strict adherence to grades and other essential data, has done much to upgrade the quality, condition and grade of the final product. Massachusetts leads the world in the production of cranberries and many shipments of this product carry a Federal-State certificate.

By law all apples must be inspected for export and our inspection service has been instrumental in helping Bay State farmers maintain this lucrative market. The inspection service has aided in developing new methods of transportation, especially in the export field.

The greatest demand for our inspection service again has been on the shipment of export apples, mainly to the United Kingdom. Apples are also inspected for shipment to California where the demand has been increasing each year, and for military purchases.

The export apple inspection is of major importance, due primarily to the demand and acceptance of controlled atmosphere stored apples, our valuable McIntosh variety and our quality packs. McIntosh apples cannot be grown successfully in European countries. The controlled atmosphere method of storing apples greatly lengthens the marketing season and allows shipment of apples in good condition well into June, thus providing a more orderly marketing season for the entire apple indusry.

Shipping point inspections are also made in wholesale lots of potatoes, onions and cranberries and apples are inspected at a major processing plant.

The revenue generated by this service is in direct proportion to the size of the agricultural crop and since our apple harvest was severely restricted due to the whims of nature, the total inspection revenue was reduced over last season.

Inspections are also made and samples drawn at wholesale markets and retail stores in order to insure the correct and honest labeling and grading of apples, potatoes, agriculture seed, vegetable, flower, lawn seed, animal feed, pet food, specialty fertilizer, agricultural fertilizers and limestone.

All of these various farm products are registerd on an annual or semi-annual basis, and proper fees, penalties and taxes are collected.

Calendar Year*

The program requires close cooperation with other state agencies and the U.S. Dept. of Agriculture and the Food & Drug Administration.

The program also includes a control on the "Native Law", controlled atmosphere apple storage rooms, cider mills and roadside stands.

SEED INSPECTION PROGRAM/OFFICIAL TESTED

	1978	1979	1980	1981
Agriculture	62	37	54	61
Mixtures (lawn)	86	103	100	57
Vegetables	477	528	445	507
Flowers	206	132	173	215
	831	800	772	840

15 stop sale orders covering 58 lots on 556 packages of seed removed from sale - poor germination, noxious weeds, unfit for seeding, out of date test.

FRUIT & VEGETABLE INSPECTION REVENUE

	1978	1979	1980	1981
Apples	$10,061.74	$16,090.07	$11,084.50	$6,012.06
Cranberries	----	577.00	----	220.00
Onions	2,979.96	1,741.96	219.10	32.00
Potatoes	3,251.25	4,411.57	826.68	157.50
	$16,292.95	$22,820.60	$12,130.28	$6,421.56

FEED, FERTILIZER AND LIME REGISTRATION

	1978	1979	1980	1981
Feed/a	2,008	2,014	1,922	1,857
Fertilizer/b	697	799	732	729
Fertilizer/c	14	14	12	12
Lime	29	24	31	31

FEED, FERTILIZER AND LIME REVENUE

	1978	1979	1980	1981
Feed/a	$51,900.00	$50,350.00	$48,050.00	$46,425.00
Fertilizer/b	18,200.00	20,125.00	18,300.00	18,225.00
Fertilizer/c	1,750.00	1,750.00	1,500.00	1,500.00
Lime/d	725.00	600.00	775.00	775.00
Fertilizer/e	8,849.90	10,826.73	15,722.29	12,052.31
Fertilizer/f	2,197.10	1,348.81	3,929.57	2,760.54
Total	$83,422.00	$85,000.54	$88,276.86	$85,398.16

/a Brands
/b Specialty brands
/c Commercial plants
/d Brands
/e Tonnage
/f Penalties

*Registrations and revenue are collected on a calendar year.

Revenue generated by inspection and registration fees totaled $91,819.72

The Division closed its first operational year under a streamlined Departmental reorganization which welded State Milk Control operations into a new Division of Regulatory Services.

The Division continued to fulfill its assigned functions in requiring compliance with state laws aimed at preventing disruptions in milk markets. One of the largest fluid milk handlers in the Commonwealth has filed for bankruptcy for the second time. This unfortunate occurrence has tested the resources of the staff while causing financial harm to the dairy producers involved. New markets have been secured and the Division continues to involve itself with the cooperation and assignment of the United States court in a final resolution.

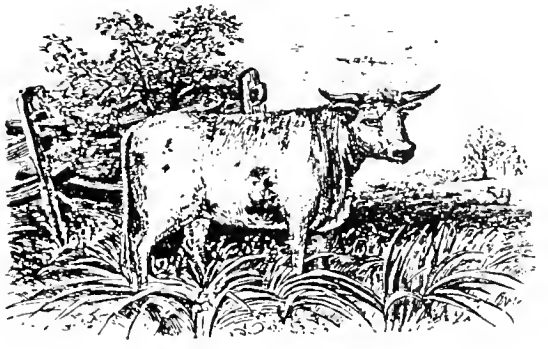
The Bureau of Milk Marketing has assumed the bonding responsibilities of the Department of Food & Agriculture under Chapter 94 Section 94A. Using revised monitoring procedures, the bonding requirements of individuals are being reviewed on an on-going basis and additional bond is being required in response to shifts in market conditions.

Field accounting responsibilities of the Bureau of Milk Marketing will substantially increase in the forthcoming year. As mandated by Congress, the Commodity Credit Corporation, commencing December 1, 1982 will demand a strict deduction of 50¢ for hundredweight of all milk marketed by Massachusetts producers.

During the fiscal year licensing of all milk dealers at wholesale and retail was drastically improved by implementation of the new data processing system established in the Department to give information at the press of a button while reducing clerical workload.

All listings, mailing and questionaires were interfaced and 4100 applications were processed using the new system.

The Bureau of Milk Marketing notes with warm approval the farsighted efforts of Massachusetts producers who this year, by voluntary deduction through dealers or co-operative associations, increased their contribution to Milk Promotion Services, Inc. from $361,800 to $424,209 or a hefty increase of $62,409. The "take-out" was increased from 8½¢ per hundredweight of milk shipped by the dairy farmer to 11¢ per hundredweight of the milk shipped.



PESTICIDE PROGRAM
Lewis F. Wells, Jr., Program Supervisor

The fiscal year 1981-82 saw significant progress within the pesticide program. The activities concerning the regulation of pesticides in Massachusetts are carried out under authority granted by Chapter 132B of the General Laws. Control of the use and application of pesticides is vested in the Department of Food & Agriculture.

One of the significant steps instituted during the fiscal year was the establishment of a Pesticide Information Center. Increased public concern about such issues as Gypsy Moth infestation, mosquito control, and the use of herbicides on rights-of-way has prompted this new service.

The center maintains a resource library to provide for the release of information to industry and government agencies as well as to the public and the press. The center has already prepared and made available an information bulletin entitled "A Homeowners Guide to the Safe and Proper Use of Pesticides", a bimonthly bulletin listing enforcement and registrative actions,as well as several advisory statements directed toward applicators.

The number of enforcement activities continued to increase in line with the comprehensive pesticide regulatory scheme set forth in Chapter 132B of the General Laws. Enforcement activities included inspecting the more than 100 pesticide manufacturing plants, routine inspections of pesticide dealers and applicators, and also hundreds of responses to consumer complaints concerning pesticides.

During the period from July 1, 1981 through June 30, 1982, the Pesticide Bureau received 92 complaints concerning pesticide use or pesticide products. The result of these investigations has been the issuance of 39 Administrative Orders, and the suspension of an Applicator's license. Investigations other than those initiated by consumer complaints resulted in the issuance of an additional 34 administrative orders. During FY82, a total of 9 new cases were referred to the Attorney General's office. Strict enforcement of the pesticide regulations will continue to be top priority with this program.

During this fiscal year, an effort was made to upgrade many of the pesticide exams in order to keep up with label changes and to provide the highest possible level of testing. Also more than 70 re-certification training courses were offered, in cooperation with the Cooperative Extension Service and private industry, to ensure that certified applicators meet the requirements of changing technology and to help applicators maintain a continuing ability to use pesticides safely.

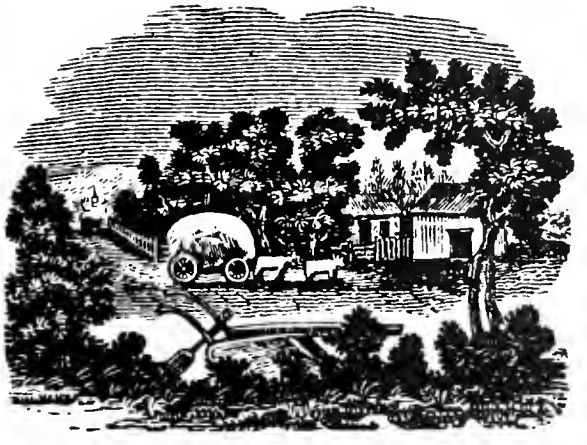
The listing below indicates that in all levels of licensing, more tests were administered and more persons issued licenses than in the previous fiscal year.

	FY'81	FY'82
Applicators license	577	910
Certification (private & commercial)	3,649	3,789
Dealers	115	129

It is interesting to note that since testing under the current program began, over 11,000 people have taken the pesticide exams.

Pesticide monitoring is another tool currently being used to aid the program in enforcing the laws and regulations. During this fiscal year, several locations in the state were monitored during aerial spraying of the Gyspy Moth and in relation to herbicide applications to rights-of-way.

The FY82 budget for the Division of Regulatory Services included an amount of $84,295.



The defoliation of over two million acres of woodland and ornamental trees in this state by the Gypsy Moth was of major concern this year. During the previous year, this pest caused defoliation to over nine hundred thousand acres. One can see that 1981 was a banner year for this pest.

The magnitude of this problem in the Northeast may well be shown by a few pertinent facts which can help to show this situation in proper perspective. Defoliated acreage in 1981 exceeded the cumulative total for the previous eight years. The 1981 acreage also represents 31% of the total defoliation which occurred in the 57 years since 1924 when compiling records began. Also, the combined defoliation for 1980 and 1981 represents 41% of the total recorded.

From these facts it is evident that it will be difficult to deal with this pest not only in the Northeast but nationwide as well, if Gypsy Moth populations continue to build up in the infested areas and continue to advance to the South and West.

Some control measures for this pest were carried out here by private and municipal agencies with varying degrees of success. State and Federal controls were quite limited due to budget constraints and opposition to chemical controls.

In our annual inspection of nurseries throughout the state it was noted that the Gypsy Moth was not too serious a pest, although some damage was done to young evergreen plantations growing adjacent to heavily infested wooded areas. The regularly scheduled pest controls practiced by our nurserymen managed to keep damage to their plants by this pest to a minimum.

Trapping and surveys were continued for presence of the Gypsy Moth, European Chafer and Red Stele disease of strawberry plants. No new finds of the European Chafer or Red Stele disease were recorded, and the Gypsy Moth survey was confined to the nurseries and lands abutting the nurseries.

Inspections and certifications were made to allow the shipping of plants and seed into other states and countries. Plants growing here from foreign countries were examined and grown under quarantine as required under the federal postentry plant quarantine.

In our public information activities many inquiries were received relative to numerous phases of agriculture and horticulture. Information was disseminated via telephone, correspondence, personal visits and news media. Participation in weekly and monthly radio programs by the Division personnel was continued this year.

Inspection of honey bees continued this year with emphasis on colonies located in Worcester, Norfolk, Plymouth, Hampshire and Hampden counties. Incidence of the foul brood diseases averaged from 3 to 4% depending upon the geographical locations of the colonies. Honey flow was poor at the start of the season due to drought conditions; however, the flow was good after the fruit bloom in May.

Over 3500 bees were collected and sent to the federal bee laboratory to be examined for mites as part of a bee mite survey. None of our specimens were found to be infested with bee mites.

The use of an encapsulated pesticide "Pencap-M" by some farmers and orchidists caused severe damage to honey bees this year. Emergency regulations by our Pesticide Board restricting the use of this material no doubt may be invoked next year.

An estimated number of colonies of honey bees in this state is about 15,000. Each year we manage to inspect at least one half of this total.

The following is a summary of the Division's activities for the fiscal year 1982

NURSERY INSPECTION

No. Nurseries Inspected - 330

No. Greenhouses Inspected - 52

No. Agents Licensed - 325

EXPORT CERTIFICATION

Federal No. plant exports - 107

Federal No. log exports - 80

Federal No. apple exports - 200 (200,000 bu.)

State No. plant exports - 268

State No. Tree & shrub seed - 503

Total certificates issued - 1158

POSTENTRY QUARANTINE

30 sites growing stock from foreign countries this year.

RIBES (CURRANT AND GOOSEBERRY) CONTROL-AREA PERMITS

44 permits to applicants issued permitting the planting of Ribes in non-prohibited planting sites.

GYPSY MOTH

Acres defoliated 1980 - 907,075

Acres defoliated 1981 - 2,826,095

BROWN-TAIL MOTH

A few small infestations of this pest still found in areas of Cape Cod.

PLANT PEST SURVEYS

No new finds resulting from surveys for presence of the European Chafer, Gypsy Moth, and Red Stele disease of strawberry plants.

U.S. DEPARTMENT OF AGRICULTURE - APHIS CO-OPERATIVE PROGRAMS

Programs included Japanese Beetle, Gypsy Moth, Black Stem Rust, and Pest Detection activities. One state collaborator terminated services with the federal agency this year.

FINANCIAL REPORT

The budget appropriated for the Division for this fiscal year was $103,427.

MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE - APIARY INSPECTION

ANNUAL STATISTICAL REPORT

SEASON 1982

COUNTY	NO. COLONY EXAMINED		NO. COLONY OWNED		NO. COLONY A.F.B.		NO. COLONY E.F.B.		NO. COLONY TREATED		NO. COLONY DESTROYED	
	1981	1982	1981	1982	1981	1982	1981	1982	1981	1982	1981	1982
BARNSTABLE	-	-	-	-	-	-	-	-	-	-	-	-
BERKSHIRE	-	383	-	457	-	6	-	8	-	3	-	2
BRISTOL	202	779	202	1100	1	0	8	109	0	0	0	0
ESSEX	-	526	-	1042	-	8	-	29	-	1	-	6
FRANKLIN	-	190	-	192	-	16	-	1	-	6	-	11
HAMPDEN	291	524	291	695	7	9	0	0	0	2	0	0
HAMPSHIRE	239	30	239	30	11	0	2	0	0	0	0	0
MIDDLESEX	235	2768	344	2771	24	53	0	58	0	5	0	8
NORFOLK	264	270	287	367	7	14	10	11	0	7	0	7
PLYMOUTH	173	550	296	696	33	34	3	41	0	0	0	0
SUFFOLK	50	72	53	106	0	0	0	0	0	0	0	0
WORCESTER	707	1943	713	2075	32	81	2	27	0	9	0	28
TOTALS	2161	8035	2425	9531	115	221	25	284	0	33	0	62

A.F.B. 1981 - 5.3% | A.F.B. 1982 - 2.7% | E.F.B. 1981 - 1.1% | E.F.B. 1982 - 3.4%

ESTIMATE NO. COLONIES IN MASSACHUSETTS 15,000

December 31, 1982
P.C. Kuzmiski, Chief
Bureau Of Plant Pest Control

STATE RECLAMATION BOARD
John J. McColgan, Chairman
Mark S. Buffone, Entomologist

Invariably, the ubiquitous mosquito familiar to many Bay-Staters returned once again for its scheduled annual appearance. The annoyance and disease potential associated with mosquitoes is a concern and a prime motivating factor for mosquito control programs in Massachusetts. Also, the trend of people moving outward into rural and suburban and wooded areas has resulted in many requests by municipalities to pursue mosquito control protection.

MOSQUITO MANAGEMENT FUNDING

Nine regional mosquito control agencies under the aegis of the State Reclamation Board implemented all currently available control tactics to battle this pest. Nationwide these agencies spend at least $60 million dollars a year to suppress the mosquito. In Massachusetts, the combined total efforts of regional mosquito control agencies cost approximately 2.5 million dollars. Also, a budget of $46,900 dollars covered the expenses of the staff of the State Reclamation Board for administering and overseeing the work of the state-wide mosquito operations this year.

INTEGRATED MOSQUITO MANAGEMENT PROGRAMS

The mosquito control projects utilize a variety of methods to reduce mosquito populations. The methods practiced by mosquito control projects involve the following actions.

1. Surveys are conducted to search for immature mosquitoes or adults to determine relative abundance and species. This activity locates breeding areas of immature mosquitoes and resting spots of the biting adult. This step is essential in determining the most effective time to implement control methods.

2. Source reduction work (a permanent non-chemical approach) eliminates the water that the mosquito is dependent on whenever feasible. This method may consist of cleaning road-side ditches, culverts, streams, and removal of containers which hold water.

3. Ideally, the primary method is larviciding. The immature mosquito is abated while localized and confined in breeding areas before they emerge as blood-seeking adults.

4. Adulticiding is a method that focuses on controlling the flying adult migrating into residential areas. A very non-residual contact space aerosal is essential in reducing immediately nuisance mosquitoes and provides protection during potential disease outbreaks.

Many factors must be considered before determining which of the above mentioned steps is best or acceptable for any given situation. For this reason, the experience and expertise of mosquito control projects plays a vital role in providing safe, economical, and effective mosquito control to the public.

WEATHER AND MOSQUITO PRODUCTION

In July 1981, weather conditions were favorable to management of mosquito populations. The absence of precipitation prevented the usual legion development and emergence of many of our common summer species of mosquitoes. Suddenly, in true New England fashion, a dramatic change in weather conditions took place during the spring and early summer of fiscal year 1982. Early spring rains and a

surprise blizzard on April 6, 1982 influenced pesky mosquitoes to emerge prematurely. In June, abnormal amounts of cold and continuous precipitation inundated many areas of the state. Of course, this event contributed to the overall mosquito breeding situation, although not as severly as expected.

REVIEW AND APPROVAL OF MOSQUITO CONTROL PROGRAMS

Once again, the State Reclamation Board sent questionnaires requesting specific mosquito control information to communities not currently members of a regional mosquito control project. The Board has attempted to accumulate specific information pertaining to local mosquito control programs. This is essential to safeguard against poor mosquito practices and to offer technical assistance to ensure effective and environmentally acceptable mosquito control programs. The response of the review and approval questionnaires of local mosquito control programs has been limited. During the 1982 mosquito season (latter part of fiscal year 1982) the Board received sixty-three (63) responses from various municipalities. Fifty-two (52) reported that no plans were anticipated for the ensuing mosquito year. Many municipalities cited the elimination of funds (Proposition 2½) and the prioritization of the gypsy moth problems as the reason for no mosquito control. Twelve (12) local mosquito control programs were approved and one (1) was disapproved by the Board.

MOSQUITO CONTROL LECISLATION

During the fiscal year 1982 a number of municipalities bearing the burdens of fiscal constraints opted to withdraw their financial support and participation in two mosquito control projects. A new law (Chapter 119 of the Acts of 1982) became effective authorizing municipalities of the Berkshire County Mosquito Control Project to withdraw via Town or City Council majority vote. As a result, nineteen municipalities voted to discontinue participation in the program. Also, the Town of Acton voted out of the Central Massachusetts Mosquito Control Project in order to undertake the tasks of mosquito control through a local effort. Nonetheless, their mosquito control program was reviewed and approved by the Board. Another law (Chapter 302 Acts of 1981) became effective July 1, 1981, allowing municipalities within a regional mosquito control project to raise additional funds above the state assessment for purposes of mosquito control work. However, this shall be under the supervision and control of the mosquito project of which the municipality is a member.

BITING FLY PROJECT

This year the Biting Fly Specialist position mutually supported by the State Reclamation Board and the University of Massachusetts has been terminated. This action represents a serious setback relative to the many mosquito problems that need attention in Massachusetts.

PHOTOS: (adjacent to pages 34 and 35)

Front Page: (clockwise from top left)
Growers at Copley Square Farmers Market include John Arena and family of Concord (left), and Gilbert Griggs of Billerica (right); Channel 5 consumer reporter Paula Lyons visits Russo's Greenhouses in Randolph; recipients of direct marketing grants made possible by U.S. Department of Agriculture funding; U.S. Agriculture Secretary John R. Block presents one of awards to representatives of Massachusetts Federation of Farmers and Gardeners Markets and Dorchester Gardenlands Preserve and Development Corporation; dairy and vegetable farmer Stephen Verrill of Concord addresses group at his farm for awarding of direct marketing grants and citations for participation in state agriculture preservation restriction program.

Centerfold Page: (clockwise from top left)
Pictured are some of the farms protected under the Massachusetts Agricultural Preservation Restriction Program: Michael Smolak, North Andover; Florence Streeter, Cummington; Reynolds' Farm, James R. White, Rochester; Louis DeLucia, Methuen; Crescent Farm, Walter and Blanche Davidowicz, Haverhill; Joslin Hill Farm, Everett Harris, Leominster; Borgesi Brothers Farm, Methuen; Charles Jacque, Amherst; Hillcroft Farm, C. Edward Stillman, Lunenberg; Joslin Hill Farm, Everett Harris, Leominster; Charles Jacque, Amherst; Retail stand with produce from farm of Mr. & Mrs. William S. Pettengill in Newburyport; center photos are: Borgesi Brothers Farm, Methuen; Retail store adjacent to Griff Farm, Clark B. Sundin, Jr., Holden; Joslin Hill Farm, Everett Harris, Leominster.

Back Page: (clockwise from top left)
Harnessing up at Tricounty Fair, Northampton; Standardbred waiting to race at Ralston Fair, Plainville; Standardbred race fans at Marshfield Fair; Race in progress at Sharlu Farms, Leverett; New owners washing down their first win at Spencer Fair; Mare with foal at Sharlu Farms, Leverett.

Massachusetts
grown...and fresher!

The Annual Report of the Massachusetts Department of Food and Agriculture was edited by Janet Christensen of the Department and Mary Ellen Powers, Framingham State College student intern.

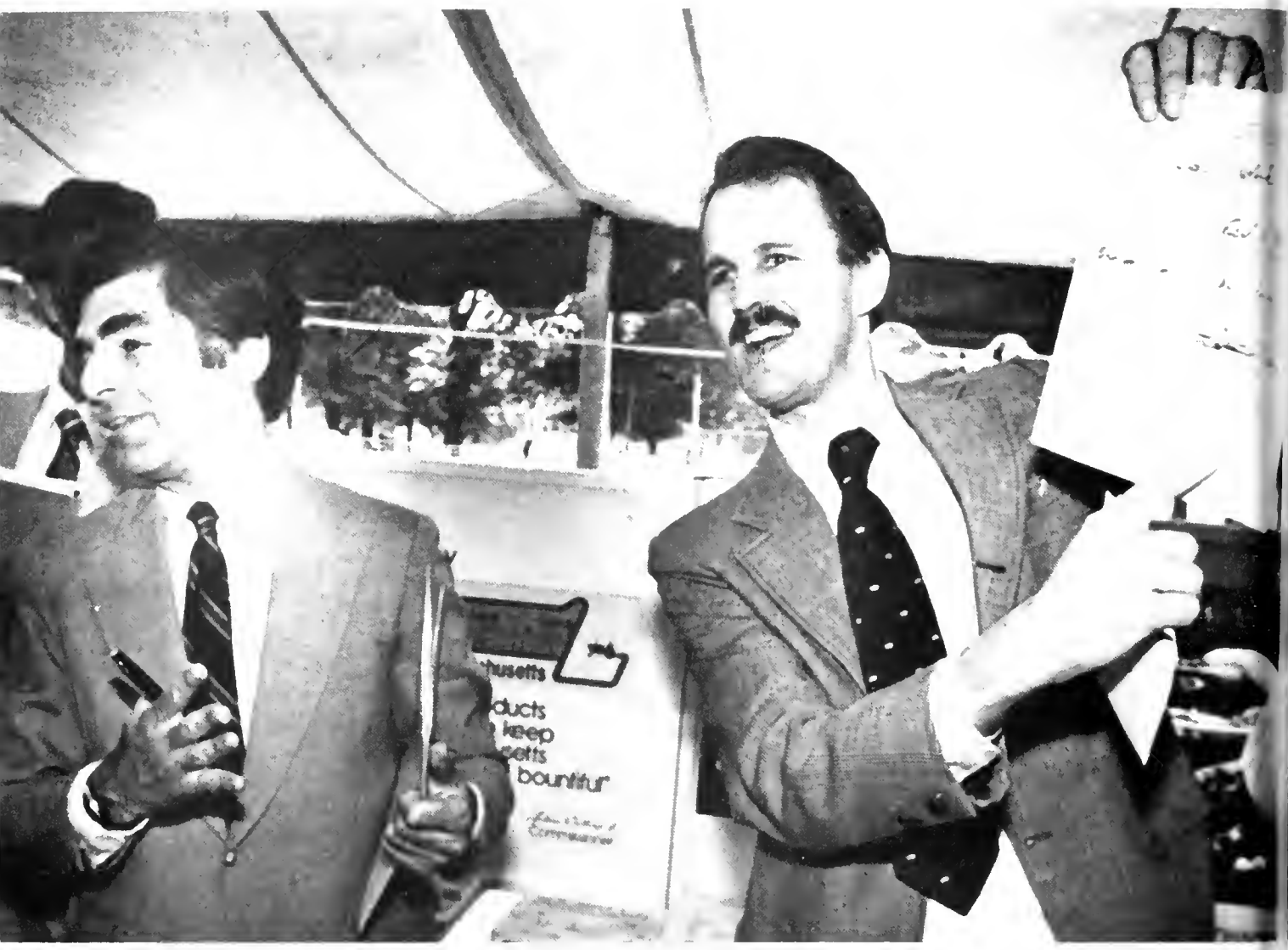
Massachusetts Department of Food and Agriculture
100 Cambridge Street
Boston, MA 02202

Massachusetts Agriculture 1983

Michael S. Dukakis,
Governor

James S. Hoyte,
Secretary of Environmental Affairs

Frederic Winthrop, Jr.,
Commissioner Food and Agriculture



State Food and Agriculture Commissioner Frederic Winthrop, Jr. (right) points to signature of Governor Michael S. Dukakis on "Declaration Of Principle" for a new project called "Agriculture in the Classroom." Ceremomies were held during the June Dairy Festival on Boston Common. The classroom project will help promote a better understanding of agriculture in Massachusetts and across the nation. (see page 61)

Cover photo: View of dairy farm in Millis, Massachusetts owned by Louis DeAngelis. The 81-acre property is one of 93 farm properties selected to date for participation in the state Agricultural Preservation Program. (see page 34)

The Commonwealth of Massachusetts

Department of Food and Agriculture

Leverett Saltonstall Building, Government Center

100 Cambridge Street, Boston 02202

Dear friends of Massachusetts agriculture:

This year has seen positive signs for the future of agriculture in our state, which are borne out by many of the statistics in this annual report.

There are problems nonetheless. Strenuous competition among dealers has resulted in considerable instability in the marketplace. An oversupply of milk nationally is causing downward adjustments in the Federal milk support programs which will have an adverse affect on returns to dairy farmers. Though Massachusetts produces less than 20 per cent of the milk it consumes, Massachusetts and indeed all of the New England dairy farmers tend to be penalized more heavily under this Federal program than are the surplus-producing states in the Midwest where grain is cheaper and operating costs are less.

While this government regulated pricing system may appear unfair, it is a political fact of life and one with which we must cope. Our dairy farmers are among the most efficient in the world but they must learn to be even more efficient. It is important for us to be looking for complementary dairy enterprises on the farm, such as improved techniques in milk marketing, including sale of specialty cheeses, ice cream and yogurt. We also need to consider the security of greater diversity in our production and marketing systems, including striving to meet local demand for lamb, grapes, and small fruits. That is to say that as well as meeting the challenge to be more efficient dairymen, there is a need to discover alternative agricultural uses for the land to make up for anticipated contractions in the dairy industry.

Massachusetts agriculture has survived for more than three centuries because our farmers have been among the first to innovate and improve their agricultural methods. We must continue to do so.

We believe that the state's highly successful land preservation and market promotion efforts are giving farmers the encouragement needed to be forward thinking, progressive, and to make the long term investments required.

Please scan and peruse this report. We are always ready to entertain comments, suggestions and new ideas to improve and expand the agricultural industry in our state. Let us hear from you.

Sincerely,

Frederic Winthrop, Jr.
Commissioner

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MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE

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(617) 727-3000

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JOHN R. BLOCK, SECRETARY

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NEW ENGLAND CROP AND LIVESTOCK REPORTING SERVICE

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HELEN BARDWELL, HATFIELD

JEAN GIBBS, CARVER

SUPPORT STAFF

LYNNE ARSENAULT

JOSEPHINE EYSSI

CAROLYN HANSON

LAWRENCE KELLY

JOAN PARKER

LEAH ROCHA

JOYCE SUPRY

ADRIENNE ZAPPIA

LIVESTOCK HIGHLIGHTS

Massachusetts livestock producers showed a decline in both inventory numbers and gross income. There were reduced numbers of cattle, hogs and sheep by the end of 1982. Gross income was also lower during the year, but this reduction was the result of a big drop in cattle and calves since sheep and hog gross income were above 1981 by 14 and 39 percent respectively. Gross income from cattle and calves was 30 percent below the previous year.

CATTLE AND CALVES

The inventory of cattle and calves in Massachusetts on January 1, 1983 totaled 96,000 head, down 2,000 head from a year earlier. The inventory consisted of 48,000 milk cows, 9,000 beef cows, 17,000 heifer replacements, 4,000 steers and bulls and 18,000 calves. The inventory value on January 1, 1983 averaged $715 per head, $85 less than the record high on January 1, 1982. This plus the reduced number of cattle and calves caused the current inventory value to be only $68.6 million, 12 percent below the previous year and 16 percent below the record high inventory value of 1981. Marketings in 1982 of 40,000 head of cattle and calves, with a total live weight of 17.6 million pounds, was 7.1 million pounds below the 1981 total marketings. The 1983 calf crop (calves born) was 48,000 head, 2 percent larger than 1981.

HOGS AND PIGS

Massachusetts hog producers had 46,000 hogs on hand December 1, 1982, 6 percent less than the previous year and the lowest amount since records were kept in 1916. Record high value per head ($88.50) enabled total hog value to be nearly $4.1 million, 4 percent above a year earlier and the highest since 1978. Total pig crop was 7 percent above last year's record low. The 61,000 hogs marketed in 1982 represented an 11 percent increase above year ago levels. Massachusetts hog production exceeded 14.5 million pounds, 10 percent above the previous year, while the 14.4 million pounds of hogs marketed, represented an increase of 12 percent. Record price per cwt. ($54.00) enabled hog producers to gross nearly 8.1 million dollars, 39 percent above a year earlier and the largest amount since 1979.

SHEEP, LAMBS AND WOOL PRODUCTION

On January 1, 1983, there were 6,700 sheep and lambs on hand, 1,300 fewer than a year earlier. Of this number, 4,800 were ewes one year old and over, 500 wethers and rams one year old and over, and 1,400 lambs. At an average of $106.00 per head, the value of the inventory was $710,000, 19 percent below the year-ago value. Gross income from sheep and lambs sold, including the value of home consumption, was $326,000, 14 percent above the 1981 income. Wool production totaled 50,000 pounds in 1982, 1,000 pounds more than the previous year. This wool was obtained from 7,600 sheep, up 600 from the 1981 number. Average fleece weight in 1982 was 6.6 pounds, compared with 7.0 pounds in 1981. At an average price of 66 cents per pound, the wool produced in 1982 had a value of $33,000, $11,000 less than the value of the 1981 wool.

CATTLE: NUMBER AND VALUE OF ALL CATTLE AND CALVES ON FARMS, JANUARY 1, MASSACHUSETTS, 1972-1983

YEAR	NUMBER	VALUE	
		PER HEAD	TOTAL
	1,000	*Dollars*	*1,000 Dollars*
1972	110	290	31,900
1973	111	335	37,185
1974	105	420	44,100
1975	107	315	33,705
1976	107	345	36,915
1977	104	380	39,520
1978	99	415	41,085
1979	102	560	57,120
1980	104	685	71,240
1981	104	785	81,640
1982	98	800	78,400
1983	96	715	68,640

CATTLE: JANUARY 1, INVENTORY BY CLASSES, MASSACHUSETTS, 1972-1983

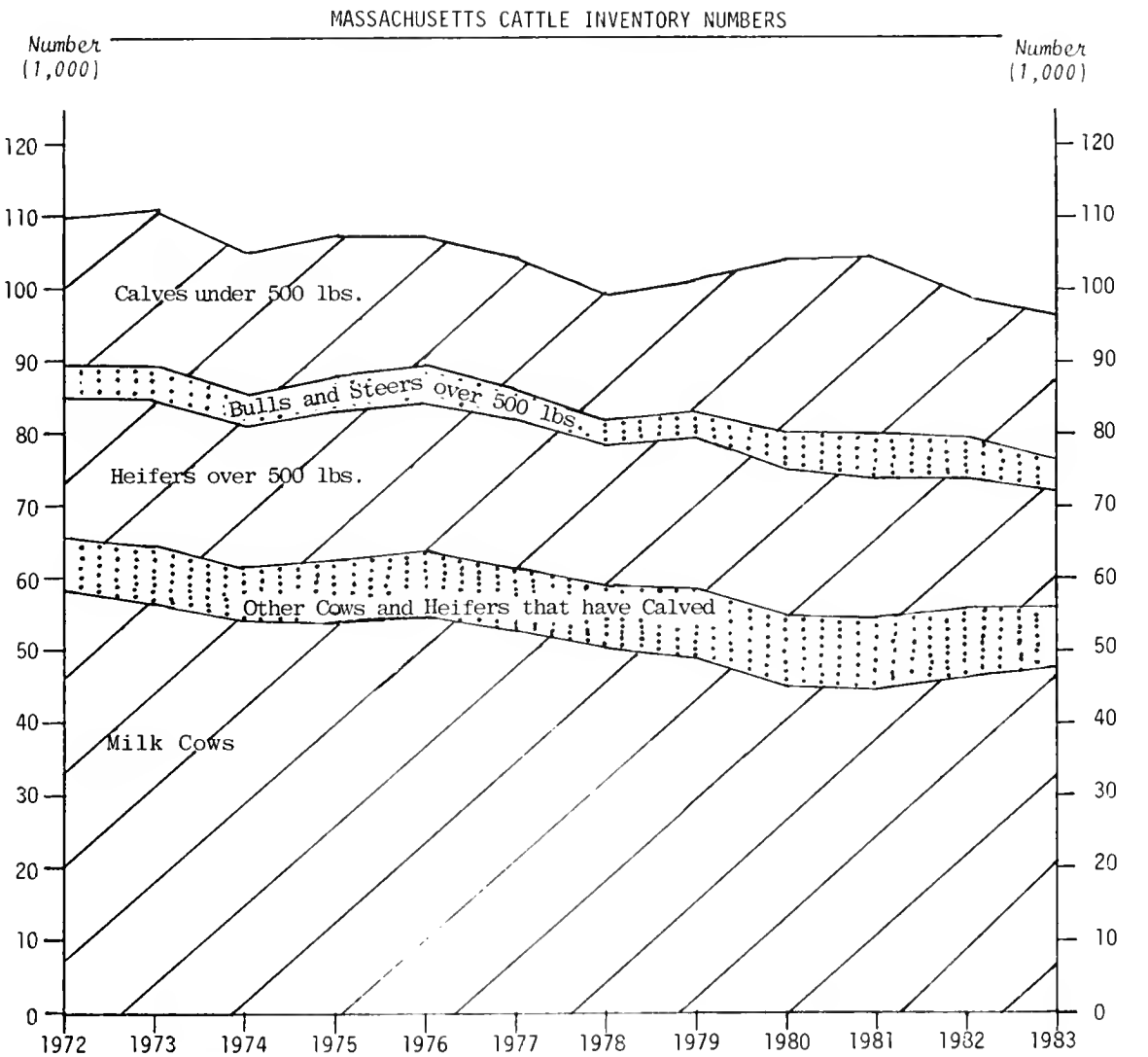
YEAR	ALL CATTLE AND CALVES	COWS & HEIFERS THAT HAVE CALVED		HEIFERS 500 LBS. & OVER			STEERS 500 LBS.+	BULLS 500 LBS.+	STEERS, HEIFERS & BULLS -500 LBS.
				REPLACEMENTS		OTHER			
		BEEF	MILK	BEEF COW	MILK COW				
	1,000			*1,000*				*1,000*	
1972	110	8	58	2	15	2	2	2	21
1973	111	8	57	2	16	2	2	2	22
1974	105	8	54	2	15	2	2	2	20
1975	107	9	54	2	17	1	3	2	19
1976	107	9	55	2	17	1	3	2	18
1977	104	9	53	2	17	1	2	2	18
1978	99	8	51	2	16	1	2	2	17
1979	102	10	49	3	16	1	2	2	19
1980	104	10	45	3	16	1	3	2	24
1981	104	10	45	4	14	1	4	2	24
1982	98	10	47	3	13	1	3	2	19
1983	96	9	48	1	15	1	2	2	18

CATTLE AND CALVES: PRODUCTION AND INCOME, MASSACHUSETTS, 1972-1982

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS		VALUE OF HOME CONSUMPTION	GROSS INCOME
			CATTLE	CALVES		
	1,000 Pounds		*Dollars*		*1,000 Dollars*	
1972	24,660	32,020	24.20	34.00	416	8,441
1973	28,875	40,115	33.50	44.00	576	14,293
1974	30,405	32,845	27.50	28.00	473	9,516
1975	35,060	27,812	22.40	24.20	925	7,217
1976	33,620	40,230	26.00	28.50	559	11,071
1977	33,240	40,790	26.20	38.20	676	11,591
1978	27,080	26,560	41.90	57.00	1,441	12,846
1979	21,340	21,754	57.00	76.00	1,520	14,248
1980	25,430	23,300	55.00	71.00	1,656	14,673
1981	24,770	24,730	50.00	63.00	1,290	13,984
1982	19,130	17,630	45.00	57.00	1,548	9,785

CATTLE AND CALVES: INVENTORY, SUPPLY, AND DISPOSITION, MASSACHUSETTS, 1972-1982

YEAR	ALL CATTLE ON HAND JAN. 1	CALF CROP	INSHIPMENTS	MARKETINGS		FARM SLAUGHTER	DEATHS	
				CATTLE	CALVES	CATTLE AND CALVES	CATTLE	CALVES
		1,000				*1,000*		
1972	110	60	11	29	33	1	2	5
1973	111	57	10	33	30	1	3	6
1974	105	55	8	27	26	1	2	5
1975	107	56	7	32	22	1	2	6
1976	107	55	7	34	22	1	2	6
1977	104	52	7	35	20	1	2	6
1978	99	50	5	23	19	2	2	6
1979	102	47	1	19	18	1	2	6
1980	104	45	1	21	14	1	3	7
1981	104	47	1	24	22	1	2	5
1982	98	48	1	17	23	1	3	7



HOGS: NUMBER AND VALUE ON FARMS, DECEMBER 1, MASSACHUSETTS, 1971-1982

YEAR	NUMBER			VALUE	
	BREEDING	MARKET	TOTAL	PER HEAD	TOTAL
		1,000		Dollars	1,000 Dollars
1971	9	64	73	32.00	2,336
1972	9	54	63	37.50	2,363
1973	10	50	60	62.50	3,750
1974	8	43	51	48.00	2,448
1975	8	42	50	64.50	3,225
1976	7	43	50	50.50	2,525
1977	8	52	60	59.50	3,570
1978	8	52	60	76.50	4,590
1979	9	51	60	55.50	3,330
1980	7	42	49	74.50	3,651
1981	6	43	49	79.50	3,896
1982	7	39	46	88.50	4,071

HOGS: PIG CROP, SOWS FARROWED AND PIGS SAVED, MASSACHUSETTS, 1972-1982

YEAR	SPRING CROP (DEC - MAY)			FALL CROP (JUN - NOV)			TOTAL PIG CROP
	SOWS	PIGS PER LITTER	PIGS SAVED	SOWS	PIGS PER LITTER	PIGS SAVED	
		Head			Head		Head
1972	7,000	6.3	44,000	7,000	6.2	43,000	87,000
1973	7,000	6.0	42,000	7,100	6.0	43,000	85,000
1974	7,000	6.0	42,000	6,800	6.0	41,000	83,000
1975	7,000	6.2	43,000	6,800	5.7	39,000	82,000
1976	6,600	6.8	45,000	5,700	6.5	37,000	82,000
1977	5,000	6.9	35,000	6,500	6.6	43,000	78,000
1978	5,000	7.2	36,000	6,000	6.8	41,000	77,000
1979	6,000	6.5	39,000	6,500	6.5	42,000	81,000
1980	4,000	7.4	30,000	6,000	5.8	35,000	65,000
1981	4,000	6.6	26,000	5,000	6.4	32,000	58,000
1982	3,700	7.5	28,000	4,500	7.6	34,000	62,000

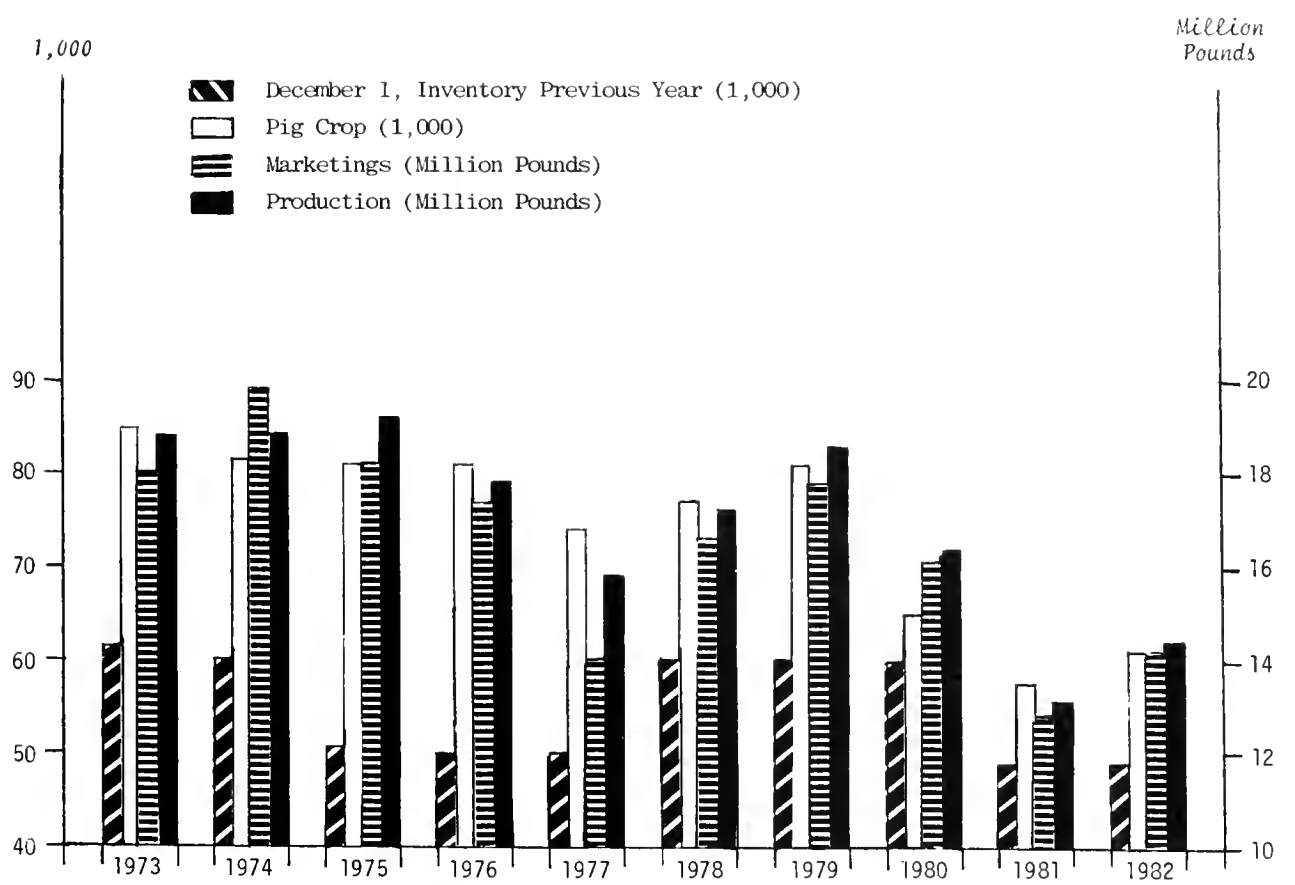
HOGS: INVENTORY NUMBERS, PIG CROP AND DISPOSITION, MASSACHUSETTS, 1972-1982

YEAR	ON HAND DEC. 1st PREVIOUS YEAR	PIG CROP		MARKETINGS	FARM SLAUGHTER	DEATHS
		DEC - MAY	JUN - NOV			
		Head			Head	
1972	73,000	44,000	43,000	89,000	1,000	7,000
1973	63,000	42,000	43,000	80,000	1,000	7,000
1974	60,000	42,000	41,000	86,000	1,000	5,000
1975	51,000	43,000	39,000	78,000	1,000	4,000
1976	50,000	45,000	37,000	75,000	1,000	6,000
1977	50,000	35,000	43,000	61,000	1,000	6,000
1978	60,000	36,000	41,000	71,000	1,000	5,000
1979	60,000	39,000	42,000	76,000	1,000	4,000
1980	60,000	30,000	35,000	71,000	2,000	3,000
1981	49,000	26,000	32,000	55,000	1,000	2,000
1982	49,000	28,000	34,000	61,000	1,000	3,000

HOGS: PRODUCTION AND INCOME, MASSACHUSETTS, 1972-1982

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS	VALUE OF HOME CONSUMPTION	GROSS INCOME
	1,000 Pounds		Dollars	1,000 Dollars	
1972	19,191	19,835	25.00	110	5,069
1973	18,862	18,068	37.00	171	6,856
1974	18,764	19,910	33.00	254	6,824
1975	19,100	18,260	45.00	347	8,564
1976	17,891	17,378	45.00	354	8,174
1977	15,832	14,063	37.00	291	5,494
1978	17,211	16,640	45.00	304	7,792
1979	18,640	17,820	44.00	297	8,138
1980	16,412	16,185	37.00	500	6,488
1981	13,267	12,825	43.00	290	5,805
1982	14,547	14,380	54.00	316	8,081

TREND IN DECEMBER 1 INVENTORY, PIG CROP, MARKETINGS AND PRODUCTION, MASSACHUSETTS, 1973-1982



SHEEP AND LAMBS: INVENTORY NUMBER BY CLASS AND VALUE, JANUARY 1, MASSACHUSETTS, 1972-1983

YEAR	LAMBS			ONE YEAR AND OVER		ALL SHEEP AND LAMBS	VALUE	
	ALL LAMBS	EWES	WETHERS AND RAMS	EWES	WETHERS AND RAMS		PER HEAD	TOTAL
	Head						Dollars	1,000 Dollars
1972	1,400	1,000	400	5,800	600	7,800	20.00	156
1973	1,400	1,000	400	5,500	600	7,500	28.00	210
1974	1,400	1,000	400	5,000	500	6,900	40.00	276
1975	1,500	1,100	400	5,100	400	7,000	46.50	326
1976	1,500	1,100	400	5,300	400	7,200	46.00	331
1977	1,400	1,000	400	4,900	400	6,700	48.00	322
1978	1,600	1,100	500	4,700	500	6,800	53.50	364
1979	1,300	1,000	300	4,900	500	6,700	63.00	422
1980	1,600	1,200	400	5,000	500	7,100	78.50	557
1981	1,600	1,200	400	5,100	500	7,200	88.00	634
1982	1,900	1,400	500	5,600	500	8,000	109.00	872
1983	1,400	1,100	300	4,800	500	6,700	106.00	710

SHEEP AND LAMBS: INVENTORY NUMBERS, LAMB CROP AND DISPOSITION, MASSACHUSETTS, 1972-1982

YEAR	ALL SHEEP AND LAMBS ON HAND JAN. 1	LAMB CROP	MARKETINGS		FARM SLAUGHTER SHEEP & LAMBS	DEATHS SHEEP & LAMBS
			SHEEP	LAMBS		
	Head		Head			
1972	7,800	5,600	1,500	3,100	200	1,100
1973	7,500	5,300	1,500	2,900	400	1,100
1974	6,900	5,200	1,200	2,600	200	1,100
1975	7,000	5,500	900	2,900	400	1,100
1976	7,200	5,600	1,500	3,300	300	1,000
1977	6,700	5,700	1,100	3,100	400	1,000
1978	6,800	5,300	1,000	2,900	500	1,000
1979	6,700	5,100	800	2,500	500	900
1980	7,100	5,600	1,200	2,700	600	1,000
1981	7,200	6,800	700	3,300	800	1,200
1982	8,000	5,600	2,500	3,300	300	800

SHEEP AND LAMBS: PRODUCTION AND INCOME, MASSACHUSETTS, 1972-1982

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS		VALUE OF HOME CONSUMPTION	GROSS INCOME
			SHEEP	LAMBS		
	1,000 Pounds		*Dollars*		*1,000 Dollars*	
1972	382	397	12.00	32.50	7	105
1973	366	395	14.00	41.00	21	133
1974	349	318	17.00	37.00	10	101
1975	372	296	26.00	68.00	35	193
1976	382	393	28.00	72.00	35	244
1977	431	357	29.00	72.00	46	244
1978	406	329	38.00	84.00	67	282
1979	382	246	39.00	85.00	82	245
1980	428	300	42.00	77.00	89	268
1981	423	207	45.00	100.00	127	286
1982	377	404	41.00	94.00	112	326

WOOL: PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	SHEEP SHORN	WEIGHT PER FLEECE	SHORN WOOL PRODUCTION	PRICE PER POUND	VALUE
	Head	*Pounds*	*1,000 Pounds*	*Cents*	*1,000 Dollars*
1972	7,200	7.2	52	34	18
1973	6,900	7.2	50	71	36
1974	6,600	7.4	49	62	30
1975	6,400	7.2	46	31	14
1976	6,700	6.9	46	60	28
1977	6,200	7.1	44	78	34
1978	6,300	6.8	43	74	32
1979	6,600	6.8	45	84	38
1980	6,800	6.9	47	88	41
1981	7,000	7.0	49	90	44
1982	7,600	6.6	50	66	33

DAIRY HIGHLIGHTS

MILK PRODUCTION:

Milk production from Massachusetts farms totaled 595 million pounds in 1982, 3 percent more than in 1981 and the largest since 1977. The increase was the result of a record high rate of 12,935 pounds per cow in 1982. This continues the long term upward trend with an increase of 370 pounds above the 1981 average and 544 above 1980. The average number of cows remained unchanged at 46,000 head for the past three years.

MILK DISPOSITION AND PRICE:

Dairymen in the Commonwealth used 6 million pounds of milk to feed calves and another 4 million pounds for home use in 1982. The amount fed to calves was 1 million pounds above the previous year, but home use remained unchanged. Milk marketed in 1982 totaled 585 million pounds, an increase of 16 million pounds above the 1981 total and the largest since 1977. The average price received for milk marketed during 1982 was $15.02 per cwt., 9¢ lower than the 1981 record high average. With the increase in the amount marketed, the 1982 cash receipts rose to $87.9 million, 2 percent above 1981.

MANUFACTURED DAIRY PRODUCTS:

With the increase in milk production, the manufacture of dairy products remains important. The production of ice cream during 1982 in the Commonwealth totaled 44.4 million gallons, 3 percent above the 1981 total. Milk sherbet production also increased to 2.2 million gallons, 5 percent above the previous year. Cheese production in Massachusetts totaled 9.1 million pounds, 6 percent above the 1981 total.

MILK COWS: AVERAGE NUMBER ON FARMS, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1972-1982

YEAR	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC	ANNUAL
			1,000		
1972	57	57	57	57	57
1973	56	55	54	54	55
1974	54	54	54	54	54
1975	55	54	54	55	55
1976	55	54	53	53	54
1977	52	51	51	51	51
1978	50	48	48	49	49
1979	49	48	47	46	48
1980	46	46	46	46	46
1981	45	46	47	47	46
1982	47	46	45	46	46

MILK PRODUCTION: AVERAGE PER COW, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1972-1982

YEAR	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC	ANNUAL
			Pounds		
1972	2,795	2,965	2,650	2,580	11,035
1973	2,715	2,930	2,610	2,610	10,818
1974	2,705	2,945	2,720	2,610	10,981
1975	2,725	2,960	2,720	2,620	10,927
1976	2,735	2,950	2,760	2,700	11,074
1977	2,850	3,060	2,890	2,870	11,706
1978	2,900	3,110	2,920	2,820	11,673
1979	2,920	3,090	2,940	2,980	11,792
1980	3,110	3,240	3,000	3,050	12,391
1981	3,180	3,295	3,020	3,000	12,565
1982	3,175	3,375	3,200	3,200	12,935

MILK PRODUCTION, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1972-1982

YEAR	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC	ANNUAL
			Million Pounds		
1972	162	169	151	147	629
1973	152	161	141	141	595
1974	146	159	147	141	593
1975	150	160	147	144	601
1976	150	159	146	143	598
1977	148	156	147	146	597
1978	145	149	140	138	572
1979	143	148	138	137	566
1980	143	149	138	140	570
1981	143	152	142	141	578
1982	149	155	144	147	595

MILK: QUANTITY MARKETED, PRICE AND CASH RECEIPTS, MASSACHUSETTS, 1972-1982

YEAR	SOLD TO PLANTS			SOLD DIRECTLY TO CONSUMERS			COMBINED MARKETINGS		
	QUANTITY	PRICE PER CWT.	CASH RECEIPTS	QUANTITY	PRICE PER QT.	CASH RECEIPTS	QUANTITY	PRICE PER CWT.	CASH RECEIPTS
	Million Pounds	*Dollars*	*1,000 Dollars*	*Million Quarts*	*Cents*	*1,000 Dollars*	*Million Pounds*	*Dollars*	*1,000 Dollars*
1972	580	7.23	41,934	17.2	32	5,507	617	7.69	47,441
1973	550	8.22	45,210	15.3	35	5,372	583	8.68	50,582
1974	550	9.50	52,250	14.4	40	5,768	581	9.99	58,018
1975	555	9.65	53,588	15.8	40	6,326	589	10.17	59,884
1976	550	10.70	58,850	16.7	42	7,032	586	11.24	65,882
1977	550	10.70	58,850	16.7	42	7,032	586	11.24	65,882
1978	530	11.50	60,950	14.9	43	6,400	562	11.98	67,350
1979	525	12.80	67,200	14.4	46	6,633	556	13.28	73,833
1980	530	13.70	72,610	14.0	51	7,116	560	14.24	79,726
1981	540	14.60	78,840	13.5	53	7,149	569	15.11	85,989
1982	550	14.50	80,475	14.0	53	7,395	585	15.02	87,870

MILK: QUANTITIES USED AND MARKETED BY FARMERS, MASSACHUSETTS, 1972-1982

YEAR	TOTAL PRODUCED	MILK, USED ON FARMS WHERE PRODUCED			MILK MARKETED BY FARMERS		
		USED FOR MILK CREAM & BUTTER	FED TO CALVES	TOTAL	SOLD TO PLANTS & DEALERS	SOLD DIRECTLY TO CONSUMERS	TOTAL
	Million Pounds						
1972	629	7	5	12	580	37	617
1973	595	7	5	12	550	33	583
1974	593	7	5	12	550	31	581
1975	601	7	5	12	555	34	589
1976	598	7	5	12	550	36	586
1977	597	6	5	11	550	36	586
1978	572	5	5	10	530	32	562
1979	566	4	6	10	525	31	556
1980	570	4	6	10	530	30	560
1981	578	4	5	9	540	29	569
1982	595	4	6	10	555	30	585

MILK: SOLD TO PLANTS, MONTHLY AND ANNUAL AVERAGE PRICE PER CWT. RECEIVED BY FARMERS, MASSACHUSETTS, 1972-1982

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL AVERAGE
	Dollars												
1972	7.20	7.25	7.00	6.70	6.65	6.50	6.95	7.45	7.80	7.95	7.95	7.65	7.23
1973	7.70	7.75	7.55	7.30	7.20	7.20	7.75	8.55	9.25	9.55	9.80	9.70	8.22
1974	9.80	9.90	9.85	9.80	9.25	8.50	8.90	9.40	9.70	9.80	10.00	9.45	9.50
1975	9.55	9.50	9.15	8.95	8.50	8.35	9.05	9.65	10.30	10.80	11.10	11.20	9.65
1976	11.10	10.80	10.70	10.00	9.90	9.75	10.40	11.00	11.30	11.50	11.20	10.70	10.70
1977	10.60	10.50	10.20	10.20	9.90	10.00	10.50	10.90	11.20	11.40	11.40	11.20	10.70
1978	11.10	11.20	11.00	10.70	10.70	10.60	11.00	11.60	12.10	12.70	12.90	12.70	11.50
1979	12.70	12.80	12.50	12.20	12.00	12.00	12.50	13.10	13.40	13.80	13.90	13.40	12.80
1980	13.60	13.40	13.30	13.00	13.00	12.80	13.30	13.70	14.20	14.70	14.80	14.70	13.70
1981	14.90	14.70	14.50	14.30	14.00	13.80	14.30	14.60	14.90	15.20	15.00	14.80	14.60
1982	14.90	14.70	14.50	14.20	13.80	13.70	14.20	14.60	14.90	15.00	15.10	14.80	14.50

MILK: FARM PRODUCTION AND VALUE OF MILK AND MILK PRODUCTS SOLD, MASSACHUSETTS, 1972-1982

YEAR	AVERAGE NUMBER OF MILK COWS ON FARMS	PRODUCTION					FARM VALUE OF MILK PRODUCED
		PER MILK COW		PERCENTAGE OF FAT IN ALL MILK PRODUCED	TOTAL		
		MILK	MILKFAT		MILK	MILKFAT	
	1,000	*Pounds*		*Percent*	*Million Pounds*		*1,000 Dollars*
1972	57	11,035	409	3.71	629	23	48,370
1973	55	10,818	395	3.65	595	22	51,646
1974	54	10,981	402	3.66	593	22	59,241
1975	55	10,927	397	3.63	601	22	61,122
1976	54	11,074	405	3.66	598	22	67,215
1977	51	11,706	431	3.68	597	22	67,103
1978	49	11,673	428	3.67	572	21	68,526
1979	48	11,792	429	3.64	566	21	75,165
1980	46	12,391	447	3.61	570	21	81,168
1981	46	12,565	456	3.63	578	21	87,336
1982	46	12,935	471	3.64	595	22	89,369

MANUFACTURED DAIRY: PRODUCTION MAJOR PRODUCTS, MASSACHUSETTS, 1972-1982

YEAR	TOTAL CHEESE	ICE CREAM	ICE MILK	MILK SHERBET
	1,000 Pounds		*1,000 Gallons*	
1972	6,416	41,025	8,802	2,393
1973	5,976	42,302	7,742	2,330
1974	5,412	43,607	9,611	2,186
1975	5,288	47,761	9,177	1,985
1976	6,123	46,320	7,246	2,116
1977	5,786	45,255	7,483	2,180
1978	7,780	42,909	9,779	2,102
1979	6,255	42,463	10,454	1,829
1980	5,099	43,986	9,817	1,992
1981	8,559	43,193	10,173	2,089
1982	9,110	44,444	6,574	2,198

POULTRY HIGHLIGHTS

EGGS:

In 1982, Massachusetts egg production totaled 314 million eggs, 2 percent lower than previous year and lowest since 1932. The average daily rate of lay per 100 birds was 66.3 eggs per day, down from the record high of 67.4 eggs per day in 1981. Poultrymen received an average of 84¢ per dozen for eggs in 1982, down 2¢ a dozen from the record high in 1981. Gross income from egg production in 1982 was $22.0 million, $1.0 million lower than the gross in 1981.

CHICKENS:

The December 1, 1982 inventory of chickens on farms (excluding broilers) in Massachusetts totaled 1.5 million birds, 4 percent below a year ago and the lowest of record. The inventory revealed that on December 1, 1982, the number of hens of laying age increased 14 percent, while the number of pullets of laying age was 26 percent below December 1, 1981. Total value of all chickens on hand in the Commonwealth on December 1, 1982 was $3.9 million, 4 percent lower than a year ago. Poultrymen marketed 4.8 million pounds of poultry during 1982 at 8.0¢ per pound compared to 9.1 million pounds at 9.0¢ per pound the previous year.

TURKEYS:

Massachusetts farmers raised 145,000 turkeys during 1982, unchanged from the year before. There were 3.1 million pounds live weight produced from the turkeys raised in 1982, up 44,000 pounds from the total production in 1981. The value of production increased to $2.4 million due to increase in pounds produced as the price per pound remained unchanged from the 77¢ per pound in 1981.

POULTRY: INVENTORY BY CLASS AND VALUE, MASSACHUSETTS, DECEMBER 1, 1971-1982

YEAR	CHICKENS, EXCLUDING BROILERS						VALUE PER HEAD	TOTAL VALUE
	HENS AND PULLETS OF LAYING AGE		PULLETS NOT OF LAYING AGE		OTHER	TOTAL		
	HENS	PULLETS	3 MONTHS AND OLDER	UNDER 3 MONTHS				
	1,000						Dollars	1,000 Dollars
1971	886	1,313	288	249	33	2,769	1.85	5,123
1972	729	1,069	228	221	32	2,279	1.40	3,191
1973	896	807	251	255	31	2,240	2.00	4,480
1974	772	939	224	271	31	2,237	2.10	4,698
1975	725	786	293	268	19	2,091	2.35	4,914
1976	593	782	239	241	15	1,870	2.40	4,488
1977	465	1,005	290	180	50	1,990	2.05	4,080
1978	550	620	196	174	40	1,580	2.05	3,239
1979	617	755	126	197	31	1,726	2.15	3,711
1980	644	811	108	209	18	1,790	2.30	4,117
1981	650	622	141	153	37	1,603	2.55	4,088
1982	742	458	156	166	18	1,540	2.55	3,927

POULTRY: AVERAGE NUMBER OF LAYERS BY MONTHS AND ANNUAL, MASSACHUSETTS, 1972-1982

MONTH	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
						1,000					
DEC 1/	2,188	1,800	1,717	1,751	1,504	1,434	1,447	1,253	1,342	1,412	1,299
JAN	2,166	1,813	1,676	1,742	1,496	1,501	1,402	1,338	1,320	1,362	1,357
FEB	2,091	1,790	1,602	1,715	1,474	1,515	1,440	1,400	1,331	1,322	1,378
MAR	2,026	1,740	1,565	1,743	1,429	1,509	1,500	1,480	1,339	1,326	1,354
APR	2,036	1,717	1,536	1,718	1,401	1,514	1,503	1,435	1,332	1,334	1,340
MAY	2,046	1,704	1,530	1,668	1,408	1,539	1,484	1,385	1,318	1,293	1,326
JUN	2,005	1,674	1,533	1,637	1,428	1,519	1,392	1,395	1,300	1,220	1,278
JUL	1,974	1,668	1,550	1,662	1,415	1,521	1,340	1,421	1,309	1,195	1,272
AUG	1,944	1,680	1,591	1,679	1,400	1,515	1,388	1,416	1,355	1,211	1,266
SEP	1,904	1,675	1,633	1,614	1,399	1,435	1,395	1,365	1,383	1,272	1,245
OCT	1,894	1,687	1,676	1,566	1,406	1,401	1,383	1,373	1,387	1,368	1,230
NOV	1,841	1,700	1,705	1,537	1,398	1,440	1,280	1,384	1,420	1,329	1,215
ANNUAL	2,010	1,721	1,610	1,669	1,430	1,487	1,413	1,387	1,345	1,303	1,297

EGGS: DAILY RATE OF LAY BY MONTHS AND ANNUAL, MASSACHUSETTS, 1972-1982

MONTH	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
						Percent					
DEC 1/	62.6	63.0	65.4	64.0	65.5	65.3	63.1	67.0	67.3	66.3	69.5
JAN	63.7	61.7	64.7	64.5	65.0	65.2	64.5	67.1	66.0	63.9	66.5
FEB	63.7	62.8	64.1	64.1	64.5	63.9	66.0	67.6	67.3	64.8	64.8
MAR	63.9	62.7	64.2	64.6	65.8	64.4	65.0	67.9	67.5	68.1	65.2
APR	63.6	64.5	64.4	67.0	67.8	65.5	65.7	67.1	67.6	67.5	66.8
MAY	63.3	66.3	65.2	68.0	68.3	66.9	67.2	64.9	66.1	70.0	67.6
JUN	64.8	63.8	65.4	67.5	67.3	69.3	67.9	64.7	66.7	71.0	67.7
JUL	64.9	60.7	65.0	66.3	66.0	66.0	67.4	66.4	66.5	67.5	67.0
AUG	63.7	61.0	63.6	66.0	64.0	63.4	66.2	66.7	61.9	69.3	66.2
SEP	62.1	62.1	61.7	65.8	62.3	64.4	66.3	67.3	62.7	68.1	64.8
OCT	61.6	61.8	62.0	65.8	63.5	65.1	66.8	67.0	67.5	66.0	65.1
NOV	63.9	63.2	63.5	66.3	65.3	64.7	66.8	67.9	68.1	67.7	65.4
ANNUAL	63.3	62.6	64.0	66.0	65.5	65.4	66.1	67.0	66.2	67.4	66.3

EGGS: TOTAL PRODUCTION BY MONTHS AND ANNUAL, MASSACHUSETTS, 1972-1982

MONTH	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
						Million					
DEC 1/	42	35	35	35	31	29	28	26	28	29	28
JAN	43	35	34	35	30	30	28	28	27	27	28
FEB	39	31	29	31	28	27	27	27	26	24	25
MAR	40	34	31	35	29	30	30	31	28	28	27
APR	39	33	30	35	28	30	30	29	27	27	27
MAY	40	35	31	35	30	32	31	28	27	28	28
JUN	39	32	30	33	29	32	28	27	26	26	26
JUL	40	31	31	34	29	31	28	29	27	25	26
AUG	38	32	31	34	28	30	28	29	26	26	26
SEP	35	31	30	32	26	28	28	28	26	26	24
OCT	36	32	32	32	28	28	29	29	29	28	25
NOV	35	32	32	31	27	28	26	28	29	27	24
ANNUAL	466	393	376	402	343	355	341	339	326	321	314

1/ December previous year

CHICKENS: PRODUCTION, DISPOSITION AND GROSS INCOME, MASSACHUSETTS, 1972-1982

YEAR	NUMBER OF BIRDS			LIVEWEIGHT			PRICE PER POUND	GROSS INCOME
	PRODUCED	CONSUMED	SOLD	PRODUCED	CONSUMED	SOLD		
	1,000			1,000 Pounds			Cents	1,000 Dollars
1972	1,503	12	1,981	8,273	55	10,697	9.5	1,021
1973	1,673	12	1,700	8,676	55	9,010	15.4	1,396
1974	1,706	12	1,697	10,037	55	10,012	10.3	1,037
1975	1,371	11	1,506	7,111	51	7,982	10.3	827
1976	1,090	11	1,300	6,186	51	7,150	13.3	958
1977	1,331	11	1,200	7,475	51	6,600	11.3	752
1978	901	11	1,300	5,134	51	7,150	12.3	885
1979	1,057	11	900	5,835	51	4,950	13.2	660
1980	1,225	11	1,150	6,708	51	6,325	8.3	529
1981	1,474	11	1,650	8,266	51	9,075	9.0	822
1982	828	11	880	4,457	51	4,840	8.0	391

EGGS: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	EGGS PRODUCED	EGGS SOLD	PRICE PER DOZEN	CASH INCOME FROM FARM SALES	GROSS INCOME
	Million		Cents	1,000 Dollars	
1972	466	465	42.9	16,624	16,660
1973	393	392	62.9	20,547	20,599
1974	376	375	64.5	20,156	20,210
1975	402	401	66.2	22,122	22,177
1976	343	342	72.1	20,549	20,609
1977	355	354	69.9	20,621	20,679
1978	341	340	66.2	18,757	18,812
1979	339	338	73.8	20,787	20,849
1980	326	325	74.5	20,177	20,239
1981	321	320	86.0	22,933	23,005
1982	314	313	84.0	21,910	21,980

TURKEYS: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	TURKEYS RAISED		NUMBER PRODUCED	POUNDS PRODUCED	PRICE PER POUND	VALUE OF PRODUCTION
	HEAVY	LIGHT				
	1,000			1,000 Pounds	Cents	1,000 Dollars
1972	141	29	170	3,383	36.0	1,218
1973	144	29	173	3,287	62.0	2,038
1974	139	33	172	3,268	57.0	1,863
1975	106	19	125	2,375	58.0	1,378
1976	122	21	143	2,860	58.0	1,659
1977	110	15	125	2,600	58.0	1,508
1978	128	18	146	2,993	68.0	2,035
1979	133	7	140	2,800	65.0	1,820
1980	126	0	126	2,470	78.0	1,927
1981	145	0	145	3,045	77.0	2,345
1982	145	0	145	3,089	77.0	2,379

CROP HIGHLIGHTS

CORN SILAGE:

Production of corn silage totaled 663,000 tons in 1982, 15 percent less than last year. A decline in yield from 20.0 tons per acre in 1981 to 17.0 in 1982 was responsible for the reduction, as acres harvested were 39,000 in both years. Value of the 1982 silage was $18.8 million, down 6 percent from 1981. A cool, wet June put the crop about 2 weeks behind normal, resulting in much of the crop being put up while it was still immature.

HAY:

Production of all hay totaled 293,000 tons, 5 percent more than last year. Both acres harvested, at 123,000, and average yield, at 2.38 tons per acre, were higher in 1982 than in 1981. At an average price of $88.00 per ton, the hay crop had a value of $25.8 million in 1982, up 16 percent from the preceding year. Cool, rainy weather in June interfered with putting in the first cutting until some of it became overripe.

Alfalfa and mixtures containing alfalfa totaled 81,000 tons, or 28 percent of all hay. This compares with 78,000 tons of alfalfa last year. Alfalfa hay yield averaged 2.80 tons per acre in both years.

All other hay production totaled 212,000 tons in 1982, up 6 percent from the 1981 total. Average yield in 1982 was 2.25 tons per acre, up from 2.15 tons in 1981.

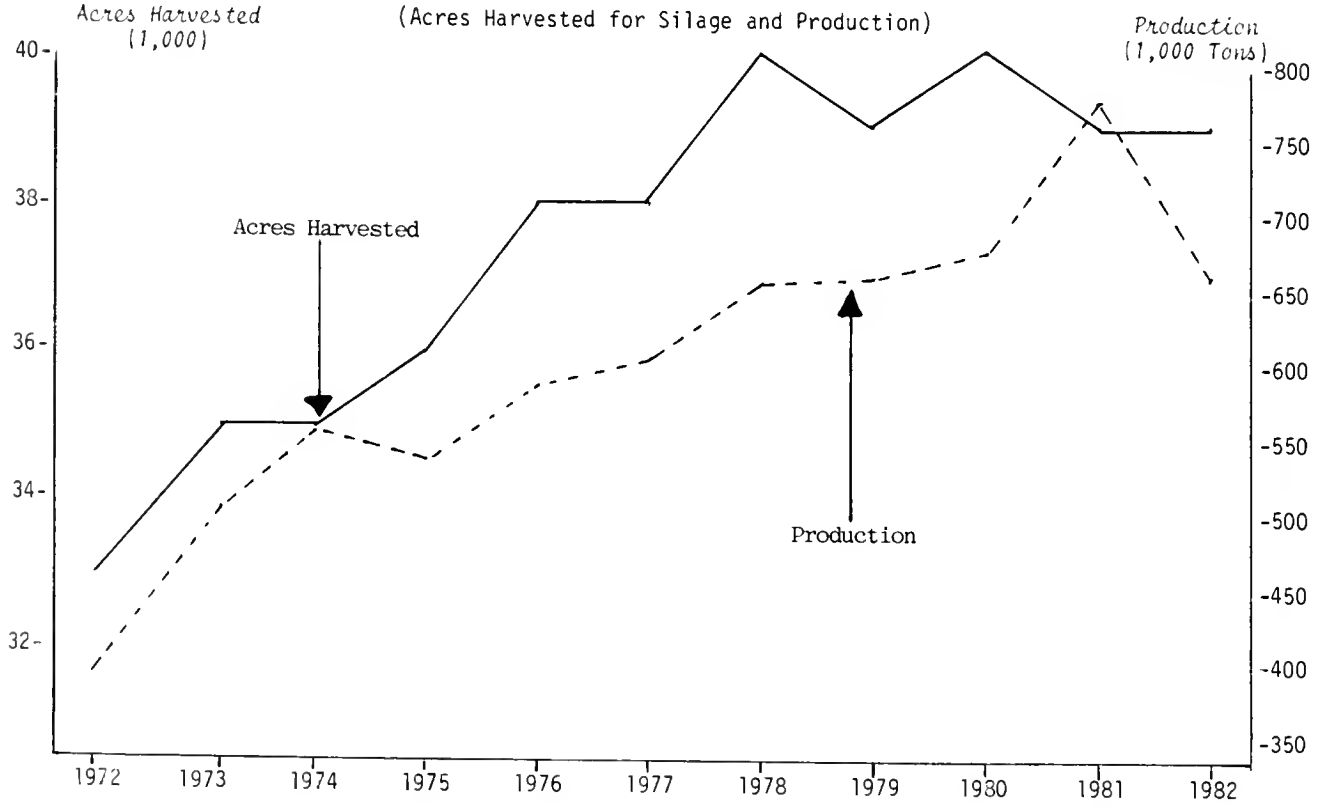
TOBACCO:

Massachusetts tobacco production in 1982 totaled 887,000 pounds, less than half the 1981 crop due to a sharp fall-off in harvested shade acreage. Havana Seed production, at 587,000 pounds, is up 6 percent, while the shade crop, at 300,000 pounds fell to one quarter of 1981 output. Shade growers in the Commonwealth withdrew 650 acres of the wrapper type from production in 1982. Yields also averaged below a year ago. Excessive rainfall in June caused heavy fertilizer leaching, stunted plant growth, and ultimately, reduced yields for both types.

CORN: ACREAGE, YIELD, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES PLANTED FOR ALL PURPOSES	SILAGE			
		ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	VALUE OF PRODUCTION
	1,000	*1,000*	*Tons*	*1,000 Tons*	*1,000 Dollars*
1972	35	33	12.0	396	5,346
1973	37	35	14.5	508	7,366
1974	38	35	16.0	560	10,080
1975	39	36	15.0	540	11,475
1976	43	38	15.5	589	12,987
1977	44	38	16.0	608	13,923
1978	45	40	16.5	660	14,850
1979	44	39	17.0	663	16,575
1980	45	40	17.0	680	19,380
1981	46	39	20.0	780	19,968
1982	46	39	17.0	663	18,763

MASSACHUSETTS CORN



ALFALFA HAY: ACREAGE, YIELD AND PRODUCTION, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
	1,000	*Tons*	*1,000 Tons*
1972	28	2.25	63
1973	28	2.55	71
1974	25	2.55	64
1975	26	2.60	68
1976	26	2.45	64
1977	28	2.30	64
1978	28	2.60	73
1979	27	2.90	78
1980	27	2.40	65
1981	28	2.80	78
1982	29	2.80	81

ALL OTHER HAY: ACREAGE, YIELD AND PRODUCTION, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
	1,000	*Tons*	*1,000 Tons*
1972	81	1.75	142
1973	84	2.15	181
1974	90	2.00	180
1975	92	2.05	189
1976	94	2.00	188
1977	92	1.90	175
1978	92	2.15	198
1979	92	2.25	207
1980	92	2.10	193
1981	93	2.15	200
1982	94	2.25	212

ALL HAY: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION	PRICE PER TON	VALUE OF PRODUCTION
	1,000	*Tons*	*1,000 Tons*	*Dollars*	*1,000 Dollars*
1972	109	1.88	205	51.00	10,455
1973	112	2.25	252	50.00	12,600
1974	115	2.12	244	63.00	15,183
1975	118	2.18	257	79.00	19,355
1976	120	2.10	252	71.00	18,034
1977	120	1.99	239	69.00	16,077
1978	120	2.26	271	73.00	19,783
1979	119	2.39	285	72.00	20,520
1980	119	2.17	258	76.00	19,608
1981	121	2.30	278	80.00	22,240
1982	123	2.38	293	88.00	25,784

TOBACCO, SHADE TYPE: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
		Pounds	*1,000 Pounds*	*Dollars*	*1,000 Dollars*
1972	1,150	1,250	1,438	4.85	6,974
1973	1,300	1,210	1,573	5.15	8,101
1974	1,300	1,610	2,093	6.00	12,558
1975	1,250	1,335	1,669	6.40	10,682
1976	1,050	1,480	1,554	5.40	8,392
1977	980	1,600	1,568	6.00	9,408
1978	860	1,300	1,118	7.50	8,385
1979	770	1,400	1,078	8.50	9,163
1980	940	1,475	1,387	9.80	13,593
1981	900	1,575	1,418	10.00	14,180
1982	250	1,200	300	12.50	3,750

TOBACCO, HAVANA SEED: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
		Pounds	*1,000 Pounds*	*Dollars*	*1,000 Dollars*
1972	260	1,850	481	0.62	298
1973	210	1,850	389	0.72	280
1974	160	2,040	326	0.82	267
1975	170	1,650	281	0.98	275
1976	160	1,819	291	0.87	253
1977	180	1,880	338	0.98	331
1978	170	2,000	340	1.10	374
1979	220	1,850	407	1.20	488
1980	250	2,000	500	1.31	655
1981	240	2,300	552	1.40	773
1982	300	1,957	587	1.35	792

FRUIT AND VEGETABLE HIGHLIGHTS

CRANBERRIES:

Massachusetts cranberry growers produced a record crop in 1982, totaling 1.278 million barrels. Production surpassed 1981 levels by 9 percent, and 1980's record crop by 8 percent. Excellent growing conditions contributed to the highest yield ever, with growers harvesting 114.1 barrels to the acre.

APPLES:

Good growing conditions also favored the apple producers in 1982. Adequate moisture and cool temperatures produced a medium to large sized fruit with good color. Commercial apple production of 2.4 million 42-pound units surpassed last year's freeze-reduced crop by 20 percent.

Massachusetts apples rank 13th in the Nation for 1982 production. The crop is valued at $17.3 million, 5 percent above a year ago and 19 percent above 1980.

PEACHES:

Favorable growing conditions helped the peach crop rebound from last year's poor season. Production in 1982 totaled 31,250 48-pound units, nearly 8 times larger than the 1981 crop. The state's 1982 peach crop is valued at $675,000, averaging 45 cents per pound.

POTATOES:

Potato production in the Commonwealth totaled 735,000 cwt. in 1982. Although growers harvested 6 percent more acreage in 1982, low yields kept output 1 percent below 1981 production. The crop is valued at $2.9 million, 29 percent lower than the previous year, and the lowest value of production since 1972.

VEGETABLES:

Commercial vegetable growers in the Commonwealth produced 678,000 cwt. of sweet corn and 145,000 cwt. of tomatoes for sale as fresh produce in 1982. Sweet corn production was 9 percent less, and tomato production was 11 percent less than last year. The value of these two commodities was $13.8 million in 1982, 15 percent more than the value last year. Higher prices for both commodities caused the increase in value. A cool, wet June got both crops off to a slow start.

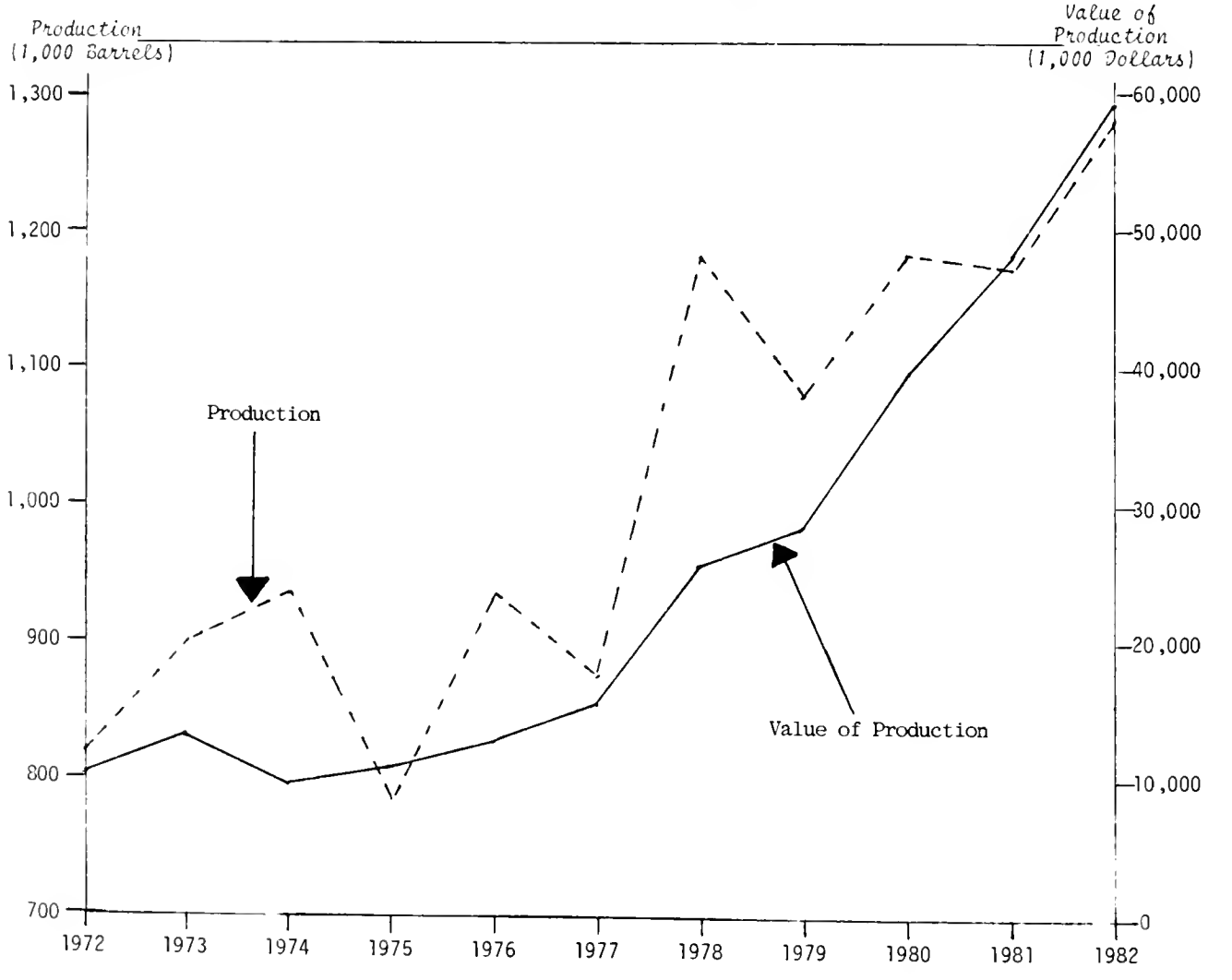
CRANBERRIES: ACREAGE, PRODUCTION, UTILIZATION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION 1/	UTILIZATION			SEASON AVERAGE PRICE PER BARREL 3/	VALUE OF UTILIZED PRODUCTION 4/
				FRESH SALES	PROCESSED	SHRINKAGE 2/		
		Barrels		1,000 Barrels			Dollars	1,000 Dollars
1972	11,200	73.1	819	170	600	49	12.60	10,319
1973	11,200	80.4	901	246	563	92	13.60	12,254
1974	11,200	83.2	932	167	491	274	10.70	9,972
1975	11,200	70.1	785	162	508	115	13.00	10,205
1976	11,200	83.5	935	220	630	85	13.40	12,529
1977	11,200	78.1	875	207	576	92	17.70	15,488
1978	11,200	105.4	1,180	247	833	100	21.60	25,488
1979	11,200	96.4	1,080	130	880	70	26.60	28,728
1980	11,200	105.8	1,185	110	1,016	59	33.50	39,698
1981	11,200	104.6	1,172	205	875	92	41.50	48,639
1982	11,200	114.1	1,278	169	1,070	39	46.10	58,916

1/ Includes cranberries that were put in set aside under the Cranberry Marketing Order.
2/ Berries paid for by processors and lost because of dehydration and berry breakdown after delivery.
3/ Equivalent return at first delivery point, screen basis.
4/ Excludes cranberries that were put in set aside under the Cranberry Marketing Order.

MASSACHUSETTS CRANBERRIES

PRODUCTION AND VALUE OF PRODUCTION



APPLES: PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	TOTAL PRODUCTION 1/	UTILIZED PRODUCTION	PRICE PER UNIT	VALUE OF UTILIZED PRODUCTION
	1,000 42-Pound Units		*Dollars*	*1,000 Dollars*
1972	2,167	2,167	3.90	8,454
1973	1,976	1,976	5.59	11,039
1974	2,548	2,381	4.33	10,300
1975	2,500	2,333	4.37	10,192
1976	2,262	2,262	6.13	13,870
1977	2,262	2,190	5.38	11,776
1978	2,500	2,500	5.80	14,490
1979	2,262	2,262	6.51	14,725
1980	2,381	2,381	6.11	14,550
1981	1,976	1,976	8.35	16,501
1982	2,381	2,381	7.26	17,290

1/ Estimates relate to production in orchards of 100 or more trees.

PEACHES: PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	PRODUCTION	PRICE PER UNIT	VALUE OF PRODUCTION
	1,000 48-Pound Units	*Dollars*	*1,000 Dollars*
1972	35	8.26	289
1973	58	9.66	560
1974	35	8.74	306
1975	42	9.52	400
1976	35	12.63	442
1977	42	10.48	440
1978	38	13.74	522
1979	38	15.16	576
1980	42	14.29	600
1981	4	17.50	70
1982	31	21.77	675

POTATOES: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	SEASON AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	*1,000 Cwt.*	*Dollars*	*1,000 Dollars*
1972	4,000	160	640	3.90	2,496
1973	4,000	160	640	4.90	3,136
1974	4,400	200	880	3.50	3,080
1975	3,900	205	800	5.00	4,000
1976	3,500	220	770	5.80	4,466
1977	3,700	240	888	5.40	4,795
1978	3,600	225	810	6.30	5,103
1979	3,400	220	748	5.60	4,189
1980	3,400	220	748	7.50	5,610
1981	3,300	225	743	5.40	4,012
1982	3,500	210	735	3.90 1/	2,867

1/ Preliminary

TOMATOES: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	*1,000 Cwt.*	*Dollars*	*1,000 Dollars*
1972	700	190	133	17.70	2,354
1973	730	195	142	17.40	2,471
1974	700	175	123	16.50	2,030
1975	630	210	132	18.00	2,376
1976	590	195	115	21.40	2,461
1977	560	190	106	20.40	2,162
1978	550	210	116	21.80	2,529
1979	510	190	97	24.60	2,386
1980	680	210	143	21.70	3,103
1981	760	215	163	20.10	3,276
1982	660	220	145	30.00	4,350

SWEET CORN: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	*1,000 Cwt.*	*Dollars*	*1,000 Dollars*
1972	7,100	75	533	6.93	3,694
1973	8,000	78	624	6.20	3,869
1974	8,200	62	508	8.90	4,521
1975	8,600	81	697	7.10	4,949
1976	8,200	72	590	7.71	4,549
1977	7,800	60	468	8.90	4,165
1978	7,200	88	634	7.00	4,438
1979	7,700	84	647	8.99	5,817
1980	8,200	88	722	9.09	6,563
1981	8,800	85	748	11.70	8,752
1982	7,700	88	678	14.00	9,492

MAPLE SYRUP

Maple syrup production during the spring of 1982 totaled 30,000 gallons, 25 percent below the preceding year. The 1982 sugaring season opened two weeks later and closed four days later than the 1981 season. Most producers reported favorable temperatures and medium color syrup for the season. At $20.20 per gallon, the syrup crop had a value of $606,000, or 19 percent less than the previous year.

MAPLE SYRUP: PRODUCTION, DISPOSITION AND VALUE, MASSACHUSETTS, 1972-1983

YEAR	PRODUCTION	SOLD	SEASON AVERAGE PRICE PER GALLON	VALUE OF PRODUCTION
	1,000 Gallons		*Dollars*	*1,000 Dollars*
1972	28	27	8.70	244
1973	20	19	9.40	188
1974	25	24	11.20	280
1975	31	30	10.70	332
1976	27	25	12.75	319
1977	27	25	13.00	351
1978	28	26	14.10	367
1979	30	28	15.90	477
1980	18	17	18.40	331
1981	40	38	18.70	748
1982	30	28	20.20	606
1983	20		20.00	400

MAPLE SYRUP PRICES: BY TYPE OF SALE AND SIZE OF CONTAINER, MASSACHUSETTS, 1972-1982

YEAR	RETAIL					WHOLESALE					ALL SALES EQUIVALENT PER GALLON
	GAL	½ GAL	QUART	PINT	½ PINT	GAL	½ GAL	QUART	PINT	½ PINT	
	Dollars										
1972	8.10	4.55	2.75	1.90	1.15	7.30	4.30	2.60	1.55	1.00	8.70
1973	9.00	5.00	3.10	2.25	1.25	8.30	4.60	2.85	1.80	1.10	9.40
1974	10.50	5.90	3.55	2.30	1.40	9.00	5.00	3.00	1.85	1.20	11.20
1975	11.10	6.20	3.75	2.50	1.50	10.00	5.45	3.30	2.05	1.15	10.70
1976	11.65	6.45	3.90	2.55	1.50	10.35	5.75	3.35	2.20	1.35	12.75
1977	12.30	6.90	4.05	2.65	1.80	11.20	6.05	3.70	2.40	1.50	14.20
1978	13.10	7.40	4.29	2.81	1.86	11.66	6.59	3.79	2.41	1.49	14.10
1979	14.88	8.37	4.84	3.12	2.13	12.53	7.13	4.09	2.66	1.77	15.90
1980	17.66	9.69	5.88	3.69	2.46	16.25	8.94	4.73	3.07	1.98	18.40
1981	18.69	10.73	6.23	4.07	2.59	16.44	9.39	5.39	3.33	2.01	18.70
1982	19.39	11.31	6.61	4.20	2.68	16.38	9.87	5.41	3.46	2.13	20.20

MINK

Mink pelt production continues on a downward trend with a total of 13,100 pelts produced in 1982. The biggest drop in production was in the pastels which dropped from 6,300 pelts in 1980 to only 1,900 in 1982. Pastels had consisted of 36 percent of the total and now only accounts for 14 percent. The other percentage breakdown of the 1982 production was demi-buff 31 percent, pearl 21 percent and standard 13 percent. The breeding of mink females to produce kits in 1983 continues the downward trend of recent years with only 3,700 females bred, compared with 3,900 in 1981 and 5,200 for 1980.

MINK: PRODUCTION AND FEMALES BRED TO PRODUCE KITS, MASSACHUSETTS, 1978-1983

COLOR CLASS	PELTS PRODUCED					FEMALES BRED TO PRODUCE KITS				
	1978	1979	1980	1981	1982	1979	1980	1981	1982	1983
Standard	1,500	1,600	1,200		1,700	1/	1,500	660		500
Demi-Buff	5,400	4,900	5,200		4,000	2,600	1,500	1,000		1,200
Pastel	6,500	5,400	6,300		1,900	800	730	1,000		360
Pearl	1/	2,500	2,300		2,800	690	700	700		880
Others	6,600	3,600	2,400		2,700	1,310	970	540		760
TOTAL	20,000	18,000	17,400	2/	13,100	5,400	5,200	3,900	2/	3,700

1/ Included in others to avoid disclosing individual operations.
2/ Estimates not available.

COMMERCIAL FERTILIZER: CONSUMPTION BY KIND AND PLANT NUTRIENTS, MASSACHUSETTS, 1970-1982

YEAR	KIND OF FERTILIZER				PRIMARY NUTRIENTS		
	MIXED FERTILIZER	PRIMARY NUTRIENT MATERIALS	SECONDARY AND MICRO-NUTRIENTS	TOTAL FERTILIZER	N	AVAILABLE P_2O_5	K_2O
				Tons			
1970	52,953	16,580	63	69,596	8,159	6,325	6,071
1975	51,814	15,216	36	67,066	7,866	5,588	6,049
1976	55,548	15,335	150	71,033	8,803	5,984	6,779
1977	53,094	14,882	28	68,004	9,015	5,872	6,607
1978	71,471	14,970	62	86,503	11,501	7,644	8,552
1979	58,397	11,393	224	70,014	10,275	6,220	7,530
1980	50,417	15,207	117	65,741	9,081	5,444	6,375
1981	59,793	10,864	466	71,123	9,352	7,457	6,893
1982	39,210	14,830	684	54,724	7,701	4,321	5,822

PRICES PAID BY FARMERS: INDEX NUMBERS, ANNUAL AVERAGE, UNITED STATES, 1972-1982, BY YEARS (1977=100)

YEAR	COMMODITIES & SERVICES, INTEREST TAXES AND WAGE RATES	PRODUCTION ITEMS INTEREST, TAXES & WAGE RATES	PRODUCTION ITEMS	INTEREST PAYABLE PER ACRE	TAXES PAYABLE PER ACRE	WAGE RATES FOR HIRED FARM LABOR 1/
1972	62	60	61	47	75	63
1973	71	72	73	55	77	69
1974	81	81	83	65	81	79
1975	89	89	91	77	87	85
1976	95	95	97	88	94	93
1977	100	100	100	100	100	100
1978	108	109	108	117	100	107
1979	123	125	125	143	107	117
1980	138	139	138	174	115	126
1981	150	151	148	211	123	137
1982	156	154	149	233	131	141

1/ Simple average of quarterly indexes seasonally adjusted.

INDEX NUMBERS OF PRICES RECEIVED BY FARMERS, BY COMMODITY GROUPS, UNITED STATES ANNUAL AVERAGE, 1972-1982 (1977=100)

YEAR	CROPS								LIVESTOCK & PRODUCTS				ALL FARM PRODUCTS
	FOOD GRAINS	FEED GRAINS AND HAY	TOBACCO	COTTON	OIL BEARING CROPS	FRUIT	COMMERCIAL VEGETABLES	ALL CROPS	DAIRY PRODUCTS	POULTRY AND EGGS	MEAT ANIMALS	ALL LIVESTOCK	
1972	70	57	70	48	51	72	65	60	63	60	88	77	69
1973	138	90	74	54	93	84	76	91	74	101	118	104	98
1974	192	134	85	85	96	86	81	117	86	94	98	94	105
1975	155	127	93	68	81	85	92	105	90	103	100	98	101
1976	129	120	93	99	85	80	91	102	100	102	101	101	102
1977	100	100	100	100	100	100	100	100	100	100	100	100	100
1978	122	101	109	91	93	137	105	105	109	106	134	124	115
1979	147	114	118	96	103	144	110	116	124	111	166	147	132
1980	165	132	125	114	102	124	113	125	135	112	156	144	134
1981	166	141	140	111	110	130	136	134	142	116	150	143	139
1982	146	120	153	91	88	175	127	121	140	110	155	145	133

FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1981

EXPENDITURE 2/	NORTHEAST		UNITED STATES	
	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/
	Dollars	*1,000 Dollars*	*Dollars*	*1,000 Dollars*
TOTAL FARM PRODUCTION EXPENDITURES	48,597	8,340,222	56,959	138,473,913
LIVESTOCK & POULTRY:	3,998	686,065	6,355	15,449,306
Cattle Purchased	2,610	447,955	5,068	12,320,530
Hogs & Pigs Purchased	192	32,898	607	1,476,670
Sheep & Lambs Purchased	4	668	77	188,283
Poultry Purchased	526	90,353	246	598,881
Other Livestock & Poultry Purchased	240	41,158	173	419,898
Other 5/	426	73,032	183	445,045
FARM SERVICES:	5,209	893,903	8,691	21,129,125
Custom Hire	434	74,556	856	2,080,490
Veterinarian, Medicine & Supplies	425	72,895	319	775,938
Hired Transportation for Delivery to Farm	47	8,040	89	215,785
Insurance	1,078	185,001	941	2,288,684
Marketing Expenses (Crop & Livestock)	1,503	257,881	1,144	2,781,127
Miscellaneous Farm Business	587	100,756	754	1,834,136
Rent	1,135	194,773	4,588	11,152,964
Cash Rent	991	170,108	1,849	4,494,700
Share Rent	144	24,665	2,739	6,658,264
FEED:	9,216	1,581,602	7,821	19,014,370
Grains	1,658	284,500	2,273	5,525,583
Hays & Forages	496	85,146	883	2,145,889
Mixed or Formula Feeds	6,819	1,170,234	4,174	10,147,806
Other Feeds, Additives and Ingredients	236	40,478	333	810,138
Pasture & Grazing Livestock	7	1,244	158	384,954
WAGES & CONTRACT LABOR:	5,015	860,717	4,338	10,547,315
Cash Wages	4,076	699,496	3,387	8,233,662
Contract Labor	156	26,688	310	754,124
Total Perquisites Furnished	784	134,534	641	1,559,528
INTEREST:	3,459	593,554	5,388	13,099,238
Farm Real Estate	2,077	356,386	2,693	6,547,819
Operating Loans 6/	1,382	237,168	2,695	6,551,419
Landlord Farm Real Estate	51	8,785	185	449,843
FERTILIZER, LIME & SOIL CONDITIONERS: 7/	3,041	521,833	4,143	10,071,621
Custom Applied Fertilizer	694	119,020	1,457	3,541,269
Not Custom Applied Fertilizer	1,943	333,492	2,197	5,341,705
Lime & Soil Conditioners	363	62,330	192	466,723
FUELS & ENERGY:	3,390	581,842	4,481	10,892,752
Gasoline - Delivered Bulk to Farm	916	157,176	1,150	2,795,068
Gasoline - Purchased at Service Station	256	44,001	377	915,530
Diesel Fuel	909	156,046	1,437	3,494,388
Fuel Oil & Kerosene	142	24,382	40	98,417
L.P. Gas	130	22,258	295	717,544
Natural Gas	39	6,673	120	291,905
Motor Oil, Grease & Special Fluids	127	21,711	178	432,819
Electricity (Excluding Irrigation)	844	144,811	568	1,380,409
Electricity for Irrigation	14	2,334	311	756,844
FARM & MOTOR SUPPLIES:	3,355	575,755	3,121	7,587,884
Motor Vehicle Operating Costs Other Than Fuels	1,738	298,301	2,150	5,229,275
Miscellaneous Farm Supplies	982	168,522	721	1,752,295
Marketing Containers	635	108,932	249	606,314

See Footnotes, page 27

FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1981

EXPENDITURE 2/	NORTHEAST		UNITED STATES	
	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/
	Dollars	*1,000 Dollars*	*Dollars*	*1,000 Dollars*
BUILDING, FENCING & FARM IMPROVEMENTS: 8/	2,630	451,337	2,806	6,822,015
New Building Construction & Remodeling	1,497	256,987	1,207	2,933,744
Building Maintenance & Repair	521	89,419	258	627,450
Fencing Expenses	104	17,764	187	454,468
Maintenance & Repairs (Other)	158	27,183	303	737,775
New Construction Improvements (Other)	334	57,394	836	2,033,613
TRACTORS & SELF-PROPELLED MACHINERY:	1,847	316,918	2,607	6,337,603
Tractors	1,442	247,483	1,696	4,122,504
Tractors, New	747	128,201	1,006	2,445,512
Tractors, Used	695	119,283	690	1,676,992
Self-Propelled Machinery	366	62,872	836	2,033,151
Leasing or Rental, Tractors	24	4,189	57	139,091
Leasing or Rental, Self-Propelled	14	2,373	18	42,856
OTHER FARM MACHINERY, IMPLEMENTS & LIVESTK EQUIPMNT:	2,632	460,278	1,938	4,712,608
Farm Machinery, Not Self-Propelled	1,908	327,520	1,494	3,632,456
Dairy, Poultry & Other Livestock Equipment	531	91,110	236	573,990
Repair & Maintenance Livestock Equipment	171	29,298	138	335,135
Leasing or Rental Other Farm Machinery & Equipmnt	72	12,349	70	171,028
SEEDS & PLANTS:	1,537	263,739	1,667	4,053,311
Seed for Field Crops & Small Grains	739	126,447	1,192	2,897,422
TAXES:	1,332	228,525	1,099	2,671,560
Farm Real Estate	1,149	197,195	897	2,180,179
Other Property Tax 6/	183	31,330	202	491,382
Landlord Farm Real Estate	379	65,064	553	1,343,593
AUTOS, TRUCKS & OTHER VEHICLES: 9/	685	117,612	1,006	2,446,503
Autos	102	17,584	177	431,281
Trucks	510	87,448	680	1,653,643
Trucks, New	318	54,533	392	952,490
Trucks, Used	192	32,914	288	701,153
AGRICULTURAL CHEMICALS: 7/ 10/	1,191	204,368	1,490	3,622,160
Pesticides for Crops & Crop Storage	1,130	193,883	1,350	3,283,256
Pesticides for Livestock, Poultry & Buildings	44	7,529	52	126,824
UNALLOCATED OTHER EXPENSES:	13	2,175	7	16,540

1/ Includes eleven states: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.
2/ Farm share.
3/ Total expenditure divided by number of farms.
4/ Totals may not add, due to rounding.
5/ Excludes veterinarian fees, medicine and breeding fees.
6/ Includes landlord expenditures.
7/ Landlord expenditure included only in total.
8/ "All Other Improvements" included in total only.
9/ "Other Vehicles" included in total only.
10/ Includes seed treatments.

FARM BALANCE SHEET (Excluding Farm Households), MASSACHUSETTS, JANUARY 1, 1978-1982

ITEM	1978	1979	1980	1981	1982
			Million Dollars		
Assets:					
Real Estate 1/	725.4	831.6	896.0	921.2	930.9
Livestock & Poultry 2/	49.0	65.3	78.8	90.0	85.7
Machinery & Motor Vehicles 3/	121.8	135.6	149.3	150.8	158.1
Crops 4/	17.8	26.2	22.8	25.2	24.5
Financial Assets	49.1	59.6	60.3	56.2	65.9
TOTAL FARM ASSETS	963.1	1,118.2	1,207.2	1,243.5	1,265.1
Claims:					
Real Estate Debt 5/	62.9	64.1	76.3	86.6	96.6
Non-Real Estate Debt 6/	56.6	104.4	128.6	129.2	147.1
TOTAL FARM DEBT	119.5	168.5	204.9	215.8	243.7
Equity	843.6	949.7	1,002.3	1,027.7	1,021.4

1/ Excludes value of operator dwellings.
2/ Excludes horses, mules, and broilers.
3/ Includes only farm share value for trucks and autos.
4/ All crops held on farms including crops under CCC and crops held off farms by farm operators.
5/ Excludes debt on operator dwellings.
6/ Excludes debt for non-farm purposes.

FARM PRODUCTION EXPENSES, MASSACHUSETTS, 1977-1981

CURRENT FARM OPERATING EXPENSES	1977	1978	1979	1980	1981
			Million Dollars		
Feed	42.5	39.7	44.0	47.0	48.9
Livestock	3.2	2.9	1.4	1.5	1.7
Seed	6.7	7.8	8.8	10.0	11.8
Fertilizer & Lime	5.8	8.3	7.7	8.8	9.4
Repairs & Operation of Capital Items	25.3	27.6	34.1	39.6	42.6
Hired Labor	46.8	50.5	58.1	65.3	67.8
Miscellaneous	25.7	35.8	44.5	47.5	57.7
TOTAL CURRENT FARM OPERATING EXPENSES	156.0	172.7	198.5	219.5	239.8
Depreciation & Other Consumption of Farm Capital	30.2	36.3	40.5	44.4	46.4
Taxes on Farm Property	15.4	14.2	27.8	29.6	29.2
Interest on Farm Mortgage Debt	6.0	5.5	6.2	7.3	8.5
Net Rent to Non-Operator Landlord	-.4	-.3	-.2	--	.3
TOTAL PRODUCTION	207.2	228.3	272.7	300.8	324.2

GROSS INCOME AND NET INCOME FROM FARMING, MASSACHUSETTS, 1950-1981

ITEM	1950	1960	1970	1977	1978	1979	1980	1981
				Million Dollars				
Gross Farm Income:								
Cash Receipts from Farm Marketing	181.6	164.7	157.0	226.5	278.8	287.4	296.9	332.8
Government Payment	.6	.7	.6	.6	.8	.6	.7	.8
Non-Money Income	19.3	15.5	13.7	25.2	27.2	30.0	32.3	32.5
Other Farm Income	.1	.7	1.5	2.3	2.2	2.7	2.7	3.3
TOTAL	201.6	181.6	172.8	254.5	308.9	320.7	332.7	369.4
Farm Production Expenses	147.2	135.6	130.8	220.3	228.3	272.7	300.8	324.2
Net Farm Income Before Inventory Adjustment	54.4	46.1	41.9	34.2	80.6	48.1	31.8	45.2
Net Change in Farm Inventory	-2.1	1.3	.2	-1.1	.1	2.8	3.0	-8.4
Net Farm Income After Inventory Adjustment	52.3	47.3	42.1	33.1	80.8	50.9	34.9	36.8

CROP AND LIVESTOCK PRODUCTION: RANK AMONG STATES, MASSACHUSETTS AND NEW ENGLAND, 1982

ITEM	UNIT	MASSACHUSETTS			NEW ENGLAND		
		PRODUCTION	RANK	% US TOTAL	PRODUCTION	RANK	% US TOTAL
		1,000			*1,000*		
CROPS:							
Cranberries	*barrels*	1,278	1	43.7	1,278	1	43.7
Apples	*42-pounds*	2,381	13	1.2	8,476	7	4.3
Peaches	*48-pounds*	31	27	.1	NA		
Corn for Silage	*tons*	663	31	.6	4,104	11	3.6
Hay	*tons*	293	44	.2	2,109	27	1.4
Potatoes	*cwt.*	770	30	.2	28,542	3	8.2
Tobacco	*pounds*	838	16	*	4,678	14	.2
Sweet Corn	*cwt.*	678	8	2.2	NA		
Tomatoes	*cwt.*	145	18	.6	NA		
LIVESTOCK AND POULTRY:							
Eggs	*each*	314,000	35	.5	3,101,000	7	4.4
Milk	*pounds*	595,000	38	.4	4,739,000	7	3.5
Wool	*pounds*	50	37	.1	309	30	.3
Sheep	*head*	2.5	34	.1	11	29	.5
Lambs	*head*	3.3	37	*	23	30	.3
Cattle	*head*	17	46	*	172	38	.4
Calves	*head*	23	44	.2	173	22	1.6
Hogs and Pigs	*head*	61	40	.1	124	35	.1

FARMS: NUMBER AND LAND, MASSACHUSETTS AND NEW ENGLAND, 1972-1983 1/

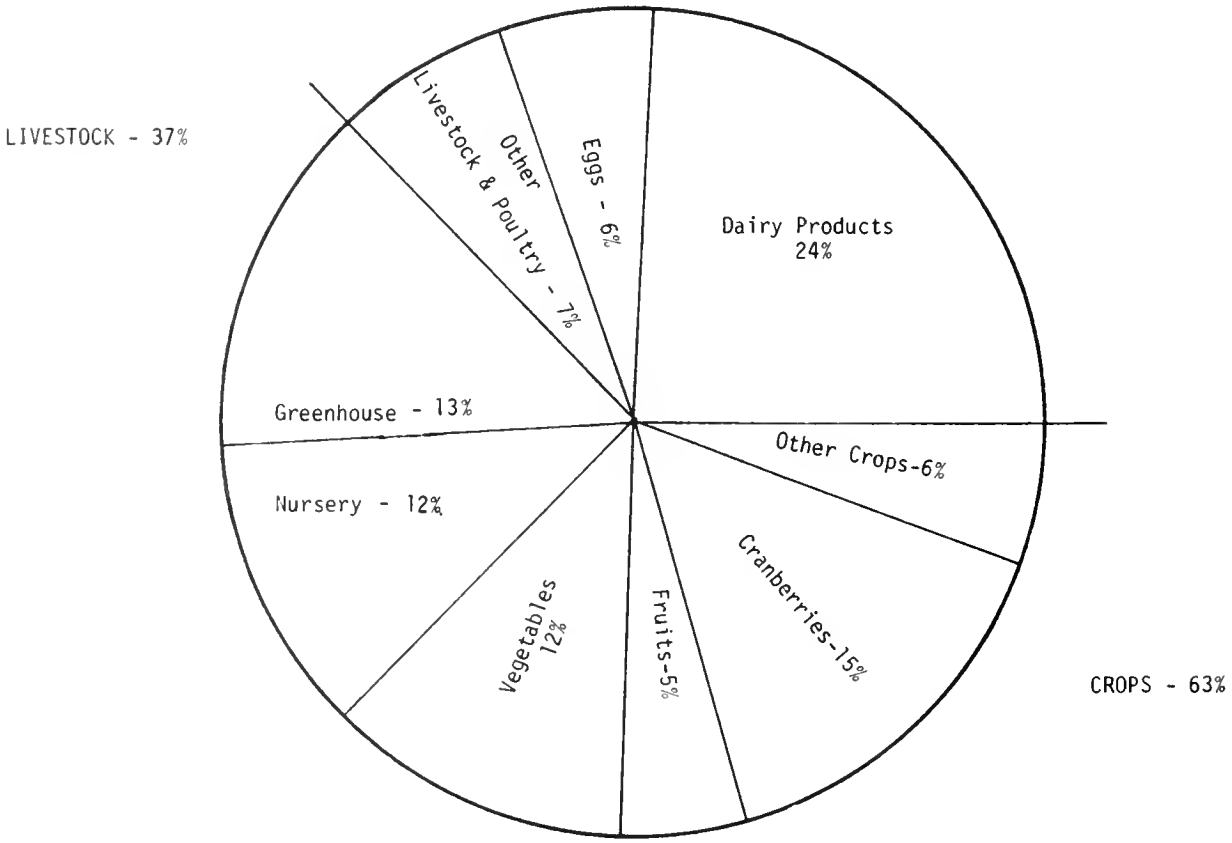
YEAR	MASSACHUSETTS			NEW ENGLAND		
	NUMBER OF FARMS	AVERAGE SIZE	LAND IN FARMS	NUMBER OF FARMS	AVERAGE SIZE	LAND IN FARMS
	Number	*Acres*	*1,000 Acres*	*Number*	*Acres*	*1,000 Acres*
1972	5,700	123	700	28,760	192	5,510
1973	5,500	124	680	28,040	192	5,378
1974	5,500	124	680	27,740	192	5,318
1975	5,800	121	700	26,120	197	5,135
1976	6,300	111	700	27,960	185	5,165
1977	6,200	111	690	28,300	182	5,155
1978	5,900	115	680	28,700	180	5,165
1979	6,200	110	680	29,900	172	5,145
1980	5,900	115	680	30,360	169	5,145
1981	5,600	118	660	30,420	170	5,185
1982	5,300	119	630	28,950	173	5,000
1983 2/	5,300	113	600	29,400	169	4,980

1/ A farm is a place that sells or normally would sell $1,000 of agricultural products; 2/Preliminary.

CASH RECEIPTS FROM FARM MARKETINGS, MASSACHUSETTS, 1980-1982

COMMODITY	1980	1981	1982
		1,000 Dollars	
CROPS:			
Hay	2,346	2,498	2,941
Tobacco	10,833	14,248	14,953
Potatoes	4,338	4,420	3,832
Tomatoes	3,103	3,276	4,350
Sweet Corn	6,563	8,752	9,492
Miscellaneous Vegetables	18,511	22,886	25,660
Apples	12,750	12,856	15,344
Peaches	570	35	630
Cranberries	39,698	48,638	53,951
Berries	1,365	1,404	2,065
Miscellaneous Fruits	260	283	285
Maple Products	313	728	536
Forest Products	1,715	1,656	1,672
Greenhouse and Nursery	91,372	90,556	92,000
Miscellaneous Crops	248	143	126
TOTAL CROPS	193,985	212,379	227,837
LIVESTOCK AND LIVESTOCK PRODUCTS:			
Cattle and Calves	13,017	12,694	8,237
Hogs	5,988	5,515	7,765
Sheep and Lambs	179	159	214
Dairy Products	79,726	85,989	87,870
Chickens	525	817	387
Eggs	20,177	22,933	21,910
Turkeys	1,927	2,345	2,379
Miscellaneous Poultry	2,308	2,875	2,831
Miscellaneous Livestock	3,151	3,118	3,333
TOTAL LIVESTOCK	126,998	136,445	134,926
TOTAL CASH RECEIPTS	320,983	348,824	362,763

MASSACHUSETTS CASH RECEIPTS - 1982



UNITED STATES: CIVILIAN PER CAPITA CONSUMPTION OF MAJOR FOOD COMMODITIES, 1974-1981 1/

COMMODITY	1974	1975	1976	1977	1978	1979	1980	1981 2/
				Pounds				
Meats:	151.2	143.7	152.8	152.2	146.9	144.9	147.6	144.5
Beef	85.6	87.9	94.4	91.8	87.2	78.0	76.5	77.2
Veal	1.9	3.4	3.3	3.2	2.4	1.7	1.5	1.6
Lam & Mutton	2.0	1.8	1.6	1.5	1.4	1.3	1.4	1.4
Pork	61.8	50.7	53.7	55.8	55.9	63.8	68.3	65.0
Fish (edible weight):	12.1	12.2	12.9	12.7	13.4	13.0	12.8	13.0
Canned	4.7	4.3	4.2	4.6	5.0	4.8	4.5	4.8
Poultry Products:								
Eggs	36.1	35.2	34.2	33.9	34.5	35.2	34.6	33.6
Chicken (ready-to-cook)	40.7	40.1	42.7	44.1	46.7	50.6	50.1	51.7
Turkey (ready-to-cook)	8.8	8.5	9.1	9.1	9.2	9.9	10.5	10.7
Dairy Products:								
Cheese (excluding cottage)	14.6	14.3	15.7	16.1	17.0	17.2	17.6	18.2
Condensed & evaporated whole milk	5.6	5.3	5.0	4.3	4.2	4.1	3.8	4.1
Fluid milk & cream(product weight)	262.3	266.8	263.6	259.9	257.2	253.2	249.7	245.7
Ice Cream (product weight)	17.4	18.5	17.9	17.5	17.4	17.1	17.3	17.2
Fats & Oils - Total fat content	52.4	52.3	54.8	53.0	54.6	55.8	55.8	56.9
Butter (actual weight)	4.5	4.7	4.3	4.3	4.4	4.5	4.5	4.3
Margarine (actual weight)	11.1	11.0	11.9	11.4	11.2	11.2	11.3	11.2
Lard	3.2	2.8	2.6	2.2	2.2	2.4	2.4	2.5
Shortening	16.9	17.0	17.7	17.2	17.8	18.4	18.2	18.5
Other edible fats & oils	19.8	19.9	21.5	21.0	22.1	22.4	22.7	23.5
Fruits:								
Fresh	76.4	80.8	82.8	79.5	79.0	80.8	85.7	87.3
Citrus	26.6	28.4	28.1	25.5	25.7	23.8	28.1	24.6
Noncitrus	49.8	52.4	54.7	54.0	53.2	57.0	57.6	62.7
Processed:								
Canned fruit	19.3	19.0	18.6	19.0	17.9	17.8	17.4	16.4
Canned juice	13.0	14.6	14.5	13.6	16.5	16.9	16.7	19.1
Frozen (including juices)	12.0	14.0	13.6	14.0	12.5	12.6	13.0	12.7
Chilled citrus juices	5.2	5.6	6.1	5.7	6.0	5.4	5.8	4.2
Dried	2.4	2.9	2.6	2.5	2.1	2.6	2.4	2.4
Vegetables:								
Fresh 3/	91.6	90.3	91.3	93.6	95.4	96.4	99.0	97.1
Canned (excluding potatoes)	52.9	51.9	53.0	53.1	51.8	53.2	49.8	45.9
Frozen (excluding potatoes)	10.1	9.6	10.1	10.2	10.7	11.2	10.4	11.3
Fresh potatoes	45.5	51.6	48.5	51.5	49.4	56.6	53.6	47.1
Frozen potato products	13.1	13.7	14.6	15.7	17.2	17.7	16.9	18.2
Sweetpotatoes 4/	4.7	4.8	4.8	4.3	4.5	4.6	3.9	4.1
Grains:								
Wheat flour 5/	111	114	119	116	115	117	117	117
Rice	7.5	7.6	7.1	7.5	5.7	9.4	9.4	11.0
Other:								
Coffee	9.6	9.2	9.4	6.9	7.9	8.5	7.8	7.7
Cocoa	3.0	2.6	3.0	2.6	2.6	2.6	2.6	2.9
Peanuts (shelled)	6.4	6.5	6.2	6.3	6.8	6.8	5.5	6.1
Dry edible beans	5.0	6.6	6.2	6.2	4.8	4.4	4.3	4.1
Melons	17.0	17.2	18.3	19.1	19.8	18.9	16.9	19.0
Sugar (refined)	95.6	89.1	93.4	94.2	91.4	89.3	83.7	79.4
Corn sweeteners 6/	25.6	28.8	31.9	35.3	39.2	43.3	48.9	55.0

1/ Quantity in pounds, retail weight, unless otherwise shown. Data on calendar year basis except for dried fruits, fresh citrus fruits, peanuts, dry beans and rice which are on a crop-year basis, and eggs which are on a marketing-year basis. 2/ Preliminary. 3/ Commercial production for sale as fresh produce. 4/ Table stock and processed. 5/ White, whole wheat, semolina, and durum flour. 6/ Fructose and glucose.

ANNUAL REPORT

MASSACHUSETTS DEPARTMENT

OF

FOOD AND AGRICULTURE

FISCAL YEAR 1983

JULY 1, 1982

TO

JUNE 30, 1983

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The protection of agricultural land and the delivery of programs aimed at enhancing urban agriculture were the main efforts of the Bureau of Land Use in 1983. Through several programs created to encourage the preservation and utilization of farmland for agriculture, the Bureau strives to strengthen the local farm industry and improve the climate for a viable agricultural community.

Outlined below are presentations of the most important activities of the Bureau of Land Use.

AGRICULTURAL PRESERVATION RESTRICTION PROGRAM

The Agricultural Preservation Restriction (APR) Program was established by the legislature in December, 1977, to protect the Commonwealth's rapidly diminishing farmland resources through the purchase of Agricultural Preservation Restrictions, commonly known as development rights. It is a voluntary program whereby farmland owners apply to the Department of Food and Agriculture to sell a restriction on all or a portion of their property. After field inspections, a screening and selection process, appraisals, and approval by the Agricultural Lands Preservation Committee, the Commonwealth acquires these restrictions, which run in perpetuity, and prohibit all non-agricultural uses. Title to the land still rests with the landowner who enjoys all the traditional rights of property ownership, except the right to develop the land for non-agricultural purposes.

Since the program's inception, more than 8518 acres have been protected statewide. There are also more than 8684 acres currently under appraisal. During the past five years the legislature has appropriated five million dollars each of the first four and twenty million dollars in 1982 for a total of $40 million to fund the program. The Massachusetts program is now the largest, most active statewide purchase of development rights programs in the country and is being used as a model by other states considering similar farmland protection techniques.

APR Program Objectives

Together with the Farmland Assessment Act (Chapter 61A M.G.L.), the APR Program is the cornerstone of the state's agriculture land protection policy. The main objective of the Agricultural Preservation Restriction Program is to limit the continued conversion of productive land through deed restriction and revitalize the agricultural industry by making land more accessible to farmers and their operations more financially secure. The specific goals of the Program include the following:

To retain the best and most productive agricultural land remaining in the Commonwealth;

To provide an opportunity for farmers to purchase farmland at affordable prices;

To help farmland owners overcome estate planning problems;

To provide working capital to enable farm operations to become more financially stable;

To address other personal ownership problems such as age, health, and retirement and;

To develop a positive attitude among farmers, agribusinessmen, landowners and urbanites that agriculture in Massachusetts is here to stay and that state government recognizes and supports agriculture's important contributions to the state's economy and rural character.

The Agricultural Preservation Restriction Program is the only means for farmland owners to realize the cash equity in their land and at the same time ensure it will remain open and undeveloped. The value of the Agricultural Preservation Restriction (or development rights) is the difference between the full market value of the land and the land's agricultural value. In return for paying for the APR, the Commonwealth receives a deed restriction, in perpetuity, prohibiting any and all activities detrimental to the land's present or future agricultural potential. This cash payment is an investment in the state's agricultural land resource, which will be repaid time and again through the operation of a viable agricultural economy.

The Selection & Decision-making Process

Decisions on properties selected by the APR Program are made by a nine member Agricultural Land Preservation Committee including officials from the state, federal and private sectors, two of whom must be farmers. The program is administered by a staff of two who are responsible for field work, evaluation of application, making appraisal assignments and guiding the application through the bureaucratic process.

Four major criteria established under the enabling legislation guide the staff and Committee in decision making. In order of significance they are: 1. quality of the soils for agricultural production; 2. degree of threat of development; 3. significance of the farm to the State's agriculture; 4. environmental and community planning objectives.

The APR program is very competitive, with more applications on hand than current funding permits. Therefore, emphasis is on protecting the farms that are in the most immediate jeopardy of passing out of farm ownership, most often into residential development.

Assessing the degree of threat facing a farm's conversion to non-agricultural uses is a task requiring careful judgement. The degree of threat has two aspects: 1. personal circumstances surrounding ownership, such as financial stress, age and health of owner, family problems and so on; and 2. physical characteristics of the land in terms of development potential, such as amount of road frontage, suitability of soils to support on-site sewage disposal systems, availability of water, sewer and utilities, building demand for the area, and local attitudes towards development.

One or more interviews with the owner are essential in order to determine the personal circumstances surrounding the owner's decision to submit an agricultural preservation application. In many cases, the prospect of retirement and the necessity of "cashing in" on the land is often the most important reason for submitting an application. Estate settlement and the division of assets among heirs can be another motivating factor. Financial problems such as fire, or dairy cow brucellosis and crop failure can also place a farm in jeopardy.

Sometimes the personal and financial problems of the owner may not be so immediate, but the land may be valuable from a development standpoint and the temptation to sell too hard to resist. Many farmers have sold house lots or parcels of land to pay back taxes, or put children through college, even thugh they hated to do so. In many cases, the whole character of the neighborhood has changed, and the local attitudes are so pro-development that an individual may decide to sell and move to another area.

The third major criterion, the significance of the farm to the state's agriculture, is another way of saying "how significant is the agricultural resource of this property and how does it relate to other farms in the area." The parcel's economic viability for agriculture is related to this criterion as well.

Since agriculture is scattered throughout the state, the Massachusetts APR Program is statewide in nature. No particular region of the state has been targeted for farmland preservation. Each parcel of land before the Agricultural Lands Preservation Committee must bear some relationship to the farming activities in the area, however, and only after careful consideration is the Committee interested in protecting an isolated farm. The farm must be large enough to stand on its own as an economically viable unit, and it must be significant in terms of its production and an asset to the local community or region. The Program administrators are concerned about the prospect of protecting an individual property, only to have it fail agriculturally and become an island of restricted land beyond the mainstream of the agricultural economy.

Accordingly, we are attempting to create blocks of protected farmland by adding other land near farms already protected so that the overall viability of the farming area is maintained. The protected land can be in different ownership, but it must contribute to the integrity of the farming area.

Parcel size is not necessarily a critical factor. For example, we have protected a seven acre field. But this field was a natural add-on to a large dairy farm which came to depend upon the field's production. If developed into houselots, the field would have detracted from a larger farm and degraded the quality of the area for farming. Protecting that small field had significance far greater than its size alone.

There are many collateral benefits of protecting a farm beyond its agricultural production capabilities. The most important of these in Massachusetts are scenic open space and watershed protection. In many cases communities identify with these benefits more readily, and they can be very important locally. It is rare for a large farm in this state not to have important environmental attributes, which have long been identified by the community in their open space or growth policy plans.

A portion of the application is completed by the municipality where the land is located. Comments by the various boards on how the preservation of the farm fits into the community's open space, zoning and planning objectives are important to the Committee in its deliberation. In almost every instance, municipal comments are favorable towards preservation of the subject property and other important agricultural land in the community as well.

At monthly ALPC Committee meetings the staff presents information on soils, acreage, jeopardy, significance of the farm and municipal comments. Following a complete evaluation and discussion of the property, specific action is taken. The entire process is an open one and applicants and members of the public are welcome to attend.

On farms with good soils that are financially and agriculturally viable and are in jeopardy the decision-making process is generally a straightforward one; however, often there are farms requiring considerable study and evaluation before a decision can be rendered.

In cases where the Committee and staff are uncertain of the proper course of action, a "field team" of representatives from the APR staff, the USDA Soil Conservation Service and Extension Service visit the farm and make a second evaluation of the property utilizing APR criteria. On several occasions during the past year the team's findings have been instrumental in helping the Committee resolve difficult evaluation of specific properties.

The Appraisal Process

Following the selection process, those farms the Committee wants to protect are nominated for appraisal. All appraisals are handled by independent, professional appraisers who are contracted to do the work by the APR staff.

As mentioned earlier in this report, the value of the Agricultural Preservation Restriction (development rights) is the difference between the land's full market value and its agricultural value. The appraisal process is completed in three steps: 1. determination of market value, 2. determination of agricultural value, and 3. independent review of the market and agricultural value.

The appraisal process is the most important component of the APR Program, because it is the value of the development rights that so often determines the success (or failure) of the individual project. Accordingly, it is of the highest priority that the appraisals are well thought out and accurate. The objective of the Program is to pay a fair price for the restriction, but at the same time ensure that the taxpayers' dollars are spent prudently and not wasted on land that may not have development potential. In many cases percolation tests are done to confirm whether the land can legally be developed under the State's Environmental Code, and market demand for residential, industrial or commercial use must be demonstrated in order to justify the full value of the property.

The agricultural value is determined by utilizing the income capitalization approach based on the type of farming enterprise most likely to occur on the property. Comparable sales of restricted land are also employed. The APR Program's agricultural appraisers have recently undertaken a research project aimed at improving the data base and methodology of the agricultural appraisal process.

Once the market value and agricultural value and reports are completed, they are reviewed by another independent professional appraiser to uncover any potential errors or oversights. The review appraiser visits the farm and inspects the comparable sales. When the review appraiser's summary report is completed, it is forwarded to the property owner with a cover letter explaining the results. The landowner then critiques the report and raises any questions about the appraisal. If questions arise that the program administrator cannot answer, the review appraiser is asked to meet with the property owner and staff to discuss the appraisal.

If the landowner is still in disagreement as to the value, they may engage their own appraiser. If their position cannot be supported by market information, the Department of Food and Agriculture's review appraiser has the final say. The program is always receptive to landowner's remarks about the appraisal of their farmland. If agreement cannot be reached at one point in time, the project will be reconsidered when the land market reflects a positive change for the landowner. The Program staff tries to be successful with every project nominated for appraisal.

Status of APR Program

In May 1980, the Commonwealth's first agricultural preservation restriction was recorded. The recording of the first restriction meant that the total selection and acquisition process worked and that all state agencies and procedures necessary to complete such acquisitions had been identified and met. The so-called selection/acquisition pipeline had been defined and was fully operational (Table 1). The average time period for completing an acquisition is 12 months.

A summary of agricultural restriction acquisitions by fiscal year is in Table 3. Over the four year period, a total of 77 properties with 6,753 acres have been restricted. In addition, 16 properties totalling 1755 acres are under purchase agreement. The total acquisition cost was $12,137,700. or $1863. per acre. Municipalities and private groups contributed 5 percent of the acquisition monies. The statute enables municipalities to be co-holders of the deed restriction with the Department of Food and Agriculture if they provide assistance that is acceptable to the Agricultural Lands Preservation Committee. Contributions are particularly encouraged in cities and towns where land values are high and where farmland possesses only local importance.

Applications for the program have been received by the Department since January, 1979. Since that time 362 applications have been received. They are located in 12 counties and 146 municipalities. A total of 35,810 acres of land are under application and the owners' asking prices exceed $63 million (Table 1). New applications are continually being received.

The general status of all applications received as of June 30, 1983 is categorized in Table 1. One of six status categories is available. Status A are those applications that have received payment and the property has been restricted. Payment is pending for Status B applications until a title search has been completed and cooperating state agencies provide their approval. Applications in categories C and D are under appraisal. If agreement as to value is obtained, then they will proceed to Status B if the Agricultural Lands Preservation Committee approves. As soon as additional funding is received by the program, applications in group E will be nominated for appraisal. Status F applications have been rejected for not meeting minimum program criteria and

long run program objectives. Without significant changes, the application would not be reconsidered. Applications in category F are low priority compared to groups A-E; however, over time the application could be selected if land improvements were made or if significant financial contribution was made by local government.

A summary of program expenditures is presented in Table 2. As of June 30, 1983, the APR Program has expended $14,224,000. and committed $15,631,200. to projects under appraisal. It is noted that municipalities have also contributed a sum of $452,601. These contributions come close to paying for the administrative costs of the program, which permits the Commonwealth's dollars to be spent almost entirely on restriction purchases.

Purchasing of development rights (restrictions) in Massachusetts is saving key agricultural land for local production. Many other economic and environmental benefits are being realized. Farmland that otherwise would have been lost to development is now in the hands of younger farmers so that production will continue (Appendix A). Massachusetts taxpayers will have the opportunity to enjoy fresh fruits and vegetables, pick-your-own opportunities, a more varied landscape and the maintenance of agricultural businesses.

Table 1. Status of Applications Received -- June 30, 1983

	Number of Applications	Acres	Actual Purchase/Estimat Purchase Price
A. Acquisition Complete	77	6,763	$12,137,700.
B. Final Vote Completed: Under Purchase Agreement	16	1,755	$ 2,086,300.
C. Voted to Appraise	75	8,684	$15,631,200.*
D. Voted to Appraise but landowner refused offer.1	30	4,598	$ 8,276,400*
E. Eligible projects awaiting action.	70	7,580	$13,644,000.*
F. Little Likelihood of funding due to low rating.	77	5,908	$10,629,000.*
G. Rejected.	17	525	$ 945,000.*
TOTAL	362	35,810	$63,349,600.

1 Landowners have initially refused offer, however, circumstances may change and the projects can become viable at anytime.

* Denotes estimated purchase price calculated by multiplying $1800 (statewide average cost/acre) times the acreage of each group.

Table 2. Summary of Program Expenditures and Commitments as of June 30, 1983.

Expenditure Item		Expenditure Amount
Restriction Purchases		
Completed - 77 Properties		$12,137,700.
Under Agreement - 16 Properties		$ 2,086,300.
	SUB-TOTAL	$14,224,000.
Adminstrative Costs		
Appraisal Services		$ 456,949.
Farmland Appraisal Report		$ 25,750.
Legal Services		$ 81,573.
Supplies and Equipment		$ 6,377.
	SUB-TOTAL	$ 570,649.
Total Program Expenditures		$14,794,649.

1 On a per acre basis, restriction purchases have an average cost of $1700. to $1800.

2 Administrative costs are four percent of the restriction purchase expenditure.

Table 3. Summary of Agricultural Preservation Restriction Program Acquisitions By Fiscal Year, 1980-1983.

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983	Total
Acquisitions Completed	2	16	24	35	77
Number of Acres	97	1431	2122	3113	6763
Acquistion Cost	$280,000.	$2,776,225.	$3,744,350.	$5,337,125.	$12,137,70C
Town Contributions	$ 25,500.	$ 161,372.	$ 178,585.	$ 87,143.	$ 452,6C
Net Cost to Commonwealth	$254,500.	$2,614,852.	$3,565,765.	$ 5,249,982.	$11,685,09

Table 4. County Location and Number of APR Applications Received as of June 30, 1983.

County	Municipalities Represented	Number of Applications	Acreage
Barnstable	4	4	312
Berkshire	8	18	3,043
Bristol	12	31	2,466
Dukes	3	5	394
Essex	13	38	3,047
Franklin	9	22	2,814
Hampden	9	21	1,993
Hampshire	13	59	5,432
Middlesex	21	44	2,486
Norfolk	8	16	884
Plymouth	14	27	2,975
Worcester	32	77	9,964
TOTALS*	146	362	35,810

*Approximately 100 new applications are received each year, of which about one-half may be approved.

Table 5. Processing of an Agricultural Preservation Restriction Application.

Farmland owner and municipality return their respective completed portion of the application to Department of Food and Agriculture.

Owner is notified that the application has been received and within 2-4 months a field inspection is conducted by Department staff. The quality and status of the application is assessed by staff and Agricultural Lands Preservation Committee (ALPC)*.

Application is selected for appraisal and price discussion.

Application is postponed for future consideration.

Application has little likelihood of being selected.

Application is rejected.

Following completion of the market value appraisal and farm value appraisal, both reports are reviewed by consulting appraiser. A review report is written summarizing the market, farm and restriction value. A period of 1-3 months is needed.

Landowner receives letter from Commissioner regarding ALPC status.

Landowner receives letter from staff regarding appraised values. Meeting can be set up to discuss appraisal results. Landowner may hire their own appraiser.

If landowner agrees to price a final vote is needed from ALPC. Following final approval by the Committee a purchase agreement is signed and a title search is conducted. Legal documents are approved by the Attorney Generals Office, Div. of Capital Planning and Operations, Comptroller and Governor's Council. A closing at the local Registry of Deeds follows in 1-3 months.

If landowner disagrees, evidence supporting his position should be presented to the consulting appraiser. Consulting appraiser makes final decision about value of the restriction. Acceptance of the appraised value is voluntary on the part of the landowner and the ALPC. Unresolved price disagreements typically will delay further consideration of application until the local real estate market changes.

*Members of Agricultural Lands Preservation Committee as established by statute. Commissioner, Dept. of Food & Agriculture, Secretary of Environmental Affairs, Secretary of Communities & Development, Chairman, Board of Food & Agriculture, four public appointments by Governor, two of whom must be farmers.

STATE-OWNED FARMLANDS

As well as administering the Agricultural Preservation Restriction Program, the Bureau of Land Use is also involved with issues concerning state-owned agricultural land. Of the estimated 7,600 acres of open state-owned farmland, approximately 3,300 acres are part of state conservation lands: forests, watersheds, and wildlife management areas. The other 4,300 acres are associated with the state's public health, mental health, correctional, and reformatory institutions and are not afforded the same protection as the conservation lands. Presently, the Department of Corrections is the only state agency committed to an expanding farming program and one Mental Health farm remains active. The rest of the institutional farmland is leased on a short-term basis to local farmers, is idle, or is being disposed of by the state, generally for municipal development projects. The Bureau is completing an inventory of the institutional farmlands which will form the basis of a policy for the protection and optimum agricultural management of these lands. Legislation has also been filed which would transfer the management of these lands directly to the Department of Food and Agriculture and would place an APR on them in the event of their sale out of state ownership.

In the past year, the Land Use staff worked to save 35 acres of farmland once part of Worcester State Hospital. This land will be made available for community gardening, a farmers' market, and use by local growers. The Bureau is part of the Task Force planning the reuse of Boston State Hospital in Mattapan. The Bureau is working to protect the community gardens there, and is advocating for the creative integration of other urban agricultural activities in plans for the rest of the site (e.g. landscaping with fruit trees, greenhouse operations, commercial composting, etc.)

MEPA REVIEW

The Land Use staff also participates in the Massachusetts Environmental Policy Act review process. The staff reviews the Environmental Notification Forms of development projects which will impact farmland and makes recommendations accordingly.

THE COMMUNITY GARDENING PROGRAM

The statewide inventory of community gardens has been expanded to include information on garden coordinators, locations, sizes, and numbers of gardens; availability of water and other services on site, plot fees, special restrictions; and other descriptive information. This fall the Bureau will be conducting a survey of the community gardens to update the inventory and identify areas that need attention.

THE MASS SEED PROGRAM

The MassSeed Program provides free vegetable seeds for low-income gardeners, and seeds at wholesale cost for community (and other groups of) gardeners. Participation in the program and seeds at wholesale has been essentially frozen over the past few years, and the size of each seed kit has been diminished from 12 to 5 packets. This year, however, the program can again accept new participants, and increase the number of varieties in each kit to 10, thanks to an increased allocation in the FY 1984 budget. The program is currently funded at $10,000. and the value of food which will be produced from this investment is estimated to be well over $1,000,000.

THE MASSACHUSETTS FRUITION PROGRAM

The Fruition Program, which was created in 1980 to promote the growing of public-access fruit and nut plants in Massachusetts, has been growing steadily. The program provides information and educational workshops for the public, as well as plants for community groups to plant on public-access land. The current tally of groups involved in the program is as follows:

County	No.of Cities and Towns	No. of Community Groups
Berkshire	3	4
Franklin	3	3
Hampshire	3	3
Hampden	3	3
Worcester	10	12
Essex	10	14
Middlesex	8	10
Suffolk	6 (neighborhoods)	24
Norfolk	6	6
Plymouth	3	3
Bristol	3	3
Barnstable	12	15
Dukes	3	5
Nantucket	0	0
TOTAL	72	105

Many of the trees and shrubs which were distributed in the earlier days of the program have begun to bear fruit -- from raspberries, blueberries and sour cherries to pears and Chinese chestnuts. This has been the cause of much excitement in community gardens, public parks and school grounds. Several promising new fruits have been added to the distribution list, including Actinidia arguta, a hardy relative of the kiwi fruit, and Asimina triloba, or the paw-paw.

This year the Fruition Program staff concentrated on fine-tuning the application and application review procedures, identifying more local suppliers of plants, and improving follow-up on participating groups. The Fruition Program received a good deal of publicity, including a television spot on Channel 22 News in Springfield, several radio interviews and announcements, and many newspaper and journal articles.

In the Fruition spirit, the Department participated in this years's Earth Day Celebration, with Governor Michael S. Dukakis, Secretary of Environmental Affairs James S. Hoyte, and Commissioner Frederic Winthrop, Jr. planting two butternut trees on the MDC Esplanade in Boston.

DIVISION OF ANIMAL HEALTH
Mabel A. Owen, Director

The eradication of serious disease in our domestic food and fiber animals is of incalculable importance to the consumer, especially in the area of diseases having a direct human health impact. It is of no less importance to the farmer/producer, who is as always caught on the horns of the twin dilemmas of increasing feed costs and escalating transportation charges. The maintenance of good animal health and production is often his only profit margin. With an administrative staff of seven and a field and professional staff of fourteen, the Division of Animal Health seeks to achieve and maintain the highest possible level of animal disease prevention, control and eradication.

BRUCELLOSIS

Since this bovine/porcine disease appears in man as Undulant Fever, its eradication from our herds has always carried a top priority. We are pleased to be able to say that Massachusetts has joined a select group of fifteen states as "Free" of brucellosis. Under federal rules, this status is granted after a state has been totally free of any known cases of brucellosis for a period of not less than twelve months. Massachusetts was declared a "Free" state on June 1st, 1983.

Maintenance of this status will be equally important as gaining it. To this end, we mandate the vaccination of all female calves (between the ages of four and eight months, as of October 1, 1983) and we retest all imported cattle between forty-five and sixty days post entry. The Brucellosis Ring Test (BRT) is performed for every dairy herd six times per year, with a full-herd blood test for other than negative results. We monitor all slaughter cattle through the MCI program with a similar serology follow-up. "Free" status in brucellosis has been long sought in Massachusetts and represents tremendous effort and cooperation from owners, producers and dealers alike. We have given the maintenance of this rating the highest possible priority.

TUBERCULOSIS

With sporadic outbreaks of human tuberculosis in cities the world over, we cannot afford to relax our fight against this disease in cattle. All cattle and dairy goats in Massachusetts are tuberculin-tested on a three-year rotation. No reactors have been discovered within the state for almost five years and we expect therefore to achieve Accredited-Free Status in tuberculosis early in fy 1984. Meanwhile we continue to test regularly and expect to have this program firmly placed on an October-through-April testing season within the year. We also plan to test regularly by town rather than by herd, for a considerable saving in time and mileage.

HOG CHOLERA AND OTHER SWINE DISEASES

The entire country has remained hog cholera free during fy 1983. There has been increased vigilance against African Swine Fever (ASF) and considerable federal interest in the eradication of Swine Pseudorabies Virus (PRV). With two area herds showing positive to tests for PRV, legislation was sought, and obtained, to curb any additional importation of this costly disease. The imposition of the new federal swine-feed cooking law (Swine Health Protection Act) and attendant licensing went into effect in fy 1983 and resulted in an increased number of federal swine inspections. To the end of fy 1983, no federal cooking licenses had been issued, largely because of ambiguities in the regulations. Originally requiring additional cooking for bakery products, fish meal, meats,ice cream and dairy products, these regulations were strongly opposed by the feeders in Masschusetts. The Department of Food and Agriculture and the Division of Animal Health concurred and largely through their efforts, several federal register regulations are currently under change or deletion.

EQUINE PROGRAMS

With the appointment of a Supervisor of Riding Academies, the licensure of Riding Stables/Schools and Riding Instructors is again under a full-time employee with license updating and increased on-site inspection. Licensing of Equine Dealers/Transporters, also under this supervision, is being inaugurated. Both consumer and animal-protective in intent, these programs have long enjoyed considerable industry support. Interest in the light horse, in particular the Sport or Show horse, has always been very great in Massachusetts. The presence here of the United States Olympic (Three Day Event) Team and international-level competitions in Dressage, Combined Driving and Polo have contributed greatly to this interest.

As in past years, Massachusetts requires a negative Coggins Test (EIA) of all equines within six months prior to entry and within twenty-four months prior to showing for all Massachusetts-owned and shown animals. Although there have been small sporadic outbreaks of Equine Infectious Anemia (EIA) in surrounding states, there have been no positive tests in animals native to Massachusetts for more than four years.

For the second year, a comprehensive program to drug-test pulling horses, ponies and oxen at fairs has been conducted. Well-received by both spectators and exhibitors, this program has, for the second year, revealed no transgressors. Testing itself is done at the Massachusetts Racing Commission Laboratory by its fully-accredited technicians.

As in past years, a concerted effort by the Division of Animal Health and the Department of Public Health was made to alert horse owners and the general public to the threat of Eastern Encephalitis. Carried by mosquitoes, this disease caused the death of at least six Massachusetts equines late last summer and is expected to surface again in the late summer of calendar 1983. Once again, this division emphasized that people cannot contract the disease from horses but should take proper precautions against exposure to infected mosquitoes during the late summer danger period. Almost invariably fatal to the non-vaccinated horse, prevention for the equine is by vaccination, conducted annually each spring.

PET SHOP LICENSING

Pet shop licensing, with attendant mandatory record keeping, is conducted both for animal protective reasons and to provide a particular "trace-back" procedure. During fy 1983, as in prior years, several "exposed" parrots were quarantined and tested for the presence of Exotic Newcastle Disease. Endemic in South America, this disease appears in the United States with increasing regularity via sick or smuggled psittacine birds. Pet Shop records allow a trace-back capability for a disease which, should it escape into poultry flocks, would cause untold losses.

POULTRY PROGRAM

Routine inspections for egg quality are carried out in retail stores, hospitals and schools by a field staff of six Poultry Products Inspectors. These men also monitor the use of the logo "Massachusetts Grown and Fresher" which assures that extra-special characteristic of the locally-produced egg. The blood-testing program for all poultry in the Commonwealth also assures the world that hatching eggs from here are free from many genetically carried diseases. Our export market for hatching eggs is worldwide.

RABIES AND OTHER DOMESTIC ANIMAL PROGRAMS

We initiate, through Town Animal Inspectors and/or Dog Officers, the quarantine of any animal which has bitten a person. With rabies on the alarming increase in wild animals (i.e. raccoons) in the mid-Atlantic states, we have tightened this program materially; although, since all dogs must be vaccinated and most towns enforce this and attendant leash laws, and since most bites are canine, we do not feel the degree of danger of rabies to humans in Massachusetts has increased. A new rabies vaccine for human use has recently become available through the interest in this usually fatal disease by all state Departments of Public Health.

In fy 1983, rules and regulations for the licensing of Guard Dog Businesses were promulgated. Licensing under this program was begun. Inspections prior to licensing are carried out by agents of the Animal Rescue League, the Massachusetts Society for the Prevention of Cruelty to Animals and other designated humane societies.

IN CONCLUSION

The goal of the Division of Animal Health is good domestic animal health, as mirrored by the eradication of certain important animal diseases, the prevention of others and the effective control of any which remain. To this end, both office and field personnel are totally dedicated. We are indebted to others: the farming community, the Massachusetts Farm Bureau Federation, agents of the MSPCA and other humane societies, our counterparts in the APHIS branch of USDA, those in Veterinary Services at the University of Massachusetts and those at the Surburban Experiment Station in Waltham. We have also had the help and support of the entire Department of Food and Agriculture, The Secretary of Environmental Affairs' and both the Legislature and the Executive Office of the Commonwealth. We feel that Massachusetts present excellent status in major areas of animal health truly reflects this joint effort.

Counsel was successful this year in obtaining a landmark Superior Court decision sustaining the rights of all Massachusetts farmers where they are unreasonably regulated by a municipality.

Judge Elbert Tuttle, Esq., Justice of the Superior Court of the Commonwealth, wrote the Decision after recognizing the status of this Department as an Intervenor on behalf of the Spence Family Farm of the Town of Reading.

The case will probably be the leading precedent in this jurisdiction from now on and springs forth from a fascinating statement of facts and law - all contained in the Decision of this leading jurist. The Defendant Town of Reading did not appeal and therefore the case stands as the last word of adjudication on the issues raised. Following is the exact judicial quotation:

STATEMENT OF THE CASE,
FINDINGS OF FACT, RULINGS OF LAW AND DECISION

These two cases involve the sale of agricultural products by William Spence & Sons, Inc., d/b/a Spence Brothers (Spence) from a seven-acre parcel of land owned by Spence in the Town of Reading, which parcel is currently being utilized by Spence to grow agricultural products. The parcel involved lies within a residential district as defined by the Reading Zoning Bylaws and contains approximately seven acres. Spence, during each Christmas season, sells Christmas trees from said property which are grown by Spence on land owned by Spence in Canada. The issue in this case is whether a farmer owning land within a residential district can sell farm-type products on that land not grown on the land involved but grown on land owned by the farmer in another location under the provisions of Section 3 of Chapter 40A of the General Laws. Because this matter has serious impact on farming interests within the Commonwealth of Massachusetts, the Court allowed a motion to intervene made by the Massachusetts State Department of Food and Agriculture.

The case was presented to the Court on a Stipulation of Facts.

Section 3 of Chapter 40A provides in part as follows:

"No zoning ordinance or bylaw shall...or shall any ordinance or bylaw prohibit, unreasonably regulate or require a special permit for the use of land for the primary purpose of agriculture, horticulture, floriculture, or viticulture; nor prohibit or unreasonably regulate the expansion or reconstruction of existing structures thereon for the primary purpose of agriculture, floriculture, or viticulture, including those facilities for the sale of produce, and wine and dairy products, insofar as a majority of such products for sale have been produced by the owner of the land on which the facility is located, except that all such activities may not be limited to produced by the owner of the land on which the facility is located, except that all such activities may be limited to parcels of more than five acres in areas not zoned for agriculture, horticulture, floriculture, or viticulture..."

The Court can find no case interpreting Section 3 of Chapter 40A of the General Laws.

The legislature most recently amended the provisions of Section 3 of Chapter 40A in Chapter 40 of the Acts of 1982. That amendment specifically added a clause allowing farmers to sell products from their land provided such products were produced by the farmer himself. It seems clear to the Court that the legislature intended in the adoption of Section 3 of Chapter 40A to permit farmers to sell products produced on land owned by them although the location of that land might not be contiguous to the place where the sale actualy occurred.

Based on the Stipulations of Fact and Rulings of Law, it is ORDERED AND ADJUDGED that Christmas trees grown by William Spence & Sons, Inc., d/b/a Sepnce Brothers, on any land owned by them can be sold by said William Spence & Sons, Inc., d/b/a Spence Brothers, from the property owned by them at 40-42 West Street, Reading, Massachusetts, under the provisions of Section 3 of Chapter 40A of the Massachusetts General Laws.

State Food and Agriculture Commissioner Frederic Winthrop, Jr., (right) presents "Massachusetts Grown and Fresher" flag to Michael V. Fair (left), Commissioner of the State Department of Correction. The ceremonies at the Northeastern Correctional Center in Concord honored the Center's farm program and its dairy herd, which has been named by the Massachusetts Dairy Herd Improvement Association three consecutive years as the most improved dairy herd in Massachusetts.

BUREAU OF DAIRYING
David L. Sheldon, Chief

The goal of our programs is to provide consumers of the state with a safe and adequate supply of fluid milk. Currently we employ a staff of thirteen, including the Chief of the Bureau, one Supervisor, two Senior and nine other Dairy Inspectors, and an office staff of two.

Our primary responsibility as authorized by Chapter 94 of the General Laws is to properly inspect and register all dairy farms in Massachusetts and all dairy farms in the surrounding states who ship, or wish to ship, their milk into our state. We inspect and issue permits for milk pasteurization plants and milk receiving or transfer stations shipping into the state and milk receiving or transfer stations within the state.

Water samples are also taken on dairy farms for laboratory analysis to determine the quality of the water supply.

Whenever problems are encountered which cannot be resolved by a reinspection, a hearing is held if requested. Depending on the outcome of the hearing, the operation in question will be reinspected and approved or suspended.

In addition, we assist dairy farmers in Massachusetts with any mastitis problems by collecting individual quarter samples from each cow in a herd and delivering these samples to the Diagnostic Laboratory at the University of Massachusetts in Amherst.

Dairy farmers in this voluntary program find it of great assistance in controlling mastitis infections in their herds which ultimately increases the quantity and quality of their milk production.

We work in conjuction with the U.S. Department of Agriculture by acting as its agent when sampling milk powder at the West Springfield Agri-Mark, Inc. plant and inspecting this plant for U.S. Department of Agriculture standards as a powder plant.

We are reimbursed for all inspections made and dry milk powder samples taken for USDA.

The United States Public Health - Interstate Milk Shippers Program was conducted effectively and efficiently throughout the year with our three certified rating officers. All requested ratings were made and the reports submitted to the United States Public Health Service, Food and Drug Administration office at 585 Commercial Street, Boston, Mass.

BUREAU OF DAIRYING STATISTICS

Fiscal Year 7/1/82 - 6/30/83

Farms

Dairy Farms Inspected	9,332	Approved	7,602	Not Approved	1,730
Dairy Farms Reinspected	1,912	Approved	1,590	Not Approved	322
Hearings Requested	30	Hearings Held	20	Farms Suspended	16
Other Farm Visits	764	Days of Joint Inspections	78	Farms Reinstated	3

Plants

Milk Plants Inspected	78	Approved	66	Not Approved	12	Spot Checked	5
Dealer Visits	363						

Samples

40 Water Samples Collected

Mastitis

736 Herds Sampled 43,137 Cows Sampled 167,011 Samples Collected

U.S.D.A.

64 Days Sampling Milk Powder
4 Days U.S.D.A. plant inspections

Income for the fiscal year from U.S.D.A. for sampling and inspection work was $7,324.97. Bureau of Dairying personnel traveled 339,407 miles during the fiscal year to complete their work.

The total number of dairy farms holding certificates of registration in Massachusetts on June 30, 1983 was 772. This is a decline from 812 holding certificates a year ago.

The total number of dairy farms holding certificates of registration in the surrounding New England states and New York state on January 1, 1983 was 7,504; a year earlier 7,527 dairy farms held certificates, a minimal change in our out-of-state supplies.

A total of 65 plants have applied for pasteurization plant permits and/or a milk plant permit. Twenty-seven of these plants were out-of-state pasteurization plants.

In 1977, adjustments to our Chapter 94 law were passed which would allow us to work with our neighbor states to accept their inspection for the renewal of our certificate of registration. We have discussed this with these states and we have formulated an agreement to implement these adjustments.

Our plans are to continue inspecting all new producers to our markets and to make a random selection of the producers holding current certificates of registration to determine the overall compliance level of that supply.

For the producers whom we did not inspect, we will go to the state where the farm is located to review the records for determining and recording the inspection date and status.

It is our hope in the Bureau of Dairying that this adjustment will ease the pressure on our available work force and enable us to carry on an even more effective inspection program for the dairy farms, receiving plants and haulers in Massachusetts.

BUREAU OF FARM PRODUCTS
James M. Cassidy

A diversified farm product quality control program including the Federal-State Fruit & Vegetable Shipping Point Inspection Service Program enforces the "truth in labeling" laws for feed, seed, fertilizer and limestone programs, regulates certain produce branding labeling and storage laws, and collects approximately $1000,000 per year in registrations and inspection fees which are turned into the Commonwealth's Treasury.

The Shipping Point Inspection Program is regulated by a memorandum of understanding contract with the U.S. Department of Agriculture. All other regulating functions are under the provisions of Chapter 128, General Laws of Massachusetts as amended.

Federal-State Shipping Point Inspection Program:

For seventy continuous years all State Departments of Agriculture in the nation have cooperated with the U.S. Department of Agriculture in providing this service for each state's fruit and vegetable products. This program allows the fully trained and licensed Massachusetts inspector to issue U.S.D.A. certificates on shipments of fruit and vegetables, attesting to the grade, quality and pack which are needed by buyers and receivers at terminal markets.

For many years the Inspection Service in Massachusetts, through strict adherence to grades and other essential data, has done much to upgrade the quality, condition and grade of the final product. Massachusetts leads the world in the production of cranberries and many shipments of this product carry a Federal-State certificate.

By law, all apples must be inspected for export and our inspection service has been instrumental in helping Bay State farmers maintain this lucrative market. The inspection service has aided in developing new methods of transportation, especially in the export field.

In 1982, demand for our inspection service again has been on the shipment of export apples, mainly to the United Kingdom. Apples are also inspected for shipment to California where the demand has been increasing each year, and for military purchases.

The export apple inspection is of major importance, due primarily to the demand and acceptance of "controlled atmosphere" stored apples, our valuable McIntosh variety and our quality packs. McIntosh apples cannot be grown successfully in European countries. The controlled atmosphere method of storing apples greatly lengthens the marketing season and allows shipment of apples in good condition well into June, thus providing a more orderly marketing season for the entire apple industry.

Inspection certificates are also issued for potatoes and onions in the Connecticut Valley area and cranberries on Cape Cod.

Feed Program:

1,939 labels of animal feed, ingredients, pet foods and medicated feed ingredients were reviewed and registered on an annual basis. Samples of products offered for sale were drawn and tested at the West Experiment Station, University of Massachusetts for conformance with label.

Fertilizer Program:

700 labels of fertilizer and limestone were reviewed and registered. Tonnage taxes were assesesed and collected semi-annually. Assessment penalties in shortage of guarentee level were levied and $3,800 in appropriate fines collected and either turned back to the farmer or submitted to the Commonwealsth's Treasury.

Seed Program:

637 brands of seed, including agricultural lawn mixtures, vegetables, flower tree and shrub seeds were collected and tested for truth in labeling. 40 stop sale orders were issued on violations, covering 738 packages. Seed was removed on account of poor germination, noxious weeds, or because it was unfit for seeding.

A major change in the state's lawn seed labeling regulation was heard and approved during May. This is seen as one of the first states in the country to move for a uniform seed label that will be accepted in all shipping areas.

Lime Program:

30 Limestone brands and grades were registered and checked for conformance to label during the year.

Branding Law:

Inspections are made at wholesale, retail, roadside, and farm level to enforce the apple, potato and native laws. Misbranded products are relabeled or removed from sale.

Storage Laws:

Records are kept in cold storage and controlled atmosphere apple rooms in order to attest to their compliance with such laws and so to allow such stored products to move into certain prohibited market areas of the country.

The Bureau, through strict adherence to laws, grades, label reviews and other essential data, has done much to upgrade the quality, condition and grade of the final farm product being offered for sale in Massachusetts.

The programş are continuos and reflect the general agriculture crop conditions and the current market situations. The uniform laws and grades allow for the free movement of theses products in interstate and export commerce with a minimum of difficulty. The honest label approach insures the consumer of an accurate farm product of good quality.

Programs are becoming more accurate and more smoothly administered due to better informed and trained personnel. The use of a word processor for the registration of feed and fertilizer brands and the recording of the collection of fees and tonnages has improved the programs in general.

Working with other states, USDA, FDA and the various regulated industries has insured a quality farm product that is more easily marketed by the producer and the shipper.

SEED INSPECTION PROGRAM/OFFICIAL TESTED

	1979	1980	1981	1982
Agriculture	37	54	61	48
Mixtures (lawn)	103	100	57	47
Vegetables	528	445	507	409
Flowers	132	173	215	125
Sprouts	-	-	-	8
	800	772	840	637

40 stop sales orders covering 82 lots on 738 packages of seed removed from sale-poor germination, noxious weeds, unfit for seeding, out of date test. 3 cases turned over to the Federal Seed Act for USDA action.

FRUIT & VEGETABLE INSPECTION REVENUE

	1979	1980	1981	1982
Apples	$16,090.07	$11,084.50	$6,012.06	$8,822.93
Cranberries	577.00	----	220.00	360.00
Onions	1,741.96	219.10	32.00	700.70
Potatoes	4,411.57	826.68	157.50	613.81
	$22,820.60	$12,130.28	$6,421.56	$10,497.44

FEED FERTILIZER AND LIME REGISTRATION

	1979	1980	1981	1982
Feed/a	2,014	1,922	1,857	1,939
Fertilizer/b	799	732	729	691
Fertilizer/c	14	12	12	13
Lime	24	31	31	30

FEED, FERTILIZER AND LIME REVENUE

	1979	1980	1981	1982
Feed/a	$50,350.00	$48,050.00	$46,425.00	$48,475.00
Fertilizer/b	20,125.00	18,300.00	18,225.00	18,525.00
Fertilizer/c	1,175.00	1,500.00	1,500.00	1,625.00
Lime/d	600.00	775.00	775.00	750.00
Fertilizer/e	10,826.73	15,722.29	12,952.31	10,571.53
Fertilizer/f	1,348.81	3,929.57	2,760.54	3,858.78

/a Brands
/b Specialty brands
/c Commercial plants
/d Brands
/e Tonnage
/f Penalties

Registrations and revenue are collected on a calendar year.

Revenue generated by inspection and registration fees totaled $94,303.75.

BUREAU OF MARKETS
Guy L. Paris, Chief

The major function of the Bureau is to develop marketing outlets for Massachusetts agricultural products.

Each week over 1000 truckloads of fresh meat, vegetables and fruits are imported into Massachusetts from other states and countries. In total, all "imported foods" result in $3.4 billion leaving the state each year. Many more of these dollars could be circulated to the local economy, and our objective is to increase cash receipts of Massachusetts agricultural products.

The various activities of the Bureau are all related to the overall goal of increasing farm production and sales in the state and a summary for Fiscal Year 1983 follows.

PROMOTIONAL PROGRAM

Many of the promotional events and activities are tied in with use of the "Massachusetts Grown and Fresher" slogan. A logo with this tagline has helped increase consumer awareness of our local farm products, and it is our intent to make this label synonymous with quality.

Governor Edward J. King proclaimed the month of August 1982, as "Massachusetts Grown and Fresher Month." The unveiling of the promotional program took place at a barbecue and lamb roast which followed the Produce Buyers Tour, sponsored by the New England Vegetable Growers Association and the Bureau of Markets. The tour gave produce buyers an opportunity to view on the ground level how the Massachusetts Vegetable Growers are producing a wide variety of excellent commercial crops.

Some 4000 "August is Vegetable Month" pins were distributed to produce departments of large and small retail food markets; 800 23" x 30" posters were also distributed in the same manner. The Bureau assisted the Massachusetts Flower Growers with their Buyers Conference and Seminar and their Thanksgiving and Christmas radio commercials. The Massachusetts Flower Growers tagged over a half million potted plants with the "Massachusetts Grown and Fresher" logo tags.

The apple growers of the state spent $14,573 in newspaper advertising promoting Massachusetts apples and cider. The Bureau assisted the apple growers with their promotional programs.

The Massachusetts Poultry Association received from the Bureau of Markets the sum of $2,740 for the promotion of Massachusetts brown eggs and fresh turkeys; the total cost of their promotional programs amounted to $10,800 which was shared by the producers.

Appropriation for fiscal 1983 was $50,000 for the promotion of Massachusetts agriculture; $30,000 was allotted to commodity groups on a cost sharing program, each commodity promoting and advertising their product.

Commodity groups receiving promotional funds are bound by signed agreement that they will:

1. Provide at least an equal amount of funds for their programs.

2. Use and promote the Massachusetts Grown and Fresher logo on displays, consumer packages, and advertising when and where appropriate.

3. Submit affadavits of expenditures at the completion of programs. Allotments are based on a formula developed by the marketing plan committee. For image building programs 70%, industry equity balance 25%, new and small industries 5%.

A "Massachusetts Grown and Fresher-Means Business" conference and trade show was held at the State House March 8, 1983. Some six hundred growers, buyers, supermarket and government officials in attendance heard Governor Michael S. Dukakis lend his support to the growth of Massachusetts agriculture.

ROADSIDE MARKETING SPECIALIST
Craig M. Richov

Massachusetts ranks sixth nationally in gross farm sales and can boast of a $30 million plus roadside marketing industry. Helping Massachusetts to remain one of the most progressive states in this field is the Department's Roadside Marketing Specialist, who visited close to 200 farms this year. His in-store evaluations and recommendations to grower-retailers are intended to further upgrade the appearance, image and success of the more than 700 farm markets throughout the Commonwealth.

A Roadside Marketing Newsletter is published monthly to inform growers of current marketing trends, merchandising ideas and techniques. Plans for new roadside markets were provided in Easthampton, Framingham, Hudson, Leominster, Scituate, Westminster and Auburn, and improved market layouts were recommended for twenty-five stands across the state. This years speaking engagements included the Central Massachusetts Small Farm Management Program, South Boston Career Day, and Westfield State College Wine and Grape Symposium.

Many hours of pre-season information gathering and plans culminated in the release of the Department's first "Roadside Marketing Directory " which lists many of the state's roadside stands with information on location, season and crops sold. Other promotional activities of the marketing specialist include the distribution of "Massachusetts Grown...and Fresher" promotional materials and participation on the Marketing and Promotion Committee of the New England Vegetable Growers Association. One of the highlights of the work accomplished with this Committee was the 1982 Produce Buyers' Tour.

The Marketing Specialist was also the Trade Show Manager of the 1983 "Mass Grown and Fresher...Means Business" Agricultural Seminar and Trade Show at the State House in March. He also organized a live farmers market in the Massachusetts Building at the Eastern States Exposition in West Springfield to promote Massachusetts products and offer information on Massachusetts farmers markets, roadside stands and pick-your-own operations. Similar exhibits were also set up at the Brockton Fair and other functions and fairs throughout the year.

FOREIGN TRADE SPECIALIST
Dr. Schiva Gandhi

Due to the economic trends of the day, there has been a marked increase in enquiries on agricultural statistics, latest developments in foreign markets and other information relating to foreign trade. The hundred or so Massachusetts agribusiness firms, some new and others experienced exporters, participating in our export programs are faced with many harsh realities. Reduced U.S. exports to the European community due to a strong U.S. dollar, worldwide economic recession and the European economic community subsidies and also the fact that lesser developed countries strapped for foreign exchange have been concentrating on importing only "essential and necessary commodities", have made these firms eager to tap all potential world markets. The representatives of food and beverage manufacturing companies as well as exporters are becoming increasingly interested in the upcoming food expositions, for these provide them with an ideal opportunity to introduce new products, identify new markets and new trends in food processing, as well as boost sales in national and international markets.

This year the National Association of State Departments of Agriculture (NASDA) and the Foreign Agricultural Service of the USDA sponsored the NASDA National Food and Agricultural Exposition, which took place at the World Congress Center, Atlanta, Georgia, on May 17-19, 1983. This was the first national export food show ever held in the U.S. Several Massachusetts firms participated in this exposition. The general consensus is that the show was an outstanding success, and the vast majority of exhibitors are looking forward to the next show.

EUSAFEC (Eastern U.S. Agricultural & Food Export Council, Inc.) program committee meetings are regularly attended throughout the year. At these meetings, the members formulate policies to be adopted and initiatives to be taken to increase the exports of food and other agricultural products. Cabled sales leads for various food products received from buyers throughout the world are frequently channeled via EUSAFEC to this office, from whence they are disseminated to various producers of agricultural food products in the State, for further action.

The Foreign Trade Section is currently concentrating on disseminating information on the second U.S. International Food Show, which is sponsored by EUSAFEC. The event is to take place in the New York Coliseum (N.Y.C.) April 15-18, 1984. The Coliseum will be an international marketplace, where several thousand domestic and foreign buyers will examine, taste, discuss and buy the products the exhibitors have to offer.

Foreign buyers visiting Massachusetts are apprised of the products available from the State of Massachusetts. This section, in conjunction with other agencies, informs producers and exporters of such visits, and provides liaisons between buyers and sellers.

Many Massachusetts firms have increased their agricultural exports this year through the use of TORS (Trade Opportunity Referral Service) provided by the Foreign Agricultural Service (FAS). This service gives timely market information via Export Briefs, a weekly publication containing all trade enquiries received during the week, and via computerized trade leads, which are mailed daily. An interested producer who has a quality product that is selling well in the domestic market, and has a definite interest in market expansion, has been encouraged to introduce the product to the foreign markets, through the FAS publication contacts, which is translated into various languages and distributed worldwide. Buyers of foreign countries are in turn contacting Massachusetts exporters, listed in each publication, for possible purchases.

PUBLIC INFORMATION
Janet Christensen

In the Bureau of Markets, many of the public information projects relate to the current promotional program.

For the State House conference March 8, a 20 minute slide presentation was produced entitled "Massachusetts Grown and Fresher!" Copies are now available for use by schools and various groups in both 1/2-inch and 3/4-inch videotape as well as the original slide-tape format.

The Bureau also produced a 30-second public service announcement for television, promoting fresh fruits and vegetables during their peak season.

During the summer months, the public information officer prepared weekly news releases on the various crops coming into season.

Throughout the year, she works with the various bureaus of the Department, editing news releases on current topics of concern and interest and assisting on any other brochures and/or informational pieces as requested.

The public information officer has assisted in the development and work of a statewide committee for "Agriculture in the Classroom." The major goal of this program is to inform young people about the problems and accomplishments of agriculture in their state and nation. At present a curriculum for grades 4 through 6 is in progress, and it is hoped that eventually educational materials will be available for classes at all grade levels.

Another long range project is a proposed regional farm TV series in collaboration with the small scale agricultural committee sponsored by the Conference of New England Governors and Eastern Canadian Provinces. Our Department has participated in the early planning for this proposed series which would be of benefit and interest to a wide range of growers.

The Public Information Officer serves on the Board of The Boston Food Bank and The Federation of Farmers Markets. This year there were some 45 markets across the state, and the interest and support for this popular form of direct marketing continues to grow.

The Bureau of Markets also employs two Market Investigators who collect current price, market and crop news and other statistics. This information is in turn reported to producers, dealers, consumers and other interested parties.

A narrative report is prepared for press and radio and statistical reports for newspapers and other publications and office files. Inquiries for information on marketing of food and agricultural products are also answered.

A milk flavoring Program of the Bureau provides an organoleptic evaluation service for the milk industry with objectives of preventing consumer dissatisfaction with flavor quality of milk and milk products.

BUREAU OF MILK MARKETING
John B. Kelley, Director

The Division continued to fulfill its assigned functions in requiring compliance with state laws aimed at preventing disruptions in milk markets. The year saw the finalization and distribution of an expert study compiled by Case & Co. setting forth wholesale price and cost standards essential to prohibiting the sale of milk below cost and other predatory practices. A significant number of milk producers have petitioned the Department for a hearing pursuant to Section 12 of General Law Chapter 94A. This matter remains under consideration.

The Bureau of Milk Marketing continues to assume the bonding and security responsibilities of the Department of Food and Agriculture under 94 Section 94A. Using several monitoring procedures, security requirements of proprietory handlers buying milk from independent producers are received on a monthly basis. Individual handler audits are conducted when necessary with security now held by the Department in excess of one million dollars.

This year saw the closing of the centralized electronic testing facility in White River Junction, Vermont. Testing of milk for payment purposes is now being conducted in-state at the different handling plants and receiving stations, adding to the monitoring responsibilities of the Bureau.

Licensing of (4100) milk dealers at wholesale and retail was expedited by new data processing techniques. Legislation has been filed by interested parties to change the licensing requirements for bulk tank drivers to allow for a more efficient and comprenhensive monitoring of that sector of the industry.

The year witnessed a continuation of heavy capital investment by the fluid handling industry in Massachusetts. This investment in new and renovated facilities has increased efficiencies but most importantly will improve the quality and life of product offered to the public.

Milk production in Massachusetts aided by favorable conditions in relation to other states and regions continues strong, increasing by two percent during the year. A unit grain train and milling facility will begin operation during the upcoming year in Ayer, Massachusetts. The existence of this facility along with the deregulation of freight rates under the Stagger's Act has negated the historical disadvantage of high freight rates born by the industry.

DIVISION OF FAIRS
Stephen F. Quinn, Director

The Massachusetts Agricultural fairs enjoyed an all time high in attendance and attractions in the past fair season.

The total attendance reported by the 129 agricultural fairs and shows was a record 4,166,847.

Agricultural exhibits totalled 87,987. Of this number, 36,574 were prepared by individual young people or youth groups. An all time high of 26,229 other exhibits were recorded which help immensely in attracting large crowds.

Several good changes were noticed this year which should help in the continued growth of our fairs.

The closing of the Commonwealth Pier caused a void in the availability of an area to be used for shows and expositions near Boston. The opening of the Bayside Exposition Center will fill this void. The New England Flower Show was one of the first attractions held at the center and the facility certainly proved to be everything desired in an exhibition hall. Other agricultural groups have met with the new management and are considering holding other events there.

Another big change noticed was the leasing of the Brockton State Building to the Brockton Agricultural Society for exhibition purposes. For the past fifteen years the building was leased to the Brockton School Department and then to the CETA program. The Society spent a great deal of time, energy and money getting the building cleaned up and suitable for exhibits once again. This year's fair was a great start and hopefully, as it gets more publicity, it will assist in helping to draw larger crowds.

The Massachusetts Building at the Eastern States Exposition in West Springfield which is still operated by the Division enjoyed a tremendous reception from the 990,000 patrons who visited the Big E. New attractions which brought considerable delight to the fair goers who visited the Massachusetts Building were the cheese making demonstrations and the Agricultural Stabilization and Conservation Services exhibit which displayed an old fashioned grocery store.

Ten part-time fair inspectors were employed again this year to help aid the Division in its monitoring of the agricultural prizes and the use of rehabilitation monies. This year $320,000 dollars were spent for prizes by the Division , and another $140,000 were added by the various agricultural societies.

The Rehabilitation Committee met in West Springfield in December and approved $88,000 dollars from requests of over $400,000 dollars from 47 fairs.

The Fairs Division worked with the Massachusetts Wool Board, Inc., in promting the use of local wool and lamb products, and assisted them in gathering, processing and marketing their wool. Last year, members received $1.25 per lb. for their clip as apposed to thirty eight cents per pound for wool on the commercial market.

The total appropriated budget for the fiscal year was $658,283.59 of this total $570,783.59 were appropriated for the fair prize awards, fair inspections, promotional programs, and administration costs; $87,500 were appropriated for the rehabilitation program to help assist with the upkeep at fair grounds.

STANDARDBRED PROGRAM
Barbara E. Dolloff, Supervisor

The Standardbred Horse Breeding program encourages and promotes the breeding, propagation, ownership, raising, racing and marketing of Standardbred horses bred in the Commonwealth of Massachusetts. Thus it encourages the keeping of open lands to promote agriculture and agricultural related industries within the Commonwealth.

1983 brought many changes to the breeding program. It was the first full year under the legislation Chapter 558 of the Acts of 1981, which enlarged the cash prize awards. This program expansion created rapid growth in the industry.

In the past two years we have seen the number of stallions standing in the State rise from 45 to 84. The mares bred have risen from 125 to 399. We have seen many new farms being developed and many acres of land being implemented into the program.

Sire Stakes Racing was held at seven different fair tracks across the State, providing great entertainmenmt for fair goers, and presenting to a wide spectrum of the state's population the advantages of a Sire Stakes Program.

This year has seen the addition of a spring racing series at Foxboro Raceway for three year old trotters and pacers. The final purses for these events were $15,000 for the trotters and $40,000 for the pacers . A total of $400,000 was expended by the program this year and an additional $49,000 was added towards purses by the horsemen, via sustaining payments and entry fees.

The Standardbred Agricultural Fair and Breeding Fund Committee assist the Commissioner in the administration of the program. This committee consists of five members, one from the Massachusetts Fairs Association, one from Massachusetts Farm Bureau, two from the breeding industry and one member at large. These members are appointed for a five-year term with the Governor's approval.

THOROUGHBRED BREEDING PROGRAM
Peter Bundy, Supervisor

The Massachusetts Thoroughbred Breeding program, of the Acts of 1981, continued to expand in the past year.

The breeder, stallion and owner awards of twenty five percent, fifteen percent, and five percent of purses won by eligible Massachusetts bred Thoroughbred horses amounted to $235,930.24. These incentive awards were garnered by Massachusetts breds racing at Suffolk Downs and four agricultural fairs. At these race tracks, Massachusetts breds went postward 1,162 times, accounting for 113 wins, 101 2nds and 143 3rds.

In the fall of 1982, stakes races restricted to Massachusetts breds were offered at Suffolk Downs for the first time. These races were written for differing age groups and sexes over a varying set of conditions and distances. Each race was run for a gross purse of $22,500. The Breeding Fund contributed $15,000.00 to each purse and Ogden Suffolk Downs Racing Association contributed $7,500.00 for each purse.

During the past fiscal year, nine stake races for Massachusetts breds were run at Suffolk. Only two of these were non-betting races. The other races were pari-mutuel events, and a total $716,000 was wagered on these races.

The stakes racing part of the program has been very effective, because horse owners are anxious to purchase young horses that will be eligible for these restricted state bred races. A ready market for good, young horses has been created.

Thoroughbred mares bred to Massachusetts stallions numbered 226 for the 1982 fiscal year, and in 1983, the number reached an all time high of 380. This is an increase of 59 percent over the previous year. The number of Thoroughbred stallions standing in the state, and registered with the Department of Food and Agriculture went from 42 in 1982 to 65 in 1983. This represents an increase of 64 percent, another healthy growth sign in the horse "farming" business. It is anticipated that this rapid rate growth will continue.

While the federal EPA was embroiled in controversy, finally resulting in the resignation of several top policy makers including Administrator Ann Burford, the Pesticide Bureau continued to take the initiative addressing several important and controversial issues here in Massachusetts.

MASSACHUSETTS DEVELOPS REGULATIONS ON TERMITICIDES

Following several months of evaluation culminating with formal hearings, the Bureau passed its recommendation on to the Pesticide Board relative to the promulgation of regulations further restricting the use of termiticides in Massachusetts, thus becoming the first state in the country to develop comprehensive regulations addressing this problem. The regulations which became law shortly thereafter are intended to reduce public exposure to all pesticide products used as termiticides. In related action and on recommendations of the Bureau, the Pesticide Board Subcommittee classified all products, containing chlordane, aldrin and heptachlor as restricted use products ensuring that only appropriately certified applicators will have access to these materials.

MONITORING PROGRAM DEVELOPED FOR TEMIK

The problem of groundwater contamination came close to home in Fiscal 1983 as the Bureau detected significant amounts of the insecticide aldicarb (Temik) in two private wells in western Massachusetts. The compound which is used to control the Colorado Potato Beetle, was found in well water samples in Maine, Wisconsin and Long Island, N.Y., prompting the Pesticide Bureau to initiate a preliminary survey here in Massachusetts. As a result of the preliminary data, we have been able to develop a comprehensive monitoring program which will enable us to determine the extent of the problem and the steps necessary to address it.

PROGRAMS TO PROTECT HONEYBEES SUCCESSFUL

Considerable progress was seen in the area of protecting honey bees from pesticides. With only one significant honeybee kill reported to the Bureau in FY 1983, it is apparent that the regulations promulgated to control the use of microencapsulated methyl parathion, coupled with educational work carried out by the Cooperative Extension Service and the Bureau, resulted in a significant reduction in all pesticide related bee kills.

POLICY ON THE USE OF HERBICIDES ON RAILROAD LAYOUTS AND UTILITY RIGHTS OF WAY

After more than a year following our initial request for funding, the Bureau was able to secure $60 thousand dollars in appropriations earmarked for the development of a generic environmental impact report (GEIR) on the use of herbicides on railroad layouts and utility rights-of-ways. The GEIR is intended to answer many qustions concerning the compounds now in use which have resulted in significant controversy in Massachusetts as well as in many other states across the country and finally to provide us with information needed to develop a comprehensive statewide policy in this area.

PROPERTY EXCLUSION REGULATION PROMULGATED

Regulations were also promulgated providing for a mechanism allowing properties to be excluded from certain pesticide applications. The regulations were initiated by the submittal of a petition from the South Shore Environmental Association and resulted in several months of discussion before final regulations were presented to the Pesticide Board for approval.

REGISTRATION, CERTIFICATION AND ENFORCEMENT PROGRAMS ON THE INCREASE

In addition to the several issues discussed above, the Bureau assumed full administrative responsibility for reviewing and processing pesticide product registrations (totalling more than 5,500) and initiated steps to join the National Pesticides Information Retrieval System which will allow access to valuable data relative to pesticide products on a national level as well as provide us with a modern and efficient data processing system to handle our own registration program needs.

The Certification and Enforcement Programs both continued to increase in activity despite an actual loss of one position in the Enforcement Program.

The Bureau certified or licensed nearly 6,000 individuals in FY 1983 while its enforcement activities resulted in the issuance of 87 administrative orders and referral of five cases to the Office of the Attorney General. Enforcement continues to be a high priority with the Bureau.

The Pesticide Bureau budget in fiscal year 1983 totalled $285,000 with $140,000 from federal grant funds which included $75,000 in funds awarded to the University of Massachusetts Medical School to support our pesticide analytical laboratory.

BUREAU OF PLANT PEST CONTROL
P.C. Kuzmiski, Chief

Massachusetts nurseries experienced strong sales of nursery stock during 1982 even though we had a crippling snowstorm with temperatures in the low teens in early April. In essence, the nursery season began in late April rather than in the usual early April part of the year. However, as the season progressed the sales gathered momentum and resulted in another satisafactory business year.

The key to sales is having material ready to go, and many of our nurseries are now growing containerized stock and utilizing irrigation to help meet this demand. Modern techniques such as plant tissue culture propgation, and plant indexing for virus disease control are now being practiced by some of our nuseries.

This year the Gypsy Moth seemed to be a minor problem in the nurseries. This pest is still on the decline from the record year of 1981.

Our nurseries ranked 17th among the states for their production and sale of nursery stock. The total value of the production is about 40 million dollars a year. There are about 345 nurseries inspected and certified, comprising 2700 acres of land. Two of our nurseries were ranked in the top 100 nationally this year.

The activities of the Bureau are as follows:

NURSERY AND GREENHOUSE INSPECTION:

Nuseries had few major pest problems this year. The majority of insect infestations were scattered throughout the state with no one area having a particular serious infestation.

Gypsy Moth, Japanese Beetle, scales and aphids were light, while Spruce Gall and White Pine Weevil were somewhat heavier in a few nurseries.

The cool, wet spring was responsible for an increase in some of the fungus diseases. Leaf spots on rose and dogwood were common as was the Phytopthera Canker disease on Spruce.

Whitefly, leaf miners, and leaf rollers on Chrysanthemum and slugs were common pests in greenhouses.

Control measures applied in nurseries kept the Gypsy Moth at a low level this year.

Number of Nurseries inspected	-	345
Number of Greenhouses inspected	-	57
Number of Agents licensed	-	315

PHYTOSANITARY EXPORT CERTIFICATION:

Federal phytos for plant export	- 94	
Federal phytos for apple export	- 170	(150,000 bushels)
State phytos for plant export	- 277	
State phytos for tree & shrub seed	- 461	

POSTENTRY QUARENTINE:

Postentry stock was growing in 29 different sites this year. The sites included nurseries and private properties.

Activities in this program include site pre-screening, inspection of stock, and final inspection of stock for release from detention.

RIBES CONTROL-AREA PERMITS:

73 control-area permits issued this year to allow planting of Ribes in non-prohibited planting sites.

There are 144 towns and cities out of the 351 in this state where the planting of ribes is prohibited.

GYPSY MOTH:

Acres defoliated - 1981 - 2,826,095
Acres defoliated - 1982 - 1,383,265

This pest was not a serious problem in the nurseries due to the controls applied by the nurserymen. It also was apparent that the moth population had diminished about 50 per cent from the previous year. Hopefully, the moth population will again decrease during 1983.

BROWN-TAIL MOTH:

This pest still exists in small numbers in some areas of Cape Cod. The infestation is considered to be insignificant, and seashore plants such as wild Beach Plums seem to be the predominant host.

STATE PLANT PEST SURVEYS:

Surveys for presence of the Gypsy Moth in lands abutting nurseries were made this year. Visual survey and trapping for European Chafer were continued with no new finds of this insect. A survey of strawberry nurseries was completed for presence of Red Stele disease with no positive finds. Results of a soil survey for Golden Nematode found a Heterodera sp. cyst of very poor quality to make a definite determination. A followup survey is planned for the 1983 season. Also, surveys were made to determine the incidence of the European Corn Borer in specified locations.

COLLABORATION WITH U.S.D.A - APHIS:

Programs this year included Gypsy Moth, Japanese Beetle, Black Stem Rust, and Pest Detection.

Massachusetts is now actively involved in the Cooperative National Plant Pest Survey and Detection Program. The pests now primarily being evaluated are arthropods of apples, corn, and alfalfa.

BUREAU PERSONNEL, REVENUE, AND APPROPRIATIONS:

Personnel this year included 5 permanent and 13 temporary employees. Revenue from Nursery certification, and Agent registration fees amounted to $35,910. Budget appropriations for the Bureau were $105,000.

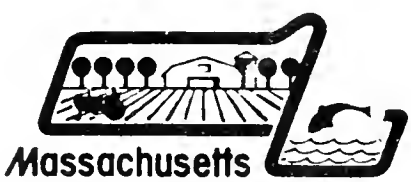
APIARY INSPECTION

Over 800 hives in eight countries were inspected. Previously uninspected counties typically had a high rate of disease while counties that have received regular annual inspection have shown a substantial decrease in contagious brood diseases. The rehiring of former area inspectors enhances rapport with the beekeepers and increases the quality and quantity of hive inspection.

This year the bees produced an excellent honey crop with hobbyists averaging over 100 pounds of surplus per hive. Honey prices are fairly stable at around 50¢ per lb. wholesale and $1.60 per lb. retail; however, these prices are not keeping up with the escalating costs of bees and equipment.

A Bee Task Force comprised of fruit growers, pesticide applicators, and beekeepers met through the winter to establish a plan to reduce pesticide related bee kills. The primary recommendation of the Task Force was the registration of beekeepers which is now a bill pending before the Legislature. The use of microencapsulated Methyl-parathion (Penncap-M) was strongly regulated and subsequently there have been no reported beekills due to this pesticide. Probably the most important outcome of the meeting was the awareness focused on the habits of the honeybee and the farmers' use of pesticides. The Task Force identified the problem, found solutions, and communicated these to the beekeeping and farming communities.

Legislative bills were submitted this year to update the apiary inspection laws.



ANNUAL STATISTICAL REPORT

Massachusetts Department of
Food & Agriculture
P.C. Kuzmiski, Chief
Bureau of Plant Pest Control

APIARY INSPECTION

Season 1983

COUNTY	No. of Beekeepers	No. of Colonies Examined	No. of Colonies Owned	No. of Colonies w/AFB	No. of Colonies w/EFB	No. of Colonies Ordered Treated	No. of Colonies Ordered Destroyed
BARNSTABLE							
BERKSHIRE	139	436	457	14	0	4	8
BRISTOL	285	1719	3042	37	50	37	13
ESSEX	298	1634	1953	61	45	65	42
FRANKLIN	196	545	936	17	3	15	5
HAMPDEN	210	785	1089	22	0	2	10
HAMPSHIRE	178	421	567	10	1	1	8
MIDDELSEX	624	2060	3130	83	104	134	92
NORFOLK	337	138	1081	0	1	1	0
PLYMOUTH	377	2151	2133	149	99	153	95
SUFFOLK	36	0	104	0	0	0	0
WORCESTER	692	2057	2102	49	16	39	26
TOTALS	2995	11,946	16,594	442	319	451	299

Estimated No. Colonies
in Massachusetts
20,000

% A.F.B. 1982 2.7 E.F.B. 3.4 1982
% A.F.B. 1983 3.7 E.F.B. 2.7 1983

STATE RECLAMATION AND MOSQUITO CONTROL BOARD

Lewis F. Wells, Jr., Chairman
James L. Dallas, Member
Gilbert A. Bliss, Member
Elizabeth M. Costello, Secretary
Mark S. Buffone, Entomologist

DUTIES AND NAMES CHANGE WITH THE TIMES

Historically, the State Reclamation Board supplanted the State Drainage Board. The general aim during the years of early reclamation was to utilize the numerous and extensive tracts of swampland scattered throughout the Commonwealth. The tracts of land were considered worthless at that time to land owners and communities.

This bug ridden land was a deteriment to local development and a constant danger to the health of citizens. The wetland areas were converted to be utilized for crop production, hay production, pasturage for stock, cranberry production, and excavating valuable deposits such as iron ore, peat,and clay.

During this same period, the Board was charged with an additional responsibility-mosquito control!

Until this year, our name has been the State Reclamation Board. Legislation was filed to further define the current day statutory mission of the Board. Consequently, Chapter 214 of the Acts and Resolves of 1983 was approved. Today, the Board is called the State Reclamation and Mosquito Control Board.

THE THREAT OF EASTERN EQUINE ENCEPHALITIS

Due to a mild winter and some heavy spring flooding, the 1983 mosquito season was characterized by large populations of mosquitoes in many areas of the Commonwealth. The annoyance and discomfort caused by these bloodsucking pests were not the only concern this year as regards horses and humans. Two confirmed human cases of a rare but serious disease carried by mosquitoes turned the State Reclamation and Mosquito Control Board's attention towards the disease called Eastern Encephalitis (EE) in late summer of 1982.

Sometimes the bite of a mosquito can be more than just a nuisance, it can be a prologue to EE, a rare control disease in humans that affects the central nervous system. A person with this disease can become ill with headache, high fever, and drowsiness which can progress to stupor, coma, and death. Also, the disease affects horse (equine) populations.

The infectious agent responsible for causing the illness is a virus. Since humans and horses do not further transmit the disease, they are referred to as dead-end hosts. Simply, this means that the concentration of virus in the blood of horses or humans is not adequate to allow a non-infected mosquito to transfer the disease to another host.

Eastern Encephalitis occurs principally along the Atlantic and Gulf coasts, as well as inland near certain types of fresh-water swamps. Historically, Massachusetts has recognized outbreaks with human and horse involvement during the late '30's, the mid '50's, the early '70's and recently in 1982 and 1983.

The virus is maintained in a cycle in nature which involves mosquitoes and wild birds. One mosquito species typically feeds on birds and is important in the amplification of the virus among wild bird populations. In order to bring about an episode of transmission of the disease to people and/or horses, a "bridge mosquito" is needed to bridge the virus from birds to humans and horses. This different type of mosquito feeds on a variety of hosts and several species and are thought to be able to spread the disease to humans and horses.

GROUND SPRAYING AUTHORIZED TO PROTECT PUBLIC HEALTH

This year the regional mosquito control projects were alerted and authorized to intensify ground spraying in high risk areas to protect the public health. Mosquito control activities were concentrated in areas where virus isolations or human and horse cases were documented, as well as in high risk areas delineated by the Department of Public Health. All available equipment was mobilized to focus immediate attention on the EE risk areas.

The pace of the mosquito control efforts began to outstrip local resources and consequently, Governor Dukakis made available emergency monies in the sum of $150,000 dollars to the State Reclamation and Mosquito Control Board. These funds addressed the threat of EE to the public health in specific areas. The EE threat caused a strain on the budgets of organized mosqutio control projects and on budgets of individual municipalities not in organized mosquito control projects and located in the areas of risk. These funds enabled organized mosquito control projects and local municipalities in the high risk areas to continue the intensified ground spraying to reduce the likelihood of EE transmission to the public. Operations continued until weather conditions greatly reduced the contact between mosquitoes and humans.

Massachusetts statistics relative to the 1983 season are as follows: six (6) confirmed human cases with one death; and five (5) horse cases, all fatal. Since 1938, there have been sixty-five (65) human cases with thirty-six (36) deaths as the result of the sporadic appearance of Eastern Encephalitis in Massachusetts.

Looking ahead to 1984, it appears likely that 1984 will also be a year of higher than average risk from EE. This event will depend on environmental conditions (such as a relatively warm winter and wet spring) which would be favorable to the maintenance of virus in the environment and also would influence the survival and flourishing of mosquitoes.

MOSQUTIO CONTROL PROGRAMS APPROVED

This year the State Reclamation and Mosquito Control Board forwarded mosquito control information cards to those municipalities not currently members of a regional mosquito control project. The Board received one hundred (100) responses from various municipalities. Seventy-three (73) municipalities reported that no mosqutio control program would be implimented in 1983. Twenty-seven (27) municipalities reported that a local mosquito control program would be carried out in 1983. All mosquito control programs received by the State Reclamation and Mosquito Control Board were reviewed and approved, some as modified to meet Board requirements.

BOARD CHAIRMAN RETIRES

A long time friend of mosquito control and employee of the Department of Food and Agriculture, John J. McColgan retired this year after many excellent years of service to the Commonwealth. Mr. McColgan was the former chairman of the State Reclamation and Mosquito Control Board and General Counsel for the Department of Food and Agriculture. The Department and all his friends in mosquito control wish him well and extend their gratitude for a job well done!

We welcome Lewis F. Wells, Jr. to the State Reclamation and Mosquito Control Board as designee of Commissioner Winthrop. On August 17, 1983, Mr. Wells was elected Chairman of the Board.

PLEA TO A MOSQUITO

Pray transfer your air attack
To my husband's slothful back.
Puncture him with malice keen
Then perhaps he'll fix that screen!

-Helen Gorn Smith

1982 CENSUS OF AGRICULTURE

PRELIMINARY REPORT

MASSACHUSETTS

AC82-A-25-000(P)
Issued December 1983

The preliminary reports are being published on a flow basis for all counties in the United States with 10 farms or more, and for each State and the United States. The preliminary information on major data items presented is standard for each State and county, except in Table 4, Crops Harvested, and the crop portion of table 5 where the items shown vary by State according to their relative importance. Data for 1982 are subject to revision. Final results will be published in Volume 1, Geographic Area Series, and will be available as a printed report and on microfiche. In addition to volume 1, individual final county results for each State will be available on microfiche.

Inventories of livestock, poultry, and other specified items are as of December 31 of the census year. Production and sales data for crops and livestock are for the calendar year, except for a few items (such as citrus) for which the production year overlaps the calendar year.

Data for farms reporting acreages and inventories for 1982 and 1978 are directly comparable. Dollar values have not been adjusted for changes in price levels between census years.

State totals shown in this report for 1978 have been adjusted to be comparable with 1982 data. The 1978 data for the State, as published in the 1978 Census of Agriculture, were a combination of a mail list enumeration and a personal canvass of a sample of area segments, which provided estimates for farms not on the mail list. For 1982, the area sample survey was not conducted; thus, the data represent only farms on the mail list. The adjustment to the 1978 data was made by subtracting the area sample results from the 1978 totals. County data for 1978 shown in the 1982 reports did not require adjustment as they were collected from the mail list, comparable to 1982.

The appendix in this report shows the effect of the area sample on selected 1978 data. The volume 1 appendix will provide a more detailed description of how the census was taken, along with pertinent definitions and explanations of the effects of eliminating the area sample in 1982.

Definition of farm—The data shown represent totals for places or establishments which qualify as farms for census purposes. A farm, as defined for the 1982 and 1978 censuses, is any place from which $1,000 or more of agricultural products were sold, or normally would have been sold, during the census year.

Reliability—Data in this report are based on a census of all identified farm and ranch operators. Because data for selected items are collected from a sample of operators, the results are subject to sampling and nonsampling errors. The volume 1 appendix will contain a detailed discussion and measures of the reliability of the data.

Acknowledgments—Special tribute is paid to the millions of farm and ranch operators and other agriculture-associated people who furnished the individual reports from which these statistical summaries were compiled. Also acknowledged with gratitude are the contributions of the U.S. Department of Agriculture and other public and private agencies who gave their support and willingly assisted individuals requesting help in completing their census reports.

Symbols—The following symbols are used throughout the tables: - Represents zero. (D) Withheld to avoid disclosing data for individual farms. (X) Not applicable. (Z) Less than half the unit shown. (NA) Not available.

Table 1. Farms, Land in Farms, and Land Use: 1982 and 1978

All farms	1982	1978
Farms—number	5 403	4 946
Land in farms—acres	621 902	817 359
Average size of farm—acres	115	125
Value of land and buildings[1]:		
Average per farm—dollars	208 828	183 339
Average per acre—dollars	1 961	1 443
Farms by size:		
1 to 9 acres	921	798
10 to 49 acres	1 652	1 399
50 to 179 acres	1 813	1 698
180 to 499 acres	654	883
500 to 999 acres	130	137
1,000 to 1,999 acres	24	25
2,000 acres or more	9	8

All farms		1982	1978
Land in farms according to use:			
Total cropland	farms	4 941	4 645
	acres	266 065	276 686
Harvested cropland	farms	4 608	4 397
	acres	197 768	197 405
Cropland used only for pasture or grazing	farms	1 853	1 845
	acres	51 683	62 358
Other cropland	farms	904	1 021
	acres	16 814	16 923
Woodland, including woodland pastured	farms	3 274	2 982
	acres	253 550	252 134
Pastureland and rangeland other than cropland and woodland pastured	farms	670	661
	acres	31 977	28 882
Land in house lots, ponds, roads, wasteland, etc.	farms	3 735	3 261
	acres	70 310	59 657
Irrigated land	farms	1 000	966
	acres	17 636	16 753

[1]Data are based on a sample of farms.

U.S. Department of Commerce
BUREAU OF THE CENSUS

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Table 2. Selected Summary Items: 1982 and 1978

All farms		1982	1978
Market value of agricultural products sold	$1,000	281 768	211 994
Average per farm	dollars	52 150	42 862
Crops, including nursery and greenhouse products	$1,000	139 475	100 079
Grains	$1,000	836	321
Cotton and cottonseed	$1,000	-	-
Tobacco	$1,000	2 494	6 985
Hay, silage, and field seeds	$1,000	5 824	4 469
Vegetables, sweet corn, and melons	$1,000	19 221	13 450
Fruits, nuts, and berries	$1,000	60 950	30 426
Nursery and greenhouse products	$1,000	46 465	41 032
Other crops	$1,000	3 884	3 395
Livestock, poultry, and their products	$1,000	142 293	111 915
Poultry and poultry products	$1,000	25 526	18 504
Dairy products	$1,000	80 840	81 549
Cattle and calves	$1,000	12 212	12 191
Sheep, lambs, and wool	$1,000	445	230
Hogs and pigs	$1,000	4 497	5 255
Other livestock and livestock products	$1,000	18 774	14 195
Farms by value of sales:			
$250,000 or more[1]		210	136
$100,000 to $249,999[1]		438	353
$40,000 to $99,999		711	698
$20,000 to $39,999		532	545
$10,000 to $19,999		530	507
$5,000 to $9,999		655	637
Less than $5,000		2 327	2 070
Value of agricultural products sold directly to individuals for human consumption	farms	1 397	1 057
	$1,000	15 291	9 564
Farm-related income:			
Income from machine work, customwork, and other agricultural services	farms	353	397
	$1,000	965	831
Farms by type of organization:			
Individual or family	number	4 541	4 067
	acres	431 878	429 461
Partnership	number	377	439
	acres	63 463	72 643
Corporation:			
Family held	number	366	318
	acres	88 325	65 448
Other than family held	number	49	40
	acres	8 780	20 949
Other—cooperative, estate or trust, institutional, etc.	number	70	62
	acres	29 456	28 858
Tenure of operator:			
Full owners	farms	3 523	3 160
	acres	306 288	294 981
Part owners	farms	1 461	1 465
	acres	283 833	297 490
Owned land in farms	acres	185 055	190 671
Rented land in farms	acres	98 778	106 819
Tenants	farms	399	321
	acres	31 781	24 888

All farms		1982	1978
Operators by principal occupation and residence:			
Farming		2 942	2 852
Residence on farm operated		2 315	2 264
Residence not on farm operated		400	382
Other than farming		2 461	2 094
Residence on farm operated		1 913	1 596
Residence not on farm operated		385	336
Operators by age group:			
Under 25 years		64	69
25 to 34 years		881	518
35 to 44 years		1 183	853
45 to 54 years		1 119	1 137
55 to 64 years		1 281	1 386
65 years and over		1 115	983
Average age		51.5	52.5
Female operators:			
Farms	number	571	383
Land in farms	acres	42 373	32 754
Operators by race:			
White		5 378	4 919
Black and other races		27	27
Operators reporting days of work off farm:			
Any		2 898	2 520
100 days or more		2 425	2 111
Selected farm production expenses[2]:			
Livestock and poultry purchased	$1,000	11 530	10 950
Feed for livestock and poultry	$1,000	47 302	39 491
Commercially mixed formula feeds	$1,000	36 896	33 062
Seeds, bulbs, plants, and trees	$1,000	5 996	7 737
Commercial fertilizer	$1,000	7 158	7 148
Other agricultural chemicals[3]	$1,000	4 865	3 862
Hired farm labor	$1,000	43 147	40 380
Workers working 150 days or more	farms	1 322	1 359
	number	5 159	5 801
Contract labor	$1,000	3 129	1 652
Customwork, machine hire, and rental of machinery and equipment	$1,000	3 555	1 691
Energy and petroleum products	$1,000	23 002	15 685
Gasoline and gasohol	$1,000	6 757	4 641
Diesel fuel	$1,000	2 465	1 072
Electricity	$1,000	5 875	3 832
Interest expense	$1,000	10 141	(NA)
Machinery and equipment[2]:			
Estimated market value of all machinery and equipment	$1,000	153 401	121 137
Average per farm	dollars	28 429	24 507
Motortrucks, including pickups	farms	4 505	4 183
	number	9 381	9 018
Wheel tractors	farms	4 250	4 031
	number	9 959	9 840
Grain and bean combines, self-propelled only	farms	22	26
	number	24	26

[1]Retabulated 1978 data for 1982 comparability.
[2]Data are based on a sample of farms.
[3]Data for 1978 include the cost of time which was not collected in 1982.

Table 3. Livestock and Poultry: 1982 and 1978

All farms		1982	1978
Cattle and calves inventory	farms	2 311	2 073
	number	102 366	96 951
Farms by inventory:			
1 to 19	farms	1 243	962
	number	8 998	7 459
20 to 49	farms	412	467
	number	12 951	14 829
50 to 99	farms	357	356
	number	24 746	24 349
100 to 499	farms	294	283
	number	50 886	47 059
500 or more	farms	5	5
	number	4 785	3 255
Cows and heifers that had calved	farms	1 922	1 790
	number	58 067	57 136
Beef cows	farms	1 071	904
	number	8 176	7 408
Farms by inventory:			
1 to 19	farms	993	821
	number	4 830	4 226
20 to 99	farms	72	79
	number	2 421	2 557
100 to 199	farms	4	3
	number	(D)	(D)
200 or more	farms	2	1
	number	(D)	(D)

All farms		1982	1978
Cattle and calves inventory—Con.			
Cows and heifers that had calved—Con.			
Milk cows	farms	1 111	1 156
	number	49 881	49 728
Farms by inventory:			
1 to 9	farms	320	330
	number	783	804
10 to 29	farms	185	200
	number	3 210	4 049
30 to 49	farms	264	248
	number	10 133	9 462
50 to 99	farms	247	267
	number	18 320	17 778
100 or more	farms	115	111
	number	19 445	17 635
Heifers and heifer calves	farms	1 707	1 579
	number	35 859	32 043
Steers, steer calves, bulls, and bull calves	farms	1 473	1 332
	number	8 440	7 772

Table 3. Livestock and Poultry: 1982 and 1978—Con.

All farms		1982	1978
Cattle and calves sold	farms	1 908	1 803
	number	47 034	51 782
Farms by number sold:			
1 to 19	farms	1 238	1 084
	number	7 858	7 820
20 to 49	farms	426	443
	number	13 415	13 713
50 to 99	farms	171	195
	number	11 685	13 116
100 to 499	farms	71	78
	number	(D)	12 702
500 or more	farms	2	5
	number	(D)	4 431
Cattle fattened on grain and concentrates sold	farms	343	292
	number	2 778	2 629
Dairy products sold	farms	679	902
	$1,000	80 840	61 549
Hogs and pigs inventory	farms	619	628
	number	39 570	54 588
Farms by inventory:			
1 to 99	farms	540	527
	number	6 126	6 288
100 to 499	farms	64	72
	number	12 572	16 185
500 to 999	farms	9	20
	number	(D)	(D)
1,000 or more	farms	6	6
	number	(D)	(D)
Hogs and pigs used or to be used for breeding	farms	261	261
	number	4 639	6 751
Farms by inventory:			
1 to 9	farms	180	151
	number	588	494
10 to 24	farms	50	58
	number	679	774
25 to 49	farms	32	40
	number	1 047	1 391
50 or more	farms	19	34
	number	2 325	4 092

All farms		1982	1978
Hogs and pigs sold	farms	451	435
	number	44 391	61 181
Farms by number sold:			
1 to 99	farms	371	316
	number	6 717	6 025
100 to 499	farms	64	67
	number	(D)	19 581
500 to 999	farms	6	22
	number	5 213	14 045
1,000 or more	farms	9	10
	number	(D)	21 530
Feeder pigs sold	farms	127	145
	number	7 363	12 010
Litters of pigs farrowed between—			
Dec. 1 of preceding year and Nov. 30	farms	293	299
	number	8 009	8 252
Dec. 1 of preceding year and May 31	farms	242	258
	number	3 061	4 019
June 1 and Nov. 30	farms	227	227
	number	2 948	4 233
Sheep and lambs inventory	farms	452	327
	number	9 846	6 515
Ewes 1 year old or older	farms	391	269
	number	6 260	4 340
Sheep and lambs sold	farms	338	239
	number	5 705	3 908
Sheep and lambs shorn	farms	381	254
	number	7 984	5 525
	Wool, pounds	52 440	37 444
Horses and ponies inventory	farms	1 181	906
	number	8 765	5 658
Chickens 3 months old or older inventory	farms	727	685
	number	1 276 405	1 465 853
Hens and pullets of laying age inventory	farms	721	671
	number	1 183 226	1 282 043
Farms by inventory:			
1 to 3,199	farms	686	618
	number	84 086	109 715
3,200 to 9,999	farms	10	22
	number	58 859	132 326
10,000 to 19,999	farms	10	18
	number	129 000	209 180
20,000 or more	farms	15	15
	number	913 261	830 822
Broilers and other meat-type chickens sold	farms	47	41
	number	162 903	163 219
Turkeys sold	farms	81	62
	number	156 434	137 562

Table 4. Crops Harvested: 1982 and 1978

All farms		1982	1978
Corn for grain or seed	farms	165	182
	acres	6 077	4 634
	bushels	591 680	401 871
Corn for silage or green chop	farms	885	912
	acres	37 543	38 462
	Green weight, tons	628 742	632 528
Farms by acres harvested:			
1 to 24 acres		445	449
25 to 99 acres		355	371
100 to 249 acres		74	81
250 acres or more		11	11
Tobacco	farms	46	44
	acres	352	1 078
	pounds	574 990	1 536 802
Irish potatoes	farms	136	151
	acres	3 759	3 479
	cwt	732 949	746 479
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc.	farms	2 663	2 520
	acres	116 729	118 929
Farms by acres harvested:			
1 to 24 acres		1 301	1 043
25 to 99 acres		1 076	1 158
100 to 249 acres		239	277
250 acres or more		47	42
Alfalfa hay	farms	980	1 005
	acres	26 893	26 750
	Dry weight, tons	74 412	67 517

All farms		1982	1978
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc.—Con.			
Tame hay other than alfalfa, small grain, and wild hay	farms	1 948	1 772
	acres	87 441	68 191
	Dry weight, tons	130 038	135 985
Vegetables harvested for sale	farms	1 011	968
	acres	15 307	14 812
Farms by acres harvested:			
0.1 to 4.9 acres		456	397
5.0 to 24.9 acres		378	405
25.0 to 99.9 acres		152	145
100.0 acres or more		25	21
Sweet corn	farms	628	581
	acres	7 289	7 041
Land in orchards	farms	469	426
	acres	9 332	8 111
Apples	farms	452	394
	Bearing and nonbearing, acres	8 457	7 334
	pounds	92 049 245	91 275 846
Cranberries harvested for sale	farms	394	382
	acres	10 222	10 063
	cwt	1 194 692	1 072 246
Nursery and greenhouse products, mushrooms, and sod grown for sale	farms	718	749
	sq. ft	8 261 749	9 149 944
	acres	2 605	3 042
	$1,000	46 465	41 032
Nursery products	farms	173	184
	sq. ft	160 366	298 207
	acres	2 180	(D)
	$1,000	(D)	8 296

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Table 5. Farms With Sales of $10,000 or More: 1982 and 1978

[Excludes abnormal farms]

Item		1982	1978
Farms	number	2 404	2 222
Land in farms	acres	401 419	401 577
Average size of farm	acres	167	181
Value of land and buildings[1]:			
Average per farm	dollars	304 572	259 290
Average per acre	dollars	1 962	1 382
Farms by size:			
1 to 9 acres		281	251
10 to 49 acres		575	429
50 to 179 acres		835	798
180 to 499 acres		571	607
500 to 999 acres		117	115
1,000 to 1,999 acres		19	20
2,000 acres or more		8	4
Land in farms according to use:			
Total cropland	farms	2 281	2 108
	acres	198 000	200 533
Harvested cropland	farms	2 218	2 046
	acres	156 812	150 761
Irrigated land	farms	704	803
	acres	18 717	15 306
Tenure of operator:			
Full owners		1 234	1 103
Part owners		953	942
Tenants		217	177
Operators by principal occupation:			
Farming		1 871	1 887
Other than farming		433	335
Estimated market value of all machinery and equipment[1]	$1,000	111 814	88 187
Average per farm	dollars	46 823	39 572
Market value of agricultural products sold	$1,000	271 666	202 133
Average per farm	dollars	113 006	90 969
Crops, including nursery and greenhouse products	$1,000	133 925	94 119
Livestock, poultry, and their products	$1,000	137 740	108 014
Poultry and poultry products	$1,000	25 236	18 156
Dairy products	$1,000	78 834	60 821
Selected farm production expenses[1]:			
Livestock and poultry purchased	$1,000	10 425	10 277
Feed for livestock and poultry	$1,000	43 984	37 580
Seeds, bulbs, plants, and trees	$1,000	5 770	7 299
Commercial fertilizer	$1,000	8 488	6 363
Other agricultural chemicals[2]	$1,000	4 590	3 462
Hired farm labor	$1,000	41 478	38 942
Energy and petroleum products	$1,000	21 009	14 200
Interest expense	$1,000	9 011	(NA)
Cattle and calves inventory	farms	1 078	1 027
	number	88 225	82 692
Beef cows	farms	261	234
	number	3 528	2 786
Milk cows	farms	830	845
	number	48 471	48 103
Hogs and pigs inventory	farms	218	227
	number	33 627	47 217
Chickens 3 months old or older inventory	farms	197	238
	number	1 241 102	1 422 557
Corn for grain or seed	farms	94	93
	acres	5 601	4 063
	bushels	550 464	366 169
Corn for silage or green chop	farms	674	703
	acres	35 299	35 852
	Green weight...tons	599 006	594 387
Irish potatoes	farms	81	85
	acres	3 691	3 357
	cwt	723 891	731 555
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc.	farms	1 108	1 081
	acres	81 992	80 664
Vegetables harvested for sale	farms	566	479
	acres	13 717	12 448
Land in orchards	farms	206	189
	acres	7 978	8 745

[1]Data are based on a sample of farms.
[2]Data for 1978 include the cost of lime which was not collected in 1982.

Appendix. Effect of the Area Sample on Census Comparability

The 1982 and 1978 Censuses were conducted primarily by mail. Despite every effort to assemble a complete list, a small portion of the Nation's farms were not included on the census mail list. To improve the coverage of the 1978 Census, especially in counting the number of small farms, the mail-out/mail-back enumeration was supplemented by the direct enumeration of all households in a sample of areas in all States, except Alaska and Hawaii. Due to budget reductions, the direct enumeration sample was eliminated in the 1982 Census.

In late 1978, enumerators visited all households in approximately 6,400 segments in rural areas (areas with less than 2,500 population) and completed a census form for each agricultural operation. These forms were then matched to the census mail list. Data from those cases which were not matched to the mail list were used to estimate the number and characteristics of farms not on the mail list at the State, regional, and national levels. No county-level estimates were developed because the area sample size was insufficient for reliable estimates at that level.

The U.S., region, and State data for 1978 shown in the 1978 Census of Agriculture publications included data for farms represented on the mail list plus estimates from the area sample for farms not on the mail list. To provide comparable data for 1982 and 1978, estimates from the area sample have been subtracted from the 1978 data. Thus, all 1978 data presented in the 1982 Census of Agriculture publications include data only for farms on the 1978 mail list.

In 1978, the area sample farms accounted for 9 percent of all farms in the United States, but only 1 percent of the total value of agricultural products sold and 1 percent of the land in farms. The area sample farms represented 25 percent of all farms with sales of less than $2,500. The contribution of the area sample farms to the total farm count varied widely by State, from a low of 2.0 percent in North Dakota to a high of 23.8 percent in New Hampshire.

The following table shows the 1982 results and adjusted 1978 data for farms on the mail list, as well as 1978 data which include estimates for farms not on the mail list.

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Appendix. Effect of 1978 Area Sample on Census Comparability: 1982 and 1978

Item	Data published in 1982 Census of Agriculture		Data published in 1978 Census of Agriculture		Percent of 1978 total represented by area sample portion
	1982	1978 adjusted[1]	1978 total[2]	Portion of total from 1978 area sample[3]	
Farms ..... number	5 403	4 946	5 891	945	16.0
Land in farms ..... acres	621 902	617 359	678 714	61 355	9.0
Value of land and buildings[4], average per farm ..... dollars	208 628	183 339	168 952	93 851	(X)
Total cropland ..... farms	4 941	4 645	5 526	881	15.9
acres	266 065	278 686	311 030	34 344	11.0
Harvested cropland ..... farms	4 608	4 397	5 107	710	13.9
acres	197 768	197 405	213 669	16 264	7.8
Irrigated land ..... farms	1 000	966	1 027	81	5.9
acres	17 636	16 753	16 941	188	1.1
Farms by size:					
1 to 9 acres	921	798	987	189	19.1
10 to 49 acres	1 652	1 399	1 798	399	22.2
50 to 179 acres	1 813	1 698	2 010	312	15.5
180 to 499 acres	854	883	928	45	4.8
500 to 999 acres	130	137	137	-	-
1,000 to 1,999 acres	24	25	25	-	-
2,000 acres or more	9	6	6	-	-
Market value of agricultural products sold $1,000	281 768	211 994	214 675	2 681	1.2
Crops, including nursery and greenhouse products $1,000	139 475	100 079	100 829	750	.7
Livestock, poultry, and their products $1,000	142 293	111 915	113 846	1 931	1.7
Farms by value of sales:					
$250,000 or more[5]	210	136	136	-	-
$100,000 to $249,999[5]	438	353	353	-	-
$40,000 to $99,999	711	698	698	-	-
$20,000 to $39,999	532	545	567	22	3.9
$10,000 to $19,999	530	507	559	52	9.3
$5,000 to $9,999	655	637	715	78	10.9
Less than $5,000	2 327	2 070	2 863	793	27.7
Farms by type of organization:					
Individual or family	4 541	4 087	5 017	930	18.5
Partnership	377	439	447	8	1.8
Corporation	415	358	365	7	1.9
Other—cooperative, estate or trust, institutional, etc.	70	62	62	-	-
Tenure of operator:					
Full owners	3 523	3 160	3 846	686	17.8
Part owners	1 481	1 465	1 885	220	13.1
Tenants	399	321	360	39	10.8
Operators by principal occupation:					
Farming	2 842	2 852	3 062	210	8.9
Other than farming	2 461	2 094	2 829	735	26.0
Female operators:					
Farms ..... number	571	383	453	70	15.5
Land in farms ..... acres	42 373	32 754	35 098	2 344	6.7
Operators by race:					
White	5 376	4 919	5 858	939	16.0
Black and other races	27	27	33	6	18.2
Corn for grain or seed ..... farms	165	182	240	58	24.2
acres	6 077	4 634	4 911	277	5.6
Wheat for grain ..... farms	7	2	2	-	-
acres	33	(D)	(D)	-	-
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. ..... farms	2 663	2 520	3 078	558	18.1
acres	116 729	118 929	133 117	14 188	10.7
Vegetables harvested for sale ..... farms	1 011	968	1 092	124	11.4
acres	15 307	14 812	15 214	403	2.6
Land in orchards ..... farms	489	426	512	86	16.8
acres	9 332	8 111	8 556	445	5.2
Cattle and calves inventory ..... farms	2 311	2 073	2 599	526	20.2
number	102 366	96 951	102 226	5 275	5.2
Hogs and pigs inventory ..... farms	619	628	909	281	30.9
number	39 570	54 586	59 626	5 040	8.5
Chickens 3 months old or older inventory ..... farms	727	685	944	259	27.4
number	1 276 405	1 465 853	1 512 683	46 830	3.1
Estimated market value of all machinery and equipment[4] $1,000	153 401	121 137	127 697	6 560	5.1
Energy and petroleum products[4] $1,000	23 002	15 685	16 044	359	2.2
Hired farm labor, workers working 150 days or more[4] ..... farms	1 322	1 359	1 451	92	6.3
number	5 159	5 801	6 076	275	4.5

[1]Includes data only for farms on 1978 mail list—excludes area sample data.
[2]Includes mail list enumeration and area sample data.
[3]Data from farms not on mail list.
[4]Data are based on a sample of farms.
[5]Retabulated 1978 data for 1982 comparability.

A "Massachusetts Grown and Fresher Means Business" conference and trade show were held at the State House in March, 1983. Governor Dukakis cut the ribbon for the show which featured exhibits on all segments of the agricultural industry. (see page 57)

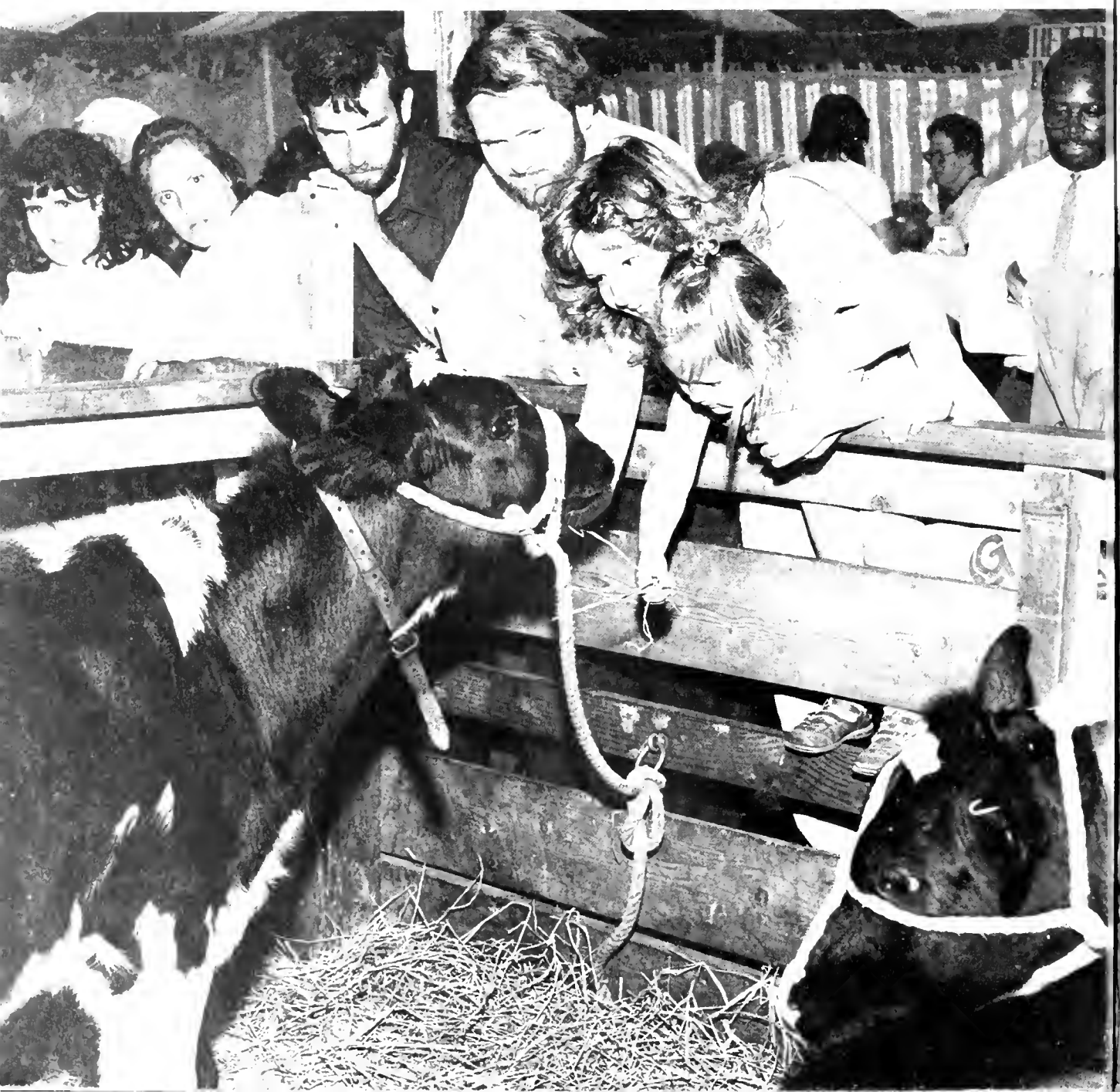
060611-6/7/83-BOSTON:Massachusetts Gov. Michael Dukakis drinks some milk in front a group of unidentified children on Boston Common,6/6. This was all part the June ry Festival on the Boston Common sponsored by Dairy Industry of New England. Gov. akis was on hand to sign a declaration for Massachusetts Agriculture in the Class- m Teaching Project. UPI vc/Steve Hart

Cover photo:

The Boston Common June Dairy Festival is one place to see dairy cows face to face. Various exhibits and fairs across the state help educate the public about agriculture in Massachusetts. (see page 63)

Massachusetts Department of Food and Agriculture
100 Cambridge Street
Boston, MA 02202

Massachusetts
grown...and fresher!



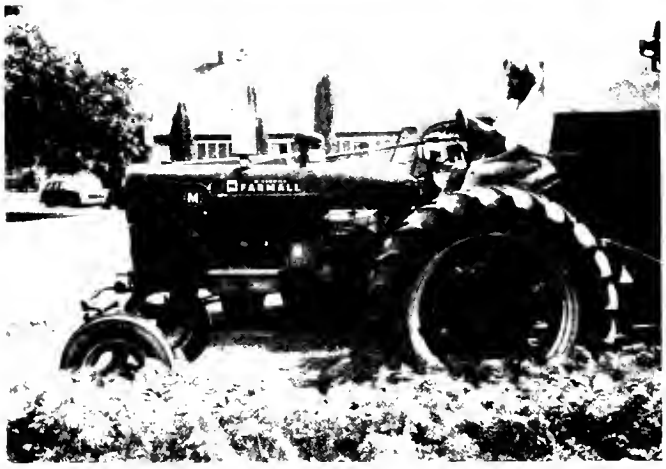
Massachusetts Agriculture 1984

Michael S. Dukakis,
Governor

James S. Hoyte,
Secretary of Environmental Affairs

Frederic Winthrop, Jr.,
Commissioner Food and Agriculture


CONN. RIVER VALLEY AGRICULTURAL
LAND RETENTION PROGRAM


SPARWALL


SAVING
MASSACHUSETTS
FARMLAND

The Commonwealth of Massachusetts
Department of Food and Agriculture
Leverett Saltonstall Building, Government Center
100 Cambridge Street, Boston 02202

Dear friends of Massachusetts agriculture:

The cover of this year's annual report depicts "Massachusetts Agriculture in the Classroom," an exciting new project which was officially launched last Spring with a successful field testing in fifteen schools across the state.

Your Department of Food and Agriculture has called together a statewide committee to help initiate this project and is cooperating with a wide variety of agencies and individuals to extend it to an additional 125 teachers next year.

The innovative curriculum should help inform young people about farm and food production -- the problems, the accomplishments and the outlook. In addition to providing food for a hungry world, American agriculture and related businesses provide one out of every five jobs and substantially reduce our trade deficit. Yet basic as agriculture is to our daily lives, it is a subject whose importance is rarely understood by students or the general public. This is particularly true in states like Massachusetts where the number of farmers relative to the total population is quite low.

The Department continues to promote local agriculture and its products through press releases to newspapers, radio and television stations. We have also used exhibits to tell our story and assisted commodity groups in the promotion of their products.

Promoting profitability in agriculture is of course the best way to assure that land will remain in production and, along with our farmland preservation programs, market promotion remains a priority. In addition, we continue to fulfill the goals of our regulatory programs to protect the farmer, the environment and the consumer. Particular emphasis has been placed on strenuous enforcement of the pesticide laws and on the promotion of alternative production techniques in an effort to reduce the overall pesticide load on the environment as well as to reduce production costs.

Total cash receipts from farm marketings for 1983 are down from the previous year due largely to a dramatic decline in planted acreage of tobacco. A prolonged drought during the summer of 1983 also caused a decrease in production for some of our vegetable crops.

1984 has generally been a good year for agriculture in Massachusetts, though this past Spring's deluge of rains and flooding will undoubtedly show up on next year's statistics. We are grateful to Governor Dukakis and to the Legislature for their speedy response to the call for funding for the Department's emergency flood relief program.

We hope you will take time to study this report which is my tenth and final one as your Commissioner. I trust that you will call us at the Department of Food and Agriculture if you have any comments or suggestions. It has been a pleasure and an honor to work with the many dedicated agricultural groups, state and federal agencies, individuals and organizations across the state during my term of office. I know you will provide my successor with the same tremendous support that you provided me over the last decade. With best wishes for a bright future.

Sincerely,

Frederic Winthrop, Jr.
Commissioner

TABLE OF CONTENTS

MISCELLANEOUS

SECTION II--ANNUAL REPORT, STATE DEPARTMENT OF FOOD AND AGRICULTURE

Cover Photos-- "Massachusetts Agriculture in the Classroom"; on front cover, students in Gerry Rosen's class at Horace Mann Laboratory School at Salem State College learn about crops produced in various counties of the state during the classroom testing of the program.

The back cover depicts projects and students of other teachers involved in classroom testing: Mary Ellen Harper, Ware Elementary School; Suzanne Leary, Osterville Elementary School; Helen Nee, Paul A. Dever School, Dorchester; Lillian Tie, Greenfield Middle School; Janet Woodward, Bernardston Elementary School.

MASSACHUSETTS AGRICULTURAL STATISTICS

MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE

FREDERIC WINTHROP, JR., COMMISSIONER

100 CAMBRIDGE STREET

BOSTON, MASSACHUSETTS 02202

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UNITED STATES DEPARTMENT OF AGRICULTURE

JOHN R. BLOCK, SECRETARY

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NEW ENGLAND CROP AND LIVESTOCK REPORTING SERVICE

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JOAN PARKER

LEAH ROCHA

JOYCE SUPRY

ADRIENNE ZAPPIA

LIVESTOCK HIGHLIGHTS

Massachusetts livestock producers showed variations in inventory numbers and gross income for 1983. Cattle numbers were unchanged, hog numbers decreased while sheep numbers were up by the end of 1983. Gross income was lower during the year for cattle and hogs but higher for sheep.

CATTLE AND CALVES

Cattle and calve inventory for Massachusetts on January 1, 1984 totaled 96,000 head, unchanged from the previous year's record low inventory. This total includes 49,000 milk cows, 8,000 beef cows, 17,000 heifers, 4,000 steers and 18,000 calves. The January 1 inventory value averaged $600 per head giving a total inventory value of $57.6 million, the lowest since 1979. The 1983 calf crop (calves born) was 46,000, 4 percent less than the previous year. Marketings during 1983 totaled 39,000 head of cattle and calves with a total live weight of 16.5 million pounds.

HOGS AND PIGS

Massachusetts hog producers had 42,000 hogs on hand December 1, 1983, 9 percent less than the previous year and the lowest on record. Value per head at $79.00, was $9.50 below 1982. The resulting total hog value on December 1, 1983 was $3.3 million, the lowest since 1976.

Hog marketings during 1983 totaled 13.9 million pounds at a price of $42.00 per cwt. This resulted in a gross of $3.3 million to hog producers, 18 percent less than 1982 and the lowest since 1979.

SHEEP, LAMBS AND WOOL PRODUCTION

On Janaury 1, 1984, there were 8,400 sheep and lambs on Massachusetts farms, 1,700 more than a year earlier. With an average value of $103.00 per head, total inventory value was $865,000, 22 percent above the previous year's value. Gross income from sheep and lambs sold, including value of home consumption, was $220,000, 32 percent below the 1982 income. This large drop resulted mostly from the small number of sheep marketed, although prices were slightly lower in 1983. Wool production during 1983 totaled 56,000 pounds. The average price of 63 cents per pound is the lowest per pound price since 1976.

CATTLE: NUMBER AND VALUE OF ALL CATTLE AND CALVES ON FARMS JANUARY 1, MASSACHUSETTS, 1973-1984

YEAR	NUMBER	VALUE	
		PER HEAD	TOTAL
	1,000	Dollars	1,000 Dollars
1973	111	335	37,185
1974	105	420	44,100
1975	107	315	33,705
1976	107	345	36,915
1977	104	380	39,520
1978	99	415	41,085
1979	102	560	57,120
1980	104	685	71,240
1981	104	785	81,640
1982	98	800	78,400
1983	96	715	68,640
1984	96	600	57,600

CATTLE: JANUARY 1, INVENTORY BY CLASSES, MASSACHUSETTS, 1973-1984

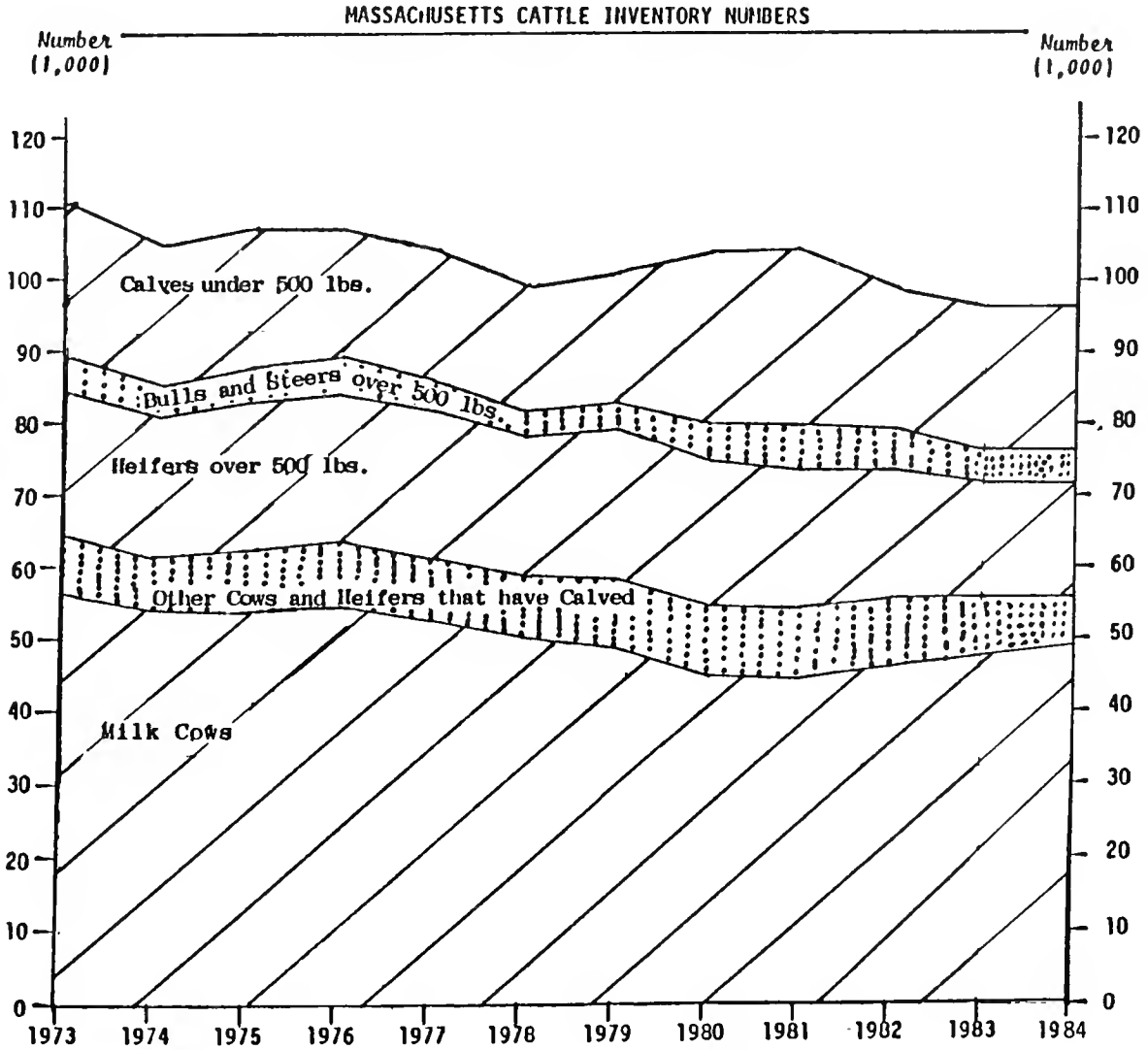
YEAR	ALL CATTLE AND CALVES	COWS & HEIFERS THAT HAVE CALVED		HEIFERS 500 LBS. & OVER			STEERS 500 LBS.+	BULLS 500 LBS.+	STEERS, HEIFERS & BULLS -500 LBS.
		BEEF	MILK	REPLACEMENTS		OTHER			
				BEEF COW	MILK COW				
	1,000								
1973	111	8	57	2	16	2	2	2	22
1974	105	8	54	2	15	2	2	2	20
1975	107	9	54	2	17	1	3	2	19
1976	107	9	55	2	17	1	3	2	18
1977	104	9	53	2	17	1	2	2	18
1978	99	8	51	2	16	1	2	2	17
1979	102	10	49	3	16	1	2	2	19
1980	104	10	45	3	16	1	3	2	24
1981	104	10	45	4	14	1	4	2	24
1982	98	10	47	3	13	1	3	2	19
1983	96	9	48	1	15	1	2	2	18
1984	96	8	49	2	14	1	2	2	18

CATTLE AND CALVES: PRODUCTION AND INCOME, MASSACHUSETTS, 1973-1983

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS		VALUE OF HOME CONSUMPTION	GROSS INCOME
			CATTLE	CALVES		
	1,000 Pounds		Dollars		1,000 Dollars	
1973	28,875	40,115	33.50	44.00	576	14,293
1974	30,405	32,845	27.50	28.00	473	9,516
1975	35,060	27,812	22.40	24.20	925	7,217
1976	33,620	40,230	26.00	28.50	559	11,071
1977	33,240	40,790	26.20	38.20	676	11,591
1978	27,080	26,560	41.90	57.00	1,441	12,846
1979	21,340	21,754	57.00	76.00	1,520	14,248
1980	25,430	23,300	55.00	71.00	1,656	14,673
1981	24,770	24,730	50.00	63.00	1,290	13,984
1982	17,820	16,320	45.00	57.00	1,548	9,141
1983	18,370	16,500	42.00	52.00	1,483	8,666

CATTLE AND CALVES: INVENTORY, SUPPLY AND DISPOSITION, MASSACHUSETTS, 1973-1983

YEAR	ALL CATTLE ON HAND JAN. 1	CALF CROP	INSHIPMENTS	MARKETINGS		FARM SLAUGHTER	DEATHS	
				CATTLE	CALVES	CATTLE & CALVES	CATTLE	CALVES
				1,000				
1973	111	57	10	33	30	1	3	6
1974	105	55	8	27	26	1	2	5
1975	107	56	7	32	22	1	2	6
1976	107	55	7	34	22	1	2	6
1977	104	52	7	35	20	1	2	6
1978	99	50	5	23	19	2	2	6
1979	102	47	1	19	18	1	2	6
1980	104	45	1	21	14	1	3	7
1981	104	47	1	23	23	1	2	5
1982	98	48	1	17	23	1	3	7
1983	96	46	1	16	23	1	2	5



HOGS: NUMBER AND VALUE ON FARMS, DECEMBER 1, MASSACHUSETTS, 1972-1983

YEAR	NUMBER			VALUE	
	BREEDING	MARKET	TOTAL	PER HEAD	TOTAL
		Head		Dollars	1,000 Dollars
1972	9,000	54,000	63,000	37.50	2,363
1973	10,000	50,000	60,000	62.50	3,750
1974	8,000	43,000	51,000	48.00	2,448
1975	8,000	42,000	50,000	64.50	3,225
1976	7,000	43,000	50,000	50.50	2,525
1977	8,000	52,000	60,000	59.50	3,570
1978	8,000	52,000	60,000	76.50	4,590
1979	9,000	51,000	60,000	55.50	3,330
1980	7,000	42,000	49,000	74.50	3,651
1981	6,000	43,000	49,000	79.50	3,896
1982	7,000	39,000	46,000	88.50	4,071
1983	7,000	35,000	42,000	79.00	3,318

HOGS: PIG CROP, SOWS FARROWED AND PIGS SAVED, MASSACHUSETTS, 1973-1983

YEAR	SPRING CROP (DEC - MAY)			FALL CROP (JUN - NOV)			TOTAL PIG CROP
	SOWS	PIGS / LITTER	PIGS SAVED	SOWS	PIGS / LITTER	PIGS SAVED	
				Head			
1973	7,000	6.0	42,000	7,100	6.0	43,000	85,000
1974	7,000	6.0	42,000	6,800	6.0	41,000	83,000
1975	7,000	6.2	43,000	6,800	5.7	39,000	82,000
1976	6,600	6.8	45,000	5,700	6.5	37,000	82,000
1977	5,000	6.9	35,000	6,500	6.6	43,000	78,000
1978	5,000	7.2	36,000	6,000	6.8	41,000	77,000
1979	6,000	6.5	39,000	6,500	6.5	42,000	81,000
1980	4,000	7.4	30,000	6,000	5.8	35,000	65,000
1981	4,000	6.6	26,000	5,000	6.4	32,000	58,000
1982	3,700	7.5	28,000	4,500	7.6	34,000	62,000
1983	4,900	6.5	32,000	4,000	7.0	28,000	60,000

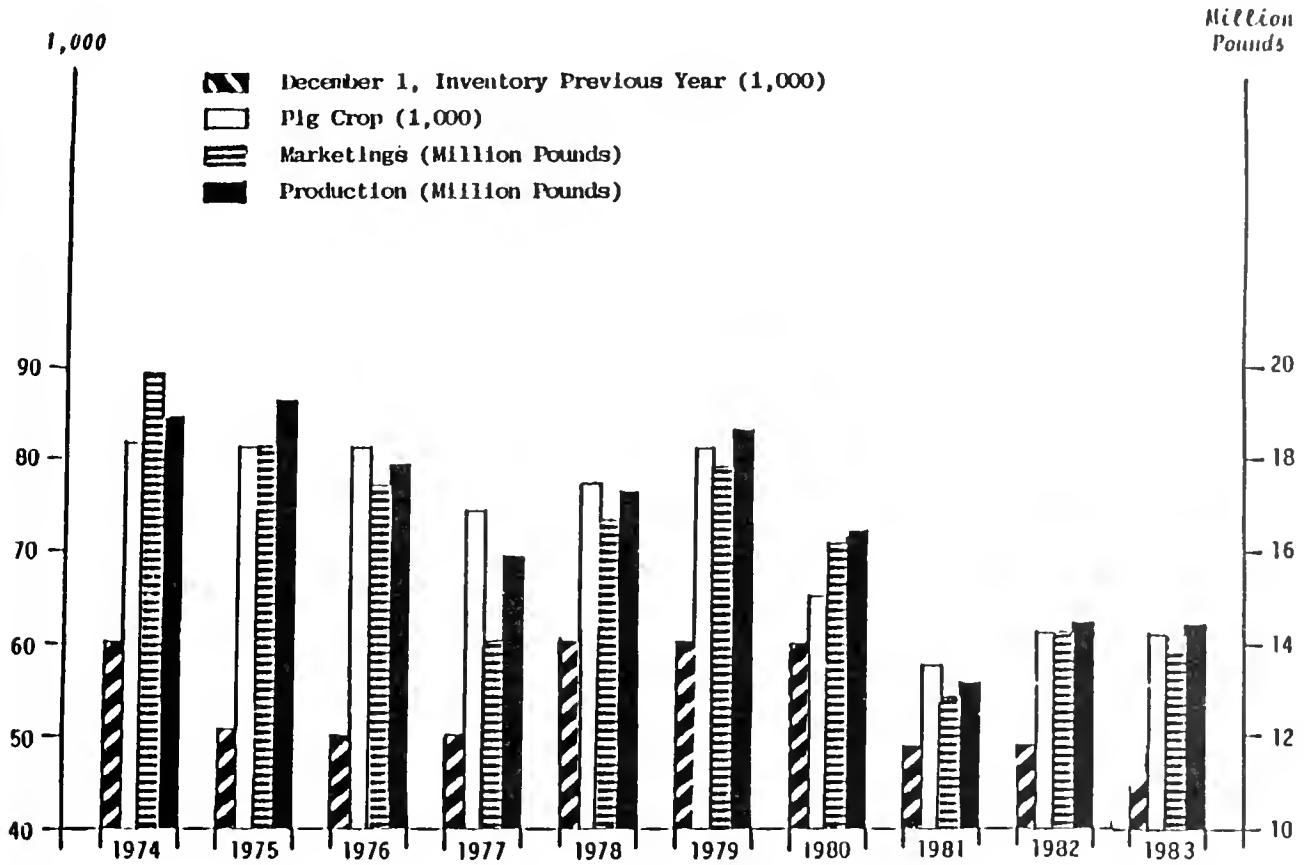
HOGS: INVENTORY NUMBER, PIG CROP AND DISPOSITION, MASSACHUSETTS, 1973-1983

YEAR	ON HAND DEC 1st PREVIOUS YEAR	PIG CROP		MARKETINGS	FARM SLAUGHTER	DEATHS
		DEC - MAY	JUN - NOV			
			Head			
1973	63,000	42,000	43,000	80,000	1,000	7,000
1974	60,000	42,000	41,000	86,000	1,000	5,000
1975	51,000	43,000	39,000	78,000	1,000	4,000
1976	50,000	45,000	37,000	75,000	1,000	6,000
1977	50,000	35,000	43,000	61,000	1,000	6,000
1978	60,000	36,000	41,000	71,000	1,000	5,000
1979	60,000	39,000	42,000	76,000	1,000	4,000
1980	60,000	30,000	35,000	71,000	2,000	3,000
1981	49,000	26,000	32,000	55,000	1,000	2,000
1982	49,000	28,000	34,000	61,000	1,000	3,000
1983	46,000	32,000	28,000	59,000	2,000	3,000

HOGS: PRODUCTION AND INCOME, MASSACHUSETTS, 1973-1983

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS	VALUE OF HOME CONSUMPTION	GROSS INCOME
	1,000 Pounds		Dollars	1,000 Dollars	
1973	18,862	18,068	37.00	171	6,856
1974	18,764	19,910	33.00	254	6,824
1975	19,100	18,260	45.00	347	8,564
1976	17,891	17,378	45.00	354	8,174
1977	15,832	14,063	37.00	291	5,494
1978	17,211	16,640	45.00	304	7,792
1979	18,640	17,820	44.00	297	8,138
1980	16,412	16,185	37.00	500	6,488
1981	13,267	12,825	43.00	290	5,805
1982	14,547	14,380	54.00	316	8,081
1983	14,451	13,900	42.00	340	6,178

TREND IN DECEMBER 1 INVENTORY, PIG CROP, MARKETINGS AND PRODUCTION, MASSACHUSETTS, 1974-1983



SHEEP AND LAMBS: INVENTORY NUMBER BY CLASS AND VALUE, JANUARY 1, MASSACHUSETTS, 1973-1984

YEAR	LAMBS			ONE YEAR AND OVER		ALL SHEEP & LAMBS	VALUE	
	ALL LAMBS	EWES	WETHERS AND RAMS	EWES	WETHERS AND RAMS		PER HEAD	TOTAL
			Head				Dollars	1,000 Dollars
1973	1,400	1,000	400	5,500	600	7,500	28.00	210
1974	1,400	1,000	400	5,000	500	6,900	40.00	276
1975	1,500	1,100	400	5,100	400	7,000	46.50	326
1976	1,500	1,100	400	5,300	400	7,200	46.00	331
1977	1,400	1,000	400	4,900	400	6,700	48.00	322
1978	1,600	1,100	500	4,700	500	6,800	53.50	364
1979	1,300	1,000	300	4,900	500	6,700	63.00	422
1980	1,600	1,200	400	5,000	500	7,100	78.50	557
1981	1,600	1,200	400	5,100	500	7,200	88.00	634
1982	1,900	1,400	500	5,600	500	8,000	109.00	872
1983	1,400	1,100	300	4,800	500	6,700	106.00	710
1984	1,700	1,300	400	6,000	700	8,400	103.00	865

SHEEP AND LAMBS: INVENTORY NUMBERS, LAMB CROP AND DISPOSITION, MASSACHUSETTS, 1973-1983

YEAR	ALL SHEEP AND LAMBS ON HAND JAN. 1	LAMB CROP	MARKETINGS		FARM SLAUGHTER SHEEP & LAMBS	DEATHS SHEEP & LAMBS
			SHEEP	LAMBS		
			Head			
1973	7,500	5,300	1,500	2,900	400	1,100
1974	6,900	5,200	1,200	2,600	200	1,100
1975	7,000	5,500	900	2,900	400	1,100
1976	7,200	5,600	1,500	3,300	300	1,000
1977	6,700	5,700	1,100	3,100	400	1,000
1978	6,800	5,300	1,000	2,900	500	1,000
1979	6,700	5,100	800	2,500	500	900
1980	7,100	5,600	1,200	2,700	600	1,000
1981	7,200	6,800	700	3,300	800	1,200
1982	8,000	5,600	2,500	3,300	300	800
1983	6,700	6,000	200	3,300	400	900

SHEEP AND LAMBS: PRODUCTION AND INCOME, MASSACHUSETTS, 1973-1983

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS		VALUE OF HOME CONSUMPTION	GROSS INCOME
			SHEEP	LAMBS		
	1,000 Pounds		Dollars		1,000 Dollars	
1973	366	395	14.00	41.00	21	133
1974	349	318	17.00	37.00	10	101
1975	372	296	26.00	68.00	35	193
1976	382	393	28.00	72.00	35	244
1977	431	357	29.00	72.00	46	244
1978	406	329	38.00	84.00	67	282
1979	382	246	39.00	85.00	82	245
1980	428	300	42.00	77.00	89	268
1981	423	207	45.00	100.00	127	286
1982	377	450	41.00	94.00	68	325
1983	413	188	36.00	93.00	59	220

WOOL: PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	SHEEP SHORN	WEIGHT PER FLEECE	SHORN WOOL PRODUCTION	PRICE PER POUND	VALUE
	Head	Pounds	1,000 Pounds	Cents	1,000 Dollars
1973	6,900	7.2	50	71	36
1974	6,600	7.4	49	62	30
1975	6,400	7.2	46	31	14
1976	6,700	6.9	46	60	28
1977	6,200	7.1	44	78	34
1978	6,300	6.8	43	74	32
1979	6,600	6.8	45	84	38
1980	6,800	6.9	47	88	41
1981	7,000	7.0	49	90	44
1982	7,600	6.8	52	66	34
1983	8,200	6.8	56	63	35

MINK: PRODUCTION AND FEMALES BRED TO PRODUCE KITS, MASSACHUSETTS, 1978 - 1984 1/

COLOR CLASS	PELTS PRODUCED					FEMALES BRED TO PRODUCE KITS				
	1978	1979	1980	1982	1983	1979	1980	1981	1983	1984
Standard	1,500	1,600	1,200	1,700	1,400	2/	1,500	660	500	560
Demi-Buff	5,400	4,900	5,200	4,000	3,900	2,600	1,500	1,000	1,200	2/
Pastel	6,500	5,400	6,300	1,900	2,300	800	730	1,000	360	590
Pearl	2/	2,500	2,300	2,800	2/	690	700	700	880	830
Others	6,600	3,600	2,400	2,700	4,900	1,310	970	540	760	2,220
TOTAL	20,000	18,000	17,400	13,100	12,500	5,400	5,200	3,900	3,700	4,200

1/ Estimates not available for 1981 production and 1982 Females bred to produce Kits.
2/ Included in others to avoid disclosing individual operations.

DAIRY HIGHLIGHTS

MILK PRODUCTION

Massachusetts dairy herds produced 611 million pounds of milk during 1983, 1 percent more than during the previous year and the largest annual production since 1972. With the average number of cows unchanged from 1982, the production increase was the result of a record high rate of 13,000 pounds per cow in 1983. Quarterly production totals followed the normal seasonal pattern.

MILK PRODUCTION AND PRICE

Milk marketed in 1983, at 605 million pounds, was also the largest amount marketed since 1972. Increased marketings would be expected with the production increase. However, a 2 million pound decrease in milk used on farms where produced is also a contributing factor. Home use has shown a moderate downward trend over the years, but has been more consistent during the 1980's.

The average price received for milk marketed during 1983 was $14.60 per cwt., 10 cents above the 1982 average price. With an increase in both price and volume marketed, the 1983 cash receipts for milk totaled a record $91.3 million.

MANUFACTURED DAIRY PRODUCTS

With milk production and marketings both showing increases, the manufacture of dairy products continues an important role in the Massachusetts dairy industry. The production of ice cream in the Commonwealth during 1983 totaled 44.5 million gallons, slightly above the previous year and the most produced since 1977. Milk sherbet production increased to 2.3 million gallons, 5 percent more than during 1982. Ice milk production for 1983 shows a large increase from the previous year and approaches production levels of the late 1970's.

Cheese production (excluding cottage cheese) in Massachusetts totaled 12.6 million pounds, well above the 1982 total and the highest of record.

MILK COWS: AVERAGE NUMBER ON FARMS, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1973-1983

YEAR	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC	ANNUAL
			1,000 Head		
1973	56	55	54	54	55
1974	54	54	54	54	54
1975	55	54	54	55	55
1976	55	54	53	53	54
1977	52	51	51	51	51
1978	50	48	48	49	49
1979	49	48	47	46	48
1980	46	46	46	46	46
1981	45	45	46	46	46
1982	47	47	46	47	47
1983	48	46	46	48	47

MILK PRODUCTION: AVERAGE PER COW, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1973-1983

YEAR	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC	ANNUAL
			Pounds		
1973	2,715	2,930	2,610	2,610	10,818
1974	2,705	2,945	2,720	2,610	10,981
1975	2,725	2,960	2,720	2,620	10,927
1976	2,735	2,950	2,760	2,700	11,074
1977	2,850	3,060	2,890	2,870	11,706
1978	2,900	3,110	2,920	2,820	11,673
1979	2,920	3,090	2,940	2,980	11,792
1980	3,110	3,240	3,000	3,050	12,391
1981	3,180	3,350	3,090	3,080	12,565
1982	3,190	3,320	3,180	3,185	12,809
1983	3,220	3,430	3,180	3,160	13,000

MILK PRODUCTION, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1973-1983

YEAR	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC	ANNUAL
			Million Pounds		
1973	152	161	141	141	595
1974	146	159	147	141	593
1975	150	160	147	144	601
1976	150	159	146	143	598
1977	148	156	147	146	597
1978	145	149	140	138	572
1979	143	148	138	137	566
1980	143	149	138	140	570
1981	143	151	142	142	578
1982	150	156	146	150	602
1983	155	158	146	152	611

MILK: QUANTITY MARKETED, PRICE AND CASH RECEIPTS, MASSACHUSETTS, 1973-1983

YEAR	SOLD TO PLANTS			SOLD DIRECTLY TO CONSUMERS			COMBINED MARKETINGS		
	QUANTITY	PRICE PER CWT.	CASH RECEIPTS	QUANTITY	PRICE PER QUART	CASH RECEIPTS	QUANTITY	PRICE PER CWT.	CASH RECEIPTS
	Million Pounds	Dollars	1,000 Dollars	Million Quarts	Cents	1,000 Dollars	Million Pounds	Dollars	1,000 Dollars
1973	550	8.22	45,210	15.3	35	5,372	583	8.68	50,582
1974	550	9.50	52,250	14.4	40	5,768	581	9.99	58,018
1975	555	9.65	53,588	15.8	40	6,326	589	10.17	59,884
1976	550	10.70	58,850	16.7	42	7,032	586	11.24	65,882
1977	550	10.70	58,850	16.7	42	7,032	586	11.24	65,882
1978	530	11.50	60,950	14.9	43	6,400	562	11.98	67,350
1979	525	12.80	67,200	14.4	46	6,633	556	13.28	73,833
1980	530	13.70	72,610	14.0	51	7,116	560	14.24	79,726
1981	540	14.60	78,840	13.5	53	7,149	569	15.11	85,989
1982	565	14.50	81,925	13.5	53	7,149	594	15.00	89,074
1983	575	14.60	83,950	14.0	53	7,395	605	15.10	91,345

MILK: QUANTITIES USED AND MARKETED BY FARMERS, MASSACHUSETTS, 1973-1983

YEAR	TOTAL PRODUCED	MILK, USED ON FARMS WHERE PRODUCED			MILK MARKETED BY FARMERS		
		USED FOR MILK, CREAM AND BUTTER	FED TO CALVES	TOTAL	SOLD TO PLANTS AND DEALERS	SOLD DIRECTLY TO CONSUMERS	TOTAL
	Million Pounds						
1973	595	7	5	12	550	33	583
1974	593	7	5	12	550	31	581
1975	601	7	5	12	555	34	589
1976	598	7	5	12	550	36	586
1977	597	6	5	11	550	36	586
1978	572	5	5	10	530	32	562
1979	566	4	6	10	525	31	556
1980	570	4	6	10	530	30	560
1981	578	4	5	9	540	29	569
1982	602	3	5	8	565	29	594
1983	611	2	4	6	575	30	605

MILK: SOLD TO PLANTS, MONTHLY AND ANNUAL AVERAGE PRICE PER 100 POUNDS RECEIVED BY FARMERS, MASSACHUSETTS, 1973-1983

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL AVERAGE
	Dollars												
1973	7.70	7.75	7.55	7.30	7.20	7.20	7.75	8.55	9.25	9.55	9.80	9.70	8.22
1974	9.80	9.90	9.85	9.80	9.25	8.50	8.90	9.40	9.70	9.80	10.00	9.45	9.50
1975	9.55	9.50	9.15	8.95	8.50	8.35	9.05	9.65	10.30	10.80	11.10	11.20	9.65
1976	11.10	10.80	10.70	10.00	9.90	9.75	10.40	11.00	11.30	11.50	11.20	10.70	10.70
1977	10.60	10.50	10.20	10.20	9.90	10.00	10.50	10.90	11.20	11.40	11.40	11.20	10.70
1978	11.10	11.20	11.00	10.70	10.70	10.60	11.00	11.60	12.10	12.70	12.90	12.70	11.50
1979	12.70	12.80	12.50	12.20	12.00	12.00	12.50	13.10	13.40	13.80	13.90	13.40	12.80
1980	13.60	13.40	13.30	13.00	13.00	12.80	13.30	13.70	14.20	14.70	14.80	14.70	13.70
1981	14.90	14.70	14.50	14.30	14.00	13.80	14.30	14.60	14.90	15.20	15.00	14.80	14.60
1982	14.90	14.70	14.50	14.20	13.80	13.70	14.20	14.60	14.90	15.00	15.10	14.80	14.50
1983	14.80	14.80	14.40	14.30	13.90	13.80	14.20	14.70	14.90	15.10	15.20	14.60	14.60

MILK: FARM PRODUCTION AND VALUE OF MILK AND MILK PRODUCTS SOLD, MASSACHUSETTS, 1973-1983

YEAR	AVERAGE NUMBER OF MILK COWS ON FARMS	PRODUCTION					
		PER MILK COW		PERCENTAGE OF FAT IN ALL MILK PRODUCED	TOTAL		FARM VALUE OF MILK PRODUCED
		MILK	MILKFAT		MILK	MILKFAT	
	1,000	Pounds		Percent	Million Pounds		1,000 Dollars
1973	55	10,818	395	3.65	595	22	51,646
1974	54	10,981	402	3.66	593	22	59,241
1975	55	10,927	397	3.63	601	22	61,122
1976	54	11,074	405	3.66	598	22	67,215
1977	51	11,706	431	3.68	597	22	67,103
1978	49	11,673	428	3.67	572	21	68,526
1979	48	11,792	429	3.64	566	21	75,165
1980	46	12,391	447	3.61	570	21	81,168
1981	46	12,565	456	3.63	578	21	87,336
1982	47	12,809	466	3.64	602	22	90,300
1983	47	13,000	477	3.67	611	22	92,261

MANUFACTURED DAIRY: PRODUCTION MAJOR PRODUCTS, MASSACHUSETTS, 1973-1983

YEAR	TOTAL CHEESE 1/	ICE CREAM	ICE MILK	MILK SHERBET
	1,000 Pounds	1,000 Gallons		
1973	5,976	42,302	7,742	2,330
1974	5,412	43,607	9,611	2,186
1975	5,288	47,761	9,177	1,985
1976	6,123	46,320	7,246	2,116
1977	5,786	45,255	7,483	2,180
1978	7,780	42,909	9,779	2,102
1979	6,255	42,463	10,454	1,829
1980	5,099	43,986	9,817	1,992
1981	8,559	43,193	10,173	2,089
1982	9,110	44,444	6,574	2,198
1983	12,643	44,510	9,138	2,297

1/ Excluding cottage cheese.

POULTRY HIGHLIGHTS

EGGS

Massachusetts laying flocks produced 265 million eggs during 1983, 16 percent less than the previous year and the smallest annual egg production since 1929. The average daily rate of lay per 100 birds was a record 68.5 eggs, surpassing the previous high rate of 67.4 eggs set in 1981. Poultrymen received a record high 91 cents per dozen for eggs in 1983, 5 cents above the previous high 86 cents per dozen in 1981. Gross income from egg production in 1983 was $20.1 million, 9 percent less than the gross in 1982.

CHICKENS

The December 1, 1983 inventory of chickens on farms (excluding broilers) totaled 1.4 million birds, 11 percent below a year ago and the lowest of record. A break down of the December 1 inventory indicates that a small increase in pullets of laying age was more than offset by the large decrease in hens. In the younger birds, a 3,000 increase in other birds was insignificant compared to the large decline in young pullets. Total value of all chickens on hand December 1, 1983 was $3.4 million, 14 percent less than a year earlier. Poultrymen marketed 5.4 million pounds of poultry during 1983 at 10.5 cents per pound.

TURKEYS

Massachusetts farmers raised 160,000 turkeys during 1983, 15,000 more than a year earlier and the most since 1974. There were 3.3 million pounds liveweight from the turkeys raised. The price per pound, at 84 cents, was 7 cents higher than received in 1982 and increased the value of production to $2.8 million for 1983.

POULTRY: INVENTORY BY CLASS AND VALUE, MASSACHUSETTS, DECEMBER 1, 1972-1983

YEAR	CHICKENS, EXCLUDING BROILERS						VALUE PER HEAD	TOTAL VALUE
	HENS AND PULLETS OF LAYING AGE		PULLETS NOT OF LAYING AGE		OTHER	TOTAL		
	HENS	PULLETS	3 MONTHS AND OLDER	UNDER 3 MONTHS				
	1,000						Dollars	1,000 Dollars
1972	729	1,069	228	221	32	2,279	1.40	3,191
1973	896	807	251	255	31	2,240	2.00	4,480
1974	772	939	224	271	31	2,237	2.10	4,698
1975	725	786	293	268	19	2,091	2.35	4,914
1976	593	782	239	241	15	1,870	2.40	4,488
1977	465	1,005	290	180	50	1,990	2.05	4,080
1978	550	620	196	174	40	1,580	2.05	3,239
1979	617	755	126	197	31	1,726	2.15	3,711
1980	644	811	108	209	18	1,790	2.30	4,117
1981	650	622	141	153	37	1,603	2.55	4,088
1982	742	458	156	166	18	1,540	2.55	3,927
1983	595	514	110	138	21	1,378	2.45	3,376

POULTRY: AVERAGE NUMBER OF LAYERS BY MONTHS AND ANNUAL, MASSACHUSETTS, 1973-1983

MONTH	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
						1,000					
DEC 1/	1,800	1,717	1,751	1,504	1,434	1,447	1,253	1,342	1,412	1,299	1,195
JAN	1,813	1,676	1,742	1,496	1,501	1,402	1,338	1,320	1,362	1,357	1,185
FEB	1,790	1,602	1,715	1,474	1,515	1,440	1,400	1,331	1,322	1,378	1,086
MAR	1,740	1,565	1,743	1,429	1,509	1,500	1,480	1,339	1,326	1,354	1,028
APR	1,717	1,536	1,718	1,401	1,514	1 503	1,435	1,332	1,334	1,340	1,032
MAY	1,704	1,530	1,668	1,408	1,539	1,484	1,385	1,318	1,293	1,326	1,047
JUN	1,674	1,533	1,637	1,428	1,519	1,392	1,395	1,300	1,220	1,278	1,037
JUL	1,668	1,550	1,662	1,415	1,521	1,340	1,421	1,309	1,195	1,272	1,025
AUG	1,680	1,591	1,679	1,400	1,515	1,388	1,416	1,355	1,211	1,266	1,019
SEP	1,675	1,633	1,614	1,399	1,435	1,395	1,365	1,383	1,272	1,245	1,015
OCT	1,687	1,676	1,566	1,406	1,401	1,383	1,373	1,387	1,368	1,230	1,011
NOV	1,700	1,705	1,537	1,398	1,440	1,280	1,384	1,420	1,329	1,215	1,064
ANNUAL	1,721	1,610	1,669	1,430	1,487	1,413	1,387	1,345	1,304	1,297	1,062

EGGS: DAILY RATE OF LAY BY MONTHS AND ANNUAL, MASSACHUSETTS, 1973 - 1983

MONTH	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
						Percent					
DEC 1/	63.0	65.4	64.0	65.5	65.3	63.1	67.0	67.3	66.3	69.5	64.8
JAN	61.7	64.7	64.5	65.0	65.2	64.5	67.1	66.0	63.9	66.5	68.1
FEB	62.8	64.1	64.1	64.5	63.9	66.0	67.6	67.3	64.8	64.8	69.1
MAR	62.7	64.2	64.6	65.8	64.4	65.0	67.9	67.5	68.1	65.2	65.9
APR	64.5	64.4	67.0	67.8	65.5	65.7	67.1	67.6	67.5	66.8	67.8
MAY	66.3	65.2	68.0	68.3	66.9	67.2	64.9	66.1	70.0	67.6	67.3
JUN	63.8	65.4	67.5	67.3	69.3	67.9	64.7	66.7	71.0	67.7	67.5
JUL	60.7	65.0	66.3	66.0	66.0	67.4	66.4	66.5	67.5	67.0	69.2
AUG	61.0	63.6	66.0	64.0	63.4	66.2	66.7	61.9	69.3	66.2	69.6
SEP	62.1	61.7	65.8	62.3	64.4	66.3	67.3	62.7	68.1	64.8	69.0
OCT	61.8	62.0	65.8	63.5	65.1	66.8	67.0	67.5	66.0	65.1	67.0
NOV	63.2	63.5	66.3	65.3	64.7	66.8	67.9	68.1	67.7	65.4	72.0
ANNUAL	62.6	64.0	66.0	65.5	65.4	66.1	67.0	66.2	67.4	66.3	68.5

EGGS: TOTAL PRODUCTION BY MONTHS AND ANNUAL, MASSACHUSETTS, 1973 - 1983

MONTH	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
						Million					
DEC 1/	35	35	35	31	29	28	26	28	29	28	24
JAN	35	34	35	30	30	28	28	27	27	28	25
FEB	31	29	31	28	27	27	27	26	24	25	21
MAR	34	31	35	29	30	30	31	28	28	27	21
APR	33	30	35	28	30	30	29	27	27	27	21
MAY	35	31	35	30	32	31	28	27	28	28	23
JUN	32	30	33	29	32	28	27	26	26	26	21
JUL	31	31	34	29	31	28	29	27	25	26	22
AUG	32	31	34	28	30	28	29	26	26	26	22
SEP	31	30	32	26	28	28	28	26	26	24	21
OCT	32	32	32	28	28	29	29	29	28	25	21
NOV	32	32	31	27	28	26	28	29	27	24	23
ANNUAL	393	376	402	343	355	341	339	326	321	314	265

1/ Previous year

CHICKENS: PRODUCTION, DISPOSITION AND GROSS INCOME, MASSACHUSETTS, 1973-1983

YEAR	NUMBER OF BIRDS			LIVEWEIGHT			PRICE PER POUND	GROSS INCOME
	PRODUCED	CONSUMED	SOLD	PRODUCED	CONSUMED	SOLD		
	1,000			1,000 Pounds			Cents	1,000 Dollars
1973	1,673	12	1,700	8,676	55	9,010	15.4	1,396
1974	1,706	12	1,697	10,037	55	10,012	10.3	1,037
1975	1,371	11	1,506	7,111	51	7,982	10.3	827
1976	1,090	11	1,300	6,186	51	7,150	13.3	958
1977	1,331	11	1,200	7,475	51	6,600	11.3	752
1978	901	11	1,300	5,134	51	7,150	12.3	885
1979	1,057	11	900	5,835	51	4,950	13.2	660
1980	1,225	11	1,150	6,708	51	6,325	8.3	529
1981	1,474	11	1,650	8,266	51	9,075	9.0	822
1982	828	11	880	4,457	51	4,840	8.0	391
1983	838	11	989	4,793	51	5,440	10.5	576

EGGS: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	EGGS PRODUCED	EGGS SOLD	PRICE PER DOZEN	CASH INCOME FROM FARM SALES	GROSS INCOME
	Millions		Cents	1,000 Dollars	
1973	393	392	62.9	20,547	20,599
1974	376	375	64.5	20,156	20,210
1975	402	401	66.2	22,122	22,177
1976	343	342	72.1	20,549	20,609
1977	355	354	69.9	20,621	20,679
1978	341	340	66.2	18,757	18,812
1979	339	338	73.8	20,787	20,849
1980	326	325	74.5	20,177	20,239
1981	321	320	86.0	22,933	23,005
1982	314	313	84.0	21,910	21,980
1983	265	264	91.0	20,020	20,096

TURKEYS: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	TURKEYS RAISED		NUMBER PRODUCED	POUNDS PRODUCED	PRICE PER POUND	VALUE OF PRODUCTION
	HEAVY	LIGHT				
	1,000			1,000 Pounds	Cents	1,000 Dollars
1973	144	29	173	3,287	62.0	2,038
1974	139	33	172	3,268	57.0	1,863
1975	106	19	125	2,375	58.0	1,378
1976	122	21	143	2,860	58.0	1,659
1977	110	15	125	2,600	58.0	1,508
1978	128	18	146	2,993	68.0	2,035
1979	133	7	140	2,800	65.0	1,820
1980	126	0	126	2,470	78.0	1,927
1981	145	0	145	3,045	77.0	2,345
1982	145	0	145	3,088	77.0	2,378
1983	160	0	160	3,313	84.0	2,783

HATCH: BROILER-TYPE CHICKS BY COMMERCIAL HATCHERIES, NEW ENGLAND, 1976-1983

MONTH	1976	1977	1978	1979	1980	1981	1982	1983
					1,000			
JANUARY	8,205	8,430	8,370	8,742	6,691	6,770	2,712	2,043
FEBRUARY	7,797	7,833	7,644	8,103	6,617	5,665	2,548	2,699
MARCH	8,922	9,107	8,961	9,093	7,535	6,391	2,876	2,721
APRIL	8,763	8,804	9,218	9,192	7,252	4,645	3,115	2,890
MAY	8,711	9,481	9,383	9,424	7,545	3,294	3,047	2,841
JUNE	8,494	8,828	8,855	9,216	7,524	3,129	2,910	2,528
JULY	8,720	9,024	9,033	9,216	7,495	3,107	2,774	2,440
AUGUST	8,554	8,184	8,661	8,796	7,620	2,888	2,948	2,249
SEPTEMBER	8,025	7,547	8,168	7,385	6,783	2,844	2,980	2,303
OCTOBER	7,950	8,079	7,998	6,903	6,654	2,672	2,687	2,317
NOVEMBER	8,173	7,867	7,835	6,875	6,857	2,401	2,297	2,143
DECEMBER	8,294	8,179	8,196	7,292	6,999	2,391	2,493	2,511
ANNUAL	100,608	101,363	102,322	100,237	85,572	46,197	33,387	29,685

HATCH: EGG-TYPE CHICKS BY COMMERCIAL HATCHERIES, NEW ENGLAND, 1976-1983

MONTH	1976	1977	1978	1979	1980	1981	1982	1983
					1,000			
JANUARY	1,951	2,187	1,668	1,860	2,150	1,767	1,102	1,626
FEBRUARY	2,001	1,985	1,684	1,936	1,899	1,837	1,230	1,370
MARCH	2,249	2,215	1,837	2,128	1,990	2,024	1,685	2,008
APRIL	2,423	2,401	2,145	2,470	1,797	2,060	2,015	1,947
MAY	2,440	2,329	2,231	2.440	2,098	1,954	2,221	2,018
JUNE	2,246	2,153	2,347	2,165	1,899	1,970	1,763	2,070
JULY	1,988	1,977	2,131	2,131	1,782	1,676	1,646	1,716
AUGUST	1,935	2,275	1,967	2,270	2,097	1,647	1,368	1,687
SEPTEMBER	2,014	1,854	1,886	1,438	1,714	1,748	1,426	1,894
OCTOBER	1,881	1,873	2,062	1,938	1,934	1,896	1,603	1,669
NOVEMBER	1,964	1,652	1,863	2,071	1,693	1,538	1,512	1,797
DECEMBER	2,289	1,741	1,850	2,233	1,738	1,467	1,740	2,094
ANNUAL	25,381	24,642	23,671	25,080	22,791	21,584	19,311	21,896

CORN SILAGE

Production of corn silage during 1983 totaled 663,000 tons the same as during 1982. Harvested acres and yield were also the same as the previous year. Planted acres totaled 43,000 acres, 7 percent less than 1982. This indicates that less corn acreage went for other uses during 1983. Value of the 1983 silage was $19.9 million, 6 percent above the 1982 crop.

HAY

Production of all hay on Massachusetts farms during 1983 totaled 313,000 tons, 10 percent more than a year earlier and the highest production since the 1960's. Both acres harvested, at 123,000 and average yield, at 2.54 tons per acre, were higher in 1983 than in 1982. The average price per ton during 1983 was $91.00 giving a total hay crop value of $28.5 million, up 13 percent from the previous year.

Alfalfa and mixtures containing alfalfa totaled 87,000 tons or 28 percent of all hay. Both yield and production were above 1982 with harvested acreage unchanged.

All other hay production totaled 226,000 tons in 1983, up 11 percent from the 1982 total. This increase in production resulted from increases in both harvested acres and yield.

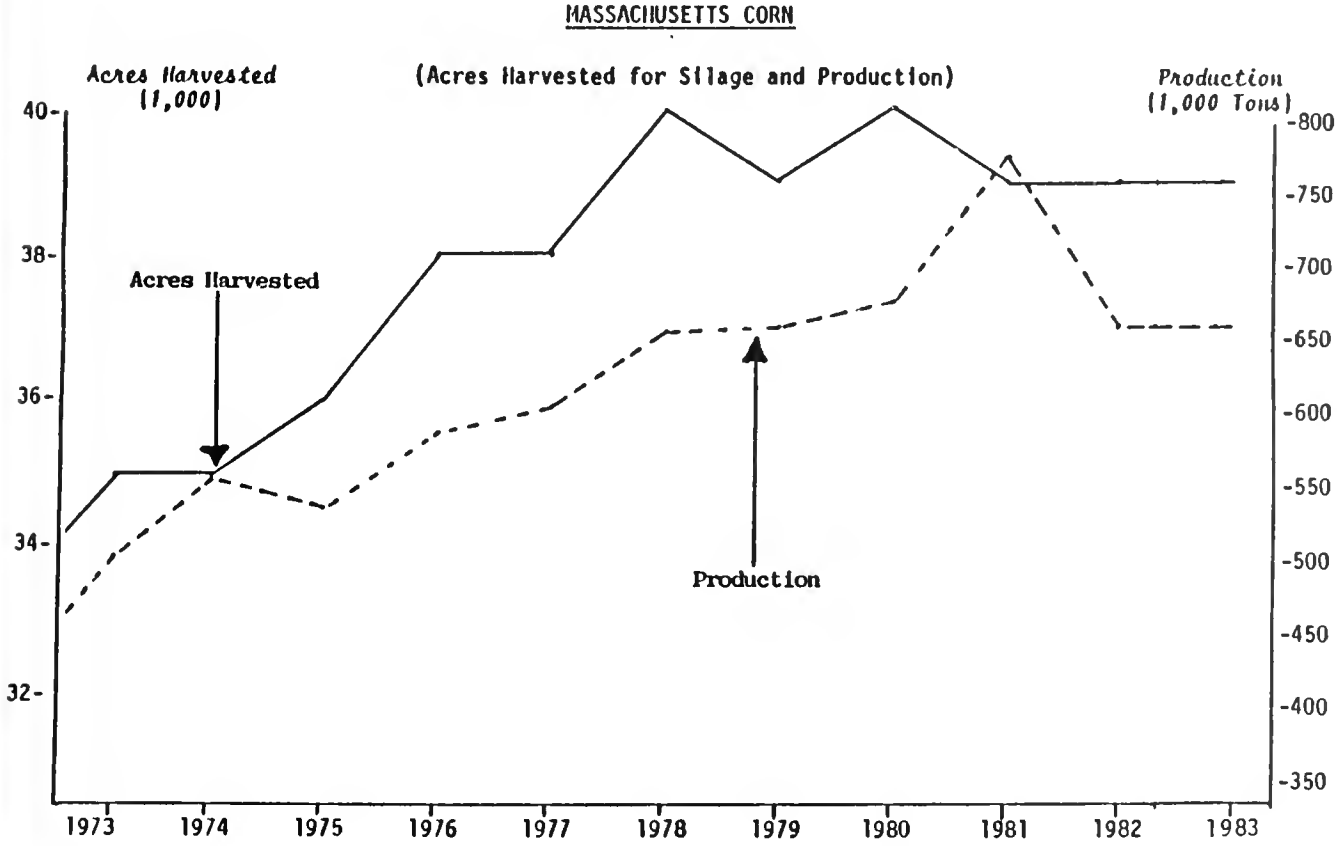
TOBACCO

Massachusetts tobacco production totaled 768,000 pounds in 1983, 10 percent less than the 1982 crop. This decrease resulted from relatively sharp reductions in harvested acres for both Havana Seed and Shade types.

Havana Seed acreage was down from 1982, but the 255 acres harvested is still the second highest since 1972. Shade growers in the Commonwealth harvested 170 acres, down 80 acres from 1982. Yields averaged above a year earlier for both types. Tobacco prices indicate a slight increase for Havanna Seed, while Shade price was down $1.50 per pound in 1983.

CORN: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	ACRES PLANTED FOR ALL PURPOSES	SILAGE			
		ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	VALUE OF PRODUCTION
	1,000	1,000	Tons	1,000 Tons	1,000 Dollars
1973	37	35	14.5	508	7,366
1974	38	35	16.0	560	10,080
1975	39	36	15.0	540	11,475
1976	43	38	15.5	589	12,987
1977	44	38	16.0	608	13,923
1978	45	40	16.5	660	14,850
1979	44	39	17.0	663	16,575
1980	45	40	17.0	680	19,380
1981	46	39	20.0	780	19,968
1982	46	39	17.0	663	18,763
1983	43	39	17.0	663	19,956



ALFALFA HAY: ACREAGE AND PRODUCTION, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
		Tons	
1973	28,000	2.55	71,000
1974	25,000	2.55	64,000
1975	26,000	2.60	68,000
1976	26,000	2.45	64,000
1977	28,000	2.30	64,000
1978	28,000	2.60	73,000
1979	27,000	2.90	78,000
1980	27,000	2.40	65,000
1981	28,000	2.80	78,000
1982	29,000	2.80	81,000
1983	29,000	3.00	87,000

ALL OTHER HAY: ACREAGE AND PRODUCTION, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
		Tons	
1973	84,000	2.15	181,000
1974	90,000	2.00	180,000
1975	92,000	2.05	189,000
1976	94,000	2.00	188,000
1977	92,000	1.90	175,000
1978	92,000	2.15	198,000
1979	92,000	2.25	207,000
1980	88,000	2.10	185,000
1981	90,000	2.15	194,000
1982	90,000	2.25	203,000
1983	94,000	2.40	226,000

ALL HAY: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION	PRICE PER TON	VALUE OF PRODUCTION
		Tons		Dollars	1,000 Dollars
1973	112,000	2.25	252,000	50.00	12,600
1974	115,000	2.12	244,000	63.00	15,372
1975	118,000	2.18	257,000	79.00	20,303
1976	120,000	2.10	252,000	71.00	17,892
1977	120,000	1.99	239,000	69.00	16,491
1978	120,000	2.26	271,000	73.00	19,783
1979	119,000	2.39	285,000	72.00	20,520
1980	115,000	2.17	250,000	76.00	19,000
1981	118,000	2.31	272,000	80.00	21,760
1982	119,000	2.39	284,000	89.00	25,276
1983	123,000	2.54	313,000	91.00	28,483

TOBACCO, SHADE TYPE: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
		Pounds	1,000 Pounds	Dollars	1,000 Dollars
1973	1,300	1,210	1,573	5.15	8,101
1974	1,300	1,610	2,093	6.00	12,558
1975	1,250	1,335	1,669	6.40	10,682
1976	1,050	1,480	1,554	5.40	8,392
1977	980	1,600	1,568	6.00	9,408
1978	860	1,300	1,118	7.50	8,385
1979	770	1,400	1,078	8.50	9,163
1980	940	1,475	1,387	9.80	13,593
1981	900	1,575	1,418	10.00	14,180
1982	250	1,200	300	12.50	3,750
1983	170	1,470	250	11.00	2,750

TOBACCO, HAVANA SEED: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
		Pounds	1,000 Pounds	Dollars	1,000 Dollars
1973	210	1,850	389	0.72	280
1974	160	2,040	326	0.82	267
1975	170	1,650	281	0.98	275
1976	160	1,819	291	0.87	253
1977	180	1,880	338	0.98	331
1978	170	2,000	340	1.10	374
1979	220	1,850	407	1.20	488
1980	250	2,000	500	1.31	655
1981	240	2,300	552	1.40	773
1982	300	1,840	552	1.35	792
1983	255	2,030	518	1.40	725

FRUIT AND VEGATABLE HIGHLIGHTS

CRANBERRIES

Massachusetts cranberry growers have been producing record or near record crops each year for the past several years and 1983 was no exception. Production in 1983 totaled a record 1.460 million barrels, 13 percent above the 1982 production. Excellent growing conditions contributed to a record high yield with growers harvesting 130.4 barrels to the acre. A season average price of $50.70 per barrel during 1983 gave growers a $74.0 million value for their crop.

APPLES

Apple producers in the Commonwealth had a relatively good year on the production side in 1983 with a crop 2.3 million 42-pound units. The price per unit, at $7.10, was down from the previous two years with resulting value of production 5 percent below 1982. Massachusetts apple production continues to rank 13th in the Nation.

PEACHES

The 1983 peach crop benefitted from favorable growing conditions. Production totaled 35,000 48-pound units, 13 percent above the previous year. Price per unit also increased in 1983 resulting in a value of production totaling $782,000.

POTATOES

Potato production in 1983 totaled 646,000 cwt., 17 percent below the previous year and the smallest production since 1973. The drop in production resulted from both an acreage reduction and a relatively low yield. The crop is valued at $4.0 million, the lowest value since 1975.

VEGETABLES

Commercial vegetable growers in the Commonwealth produced 800,000 cwt. of sweet corn and 94,000 cwt. of tomatoes for sale as fresh produce in 1983. Sweet corn production was 18 percent more than 1982, while tomato production was down 35 percent. The value of these two commodities was $13.5 million in 1983, 3 percent less than the 1982 value. The decrease in value was the result of the lower tomato production and value as sweet corn was above 1982.

CRANBERRIES: ACREAGE, PRODUCTION, UTILIZATION AND VALUE, MASSACHUSETTS, 1973 - 1983

YEAR	ACRES	YIELD PER ACRE	PRODUCTION 1/	UTILIZATION			SEASON AVERAGE PRICE PER BARREL 3/	VALUE OF UTILIZED PRODUCTION 4/
				FRESH SALES	PROCESSED	SHRINKAGE 2/		
		Barrels	1,000 Barrels				Dollars	1,000 Dollars
1973	11,200	80.4	901	246	563	92	13.60	12,254
1974	11,200	83.2	932	167	491	274	10.70	9,972
1975	11,200	70.1	785	162	508	115	13.00	10,205
1976	11,200	83.5	935	220	630	85	13.40	12,529
1977	11,200	78.1	875	207	576	92	17.70	15,488
1978	11,200	105.4	1,180	247	833	100	21.60	25,488
1979	11,200	96.4	1,080	130	880	70	26.60	28,728
1980	11,200	105.8	1,185	110	1,016	59	33.50	39,698
1981	11,200	104.6	1,172	205	875	92	41.50	48,639
1982	11,200	114.9	1,287	169	998	120	46.30	59,588
1983	11,200	130.4	1,460	176	1,257	27	50.70	74,022

1/ Includes cranberries that were put in set aside under the Cranberry Marketing Order.
2/ Berries paid for by processors and lost because of dehydration and berry breakdown after delivery.
3/ Equivalent return at first delivery point, screen basis.
4/ Excludes cranberries that were put in set aside under the Cranberry Marketing Order.

APPLES: PRODUCTION AND VALUE, MASSACHUSETTS, 1973 - 1983

YEAR	TOTAL PRODUCTION 1/	UTILIZED PRODUCTION	PRICE PER UNIT	VALUE OF UTILIZED PRODUCTION
	1,000 42-Pound Units		Dollars	1,000 Dollars
1973	1,976	1,976	5.59	11,039
1974	2,548	2,381	4.33	10,300
1975	2,500	2,333	4.37	10,192
1976	2,262	2,262	6.13	13,870
1977	2,262	2,190	5.38	11,776
1978	2,500	2,500	5.80	14,490
1979	2,262	2,262	6.51	14,725
1980	2,381	2,381	6.13	14,600
1981	1,976	1,976	8.35	16,501
1982	2,381	2,381	7.26	17,290
1983	2,310	2,310	7.10	16,403

1/ Estimates relate to production in orchards of 100 or more trees.

PEACHES: PRODUCTION AND VALUE, MASSACHUSETTS, 1973 - 1983

YEAR	PRODUCTION	PRICE PER UNIT	VALUE OF PRODUCTION
	1,000 48-Pound Units	Dollars	1,000 Dollars
1973	58	9.66	560
1974	35	8.74	306
1975	42	9.52	400
1976	35	12.63	442
1977	42	10.48	440
1978	38	13.74	522
1979	38	15.16	576
1980	42	14.29	600
1981	4	17.50	70
1982	31	21.77	675
1983	35	22.34	782

POTATOES: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	SEASON AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	1,000 Cwt	Dollars	1,000 Dollars
1973	4,000	160	640	4.90	3,336
1974	4,400	200	880	3.50	3,080
1975	3,900	205	800	5.00	4,000
1976	3,500	220	770	5.80	4,466
1977	3,700	240	888	5.40	4,795
1978	3,600	225	810	6.30	5,103
1979	3,400	220	748	5.60	4,189
1980	3,400	220	748	7.50	5,610
1981	3,300	225	743	5.40	4,012
1982	3,800	205	779	3.90	3,038
1983	3,400	190	646	6.20	4,005

TOMATOES: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	1,000 Cwt.	Dollars	1,000 Dollars
1973	730	195	142	17.40	2,471
1974	700	175	123	16.50	2,030
1975	630	210	132	18.00	2,376
1976	590	195	115	21.40	2,461
1977	560	190	106	20.40	2,162
1978	550	210	116	21.80	2,529
1979	510	190	97	24.60	2,386
1980	680	210	143	21.70	3,103
1981	760	215	163	20.10	3,276
1982	660	220	145	30.00	4,350
1983	570	165	94	30.00	2,820

SWEET CORN: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	1,000 Cwt.	Dollars	1,000 Dollars
1973	8,000	78	624	6.20	3,869
1974	8,200	62	508	8.90	4,521
1975	8,600	81	697	7.10	4,949
1976	8,200	72	590	7.71	4,549
1977	7,800	60	468	8.90	4,165
1978	7,200	88	634	7.00	4,438
1979	7,700	84	647	8.99	5,817
1980	8,200	88	722	9.09	6,563
1981	8,800	85	748	11.70	8,752
1982	7,700	88	678	14.00	9,492
1983	8,700	92	800	13.30	10,640

MAPLE SYRUP

Maple syrup production during the spring of 1983 totaled 20,000 gallons, 33 percent below the preceding year. The season was reported too warm in most areas and was the main cause of the lower production. The 1983 sugaring season opened about one week earlier than normal and closed around the usual closing date. The color of the syrup was reported as primarily medium. At $20.90 per gallon, the syrup crop had a value of $418,000, 31 percent less than the previous year.

MAPLE SYRUP: PRODUCTION AND VALUE, MASSACHUSETTS, 1973 - 1984

YEAR	PRODUCTION	SEASON AVERAGE PRICE PER GALLON	VALUE OF PRODUCTION
	1,000 Gallons	Dollars	1,000 Dollars
1973	20	9.40	188
1974	25	11.20	280
1975	31	10.70	332
1976	27	12.75	344
1977	27	14.20	383
1978	28	14.10	395
1979	30	15.90	477
1980	18	18.40	331
1981	40	18.70	748
1982	30	20.20	606
1983	20	20.90	418
1984	26	21.20	551

MAPLE SYRUP PRICES: BY TYPE OF SALE AND SIZE OF CONTAINER, MASSACHUSETTS, 1973 - 1984

YEAR	RETAIL					WHOLESALE					ALL SALES EQUIVALENT PER GALLON
	GAL	1/2 GAL	QUART	PINT	1/2 PINT	GAL	1/2 GAL	QUART	PINT	1/2 PINT	
	Dollars										
1973	9.00	5.00	3.10	2.25	1.25	8.30	4.60	2.85	1.80	1.10	9.40
1974	10.50	5.90	3.55	2.30	1.40	9.00	5.00	3.00	1.85	1.20	11.20
1975	11.10	6.20	3.75	2.50	1.50	10.00	5.45	3.30	2.05	1.15	10.70
1976	11.65	6.45	3.90	2.55	1.50	10.35	5.75	3.35	2.20	1.35	12.75
1977	12.30	6.90	4.05	2.65	1.80	11.20	6.05	3.70	2.40	1.50	14.20
1978	13.10	7.40	4.29	2.81	1.86	11.66	6.59	3.79	2.41	1.49	14.10
1979	14.88	8.37	4.84	3.12	2.13	12.53	7.13	4.09	2.66	1.77	15.90
1980	17.66	9.69	5.88	3.69	2.46	16.25	8.94	4.73	3.07	1.98	18.40
1981	18.69	10.73	6.23	4.07	2.59	16.44	9.39	5.39	3.33	2.01	18.70
1982	19.39	11.31	6.61	4.20	2.68	16.38	9.87	5.41	3.46	2.13	20.20
1983	19.29	11.08	6.56	4.23	2.64	17.09	9.76	5.74	3.42	2.23	20.90
1984	19.40	11.16	6.56	4.28	2.66	16.80	9.54	5.48	3.50	2.25	20.60

COMMERCIAL FERTILIZER: CONSUMPTION BY KIND AND PLANT NUTRIENTS, MASSACHUSETTS, 1975 - 1983

YEAR	KIND OF FERTILIZER				PRIMARY NUTRIENTS		
	MIXED FERTILIZER	PRIMARY NUTRIENT MATERIALS	SECONDARY AND MICRO-NUTRIENTS	TOTAL FERTILIZER	N	AVAILABLE P_2O_5	K_2O
				Tons			
1975	51,814	15,216	36	67,066	7,866	5,588	6,049
1976	55,548	15,335	150	71,033	8,803	5,984	6,779
1977	53,094	14,882	28	68,004	9,015	5,872	6,607
1978	71,471	14,970	62	86,503	11,501	7,644	8,552
1979	58,397	11,393	224	70,014	10,275	6,220	7,530
1980	50,417	15,207	117	65,741	9,081	5,444	6,375
1981	59,793	10,864	466	71,123	9,352	7,457	6,893
1982	47,171	15,239	689	63,099	8,550	5,122	6,688
1983	37,194	14,342	312	51,848	7,692	3,986	5,226

PRICES PAID BY FARMERS: INDEX NUMBERS, ANNUAL AVERAGE, UNITED STATES, 1973 - 1983, BY YEARS (1977=100)

YEAR	COMMODITIES & SERVICES, INTEREST, TAXES & WAGE RATES	PRODUCTION ITEMS INTEREST, TAXES & WAGE RATES	PRODUCTION ITEMS	INTEREST PAYABLE PER ACRE	TAXES PAYABLE PER ACRE	WAGE RATES FOR HIRED FARM LABOR 1/
1973	71	72	73	55	77	69
1974	81	81	83	65	81	79
1975	89	89	91	77	87	85
1976	95	95	97	88	94	93
1977	100	100	100	100	100	100
1978	108	109	108	117	100	107
1979	123	125	125	143	107	117
1980	138	139	138	174	115	126
1981	150	151	148	211	123	137
1982	157	155	150	241	131	143
1983	161	159	153	251	137	147

1/ Simple average of quarterly indexes seasonally adjusted.

INDEX NUMBERS OF PRICES RECEIVED BY FARMERS, BY COMMODITY GROUPS, U.S. ANNUAL AVERAGE, 1973-1983 (1977=100)

YEAR	CROPS								LIVESTOCK & PRODUCTS				ALL FARM PRODUCTS
	FOOD GRAINS	FEED GRAINS AND HAY	TOBACCO	COTTON	OIL BEARING CROPS	FRUIT	COMMERCIAL VEGETABLES	ALL CROPS	DAIRY PRODUCTS	POULTRY & EGGS	MEAT ANIMALS	ALL LIVESTOCK	
1973	138	90	74	54	93	84	76	91	74	101	118	104	98
1974	192	134	85	85	96	86	81	117	86	94	98	94	105
1975	155	127	93	68	81	85	92	105	90	103	100	98	101
1976	129	120	93	99	85	80	91	102	100	102	101	101	102
1977	100	100	100	100	100	100	100	100	100	100	100	100	100
1978	122	101	1099	91	93	137	105	105	109	106	134	124	115
1979	147	114	118	96	103	144	110	116	124	111	166	147	132
1980	165	132	125	114	102	124	113	125	135	112	156	144	134
1981	166	141	140	111	110	130	136	134	142	116	150	143	139
1982	146	120	154	92	88	175	127	121	140	110	155	145	133
1983	148	144	147	104	102	126	131	127	140	118	147	141	134

FEED PRICES: AVERAGE PRICE PAID, BY MONTH, MASSACHUSETTS, 1979-1983

KIND AND YEAR		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
						Dollars Per Ton							
Laying Feed	1979	144	145	149	150	152	153	165	162	160	165	160	162
	1980	162	162	160	160	165	165	174	184	195	195	205	200
	1981	205	200	195	195	195	195	190	188	178	178	174	174
	1982	175	174	170	170	172	173	173	171	167	159	160	164
	1983	165	167	170	176	180	179	182	190	195	195	195	192
Dairy Feed													
16% protein	1979	148	150	151	147	147	149	161	153	155	162	162	165
	1980	165	160	160	160	160	160	164	175	185	185	195	195
	1981	200	200	190	195	200	195	190	185	177	180	180	180
	1982	180	178	175	178	172	177	176	176	170	155	170	171
	1983	172	169	169	172	175	173	173	180	189	192	205	200
18% protein	1979	152	154	155	151	151	153	165	160	162	170	170	175
	1980	175	170	170	165	165	165	170	175	190	200	210	210
	1981	215	215	205	210	215	210	210	200	196	200	197	197
	1982	197	195	193	196	180	191	185	187	183	163	180	182
	1983	183	180	181	182	185	181	181	186	196	200	205	205
20% protein	1979	156	158	159	155	155	157	170	163	165	172	172	177
	1980	177	175	175	170	170	170	173	185	200	205	215	215
	1981	220	220	210	215	220	215	210	205	200	200	200	200
	1982	200	200	195	197	179	194	190	190	187	167	184	183
	1983	185	184	185	185	188	184	184	191	200	205	210	210
						Dollars Per Cwt.							
Bran	1979	8.60	8.80	8.90	8.90	8.80	8.90	9.50	9.00	8.90	8.90	8.90	9.20
	1980	9.80	9.90	10.00	10.50	10.00	10.50	10.50	10.50	11.00	11.50	11.50	11.50
	1981	11.50	11.00	10.00	10.00	10.50	10.50	10.50	10.00	9.50	9.30	9.70	9.80
	1982	10.50	10.00	9.50	9.80	11.00	9.70	9.30	9.10	9.00	9.70	9.10	9.20
	1983	9.50	9.60	9.60	10.00	10.50	10.50	10.50	10.50	11.00	12.00	13.00	12.50
Middlings	1979	8.50	8.60	8.70	8.30	8.30	8.30	9.20	8.60	8.60	8.90	9.00	9.20
	1980	9.20	8.70	9.00	9.50	9.50	9.40	9.20	9.70	10.50	11.00	11.00	11.00
	1981	11.00	10.50	9.50	10.00	10.50	10.00	9.50	9.00	9.00	9.20	9.50	9.80
	1982	9.80	9.60	9.50	9.80	11.00	9.90	9.50	9.40	9.10	9.80	9.20	9.40
	1983	9.60	10.00	9.40	9.80	10.00	9.70	9.70	10.00	10.50	11.00	12.00	12.00
Cornmeal	1979	7.80	7.90	8.20	8.30	8.50	8.60	9.40	9.30	9.30	9.30	9.20	9.10
	1980	8.80	8.70	9.00	9.20	9.00	9.10	9.50	10.00	10.50	10.50	10.50	10.50
	1981	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.50	10.00	9.70	9.70
	1982	9.60	9.70	9.80	9.90	10.00	10.00	10.50	10.50	10.50	9.70	9.80	9.80
	1983	9.70	9.80	10.00	10.00	10.50	10.50	10.50	11.00	11.00	11.00	11.00	11.00
Soybean Meal	1979	14.50	14.50	15.00	15.00	15.00	15.00	16.00	15.00	14.50	15.00	14.50	15.00
	1980	15.00	14.50	14.50	14.50	14.00	14.00	14.50	15.50	17.00	18.00	19.00	18.50
	1981	18.00	17.50	17.50	18.00	18.00	17.50	17.00	17.00	16.50	16.00	16.00	16.00
	1982	16.00	16.50	16.50	16.50	17.00	16.00	16.00	15.50	15.50	15.00	15.50	15.50
	1983	15.50	15.50	15.50	16.00	16.00	16.00	16.00	17.00	17.50	17.00	17.50	17.50
Molasses	1979	5.80	5.90	6.00	6.00	6.00	6.10	6.40	6.40	6.40	6.60	7.20	7.00
	1980	7.20	8.00	8.00	8.30	8.00	8.00	8.00	8.80	9.70	9.70	10.00	9.50
	1981	10.00	10.00	10.00	9.80	9.50	9.00	9.00	9.00	9.00	8.70	8.30	8.10
	1982	8.10	8.10	8.10	7.80	8.60	8.00	8.70	8.10	8.10	8.30	8.00	7.70
	1983	7.80	7.80	7.80	7.80	7.90	7.80	7.80	7.80	7.80	7.80	7.90	8.00
Stock Salt	1979	5.60	5.60	5.70	5.70	5.70	5.60	5.70	5.80	5.80	5.80	6.00	6.00
	1980	6.10	6.00	6.50	7.00	7.50	7.50	8.20	8.20	8.50	8.70	8.60	7.80
	1981	8.00	7.70	7.70	7.70	7.90	8.00	8.00	8.50	8.50	8.00	8.40	8.10
	1982	8.50	8.00	8.00	8.00	9.00	7.90	8.50	8.70	8.60	9.40	8.90	9.00
	1983	9.00	9.30	9.40	9.40	9.50	9.50	9.40	10.00	10.00	10.00	10.00	9.70

FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1983

EXPENDITURE 2/	NORTHEAST		UNITED STATES	
	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/
	Dollars	1,000 Dollars	Dollars	1,000 Dollars
TOTAL FARM PRODUCTION EXPENDITURES	50,551	8,553,100	55,521	131,301,819
LIVESTOCK & POULTRY:	3,937	666,483	5,792	13,697,917
Cattle Purchased	1,280	216,685	4,209	9,954,172
Hogs & Pigs Purchased	135	22,917	397	939,040
Sheep & Lambs Purchased	8	1,383	153	361,924
Poultry Purchased	602	101,931	346	818,648
Other Livestock & Poultry Purchased	519	87,905	330	780,471
Other 5/	492	83,271	256	606,150
FARM SERVICES:	5,964	1,009,671	9,691	22,918,341
Custom Hire	304	51,500	750	1,772,502
Veterinarian, Medicine & Supplies	526	89,030	343	812,109
Hired Transportation for Delivery to Farm	92	15,593	66	157,157
Insurance	965	163,413	941	2,224,326
Marketing Expenses (Crop & Livestock)	1,041	176,208	1,292	3,056,305
Miscellaneous Farm Business	1,033	174,912	880	2,080,094
Rent	1,064	180,122	5,264	12,448,054
Cash Rent	905	153,197	2,171	5,133,472
Share Rent	159	26,924	3,093	7,314,582
Equipment Leasing 6/	74	12,602	156	367,794
FEED:	11,779	1,994,210	8,580	20,289,707
Grains	1,608	272,182	2,721	6,434,052
Hays & Forages	482	81,666	909	2,150,327
Mixed or Formula Feeds	9,322	1,578,264	4,487	10,611,206
Other Feeds, Additives & Ingredients	362	61,301	371	876,401
Pasture & Grazing Livestock	5	797	92	217,722
WAGES & CONTRACT LABOR:	6,272	1,061,920	4,661	11,023,122
Cash Wages	5,190	878,744	3,701	8,752,328
Contract Labor	132	22,316	275	649,570
Total Perquisites Furnished	950	160,859	686	1,621,225
INTEREST:	3,724	630,501	5,880	13,905,083
Farm Real Estate	2,771	469,166	3,351	7,925,424
Operating Loans 7/	953	161,335	2,529	5,979,659
Landlord Farm Real Estate	42	7,101	250	591,093
FERTILIZER, LIME & SOIL CONDITIONERS: 8/	2,737	463,405	3,546	8,386,797
Custom Applied Fertilizer	626	106,034	1,182	2,794,386
Not Custom Applied Fertilizer	1,739	294,477	1,925	4,553,547
Lime & Soil Conditioners	343	58,118	151	357,783
FUELS & ENERGY:	3,807	644,515	4,042	9,558,793
Gasoline - Delivered Bulk to Farm	802	135,783	818	1,934,959
Gasoline - Purchased at Service Station	269	45,458	299	707,740
Diesel Fuel	848	143,588	1,331	3,148,489
Fuel Oil & Kerosene	330	55,872	52	122,475
L. P. Gas	122	20,732	280	663,241
Natural Gas	145	24,534	144	341,235
Motor Oil, Grease & Special Fluids	127	21,500	173	408,290
Electricity (Excluding Irrigation)	1,090	184,615	687	1,624,669
Electricity for Irrigation	10	1,739	248	585,608

See Footnotes, Page 26

FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1983

EXPENDITURE 2/	NORTHEAST		UNITED STATES	
	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/
	Dollars	1,000 Dollars	Dollars	1,000 Dollars
FARM & MOTOR SUPPLIES:	3,569	604,179	3,097	7,324,060
Motor Vehic.Operating Cost Other than Fuels	1,693	286,585	2,109	4,988,677
Miscellaneous Farm Supplies	1,129	191,177	707	1,672,711
Marketing Containers	747	126,418	280	662,672
BUILDING, FENCING & FARM IMPROVEMENTS: 9/	1,761	298,057	1,957	4,628,859
New Building Construction & Remodeling	829	140,407	875	2,068,244
Building Maintenance & Repair	389	65,809	219	518,274
Fencing Expenses	75	12,741	147	346,985
Maintenance & Repairs (Other)	130	21,961	252	595,514
New Construction Improvements (Other)	276	46,668	447	1,056,531
TRACTORS & SELF-PROPELLED MACHINERY:	898	151,977	1,694	4,005,601
Tractors	709	119,959	1,102	2,606,156
Tractors, New	331	55,958	570	1,347,430
Tractors, Used	378	64,001	532	1,258,726
Self-Propelled Machinery	189	32,019	592	1,399,445
OTHER FARM MACHINERY,IMPLEMNTS & LIVESTK EQUIPMT:	1,662	281,330	1,449	3,426,304
Farm Machinery, Not Self-Propelled	1,148	194,281	1,042	2,464,286
Dairy, Poultry & Other Livestock Equipment	311	52,579	219	518,458
Repair & Maintenance Livestock Equipment	204	34,470	188	443,560
SEEDS & PLANTS:	1,319	223,367	1,478	3,494,495
Seed for Field Crops & Small Grains	613	103,814	1,034	2,445,698
TAXES:	1,543	261,249	1,200	2,837,617
Farm Real Estate	1,305	220,940	994	2,351,072
Other Property Tax 7/	238	40,309	206	486,545
Landlord Farm Real Estate	443	74,960	690	1,631,400
AUTOS, TRUCKS & OTHER VEHICLES: 10/	765	129,534	1,000	2,365,851
Autos	124	20,985	169	399,404
Trucks	519	87,921	717	1,695,045
Trucks, New	436	73,844	582	1,376,407
Trucks, Used	83	14,078	135	318,638
AGRICULTURAL CHEMICALS: 8/ 11/	802	135,833	1,448	3,425,055
Pesticides for Crops & Crop Storage	737	124,820	469	1,108,614
Pesticides for Livestock, Poultry & Buildings	56	9,461	10	23,850
UNALLOCATED OTHER EXPENSES:	12	2,029	6	14,217

1/ Includes eleven states: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.
2/ Farm share.
3/ Total expenditure divided by number of farms.
4/ Totals may not add, due to rounding.
5/ Excludes veterinarian fees, medicine and breeding fees.
6/ Includes equipment renting.
7/ Includes landlord expenditures.
8/ Landlord expenditure included only in total.
9/ "All Other Improvements" included in total only.
10/ "Other Vehicles" included in total only.
11/ Includes seed treatments.

FARM BALANCE SHEET (Excluding Farm Households), MASSACHUSETTS, JANUARY 1, 1979-1983

ITEM	1979	1980	1981	1982	1983
			Million Dollars		
Assets:					
Real Estate 1/	737.5	783.6	807.0	804.2	823.1
Livestock and Poultry 2/	65.3	78.8	90.0	87.3	77.3
Machinery and Motor Vehicles 3/	135.6	149.3	150.6	153.9	158.1
Crops 4/	26.2	22.8	25.2	24.8	26.4
Financial Assets	65.8	69.8	64.4	70.9	71.5
TOTAL FARM ASSETS	1,030.3	1,104.3	1,137.3	1,141.1	1,156.5
Claims:					
Real Estate Debt 5/	57.3	67.3	74.0	82.6	86.3
Non-Real Estate Debt 6/	105.6	129.5	124.9	139.7	138.3
TOTAL FARM DEBT	163.0	196.8	199.0	222.3	224.6
Equity	867.4	907.5	938.3	918.8	932.0

1/ Excludes value of operator dwellings.
2/ Excludes horses, mules, and broilers.
3/ Includes only farm share value for trucks and autos.
4/ All crops held on farms including crops under CCC and crops held off farms by farm operators.
5/ Excludes debt on operator dwellings.
6/ Excludes debt for non-farm purposes.

FARM PRODUCTION EXPENSES, MASSACHUSETTS, 1978-1982

CURRENT FARM OPERATING EXPENSES	1978	1979	1980	1981	1982
			Million Dollars		
Feed	39.7	43.7	46.9	48.4	45.0
Livestock	2.9	1.4	1.4	1.5	1.0
Seed	7.8	8.8	10.0	10.5	10.6
Fertilizer and Lime	8.3	7.7	8.8	9.7	7.6
Repairs and Operation of Capital Items	27.6	34.9	40.3	42.4	41.5
Hired Labor	50.5	58.8	64.4	62.6	74.2
Miscellaneous	35.8	38.8	41.8	49.6	52.3
TOTAL CURRENT FARM OPERATING EXPENSES	172.7	194.1	213.4	224.8	232.3
Depreciation and Other Consumption of Farm Capital	36.3	52.4	58.4	62.7	63.8
Taxes on Farm Property	14.2	27.8	20.4	21.8	21.3
Interest on Farm Mortgage Debt	5.5	6.2	7.3	8.3	9.7
Net Rent to Non-Operator Landlord	-.3	--	.1	.3	.3
TOTAL PRODUCTION	228.3	280.5	299.6	317.9	327.4

GROSS INCOME AND NET INCOME FROM FARMING, MASSACHUSETTS, 1960-1982

ITEM	1960	1970	1978	1979	1980	1981	1982
				Million Dollars			
Gross Farm Income:							
Cash Receipts from Farm Marketing	164.7	157.0	278.8	287.4	305.9	330.0	341.1
Government Payment	.7	.6	.8	.6	.7	.8	.6
Non-Money Income	15.5	15.1	41.5	47.7	54.5	54.8	56.5
Other Farm Income	.7	1.5	2.2	2.7	2.8	3.3	3.5
TOTAL	181.6	174.2	323.2	338.4	364.0	388.9	401.8
Farm Production Expenses	135.6	131.3	237.3	280.5	299.6	317.9	327.4
Net Farm Income Before Inventory Adjustment	46.1	42.8	85.9	57.9	64.4	71.0	74.4
Net Change in Farm Inventory	1.3	.2	.1	3.4	2.9	-6.8	-6.8
Net Farm Income After Inventory Adjustment	47.3	43.0	86.1	61.3	67.3	64.2	67.6

CROP AND LIVESTOCK PRODUCTION: RANK AMONG STATES, MASSACHUSETTS AND NEW ENGLAND, 1983

ITEM	UNIT	MASSACHUSETTS			NEW ENGLAND		
		PRODUCTION	RANK	%U.S. TOTAL	PRODUCTION	RANK	%U.S. TOTAL
		1,000			1,000		
CROPS:							
Cranberries	barrels	1,460	1	48.3	1,460	1	48.3
Apples	42-pounds	2,310	13	1.2	7,929	8	4.0
Peaches	48-pounds	35	32	*	n/a	n/a	n/a
Corn for Silage	tons	663	32	.7	3,904	6	4.0
Hay, All	tons	313	43	.2	2,086	23	1.5
Potatoes	cwt.	646	33	.2	24,190	3	7.2
Tobacco	pounds	768	16	.05	4,224	15	.3
Sweet Corn	cwt.	800	8	5.6	n/a	n/a	n/a
Tomatoes	cwt.	94	20	.3	n/a	n/a	n/a
Maple Syrup	gallons	20	n/a	n/a	607	n/a	n/a
LIVESTOCK AND POULTRY:							
Eggs	each	265,000	40	.4	3,006,000	8	4.4
Milk	pounds	611,000	38	.4	4,845,000	7	3.5
Wool	pounds	56	37	.1	330	30	.3
Sheep	head	.2	37	*	4	30	.2
Lambs	head	3	37	*	26	30	.4
Hogs and Pigs	head	59	40	.1	102	35	.1
Cattle	head	16	46	*	191	37	.4
Calves	head	23	42	.2	172	31	1.6

* Less than .05 percent

FARMS: NUMBER AND LAND, MASSACHUSETTS AND NEW ENGLAND, 1973 - 1984 1/

YEAR	MASSACHUSETTS			NEW ENGLAND		
	NUMBER OF FARMS	AVERAGE SIZE	LAND IN FARMS	NUMBER OF FARMS	AVERAGE SIZE	LAND IN FARMS
		Acres	1,000 Acres		Acres	1,000 Acres
1973	5,500	124	680	28,040	192	5,378
1974	5,500	124	680	27,740	192	5,318
1975	5,800	121	700	26,120	197	5,135
1976	6,300	111	700	27,960	185	5,165
1977	6,200	111	690	28,300	182	5,155
1978	5,900	115	680	28,700	180	5,165
1979	6,200	113	700	29,900	173	5,165
1980	6,200	116	720	30,660	169	5,185
1981	6,100	115	700	30,920	169	5,225
1982	6,100	113	690	30,000	169	5,075
1983	6,100	110	670	30,200	167	5,045
1984	6,100	111	680	29,950	169	5,063

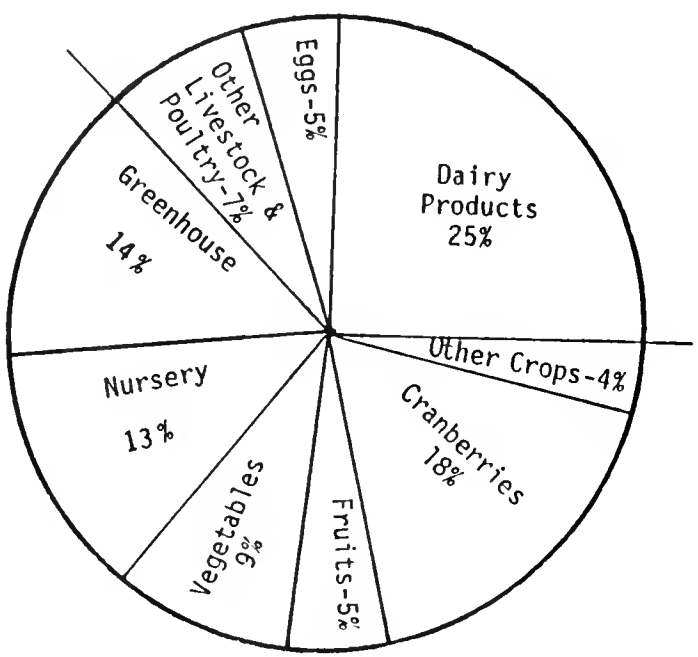
1/ A farm is a place that sells or normally would sell $1,000 of agricultural products.

CASH RECEIPTS FROM FARM MARKETINGS, MASSACHUSETTS, 1981-1983

COMMODITY	1981	1982	1983	COMMODITY	1981	1982	1983
	1,000 Dollars				1,000 Dollars		
CROPS				LIVESTOCK			
Hay	2,498	2,929	3,267	Cattle and Calves	12,694	7,593	7,183
tobacco	14,895	14,953	4,542	Hogs and Pigs	5,515	7,765	5,838
Potatoes	4,420	3,832	2,251	Sheep and Lambs	159	257	161
Sweet Corn	8,752	9,492	10,640	Dairy Products	85,989	89,074	91,345
Tomatoes	3,276	4,350	2,820	Chickens	817	387	571
Misc. Vegetables	22,886	25,660	18,500	Eggs	22,933	21,910	20,020
Apples	12,856	15,344	14,846	Turkeys	2,345	2,379	2,782
Peaches	35	630	736	Misc. Poultry	2,875	2,831	3,475
Cranberries	48,639	59,588	64,820	Misc Livestock	3,118	3,417	4,714
Other Berries	1,404	2,065	2,270				
Misc. Fruits	283	285	275	TOTAL LIVESTOCK	136,445	135,613	136,089
Maple	711	566	397				
Forest Products	1,656	1,634	1,720				
Greenhouse/Nursery	90,556	92,000	100,000				
Misc. Crops	3,297	4,100	3,775	ALL COMMODITIES	352,609	373,041	366,948
TOTAL CROPS	216,164	237,428	230,859				

MASSACHUSETTS - 1983

LIVESTOCK - 37%



CROPS - 63%

Per capita comsumption of major food commodities (retail weight)[1]

	1974	1975	1976	1977	1978	1979	1980	1981	1982[2]
					Pounds				
Meats:	151.3	143.7	153.0	152.3	146.9	144.8	147.7	145.2	139.4
Beef	85.6	87.9	94.4	91.8	87.2	78.0	76.5	77.2	77.3
Veal	1.9	3.4	3.3	3.2	2.4	1.7	1.5	1.6	1.6
Lamb and mutton	2.0	1.8	1.6	1.5	1.4	1.3	1.4	1.4	1.5
Pork	61.8	50.7	53.7	55.8	55.9	63.8	68.3	65.0	59.0
Fish (edible weight):	12.1	12.2	12.9	12.7	13.4	13.0	12.6	12.9	12.3
Canned	4.7	4.3	4.2	4.6	6.0	4.8	4.5	4.6	4.3
Fresh and frozen	6.9	7.5	8.2	7.7	8.1	7.8	8.0	7.8	7.7
Cured	0.5	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.3
Poultry products:									
Eggs	36.0	35.1	34.3	34.0	34.6	35.3	34.6	33.8	33.4
Chicken (ready-to-cook)	40.7	40.1	42.7	44.1	46.7	50.6	50.1	51.7	52.9
Turkey (ready-to-cook)	8.6	8.5	9.1	9.1	9.2	9.9	10.5	10.7	10.6
Dairy products:									
Cheese (excluding cottage)	14.6	14.3	15.7	16.1	17.0	17.2	17.6	18.4	20.1
Canned and bulk whole milk	5.6	5.3	5.0	4.3	4.2	4.1	3.8	4.1	4.1
Fluid milk and cream (product weight)	262.3	266.8	263.6	259.9	257.2	253.2	249.7	245.7	242.2
Ice cream (product weight)	17.4	18.5	17.9	17.5	17.4	17.1	17.3	17.2	17.5
Fats and Oils—Total fat content	52.4	52.4	54.9	53.2	54.6	55.7	55.9	56.6	56.8
Butter (actual weight)	4.5	4.7	4.3	4.3	4.4	4.5	4.5	4.3	4.5
Margarine (actual weight)	11.1	11.0	11.9	11.4	11.2	11.2	11.3	11.1	11.1
Lard	3.2	2.8	2.6	2.2	2.2	2.4	2.4	2.5	2.4
Shortening	16.9	17.0	17.7	17.2	17.8	18.4	18.2	18.5	18.8
Other edible fats and oils	19.8	19.9	21.5	21.0	22.1	22.4	22.7	23.5	23.3
Fruits:									
Fresh	75.9	80.3	82.6	79.3	78.6	80.2	85.3	85.1	81.2
Citrus	26.6	28.4	28.1	25.5	25.7	23.8	28.1	24.2	24.0
Noncitrus	49.3	51.9	54.6	53.8	52.9	56.4	57.2	60.9	57.2
Processed:									
Canned fruit	19.3	19.0	18.6	19.0	17.9	17.8	17.4	16.4	13.0
Canned juice	13.0	14.6	14.5	13.6	16.5	16.9	16.7	19.1	13.8
Frozen (including juices)	12.0	14.0	13.6	14.0	12.5	12.6	13.0	12.7	14.1
Chilled citrus juices	5.2	5.6	6.1	6.7	6.1	5.5	5.9	4.2	3.5
Dried	2.4	2.9	2.6	2.5	2.1	2.6	2.4	2.7	2.6
Vegetables:									
Fresh[3]	91.6	90.3	92.9	93.6	95.4	96.4	98.8	90.2	100.9
Canned (excluding potatoes)	52.9	51.9	53.0	53.1	51.8	53.2	46.5	45.6	45.6
Frozen (excluding potatoes)	10.1	9.6	10.1	10.2	10.7	11.2	10.4	11.6	10.7
Fresh potatoes	45.5	51.6	48.5	51.5	48.8	52.1	53.6	45.3	46.7
Frozen potato products	13.1	13.7	14.6	16.7	17.2	17.7	16.9	18.2	18.1
Sweetpotatoes[4]	4.7	4.8	4.8	4.3	4.0	4.2	4.0	3.8	4.3
Grains:									
Wheat flour[5]	111	115	119	116	115	117	117	116	114
Rice	7.5	7.6	7.1	7.5	6.7	9.4	9.4	11.0	11.8
Other:									
Coffee	9.6	9.2	9.4	8.9	7.9	8.5	7.7	7.7	7.5
Cocoa	3.0	2.6	3.0	2.6	2.6	2.6	2.6	2.9	3.0
Peanuts (shelled)	6.4	6.5	6.2	6.3	6.8	6.8	5.5	6.4	6.6
Dry edible beans	5.0	6.5	6.0	6.2	4.8	4.7	4.6	5.7	6.0
Melons	17.0	17.2	16.3	19.1	19.6	18.9	16.9	18.8	20.4
Sugar (refined)	95.6	89.1	93.4	94.2	91.4	89.3	83.7	79.5	75.2
Corn sweeteners[6]	25.6	28.8	31.9	35.3	39.2	43.3	48.9	55.0	60.0
Soft drinks (gallons)	26.7	27.3	30.6	33.3	35.4	36.8	37.6	38.9	39.6

[1] Quantity in pounds, retail weight unless otherwise shown. Data on calendar year basis except for dried fruits, fresh citrus fruits, peanuts, dry beans and rice which are on a crop-year basis. [2] Preliminary. [3] Commercial production for sale as fresh produce. [4] Table stock and processed. [5] White, whole wheat, semolina, and durum flour. [6] Fructose and glucose. n.a. = not available.

ANNUAL REPORT

MASSACHUSETTS DEPARTMENT

OF

FOOD AND AGRICULTURE

FISCAL YEAR 1984

JULY 1, 1983

TO

JUNE 30, 1984

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GENERAL COUNSEL
Erica L. Powers, General Counsel

1983 was a banner year for legislation for the Department of Food and Agriculture. Six laws, of significance to many farmers, were enacted by the General Court and signed by the Governor. These included the Department reorganization, enacting legislation for a milk producers' security fund and for an apple marketing order, farmland evaluation guidelines for tax assessment under Chapter 61A, exemptions of plastic greenhouses from the requirements of the state building code, and regulations of the sale of maple syrup and maple products. In addition, the Department was given responsibility to license persons engaged in the hearing dog business.

Chapter 691 of the Acts of 1983, the Department reorganization, vests the powers and duties of the Milk Control Commission in the Commissioner of Food and Agriculture, and establishes a Bureau of Milk Marketing within the Division of Regulatory Services to continue the draft work of the former Milk Control Commission. In addition, the reorganization established a Division of Equine Programs, which includes a Bureau of Standardbred Breeding and a Bureau of Thoroughbred Breeding, functions presently carried out by the Division of Fairs.

The Milk Producers' Security Fund, established by Chapter 706 of the Acts of 1983, went into effect March 22, 1984. Its purpose is reimbursing each Massachusetts dairy farmer who sold milk to a dealer who has defaulted in timely payment for the milk. It is funded by a contribution of five cents per hundred weight of milk sold by each dairy farmer who is not a member of a cooperative association which guarantees payment where there is a default in the payment for milk. The Commissioner has appointed a task force of contributing farmers to monitor the Milk Producers' Security Fund.

With strong support from Massachusetts apple growers, enabling legislation was enacted which gives the Commissioner authority to make and issue marketing orders which provide for uniform grading, standards and inspections of apples, research programs, and advertising and sales promotions designed to benefit apple production, storage, processing, or marketing and sales. Chapter 650 of the Acts of 1983 also provides that an apple marketing order will be effective only after it is approved by either 65% of the producers voting who represent 51% of the preceeding season's production, or by 51% of the producers voting who represent 65% of the preceeding season's production. The Commissioner has appointed an apple industry task force to draft a proposed marketing order and has scheduled a referendum for August, 1984.

Chapter 709 of the Acts of 1983 clarifies the farmland valuation provisions of Chapter 61A of the general laws, The Farmland Assessment Act, enacted in 1973, consistent with a 1982 Supreme Judicial Court decision, Mann v. Board of Assessors of Wareham, Mass., 1982. It changes section 10 of Chapter 61A in two ways. First, it requires the assessors to use the values established by the Farmland Valuation Advisory Commission (FVAC) rather than to count them only as guidelines. Second, it changes the last three words of that section to make clear that the local boards of assessors shall use their personal knowledge, judgment and experience to supplement the ranges of values established by the FVAC only as that knowledge, judgment and experience relate to values of such land in agricultural use.

Massachusetts flower growers and vegetable growers who produce bedding plants need to use plastic greenhouses rather than those traditionally constructed of glass, because plastic greenhouses are less expensive to fabricate and are more energy-efficient than glass greenhouses. Chapter 67C of the Acts of 1983 acknowledges this technological development.

Chapter 285 of the Acts of 1983, which protects pure maple syrup, provides that no person shall manufacture, label, package, sell or offer for sale any food article or food product branded as maple, including syrup, candy, cream, butter or sugar, which is not made from pure maple syrup derived from the sap of the maple tree.

Chapter 585 of the Acts of 1983 gives the Department responsibility to license persons engaged in the hearing dog business. A hearing dog is a dog that is professionally trained to aid deaf and hearing-impaired individuals.

The regulatory work of the legal department included the dismissal without prejudice of an adjudicatory proceeding against six milk dealers, and the conduct of hearings on milk price regulations and on proposed regulations to deter the sale of milk below cost, culminating in the issuance of such regulations. Other projects included the exploration with industry representatives, of a possible milk advertising take-out to retain a portion of the federal milk advertising take-out in Massachusetts; representatives of the Department in the bankruptcy of the Great Barrington Fair and Amusement Co., Inc.; review of the operations of the Division of Fairs and the Standardbred and Thoroughbred breeding programs, resulting in a general tightening of procedures; and establishment of procedures for the Pesticide Bureau to gather evidence in a form and manner to enhance legal enforcement action.

It was my privilege as General Counsel to testify before the Agriculture Plank Subcommittee of the Democratic National Platform Committee, to testify before the InternalRevenue Service on regulations on charitable deductions for gifts of conservation easements (including agricultural easements), and to participate in the Feathered Pipe Conclave in Montana to draft proposed revisions to those regulations; to speak before numerous commodity groups, including the Massachusetts Fruit Growers Association and the Massachusetts Farmers' Market Federation; and to conduct milk pricing hearings.

** In Memoriam: With deep regret we report that Peter F. Hines, Associate Counsel (formerly Counsel to the Milk Control Commission), died on October 8,1984, of cancer, after a brief illness. He was responsible for the Spence case, which is of great importance to farmers, and was in daily contact with members of many commodity groups on matters of concern to them.

DIVISION OF AGRICULTURAL DEVELOPMENT
John J. Fitzgerald, Director

The manifold task of maintaining a viable agriculture for the mutual benefit of the agribusiness industry and the consumer is the objective of the Division and the two Bureaus.

The compatible functions of all units can be concisely stated as the establishment, protection and preservation of an agricultural land base together with the development, servicing and promotion of efficient movement of food and agricultural products to the consumer.

The role of each unit of the Division in accomplishing this task is described herein.

BUREAU OF MARKETS
Guy L. Paris, Chief

The objectives of the Bureau are to direct the functions of export marketing, public information, market news, milk flavoring program, promotional programs, roadside marketing, farmers markets and to assist commodity groups.

The Bureau develops exhibits for trade shows, shopping center malls and agricultural fairs, prepares news releases, pamphlets and public service announcements. The Bureau assists commodity groups with legislative problems, their promotional programs and the marketing of their products, and assists agricultural purchasers in their negotiation with local farmers. Staff members attend functions related to marketing and promotion of agricultural products, develop and distribute point-of-purchase material and promotional material to retail stores and roadside stands pertaining to "Massachusetts Grown and Fresher"!

This year, the Bureau conducted a seminar at the State House promoting "Opportunities for Produce Wholesaling", conducted a produce buyer's vegetable farm tour, assisted local roadside stand operators with their building permit problems, assisted growers in their greenhouse construction problems with cities and towns, alloted promotional funds to commodity groups, and Federal/State Marketing Improvement Funds.

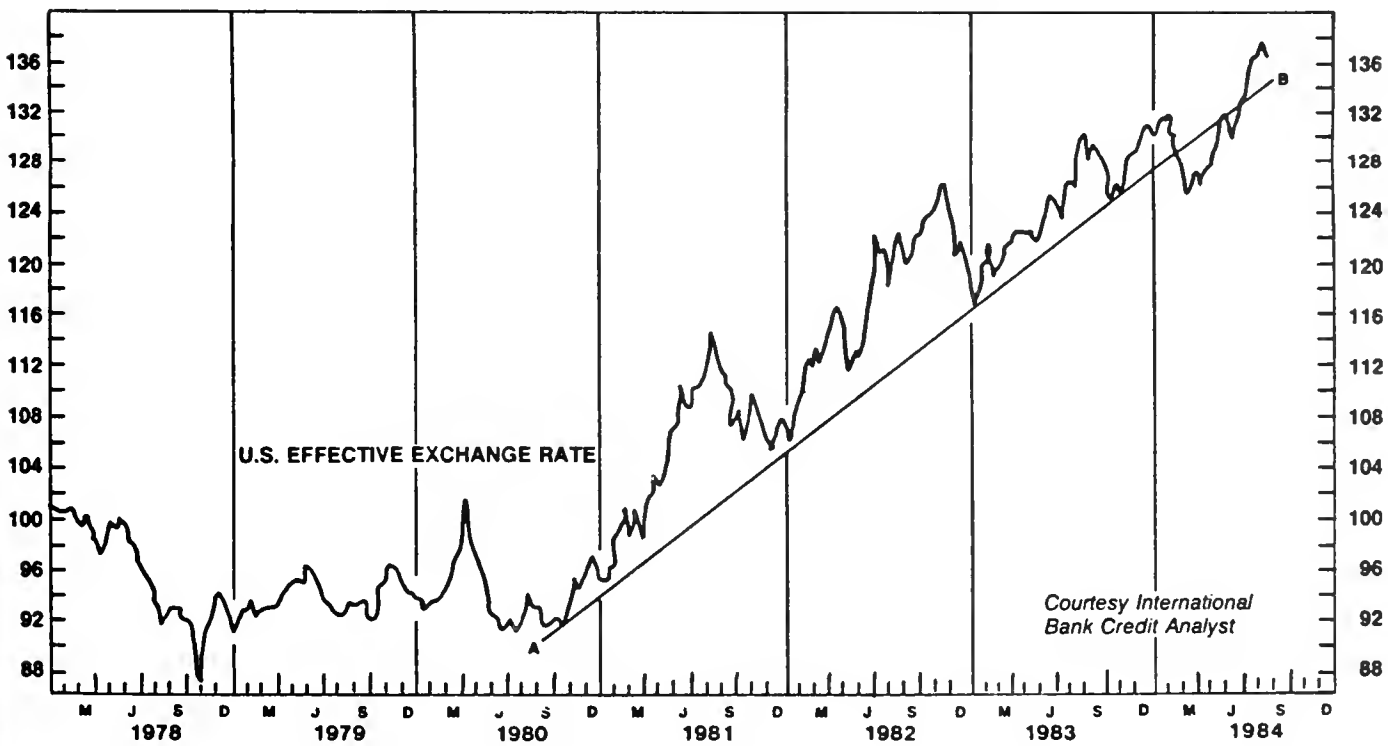
The main concern of the Bureau is to move Massachusetts agricultural products to markets. These markets can be direct sales to consumers, large or small retail foodmarkets, wholesalers, state or private institutions and other retail outlets.

The marketing of farm products in Massachusetts results in cash receipts to local farmers of more than 300 million dollars. Agribusiness in the state is valued at several billion dollars, and food stores represent the largest retail business in the Commonwealth with some 5,714 food stores which generate sales of over four billion dollars.

Two basic factors have continued to influence agricultural exports - world economic growth and high U.S. interest rates. Over the past year, the developed and developing countries have experienced stagnant to moderate economic growth. High U.S. interest rates have had a twofold impact on dampening the demand for U.S. agricultural products. First they have promoted rapid appreciation of the U.S. dollar against major world currencies, making U.S. exports relatively more expensive, and secondly the high rates have increased the borrowing costs for developing countries.

For the hundred or so Massachusetts agribusiness firms participating in our export programs, this past year has been a time when developing countries have assumed debts in massive proportions; that most of their revenues go in debt servicing; when the U.S. dollar is a powerful giant, creating an economic havoc throughout the world; when negative U.S. trade balance continues to mushroom and when protectionism is rising rapidly, further stifling world commerce. Faced with these harsh realities, increasing numbers of representatives of food and beverage manufacturing companies as well as exporters have been contacting the foreign trade section for information on the latest developments in foreign markets and for assistance in developing their marketing strategies. To this end they have been encouraged to focus their attention to the Pacific rim countries and on the export of value added products.

The Dollar's Climb Against Major Currencies



The global economic activity is shifting from the Atlantic to the Pacific. These dynamically growing East Asian countries of the Pacific rim, which have high population densities and import over 40 to 80 percent of their food consumption, now account for nearly one third of total sales abroad of U.S. farm products. The economic miracle that started in Japan is spreading from one country to another. Taiwan, Hong Kong, South Korea and Singapore have become "mini Japans". Indonesia and Malaysia with their vigorous growth and rising affluence are not far behind. Agricultural exports to this region are expected to continue experiencing a healthy rate of growth.(1,2)

There is a 100 billion dollar market out there for high value and value added products. In 1983 U.S. exports of these products were approximately 13% of the world total. If our share of the world market can be boosted to 20% by the end of the decade, it will mean a million more jobs for the U.S. economy, up to 25 billion dollars more gross national product and 8 billion dollars foreign exchange earnings each year. Since the U.S. Department of Agriculture (USDA) wants a large share of this economic pie, USDA's Foreign Agricultural Service (FAS) initiated the Value Added Promotion Program (VAPP) this year. VAPP is an export incentive matching funds program. Each participant will receive a dollar from FAS for every dollar allocated and spent towards the promotion of their product(s) overseas.

The Foreign Trade Specialist met with small groups of agribusiness company officials interested in VAPP, to assist each official in developing a marketing promotion plan (for their current regions of export and/or new global areas) geared to their product, which would yield optimum results, while still satisfying the export incentive program guidelines. VAPP is being administered through the regional export council - Eastern U.S. Agricultural & Food Export Council, Inc. (EUSAFEC).

EUSAFEC is an organization of 10 Northeast State Departments of Agriculture. EUSAFEC program committee meetings are regularly attended throughout the year. At these meetings, members formulate policies to be adopted and initiatives to be taken to increase the exports of food and other agricultural products.

An increasing number of Massachusetts firms are incorporating export trade shows into their marketing plan. They feel that an international trade show is a place to see and be seen, to make contacts, to check out competition and to use the show as a vehicle to tell their marketing story to several hundred foreign buyers, who, in turn, can examine, taste, discuss and buy the products the exhibitors have to offer. This year EUSAFEC sponsored the second U.S. International Food Show, which took place in the New York Coliseum (N.Y.C.) April 15-18, 1984. Several Massachusetts firms participated in this exposition. The general concensus among the exhibitors is that the show was an outstanding success. Here is what one Massachusetts exhibitor had to say:

> "This is our first international show. We hadn't realized what its size would be, or the number of potental buyers we would meet here. We actually wrote orders in the first hour of the show!
> --- Robert M. Ogan, Bake-N-Joy Foods"

The Foreign Trade Section is currently concentrating on disemminating information on the second NASDA National Food & Agriculture Exposition to take place in the Kansas City Convention Center (Kansas City, Missouri) April 22-24, 1985. 1985. This event is sponsored by the National Association of State Departments of Agriculture (NASDA) and the Foreign Agricultural Service of the USDA.

In the last few years, the Foreign Trade Section has been working closely with the private agribusiness firms to help them launch an aggressive international marketing program, in an effort to create a self-sustaining export momentum within the private sector. It appears that this approach has been very effective, and, of late, the Massachusetts' share of U.S. agricultural exports have been increasing dramatically as evidenced by the following excerpt from the article "Massachusetts - Exports Outpace Production and Industrial Jobs", in the September issue of Business America.

> "Massachusetts' share of U.S. agricultural exports in fiscal year 1982, including some manufactures of farm origin, totaled an estimated $24 million, double the fiscal year 1977 level. Shipments of fruit accounted for $12 million, or half of the total value. Estimated sales of $3 million each were recorded for exports of unmanufactured tobacco and vegetables.
>
> The sharp growth in exports of agricultural products from fiscal year 1977 to fiscal year 1982 accounted for 11 percent of the rise in farm sales and added to the income of Massachusetts' farmers. In this period, the export contribution to each dollar of the state's farm sales increased from 6 to 8 cents.
>
> Exports of fishery products from Massachusetts were valued at about $46 million in 1981. These shipments were two and a half times the value in 1977. The majority of these overseas sales was in fresh and frozen form. Small shipments of cured fish also were delivered to foreign markets".(3)

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1. "East Asia and Pacific Region - Growing in Importance for U.S. Agricultural Trade", Foreign Agriculture, December 1981, pp. 4-6.

2. Joseph Fromm, Walter A. Taylor, Robert Kaylor, Robert S. Dudney and Ron Scherer, "Pacific Rim - America's New Frontier", U.S. News and World Report, August 20, 1984, pp. 45-48.

3. "Massachusetts - Exports Outpace Production and Industrial Jobs", Business America, September 3, 1984, pp. 8-10.

MARKET INVESTIGATOR
David Wood

Boston Ornamental Crop Report

The Boston Ornamental Crop Report is published twice a week by the Bureau of Markets. This effort is part of the Federal-State Market News Program of the USDA which reports the wholesale prices of fresh commodities. Prices are received voluntarily from wholesale florists at the Boston Flower Exchange. In addition, local rose growers are contacted by telephone to obtain the F.O.B. price for roses at the greenhouse. There are about 120 paid subscribers to the report. It is mailed as far away as Florida and California although it is of most interest to Massachusetts retail florists and flower growers.

Food Buyer's Guide

The Food Buyer's Guide is a weekly price survey of area retail food outlets. Prices are obtained on fresh fruits and vegetables, and fresh cuts of meat at several supermarkets. During the growing season, visits are also made to local roadside stands and farmers' markets to include retail prices of locally grown produce. The information is summarized as a high to low range for the commodities and is published with a narrative of a featured food item of the week. The Food Buyer's Guide has a mailing list of about 300, although this number varies with the time of year. It is useful to our local growers who require price information to better market their products, and is also useful to dietitians, Extension personnel and institutional food buyers.

ROADSIDE MARKETING SPECIALIST
Craig M. Richov

Massachusetts ranks sixth nationally in gross farm sales and can boast of a $30 million plus roadside marketing industry. Helping Massachusetts to remain one of the most progressive states in this field is the Department's Roadside Marketing Specialist, who visited close to 150 farms this year. His in-store evaluations and recommendations to grower-retailers are intended to further upgrade the appearance, image and success of the more than 700 farm markets throughout the Commonwealth.

A Roadside Market Newsletter is published monthly to inform growers of current marketing trends, merchandising ideas and techniques. The Marketing Specialist also compiled and published the 4th edition of "The Green Book". The wholesale directory was expanded to include ornamental crops and poultry products as well as fruits and vegetables available from our local growers and producers. He also promoted agricultural products at trade shows, fairs and on television and radio.

PUBLIC INFORMATION
Janet Christensen

The public information program for the Department covered a wide variety of topics and issues this year relating to the Department and other state agencies.

One of the most important in terms of its potential long range impact is the "Massachusetts Agriculture in the Classroom" program. Initiated by this Department, this innovative project is a cooperative one with the state Department of Education, and the University of Massachusetts Cooperative Extension Service, and it also includes representation from the Massachusetts Council for Social Studies, the state Economic Education Council and other state and regional agricultural organizations.

A successful pilot field project last Spring will be followed up with participation by as many as 100 schools this year. At present, there are four innovative curriculum units for students in grades four through six, and in the future, it is hoped that there will be units for kindergarten through grade twelve.

The project is part of a national task force established by the U.S. Department of Agriculture to encourage educational programs in each state. The Massachusetts curriculum presently integrates agricultural themes and information into four teacher resource activity units in the following areas: social studies, science, nutrition and economics.

Another unusual cooperative project in which the public information program has been involved is a proposed regional TV series on small scale agriculture. This is the outgrowth of the New England Governors Conference and the Eastern Canadian Premiers Association subcommittee concerning small scale farming. A pilot program has been produced which has been successfully reviewed by many groups and broadcasters, and it is hoped that a series of twenty-six 30 minute programs will be completed during the summer of 1985.

As usual, the Department issued news releases on various events and topics. Produce-in-season is highlighted in weekly news releases during the summer months, and throughout the year various commodities are highlighted, e.g. dairy products, maple syrup, Christmas trees and whatever is available that is "Massachusetts grown and fresher!"

Several new pamphlets were published, including various pick-your-own farm lists, a guide to fresh produce on Cape Cod, and a new one on local vegetables entitled, "For Those Who Don't Know Beans about Greens!"

Plans were also made for publishing a new brochure called "A Consumer's Guide to the Safe and Proper Use of Pesticides."

The Public Information program was fortunate to have the services during Spring semester of Maureen McCarthy, a nutrition communications graduate student at Boston University. The program has also benefited greatly from the addition of Diane Baedeker, a communications graduate of Simmons College.

BUREAU OF LAND USE
THOMAS STORROW, CHIEF

The protection of agricultural land and the wise use of our public land resources for farming and gardening are the main objectives of the Bureau of Land Use. The past year has been a productive one for the Bureau of Land Use, as over 100 farms are protected state-wide through the APR Program, positive steps have been taken to ensure continued agricultural use of our state lands, and a record number of gardeners are involved in our community gardening effort.

Outlined are presentations on the most important activities of the Bureau of Land Use.

Agricultural Preservation Restriction Program

The Agricultural Preservation Restriction (APR) Program was established by the Legislature in December, 1977, to protect the Commonwealth's rapidly diminishing farmland resources through the purchase of Agricultural Preservation Restrictions, commonly known as development rights. It is a voluntary program whereby farmland owners apply to the Department of Food and Agriculture to sell a restriction on all or a portion of their property. After field inspections, a screening and selection process, appraisals, and approval by the Agricultural Lands Preservation Committee, the Commonwealth acquires these deed restrictions, which run in perpetuity, and prohibit all activities that would destroy or impair the land for farming. Title to the land still rests with the landowner who enjoys all the traditional rights of the property ownership, such as the right to privacy, the right to lease or sell the land, and of course the right to farm the land.

Since the program's inception, more than 9,825 acres have been protected state-wide. There are also more than 11,853 acres currently under appraisal. During the past six years the Legislature has appropriated five million dollars for each of the first four years, twenty million dollars in 1983, and another five million in 1984 for a total of $45 million to fund the program. The Massachusetts program is the most intensive farmland preservation program of its kind in the country and is being used as a model by other states considering similar farmland protection techniques.

Background

An active farmland preservation role by the State's Department of Food and Agriculture has come none-too-soon for Massachusetts, as over a million and a half acres of land in farms have gone out of production in the state since World War II. During the two decades between 1951 and 1971 it has been estimated that between 11,000 and 12,000 acres of farmland were lost annually in the state because of urban conversion. The tremendous loss of farmland in Massachusetts has slowed during the past decade, but the loss of farms and farmland continues. One just has to drive around the countryside to witness new houses going up in fields and orchards that were recently in active agricultural production.

The loss of agricultural land in most areas of Massachusetts will undoubtedly continue, because the value of land for development purposes is greater than its value for agricultural purposes. The economic incentive to sell the farm for non-agricultural uses is often too tempting for a farmer to resist, or the land is simply just too expensive for the farmer's children or neighboring farmers to purchase. It is this disparity in land value for development versus agriculture that makes the Commonwealth's Agricultural Preservation Restriction (APR) Program work.

APR Program Objectives

The main objective of the Agricultural Preservation Restriction Program is to protect productive farmland through the purchase of deed restrictions and revitalize the agricultural industry by making land more affordable to farmers and their operations more financially secure. The specific goals of the Program include the following:

1. To save the best and most productive agricultural land remaining in the Commonwealth and;

2. To provide an opportunity for farmers to purchase farmland at affordable prices and;

3. To help farmland owners overcome estate planning problems and to address other personal ownership problems such as age, health, retirement and;

4. To release the equity "locked-up" in the land and therefore provide working capital to enable farm operations to become more financially stable and;

5. If other program objectives are met, to protect scenic open space and environmentally sensitive lands and;

6. To develop a positive attitude among farmers, agribusinessmen, landowners and urban residents that agriculture in Massachusetts makes an important contribution to the state's economy, food supply and rural character.

Status of Farms Already Protected

All of the farms that are currently in the APR Program are checked from time to time for compliance with the terms of the Preservation Restriction. At this time, none of the farms have been cited for violation of the restriction, and all of the land currently protected remains in active agricultural use.

During the summer of 1982 the Land Use Bureau staff conducted a research project on the status of the protected farms in terms of land use, ownership, types of farm improvements, and changes in the farm operation, with the objective of determining how the APR monies were being spent and how the preservation restriction affected the farm. A total of thirty farms were visited and interviews held with the owners. The following conclusions and statistics were drawn from these field visits.

Of the thirty farms protected, eleven (or thirty-six percent) had changed ownership since the preservation was completed. Out of the eleven farms that were sold, nine were purchased by family members or neighboring farmers and two were bought by new entry farmers. In the case of the sales to family members and neighbors, the sellers were all at or near retirement age, and they went on record as saying the APR Program helped them meet their retirement and ownership objectives. Thus, it is clear that the APR has been successful in helping farms pass from one generation to the next.

Current Status of the APR Program

There have been 107 farm properties covering 9825 acres of land protected by the APR Program since its inception. These farms range in size from a fifteen acre highly intensive market garden to 350 plus acre dairy operations. Included among these farms are apple and peach orchards, specialized vegetable farms, small fruit operations (mostly strawberries), general forage crop and livestock farms, field crops such as potatoes, cucumbers and grain corn, diversified dairy farms and specialized dairy farms. The types of farms in the Massachusetts program are an excellent cross-section of the types of food producing agricultural enterprises in the State.

The distribution of the farms reflects the major agricultural regions of the state, and the Program is continuously progressing in these areas. One of the Program's major objectives is to continue to add more restricted land in the vicinity of those farms already protected, in order to secure large areas of land for agricultural production. More and more landowners are becoming familiar with the program, and the assemblage of large blocks of protected farmland is underway in a number of towns, including Westport, Lunenburg, Dudley, Hadley, Amherst and others.

Cities and towns are actively encouraged to participate in the APR Program and local contributions now stand at $580,558. with $106,386. contributed in FY 1984. The impact of proposition 2½ appears to have had some negative impact on local contributions, but overall there is strong local support for the program and many towns are now annually appropriating modest amounts for APR purchases.

In Table 5, the distribution of APR applications is outlined on a county basis, and Worcester County is the leader with a total of 103 applications, with Hampshire County and Middlesex Counties following. There are 158 municipalities represented and considering that about one third of the 368 cities and towns in the Commonwealth are urban, there is an excellent distribution of APR applications in the farming regions of the state.

In conclusion, it is becoming more and more apparent that the APR Program is being effective in protecting the state's limited agricultural land resource. In addition, it is having the positive effect of giving strength to the industry by releasing land equity and having the cash invested back into the farm. A number of farms have been transferred in an orderly fashion to the next generation of farmers and new opportunities have been created for others to enter production agriculture. It appears that with continued modest funding and more time, the APR Program will successfully secure an agricultural future for the State, while at the same time not unduly strain the financial resources of the Commonwealth.

State-Owned Farmland

The Bureau has completed an inventory of agricultural lands which are part of Massachusetts' large Human Service institutions. Bureau staff are working closely with other state agencies to map these lands and protect them from non-agricultural uses.

Plans are nearing completion for development of a major farmers' market and extensive community gardens on farmlands once part of Worcester State Hospital. The New England Small Farm Institute is entering its third year of work on the farmland and woodlots of the Belchertown State School. The Institute is seeking funding sources to begin construction of White Oak Farm which will offer a two-year training program in commercial agriculture for new-entry farmers. The Department of Correction's Food and Farm Services continue to expand farming and food processing operations at Massachusetts correctional institutions. This will soon have a major impact on the Department's food budget. In addition, state-owned agricultural lands are being revitalized by private farmers, agricultural schools, and over twenty community gardening groups.

MEPA Review

The Land Use staff also participates in the Massachusetts Environmental Policy Act review process. The staff reviews the Environmental Notification Forms of development projects which will impact farmland and makes recommendations accordingly.

Community Gardens

In both rural and urban areas, the Bureau of Land Use continues to assist gardening groups whose main purpose is to develop and cultivate land to produce food.

The Community Gardening Program continues to further this objective and will always welcome new ideas to become more effective.

The Bureau has been developing positive interagency cooperation with other agencies in the city and state departments. The results of this group effort have developed into "Earth Moving Day" where 25,000 cubic yards of topsoil will be distributed to many disadvantaged neighborhood gardening groups. The Bureau recognizes the following Departments for their support and assistance in making "Earth Day" a reality:

1. U. Mass. Medical Center of Worcester made available the 25,000 cubic yards of topsoil.

2. Division of Capital Planning and Operations supported the concept of "Earth Moving Day."

3. Suffolk County Extension Service provided technical assistance for soil testing.

4. City of Boston provided transportation.

5. Boston Urban Gardeners assisted in the screening of applicants for the top-soil.

6. Suffolk County Conservation District encouraged and supported throughout the entire process.

Mass. Seed Program

The program provides free seeds for low income gardeners state-wide.

At wholesale prices, seeds are also offered to the gardening community-at-large.

Two different kits are offered and each kit contains ten packets of vegetable seeds which are carefully selected for their popularity, adaptability and more importantly, for their nutritional value.

The number of participants this year has increased due to the demand and need for fresh local produce. The State investment into the Seed program has benefited many rural and urban gardening groups.

Fruition Program

Massachusetts has taken the lead in promoting and planting fruit and nut trees on public lands.

This fourth year of the Fruition program has become the most productive year of harvesting. Many local groups have eagerly invited the staff to visit sites to share their successes.

Information from Massachusetts nurseries has given evidence that landscaping with food producing plants has become attractive to many of the state's home owners.

Public land that was not maintained is now productively utilized and is a more beautiful landscape.

Visitors from other states who come to Massachusetts to assess and evaluate the success of the Fruition Program have left with fine models and ideas for good land use.

Table 1. Status of Applications Received -- June 30, 1984

	Number of Applications	Acres	Actual Purchase/ Estimated Purchase Price*
A. Acquisition Complete	107	9825	$15,084,502.
B. Under Purchase and Sale Agreement	17	1711	2,740,700.
C. Currently Under Appraisal	98	11853	18,964,800.*
D. Appraisal Completed, but Landowner refused offer.1	43	5572	10,029,600.
E. Eligible projects awaiting action.	47	4919	7,870,400.*
F. Little Likelihood of funding due to low rating.	116	9934	15,894,400.*
G. Rejected.	18	635	1,016,000.*
TOTAL	446	44449	$64,517,402.

1 Landowners have initially refused offer; however, circumstances may change and the projects can become viable at anytime.

* Denotes estimated purchase price calculated by multiplying $1600. (state-wide average cost/acre) times the acreage of each group.

TABLE 2. SUMMARY OF APR PROGRAM EXPENDITURES FOR ADMINISTRATIVE EXPENSES: FISCAL YEARS 1980 - 1984.

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984	TOTAL
Market Value Appraisal Services	$62,420.	$106,796.	$ 91,147.	$ 88,827.	$177,549.	$526,739.
Farm Value Appraisal Services	$25,750.	--	$ 9,112.	$ 4,601.	$ 23,838.	$ 63,301.
Review Appraisal Services	$ 8,891.	$ 13,258.	$ 27,349.	$ 36,267.	$ 34,555.	$120,320.
Legal Services	--	$ 7,427.	$ 47,482.	$ 26,664.	$ 56,628.	$138,201.
Supplies and Equipment	$ 1,900.	$ 1,358.	$ 499.	$ 2,620.	$ 1,515.	$ 7,892.
Municipal Contributions For Services	$ 663.	--	$ 1,650.	$ 750.	$ 12,224.	$ 15,287.
Total Program Administrative Expenditures	$98,961.	$128,839.	$177,239.	$159,729.	$306,309.	$871,740.*
Net Program Administrative Cost To Commonwealth	$98,298.	$128,839.	$175,589.	$158,979.	$294,085.	$856,453.

TABLE 3. SUMMARY OF AGRICULTURAL PRESERVATION RESTRICTION ACQUISITION EXPENDITURES: FISCAL YEARS 1980 - 1984.

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983	Fiscal 1984	TOTAL
Number of Acquisitions Completed	3	16	23	41	24	107
Number of Acres	287	1267	2099	3929	2243	9825
Acquisition Cost ($per acre)	$545,000. ($1898)	$2,418,725. ($1909)	$3,631,850. ($1730)	$6,313,925. ($1607)	$2,755,560. ($1218)	$15,665,00 ($1594)
Municipal Contributions that offset Acquisition Costs	$ 91,087.	$ 93,800.	$ 175,935.	$ 113,350.	$ 106,386.	$ 580,55
Net Program Acquisition Costs To Commonwealth	$453,913.	$2,324,925.	$3,455,915.	$6,200,575.	$2,649,174.	$15,084,50

TABLE 4. TOTAL APR PROGRAM COSTS FISCAL YEARS 1980 - 1984.

Total Program Costs	$16,536,740.
Total Program Costs to Commonwealth (Total Costs Minus Municipal Contributions)	$15,940,955.

* Administrative Expenditures are 5.2 percent of Total Program Expenditures.

Table 5. County Location and Number of APR Applications Received as of June 30, 1984.

County	Municipalities Represented	Number of Applications	Acreage
Barnstable	4	4	312
Berkshire	8	23	3,444
Bristol	12	41	3,421
Dukes	3	5	394
Essex	13	42	3,393
Franklin	11	28	3,453
Hampden	10	31	3,117
Hampshire	15	75	6,442
Middlesex	24	49	3,920
Norfolk	8	17	1,157
Plymouth	15	28	2,996
Worcester	35	103	12,400
TOTALS*	158	446	44,449

*Approximately 100 new applications are received each year, of which about one-half may be approved.

With a professional field staff of four Veterinarians, four Animal Inspectors and six Poultry Inspectors, plus an administrative and record keeping staff of seven, the Division of Animal Health monitors, controls and works to eradicate a number of diseases having major impacts on our domestic food, fiber and companion animals. The work is both industry and consumer protective as it assures the former a sound and marketable product and the latter a safe, cost-effective and readily available food supply. The Division works under certain sections of Chapter 129 of the General Laws, most of which address specific diseases by way of market surveillance, import requirements, vaccinations, sale restrictions and other means of control. The FY84 Budget for Animal Health was in the amount of $600,635.52, broken down in 12 subsidiaries. The sum of $451,192.00 (01 and 02) was directly allocated to personnel costs.

BRUCELLOSIS:

Massachusetts, for a second year, is rated "Free" in this important bovine and porcine disease. Found in man as Undulant Fever, brucellosis accounts for severe animal losses in other sections of this country. All of New England, as well as the neighboring states of New York and Pennsylvania are totally free of this disease, an important factor to the entire area's dairying industry. Remaining disease-free requires a strong, on-going program of milk and slaughter plant testing, the vaccination of almost 15,000 female calves every year as well as the 45-60 day post-entry retesting of all imported cattle. The maintenance of "Free" status also requires the continuing cooperation of all owners, breeders, dealers, producers, veterinarians and regulatory personnel. It receives the Division's highest priority.

TUBERCULOSIS:

Since small pockets of this disease still exist in humans the world over, especially in urban areas, tuberculosis remains, even in these modern times, a disease of importance. Our best protection is the availability of milk from TB-free herds. Massachusetts reached the status of "Accredited Free" in Tuberculosis in FY84. It has been more than six years since a reactor was found here. Continuing surveillance against the disease is most necessary. All dairy cows are tested, at state expense, once every three years. Many are actually tested annually, at owner expense, in order to satisfy certain out-of-state markets. The testing program itself has been placed on a town-wide rather than individual herd basis. This has already accomplished material savings, in both personnel hours and mileage.

SWINE DISEASE:

We believe Massachusetts to be free of Swine Pseudorabies. Contributing to this was the passage of a law requiring all imported breeding swine to be certified free of this disease. At the end of FY84 swine brucellosis was known to be present on three premises, all of which were under eradication agreement. The Federal Garbage-cooking Law was fully implemented in FY84 and resulted in several non-compliance hearings with guilty findings and fines in at least two cases. The Division of Animl Health and Food and Agriculture Commissioner Frederic Winthrop were instrumental in obtaining several important concessions under this law.

EQUINE PROGRAMS:

Licensing programs for Riding Schools, Riding Instructors, Horse Auctions and Horse Transporters provide the major source of income for the Division. All three are both consumer and animal protective in intent and have always had a great deal of industry support and interest. The quality of riding instruction available in the state is excellent. Riders from here have won major nationwide equitation championships as well as medals in both of the most recent Olympic Games. Despite press releases and urging by the Veterinary profession, three horses died of Eastern Encephalitis and two persons contracted the disease, one fatally. Mosquito-borne and almost invariably fatal to the non-vaccinated equine, this disease loss, in horses, would be preventable if a 100% vaccination rate could be obtained. Although both horse and man contract this disease, it is not transmissible from horses to people.

PET SHOP LICENSING:

Pet Shop Licensing, with attendant inspection by Agents of the Massachusetts Society for the Prevention of Cruelty to Animals and the Animal Rescue Leagues of Boston and New Bedford has been credited with an improvement in the health and welfare of the small domestic animals and pets sold therein. With greatly improved knowledge of the disease and systems of vaccination, the presence of parvo-virus in pet shops declined dramatically in FY84. Although no Velogenic Viscerotrophic New Castle Disease-exposed birds were reported in the state, the traceback capability provided by mandatory pet shop record-keeping continued to provide us with a large measure of insurance against this potentially devastating poultry disease. Interest in the public health aspects of Pscittacosis (Parrot Fever) continues high and the Division participated in a Chlamidia workshop held in New Hampshire in May of 1984.

POULTRY:

FY 1984 was marked with the outbreak, in Pennsylvania and nearby states, of Avian Influenza, resulting in losses in excess of 70 million dollars and 17 million birds. With its own three million bird poultry industry to protect, Massachusetts took a number of steps to prevent its entry here. An Emergency Order banning poultry shows and sales and the entry of all poultry products from the quarantined area, plus requiring a Prior Entry Permit for all poultry and the cleaning and disinfecting of all vehicles transporting fowl into or through the state, was filed with the Secretary of State. Informational meetings were held across the state for industry poultrymen and exhibitors. An Emergency Disease Outbreak Contingency Plan was written, outlining procedures and personnel responsibilities in the event of the disease's appearance here. The Division was aided materially in this effort by the Massachusetts Poultry Association, the Massachusetts Farm Bureau Federation and many state agencies, including Civil Defense, the Offices of Administration and Finance, the State Police and the Department of Environmental Quality Engineering. The disease itself had subsided considerably by the end of FY84 and the outlook was bright for the release from Quarantine of Pennsylvania's large poultry-producing counties. The enormous costs of this disease, as well as its wildlife rate of spread, made it the nation's most costly domestic animal disease outbreak in recent years. On a more optimistic note, a number of Massachusetts poultrymen attended the 50th National Poultry Improvement Plan (NPIP) meeting in Minneapolis in 1984. Since Massachusetts was one of the first states to be certified Pullorum-free and had been a pioneer supporter of the program, the state itself was cited as were many residents who either are still or have been active in the NPIP.

RABIES:

The Division, through town Animal Inspectors or Animal Control Officers, issues quarantines whenever a person is reported to have been bitten by an animal. This program, together with laws mandating rabies vaccination for all dogs, provides on-going protection against rabies, a disease which is usually fatal when contracted by humans. With rabies in wildlife (raccoons) on the increase in the mid-Atlantic states, vigilance against it has been stepped up throughout the Northeast. Guard Dog Business licensing was inaugurated in FY 83 and had its first complete year in FY84 with 14 businesses licensed. Many were inspected and one was closed after court action against the owner. This program is animal protective in intent and the MSPCA and ARL's are the principal inspecting agencies. A new law, requiring the licensing of Hearing Ear Dog Training Kennels, was passed in FY84. Hearings for rules and regulations to permit inspections and licensing are scheduled for early FY85.

MAJOR PROBLEMS:

At the close of FY84 the Division of Animal Health cites the following problem areas:

1. Further and continuing disintegration of the large animal diagnostic services at Paige Laboratory, University of Massachusetts, Amherst. Mastitis testing, large animal diagnostics and poultry testing programs there are understaffed and undersupplied. On the managerial level interest in these services is minimal. Via a contract, the Division of Animal Health provided the sum of $14,000 to upgrade testing there. This was truly the proverbial drop in the bucketful of need. A very large sum, at least $500,000, and awakening interest from the College of Food and Natural Resources is desperately needed.

2. The Division of Animal Health itself is operating at 80% of its permitted personnel base. At the end of FY84 it had nine operating vehicles - out of a base need of fifteen. Vacant positions cannot be filled unless cars are provided. State cars currently in use by the field staff are on lease to the Division by the Motor Vehicle Management Bureau.

The two problems listed above are crucial to the operation of the Division of Animal Health. Without fully capable and prompt diagnostic services, animal diseases spread rapidly, increasing with each day the monetary value of the losses incurred. Without a full complement of professional and office help, the records for disease control cannot be maintained nor can field surveillance be completed. Testing is well below 100% as is vaccination. Disease prevention is cost effective; disease outbreaks cost millions.

IN CONCLUSION:

We have met many goals of disease eradication. The Commonwealth rates "Free" in Bovine Brucellosis, "Accredited Free" in Tuberculosis, "Pullorum Free" in poultry. We have this with dedicated field and office personnel, with the help and cooperation of farmers, veterinarians, members of Massachusetts Farm Bureau Federation, the USDA-APHIS people, the humane societies, the University of Massachusetts, the Waltham Field Station and many, many others. We have also had the support of the Commissioner of Food and Agriculture, the Secretary of Environmental Affairs, both houses of the Legislature and the Executive Office. We feel this state's enviable status, in major animal disease areas, mirrors this joint effort.

DIVISION OF FAIRS
Stephen F. Quinn, Director

The "fairs", one of the oldest and finest traditions still in existence in the Bay State, continue to "bask in the sun", with another great season full of exhibits, entertainment, rides and games galore. The total attendance reported by the 120 agricultural fairs and shows was 3,985,284, a slight decrease from last year's record breaker. There were 81,854 exhibits of which 30,191 were prepared by individual young people or youth groups.

The State Exhibition Building at Eastern States Exposition in West Springfield continued to please fair goers with all kinds of samples of foods produced and processed in the State. The key feature of the show was the beautiful art and craft exhibit developed by the Leverett Craft Center featuring Western Massachusetts artists. 1,005,730 people attended the "Big E" in the fall of 1984.

The fairs were inspected with the help of ten part-time employees, all of whom have considerable experience in Massachusetts agriculture. Their duties, among others, were to insure that the state was benefiting from the $340,000 spent on agricultural promotions and that the $87,500 spent for rehabilitation monies were used wisely.

The Rehabilitation Committee met in Ashland in February, and approved $87,175 worth of expenditures for animal health, public health, and display purposes.

The Division continued its assistance with the Massachusetts Wool Board in promoting the use of wool and lamb products, and also actively participated in the third annual Equine Exposition held in Northampton.

A study group, composed of members of the various commodity associations in the state, was formed to revise the fairs' guidelines. They met at the State 4-H Center in Ashland. After many meetings and much debate, the guidelines should be ready for the Commissioner's approval by late fall and be available to the fairs by mid winter. The guidelines had not been updated since the early 1950's; needless to say, the revisions were long overdue.

The total appropriated budget for the fiscal year was $647,440. Of this total, $399,100 were appropriated for the fair prize awards, fair inspections, promotional programs, and administration costs; $87,500 were appropriated for the rehabilitation program to assist with the upkeep at fairgrounds.

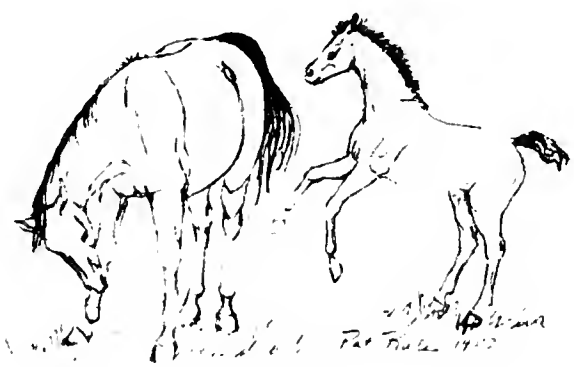
STANDARDBRED PROGRAM
Stephen Quinn

In the past 3 years we have seen many gains in the Standardbred industry in Massachusetts. Our brood mares bred list has increased from 125 to 400. Stallions fluctuated from 45 to 84 to 64, a normal curve for the industry, showing it to be leveling off around 65 with the quality much improved. We also have increased the number of acres dedicated to Standadrbred production from 3,000 to over 6,000 including the ultra modern facility just completed, Young Meadow Farm in Hadley, at an investment of over 5 million dollars.

The new reorganization legislation of the Department of Food and Agriculture, includes a new Division of Equine Programs. It has provisions for one Director, two Supervisors, a field inspector and a clerk. This certainly will be welcomed by the industry as many of their wants cannot be attended to at this time under the current system.

This year's program included a spring and fall series at Foxboro with the finalists among 3 year old pacers competing for a $40,000 purse. Seven fairs and farm facilities were utilized to sponsor our mini-series across the state. This provided good visibility for the program and introduced harness racing to many people statewide. The state spent $400,000 promoting Standardbred farms while the industry added $47,166 from sustaining and entry fees.

The Standardbred Agricultural Fair and Breeding Fund Committee met several times during the past year to assist the Commissioner in continuing to develop a program that will increase the breeding within the state.



THOROUGHBRED BREEDING PROGRAM
Peter Bundy

The Massachusetts Thoroughbred Breeding Program continued to be an effective incentive program, as the numbers of Thoroughbred horses being bred in Massachusetts has more than tripled since passage of Chapter 558 of the Acts of 1981.

The breeder, stallion, and owner awards of 25 percent, 15 percent and 5 percent of purses won by eligible Massachusetts bred horses amounted to $256,003.86 for the past fiscal year. These cash awards were paid for racing at Suffolk Downs and four agricultural fairs.

At these racing meets, Massachusetts breds went postward 1,002 times, accounting for 90 wins, 115 seconds, and 126 thirds. These numbers are not impressive in the light of past years' figures, but they reflect a trailing off of horse breeding prior to the advent of the new legislation. When the crops of foals bred subsequent to 1981 appear at the racetracks, these figures will be most impressive and continue to grow.

Ten stake races for Massachusetts breds were run at Suffolk Downs during the past year. Only one race was run as a non-betting event, while the others were pari-mutuel, and generated much interest. The breeding program funded $157,500 toward these races, and the share from Ogden-Suffolk Downs was $67,500.

Nearly 400 mares were bred in Massachusetts last year, and over 60 stallions of good quality were registered with this Department.

The Massachusetts Thoroughbred Breeders Association, founded in 1981, has been very effective in promoting Thoroughbred breeding in Massachusetts. This association has promoted farm tours, breeding and management seminars, yearling shows, horse sales and various activities that have been of vast help to the Commonwealth's horse farmers.

DIVISION OF REGULATORY SERVICES

A significant part of the mission of the Department of Food and Agriculture is the regulation of the agricultural industry and certain related industries which supply goods and services to agriculture.

This regulation has two purposes: protection of agriculture (i.e. quarantines and regulation of the quality of seed, feed and fertilizer) and protection of the consumer (i.e. regulation of the quality of certain farm products and pesticides).

The reports of the five bureaus which make up this Division follow.

BUREAU OF MILK MARKETING
John B. Kelley

The Bureau of Milk Marketing continues as in the past to audit handlers in state regulated areas on an on-going basis to insure proper producer payment, calculates and announces monthly official, mid-month official, mid-month equivalent and official Class I prices.

The Bonding and Security responsibility of the Department of Food & Agriculture under Chapter 94A remains with the Bureau. Using several monitoring procedures, security requirements of preparatory handlers buying milk from independent producers all are received on a monthly basis. Individual handler audits are conducted when necessary with security now held by the Department in excess of one million, one hundred dollars.

A recent addition for the protection of independent producers shipping to proprietory handlers has been the enactment of the Producers Security fund. The purpose of the fund is the reimbursement of Massachusetts producers who sell milk to a dealer and said dealer has defaulted in the timely payment of said milk under the provisions of Chapter 94A. The agency prepares and mails security fund payment vouchers to the dealers. The dealer then deducts .05 per cwt from each producer's final monthly check. The applicant's check is then forwarded to the Massachusetts Department of Food & Agriculture and deposited with the State Treasurer. The total monies are then invested with the Massachusetts Municipal Depository Trust.

The licensing of 4,600 milk dealers at both wholesale and retail level continues. Presently there are approximately 4,000 stores, 350 regular dealers and 200 milk testers and 50 bulk tank drivers licensed. The licensed bulk tank drivers are checked for compliance and proper techniques used in taking fresh milk. Check testing of milk samples is done to ensure proper payment to producer when amount of payment is in dispute.

Finally the Bureau continues to fulfill its assigned functions in requiring compliance with state laws aimed at preventing disruptions in various milk markets throughout the Commonwealth.

BUREAU OF DAIRYING
DAVID L. SHELDON, CHIEF

Throughout the 1984 fiscal year the Bureau of Dairying has diligently pursued its main objective of ensuring the consumers of Massachusetts an adequate quantity of fresh fluid milk with an overall quality level second to no other state.

We were able to bring our staff up to the authorized total of fifteen persons, which is only one less than we had been authorized two years ago. Our office secretarial staff remains at two persons; however, we are becoming more productive in the office as procedures are adjusted for increased efficiency.

Our main workload as authorized by Chapter 94 of the General Laws involves the inspection of dairy farms and milk plants shipping into Massachusetts markets. Our effectiveness was greatly enhanced when we were able to fill the vacant positions. We now have one resident inspector in New York State, two resident inspectors in Vermont, one in New Hampshire and one in Maine.

The Bureau has had requests for information on the requirements to sell aseptic milk in Massachusetts from dairy companies located in the States of Georgia, California and Utah. Current Chapter 94 Laws, which regulate the sale of fluid milk products in Massachusetts, do not allow the sale of aseptic milk and if the issue were forced, we would have to send inspectors to these distant locations to inspect the farms and plants.

The Interstate Milk Shipper's Program generated a great deal of interest and work for our Bureau with requests for eight separate I.M.S. ratings coming into our office. We are continuing to make a concerted effort to comply with the requirements of the Interstate Milk Shipper's Program and keep the inspection status of our Massachusetts producers at a level of compliance, which satisfies all persons concerned.

The Chief of the Bureau met with all persons involved with the Mastitis program at Amherst to try and improve the program for our Massachusetts dairy farmers. Several good ideas were exchanged and as a result of the meeting, a survey form has been drafted to use on all participating dairy farms, in an attempt to cover all aspects of potential problems causing Mastitis. This form is now in use and our field people report initially that it seems quite helpful in identifying problem areas.

The Mastitis Laboratory reports that they have approximately 350 Massachusetts dairy herds involved in the Mastitis program.

The Bureau continued its cooperative program with the USDA and spent a total of 26 days sampling milk powder and nine days conducting inspections at the Agri-Mark, Inc. plant, West Springfield. The combined powder sampling and inspection program for USDA netted a total of $3,028.62 which was returned to the state Department of Food and Agriculture by USDA.

The number of producers in Massachusetts continues to decline. On July 1, 1983 we had 772 producers holding Certificates of Registration. This figure has declined to 727 producers holding Certificates of Registration on July 1, 1984.

Total milk production had been up slightly each year even with the drop in producers; however, with the dairy diversion program in effect we expect that our production will be level to slightly declined.

On January 1, 1983 we issued 7,504 Certificates of Registration in our out-of-state inspection areas and on January 1, 1984 we issued 7,592 out-of-state Certificates of Registration, representing a slight increase in our out-of-state producer numbers. The milkshed in which these producers are located remained about the same with no large new area added.

BUREAU OF DAIRYING

FISCAL YEAR 7-1-83 - 6-30-84

FARMS

Dairy Farms Inspected: 7,295 Approved: 5,786 Not Approved: 1,509
Dairy Farms Reinspected: 1,597 Approved: 1,258 Not Approved: 339
Ten Day Letters sent to producers on reinspection for failure to correct violations on the inspection report: 229.
Hearings held: 9
Farms suspended for failure to comply after receiving a ten day letter and/or a hearing being held: 17. Farms reinstated: 11.
Other Farm Visits: 903

PLANTS

Milk Plants Inspected: 91 Approved: 72 Not Approved: 19
Dealer visits: 246 Plants spot checked: 6

SAMPLES

Water Samples collected: 68

MASTITIS

Herds Sampled: 649 Cows Sampled: 35,547 Samples Collected: 140,615

TRANSPORTATION

Tank Trucks inspected: 12

DEALER REGISTRATION

A total of 150 Milk Dealers registered with the Bureau during the fiscal year as required by Chapter 94, Section 16F of the General Laws.

The Bureau of Dairying personnel traveled a total of 306,750 miles during the fiscal year.

In conclusion, I would like to take this opportunity to thank Frederic Winthrop, Jr., Commissioner, all personnel in our Bureau and all other support staff in the Massachusetts Department of Food and Agriculture for their fine cooperation througout the 84 fiscal year.

The Bureau supervises a diversified farm product quality control regulatory program including the Federal-State Fruit & Vegetable Shipping Point Inspection Service and enforcement of the "truth in labeling" laws for feed, seed, fertilizer and limestone programs. In addition, the Bureau regulates certain produce branding labeling and storage laws, and collects approximately $100,000 per year in registrations and inspection fees which are turned into the Commonwealth's Treasury.

The Shipping Point Inspection Program is regulated by a memorandum of understanding contract with the U.S. Department of Agriculture. All other regulating functions are under the provisions of Chapter 128, General Laws of Massachusetts as amended.

Federal-State Shipping Point Inspection Program:

For 75 continuous years all State Departments of Agriculture in the nation have cooperated with the U.S. Department of Agriculture in providing this service for each state's own fruit and vegetable products. This program allows the fully trained and licensed Massachusetts inspector to issue USDA certificates on shipments of fruit and vegetables, attesting to the grade, quality and condition which are needed by buyers and receivers at terminal markets.

For many years the Inspection Service in Massachusetts, through strict adherence to grades and other essential data, has done much to upgrade the quality, condition and grade of the final product. Massachusetts leads the world in the production of cranberries and many shipments of this product carry a Massachusetts Federal-State certificate.

By law, all apples must be inspected for export and our inspection service has been instrumental in helping Bay State farmers maintain this lucrative market. The inspection service has aided in developing new methods of transportation, especially in this export field.

In 1983, demand for our inspection service again has been on the shipment of export apples, mainly to the United Kingdom and Canada. Apples are also inspected for shipment to California where the demand has been increasing each year, and for military purchases.

The export apple inspection is of major importance, due primarily to the demand and acceptance of "controlled atmosphere" stored apples, our valuable McIntosh variety and our quality packs. McIntosh apples cannot be grown successfully in European countries. The controlled atmosphere method of storing apples greatly lengthens the marketing season and allows shipment of apples in good condition well into June, thus providing a more orderly marketing season for the entire apple industry.

Inspection certificates are also issued for potatoes and onions in the Connecticut Valley area and cranberries on Cape Cod.

Feed Program:

1,992 labels of animal feed, ingredients, pet foods and medicated feed ingredients were reviewed and registered during the past year. Samples of products offered for sale were drawn and tested at the West Experiment Station, University of Massachusetts for conformance with label.

Fertilizer Program:

842 labels of fertilizer and limestone were reviewed and registered. Tonnage taxes were assesesed and collected semi-annually. Assessment penalties in shortage of guarantee level were levied and $7,101.30 in appropriate fines collected and either turned back to the farmer or submitted to the Commonwealth's Treasury.

Seed Program:

566 brands of seed, including agricultural lawn mixtures, vegetables, flower tree and shrub seeds were collected and tested for truth in labeling. 48 stop sale orders were issued on violations, covering 1,716 packages. Seed was removed on account of poor germination, noxious weeds, or because it was unfit for seeding.

A major change in the state's lawn seed labeling regulation was implemented on January 1. Massachusetts becomes the first state in the country to move for a uniform seed label that will be accepted in all shipping areas.

Lime Program:

32 limestone brands and grades were registered and checked for conformance to label during the year.

Branding Law:

Inspections were made at wholesale, retail, roadside, and farm level to enforce the apple, potato and native laws. Misbranded products are relabeled or removed from sale. Over 3,000 retail stores were inspected, several hundred wholesale and packing house operations were inspected.

Storage Laws:

Records are kept on cold storage and controlled atmosphere apple rooms in order to attest to their compliance with such laws and so to allow such stored products to move into certain prohibited market areas of the country.

The Bureau, through strict adherence to laws, grades, label reviews and other essential data, has done much to upgrade the quality, condition and grade of the final farm product being offered for sale in Massachusetts.

The programs are continuous and reflect the general agriculture crop conditions and the current market situations. The uniform laws and grades allow for the free movement of theses products in interstate and export commerce with a minimum of difficulty. The honest label approach insures the consumer of an accurate farm product of good quality.

Programs are becoming more accurate and more smoothly administered due to better management and informed and trained personnel. The use of a word processor for the registration of feed and fertilizer brands and the recording of the collection of fees and tonnages has improved the programs in general.

Working with other states, USDA, FDA and the various regulated industries has insured a quality farm product that is more easily marketed by the producer and the shipper.

BUREAU OF FARM PRODUCTS STATISTICS

SEED INSPECTION PROGRAM/OFFICIALLY TESTED

	1981	1982	1983	1984
Agriculture	54	61	48	61
Mixtures (lawn)	100	57	47	33
Vegetables	445	507	409	361
Flowers	173	215	125	101
Sprouts	-	-	8	10
	772	840	637	566

40 stop sales orders covering 82 lots on 738 packages of seed removed from sale-poor germination, noxious weeds, unfit for seeding, out of date test. 5 cases turned over to the Federal Seed Act for USDA action.

FRUIT & VEGETABLE INSPECTION REVENUE - FISCAL YEAR

	1981	1982	1983	1984
Apples	$11,084.50	$6,012.06	$8,822.93	$8,678.15
Cranberries	----	220.00	360.00	280.00
Onions	219.10	32.00	700.70	314.02
Potatoes	826.68	157.50	613.81	920.24
	$12,130.28	$6,421.56	$10,497.44	$10,192.41

FEED FERTILIZER AND LIME REGISTRATION - CALENDAR YEAR

	1980	1981	1982	1983
Feed/a	1,922	1,857	1,939	1,992
Fertilizer/b	732	729	691	810
Fertilizer/c	12	12	13	20
Lime	31	31	30	32

FEED, FERTILIZER AND LIME REVENUE - CALENDAR YEAR

	1980	1981	1982	1983
Feed/a	$48,050.00	$46,425.00	$48,475.00	$49,800.00
Fertilizer/b	18,300.00	18,225.00	18,525.00	20,250.00
Fertilizer/c	1,500.00	1,500.00	1,625.00	2,500.00
Lime/d	775.00	775.00	750.00	800.00
Fertilizer/e	15,722.29	12,952.31	10,571.53	11,888.14
Fertilizer/f	3,929.57	2,760.54	3,858.78	7,101.30

/a Brands
/b Specialty brands
/c Commercial plants
/d Brands
/e Tonnage
/f Penalties

TOTAL - $92,339.44

Registrations and revenue are collected on a calendar year for feed & fertilizer.

Revenue generated by inspection and registration fees totaled $102,531.85.

BUREAU OF PLANT PEST CONTROL
P.C. Kuzmiski, Chief

The 1983 growing season was marked by a cool wet spring followed by the hot and dry months of July and August. This caused a flush of new spring growth only to be subjected to the high heat and semi-drought conditions of the summer. Many nurseries experienced the problem of keeping their stock watered. As a result, many plants such as dogwood, flowering crabs and azaleas showed symptoms of wilted foliage and presented a dry appearance.

Some of the insect species detected by our nursery inspectors vary from year to year and from location to location within the state. The prevalence of the Gypsy Moth and Japanese Beetle are prime examples of this situation. Most major insect pests of nurseries could well be listed in a few general headings or categories. These categories would be, defoliators, scale insects, borers, leaf hoppers and miners, aphids and mites.

Control in most cases would be similar for the insects grouped into a single category. To have effective control of insects in a nursery there must be a systematic or organized program of insect pest management. The timing and application of the existing insecticides is as important as is the monitoring of the insect pest problems. There may not be many new insecticides appearing for use in the near future.

Insects commonly found in the nurseries were leaf chewers, leaf-tiers, aphids, scales, borers, and gall makers. Birch leaf miners continued to be heavy on Gray Birch stock. Japanese Beetles were found throughout but only sporadically in high concentrations. The Gypsy Moth was found principally in the Southeastern part of the state including Cape Cod. This pest did not present a major problem to the nurseries this year.

Leaf scab and leaf spot fungi infections and mildew were noted in the nurseries during the summer months.

Some nurseries continued the practice of containerized growing of their stock and utilizing the drip method of irrigation. This is an increasingly popular method of growing nursery stock and is being accepted by more growers each year.

The following is a summary of the fiscal 1984 Bureau activities:

NURSERIES AND GREENHOUSE INSPECTION

No. Nurseries inspected - 340
No. Greenhouses inspected - 48
No. Nursery Agents licensed - 295

GYPSY AND BROWN TAIL MOTH

G.M. Acres defoliated 1982 - 1,383,265.
G.M. Acres defoliated 1983 - 217,548.
Brown-tail Moth still found in small infestations of Cape Cod.

PLANT PEST SURVEYS

Surveys were completed for presence of the Gypsy Moth in lands around nurseries, and for the European Chafer, Golden Nematode of potato, and Red Steele Disease of strawberry. No new finds of these pests were recorded this year.

CURRANT AND GOOSEBERRY CONTROL AREA PERMITS

21 control-area permits allowing the planting of these plants in non-prohibited ares were issued. This permit shows the name and address of the shipper, number of plants shipped and the name and address of the consignee.

PLANT EXPORT CERTIFICATION

State plant phytosanitary certificates issued - 86.
State tree and shrub seed certificates - 662.
Federal export certificates issued - 86.

COLLABORATION WITH USDA - APHIS

Cooperative survey activities continued with USDA in Gypsy Moth, Black Stem Rust, and Pest Detection programs.

The Bureau is also active in the Cooperative National Plant Pest Survey and Detection Program.

POST ENTRY QUARANTINE

This year there were 35 sites recorded as growing postentry nursery stock. This is plant material from foreign countries growing here under quarantine. The stock must remain in detention for two growing seasons before it is eligible for release. Inspections and releases from quarantine were made with the cooperation of federal plant inspectors.

APIARY INSPECTION

The apiary inspection report will be included in this annual report.

APIARY INSPECTION

Alfred R. Carl, Jr.
Chief Apiary Inspector

This was a very productive year for beekeeping in Massachusetts despite adverse weather conditions; while there was no bumper crop, there was an impressive average of production.

Moderate temperatures and precipitation during April and May influenced the uninterrupted flying time field bees had to collect nectar and pollen from pussy willow, red maple, dandelions, and fruit bloom. These conditions stimulated rapid hive population expansion ultimately contributing to excessive swarming in late May and June in most Massachusetts counties. Conversely, June was extremely cloudy and rainy. The entire early summer flow was drastically diminished; honeybees were unable to forage for nectar and pollen due to inclement weather.

No significant rain fell during July and August of 1983. Fortunately the excessive rain that fell in June and extremely warm summer hastened the development of a very prosperous and abundant goldenrod population. Up until August 20, 1983 many colonies were bone light; then a warm Fall enabled most hives to store a substantial crop. Severe frosts did not occur until mid-October.

As in recent years, the 1983 honey crop did not sell as anticipated. Honey imported from China, Argentina, and Mexico has dominated honey sales on the wholesale level. Commercial beekeepers are unable to compete cost-wise with beekeepers from developing and third world countries. Honey can be delivered and sold in bulk quantities at U.S. ports for far less than it can be produced in the United States.

Commodity Credit Corporation, an instrument of the USDA's Agricultural Stabilization & Conservation Service, has instituted a loan program for honey that commercial beekeepers have been unable to sell on the wholesale market. In most cases the beekeepers default on their loans and the USDA keeps their honey. This program has spurred commercial beekeepers in highly productive parts of the country to produce honey specifically to place under loan agreement. CCC honey is either sold to commercial honey packers at about the same price as foreign honey (which is quite a bit less than the initial loan) or given to people who receive public assistance under USDA food programs.

One school of thought suggests a subsidized price support with the USDA supplying the difference between what packers will actually pay for USDA honey and a fixed parity price according to grade. This move would hopefully enable U.S. honey to recapture a greater percentage of the present market.

Another school of thought in Washington has proposed to do away with CCC loans all together, forcing commercial beekeepers to fend for themselves. This recommendation could result in a reduction of commercial beekeepers. Crops requiring pollination such as alfalfa seed production, apples, citrus, blueberries, cranberries, etc. would suffer from the scarcity of honeybee colonies. Pollination rental fees would increase due to a short supply and great demand.

The winter of 1983-1984 proved to quite average. A few cold snaps did not harm the majority of overwintering colonies in Massachusetts. The timely goldenrod nectar flow during the fall of 1983 did much to facilitate an above average number of colonies still flying in early April (1984). Without it, a substantial number of our honeybees would have been lost. March through late May proved to be seasonally normal as in 1983. Most apple growers managed to set commercial crops of fruit. Honeybees played a significant role in pollinating this crop along with Massachusetts beekeepers who moved their colonies into the orchards.

Rain in late May deluged most of the state; major flooding particularly in the Connecticut River Valley took place. Honeybees were unable to forage for about two weeks because of all the precipitation. As in 1983, the early summer honey flow was a complete wash-out.

I was not the chief apiary inspector for the last half of 1983; therefore, I am unable to comment on the activities of the program for that period. All counties except Middlesex, Norfolk, Barnstable, Suffolk, Dukes, and Nantucket were inspected to some degree; most 100%. The apiary statistics for 1983 indicated favorable conditions found through inspection in a majority of the Commonwealth's honeybee colonies. American Foul Brood was found in about 3.7% of the colonies inspected. A statistical report for FY84 apiary inspection accompanies this report.

For the first time the apiary files were consolidated and typed, enabling easier access and workability.

Interviewing and evaluating the potential of apiary inspectors to be hired for 1984 inspection season took place in April and May. Five inspectors were hired in late May. These inspectors were either high school teachers or college students; all were on summer vacation and looking for part time employment. One female and four males were hired. Their interests included biological science and a keen interest in apiculture.

Berkshire, Franklin, Hampshire, Hampden, Worcester, Middlesex, Norfolk, and Bristol Counties were assigned. I was unable to find knowledgeable and apiculturally experienced applicants for Essex, Plymouth, Barnstable, and Dukes Counties. If weather conditions are not too inclement, apiary inspection should be continued in assigned counties as in previous years.

ANNUAL STATISTICAL REPORT

Massachusetts Department of
Food & Agriculture
P.C. Kuzmiski, Chief
Bureau of Plant Pest Control

APIARY INSPECTION

Season 1984

COUNTY	No. of Beekeepers	No. of Colonies Examined	No. of Colonies Owned	No. of Colonies w/AFB	No. of Colonies w/EFB	No. of Colonies Ordered Treated	No. of Colonies Ordered Destroyed
BARNSTABLE	0	0					
BERKSHIRE	152	395	505	14	6	16	4
BRISTOL	275	2409	3042	28	32	58	2
DUKES	35	145	145	0	0	0	0
ESSEX	298	1025	1953	0	0	0	0
FRANKLIN	154	498	523	26	8	25	9
HAMPDEN	190	615	975	12	7	9	10
HAMPSHIRE	172	580	610	7	9	14	2
MIDDLESEX	438	3155	3666	53	42	65	30
NORFOLK	337	266	1081	13	0	1	12
PLYMOUTH	377	421	2133	19	22	22	19
SUFFOLK	36	0	104	0	0	0	0
WORCESTER	706	2022	2024	28	7	22	13
TOTALS	3170	11,531	16,761	200	133	232	101

Estimated No. Colonies
in Massachusetts
20,000

% A.F.B. 1983 3.70 E.F.B. 2.70 1983
% A.F.B. 1984 1.73 E.F.B. 1.15 1984

PESTICIDE BUREAU
Jeffrey L. Carlson, Chief

The Pesticide Bureau is charged with carrying out the intent of the Massachusetts Pesticide Control Act (Chapter 132B of the General Laws) which was signed into law January, 1978. Among its responsibilities, the Bureau licenses and certifies pesticide applicators, carries out the administrative functions of pesticide product registration, enforces the laws and regulations and provides technical information and assistance to state and municipal agencies as well as the general public.

Outlined below are some of the more important activities of the Bureau in 1984.

REGISTRATION SECTION

The registration section was involved in numerous important registration decisions in FY84. These included the registration of eleven 24-c Special Local Needs Registrations, fifteen experimental use permits (EUP's), classification of seventeen products as Restricted Use Pesticides and the cancellation of the registration of nine other products. In other program activities, the Bureau joined the National Pesticide Inforamtion Retrieval System (NPIRS), a computer based data bank system that contains information describing pesticides products registered by the Environmental Protection Agency as well as participating states.

The following details the registration actions taken by the Pesticide Board Subcommittee.

REGISTRATION ACTION

Section 24-c (Special Local Needs Registration) granted by the Pesticide Board Subcommittee.	11*

(*Five of the 24-c registrations indicated are modifications of federally accepted registration. Additional requirements beyond those which were accepted by the federal government were required as a condition of registration in Massachusetts)

Section 24-c's Denied	3
Experimental Use Permits (EUP's) Granted by Subcommittee	15
Additions to State Restricted Use List	18
Products Denied Re-Registration	8

ENFORCEMENT SECTION

The enforcement program activities were highlighted by the settlement of two civil complaints resulting in fines of over $12,000 and expansion of our inspection staff to three Senior Inspectors of Hazardous Substances and Pesticides and one Supervisory Inspector.* The following summarizes the enforcement activities during FY84.

INSPECTIONS & INVESTIGATIONS

Establishment Inspections

Restricted Dealers	12
Market place	13
Producer	10
Imports/Exports	1

Use/Misuse Investigations

Agricultural	5
Non-Agricultural	25

Summary of Violations Cited by Administrative Order

Misuse of a pesticide	8
Non-licensed applicator	13
Failure to keep adequate records	9
Use of non-registered pesticides	3
Distribution of non-registered pesticides	2
Potential for causing unreasonable adverse effects	2

Other Actions

License suspension	12
License denied	1

As part of the Bureau's Groundwater monitoring program, 73 Administrative Orders were issued prohibiting the use of Temik (aldicarb) within 1,000 feet of public or private wells. Temik is an insecticide used on potatoes to control Colorado potato beetles.

* The Supervisory Inspector Position and one Senior Inspector Position were not filled in FY84.

CERTIFICATION AND TRAINING SECTION

1984 was the last year for applicators, certified in 1980 or before, to satisfy credit requirements for re-certification. This resulted in an increase in examinations taken and in the number of applicators attending training programs.

Regulations promulgated in July 1983 required that all applicators certified in Termite and Structural Pest Control attend a comprehensive training program on the application of termiticides. The Bureau entered into a cooperative agreement with the Cooperative Extension Service to provide the required training which was provided to nearly over 400 applicators.

The following summarizes the examinations and training activities for FY84.

ACTIVITY	
Examinations Taken	2,232
Training Sessions Approved	141
Applicator Licenses Issued	2,299
Dealer Licenses Issued	123
Commercial Certifications Issued	2,287
Private Certifications Issued	1,759

NEW PROGRAM INITIATIVES

The Bureau has secured funding to support research and implementation of Integrated Pest Management Programs (IPM) in Massachusetts. The funds which total $85,000 will be used to support the University of Massachusetts, Amherst, IPM Program and will be earmarked for programs in potatoes, sweet corn, herbicide use on railroad layouts and calibration of equipment.

The Bureau is committed to IPM as a long term solution to problems associated with agriculture in an urban environment. In particular, reduction of the overall pesticide load on the environment and use of those products representing the least environmental risk will lead towards minimizing groundwater contamination and exposure from pesticide drift.

In cooperation with Pesticide Programs in Vermont and New Hampshire, the Bureau released a Public Service Announcement on Homeowner Pesticide Use to regional television stations. The major theme of the 30-second spot is to educate the public to READ THE LABEL on pesticide containers. In addition, the Bureau produced and distributed a pamphlet on Pesticide Safety for Homeowners.

GROUNDWATER MONITORING

The Bureau coordinated a comprehensive groundwater monitoring program for the pesticide Temik and also cooperated with the Department of Environmental Qualaity Engineering in carrying out a program designed to identify Ethylene Dibromide contamination in Western Massachusetts wells.

In response to the data generated in the Temik monitoring program, the Bureau severely restricted the use of Temik near public or private wells; specifically the Bureau ordered farmers not to apply Temik within 1,000 feet of public or private wells.

The Bureau has secured additional funding in the amount of $60,000 to support additional groundwater monitoring work and the granting of positions for two new technical staff for the registration program. Prevention of groundwater contamination through comprehensive evaluations is made in the registration process; implementation of IPM strategies and environmental monitoring is one of the highest priorities for the Bureau.

BUREAU PERSONNEL, REVENUE AND APPROPRIATIONS

The Pesticide Bureau Budget for FY84 totaled $340,000 with $140,000 from Federal Grant Funds which included $85,000 in funds to support the pesticide analytical laboratory at the University of Massachusetts Medical Center, Worcester. Revenues collected from licenses, exams and product registration amounted to approximately $140,000.

Personnel assigned to the Bureau included a Bureau Chief, 2 Inspectors, 1 Registration Specialist, 1 Entomologist, 1 Certification & Training Coordinator, and 3 clerks.

STATE RECLAMATION AND MOSQUITO CONTROL BOARD

Lewis F. Wells, Jr., Chairman
James L. Dallas, Member
Gilbert A. Bliss, Member
Elizabeth M. Costello, Secretary
Mark S. Buffone, Entomologist

MOSQUITO NOTES

Although precipitation was above normal early in 1984, the mosquito season was slow to start. Cold spring temperatures and the absence of the warm rays of the sun kept water temperatures low. As a result, larval development (immature mosquitoes) was somewhat delayed. In addition, the blizzard of "84" (March 29, 1984) probably interfered with the normal pace of growth and most likely induced mortality among the earliest hatched mosquito species. Nonetheless, late spring conditions reversed long enough to stimulate hatching of late mosquito species. Consequently, mosquito larvae were found throughout the state in woodland pools, isolated pools of water scattered throughout flood plains, flooded stump holes, and flooded fresh and saltwater marsh edges. Invariably, many of these larvae succeeded in maturing to hungry winged female adults to once again interfere with our many outdoor activities.

In the main, populations of nuisance mosquitoes were variable throughout the Commonwealth and ranged from low to moderate depending on the locality. Overall, calls for mosquito control services were down during 1984 compared to 1983 but the potential of Eastern Encephalitis still remained a viable threat in 1984.

EASTERN ENCEPHALITIS

As reported in 1983, it appeared that 1984 would be a year of higher than average risk from Eastern Encephalitis (EE), an illness caused by a virus maintained by wild birds and transmitted by mosquitoes. Consequently, the State Department of Public Health issued a bulletin to Massachusetts Health Officers in February. In part, this bulletin stated "Health Officers in municipalities lying within the traditional areas of risk should advise municipal selectmen and administrators that local budget reserves for mosquito control would be justified by health protection considerations going beyond 'nuisance control' issues."

It was agreed that the period of increased risk would start in late July, or early August. Therefore, communication and public information between the State Department of Public Health, State Reclamation and Mosquito Control Board and the public was increased to stay alert during this period.

As the mosquito season progressed, the expected appearance of the virus never really became apparent until late summer. The mosquitoes that amplify the virus among wild birds living in freshwater swamp area were low in numbers in the spring. The expected amplification cycle never developed in the swamp areas. The unusually high amounts of precipitation in June that caused major flooding in the Commonwealth led to a build-up in certain mosquito species compared to 1983 but not enough to create the anticipated earlier appearance of the disease this year.

As the season continued, the State Department of Public Health closely monitored the mosquito population for signs of virus and the organized mosquito control projects supervised by the State Reclamation and Mosquito Control Board provided important information on the numbers and types of mosquitoes via surveys in eastern Massachusetts.

Although the anticipated appearance of EE had been delayed, there were some indirect biological indications suggesting that mosquito control efforts not be slackened. The mosquito that amplifies the virus among wild birds was building up to large numbers and the appearance of large amounts of Highland J virus (a non-infectious virus considered to precede the isolation of EE virus) was evident in the traditional endemic areas of Bristol and Plymouth Counties. Therefore, monies earmarked to supplement mosquito control programs in 1984 were allocated to the Bristol and Plymouth County Mosquito Control Projects. These funds were the result of an initiative led by legislators in Bristol and Plymouth Counties for the purposes of intensification of mosquito control to protect the public. The application of funds was coordinated through the State Reclamation and Mosqutio Control Board. This year two human cases of EE have been confirmed. A six year old girl from Framingham, Massachusetts contracted the disease in August but Massachusetts health officials believe the infective mosquito bite was aquired while the little girl was on vacation at the New Jersey shore. During this time period, EE virus activity was evident in New Jersey. A sixty year old woman from Foxboro, Massachusetts contracted the disease late in the mosquito season this year. This case is more typical of the first year of a multicycle appearance of Eastern virus.

Since 1984 did not fit the usual historically characteristic pattern for a third year of Eastern virus, it could be speculated that 1985 may be a year of risk relative to Eastern Encephalitis.

NEW MOSQUITO CONTROL MEMBERSHIP

During 1984, many municipalities expressed interest to join existing regional mosquito control projects.

Mosquito control is a task that is best handled by well organized programs that focus their efforts to reduce mosquito pest problems over relatively large areas. In addition, public interest and support are essential to the success of the mosquito control campaign. This year the municipalities of Marshfield, Watertown, and Weymouth became new members of the Plymouth County, East Middlesex County and Norfolk County Mosquito Control Projects. Also, towns such as North Reading, Reading, Wakefield, Winchester, and Woburn have considered joining the East Middlesex County Control Project in 1984. Membership of any municipality is contingent upon adequate, financial support, documentation of municipal majority vote for such membership, and approval of the State Reclamation and Mosquito Control Board.

GENERIC ENVIRONMENTAL IMPACT REPORT

The State Reclamation and Mosquito Control Board led an initiative to aquire funding from the legislature to prepare a generic environmental impact report relative to mosquitoes and the Commonwealth. As a result, funds in the amount of $120,000 dollars were made available to prepare the above mentioned document. Immediately, an Environmental Notification Form (ENF) was submitted to provide the Secretary of Environmental Affairs and the general public notice of the potential impacts of mosquito control activities in the state.

A notice of intent was printed in five major newspapers as required by law. In addition, four separate meetings took place statewide to allow the public to comment on the Environmental Notification Form.

For this project, a Citizens Advisory Committee (CAC) has been established pursuant to the Massachusetts Environment Protection Agency (MEPA) regulations to assist both the State Reclamation and Mosquito Control Board and MEPA in finalizing a scope and in reviewing data prior to publication of a final impact report.

Although the CAC Committee has met several times this year and has proposed a scope, a final scope has not been issued by the Secretary of Environmental Affairs. It is anticipated that a final scope will be issued before the end of 1984.

Once a final scope is issued, the procedure for selecting a contractor will begin and it is expected that a impact report will be prepared by the end of 1985.

DO WHAT WE CAN, SUMMER WILL HAVE ITS FLIES,

IF WE WALK IN THE WOODS, WE MUST FEED

MOSQUITOES.

Ralph Waldo Emerson

Essays

The Annual Report of the Massachusetts Department of Food and Agriculture was edited by Janet Christensen and Diane Baedeker of the Department.

CAPTIONS

Cover Photo--4th and 5th grade students at the Horace Mann Laboratory School at Salem State College, Salem, Massachusetts, learn about the commodities produced in the state's different counties during the Massachusetts Agriculture in the Classroom project field testing.

FRONT INSIDE COVER

Left Column (top to bottom)

1. Exhibit at celebration of 100th APR farm--the Bolton-Crest Farm in South Deerfield. May 7, 1984.

2. Packing zucchini squash at Tom Zigmont's TEE-ZEE Farm in Hatfield during a produce buyers' farm tour.

3. Craig Richov, Senior Land Use Planner for the Department of Food and Agriculture APR Program at a State House exhibit sponsored by Berkshire County.

4. Essex County 4-H members shearing sheep at the Topsfield Fair.

Right Column (top to bottom)

1. Commissioner Frederic Winthrop, Jr. and Governor Michael S. Dukakis at the ceremonies commemorating the 100th APR farm, the Bolton-Crest Farm in South Deerfield.

2. Kurt Wolter harvesting carrots at John Bauer Farm, South Deerfield.

3. (left to right) Maureen McCarthy of the Department of Food and Agriculture, Anneli Johnson, Mass. Federation of Farmers' Markets, and Bill Chestna of Three Rivers Farm at the Mission Hill Farmers' Market in Roxbury.

4. Students at the Horace Mann Laboratory School at Salem State College spinning Massachusetts produced wool, a project during "Massachusetts Agriculture in the Classroom" field testing.

BACK INSIDE COVER

Left Column (top to bottom)

1. Mark Hopf (center) of M&T Farm in Hatfield, with a new variety of trellis tomatoes, the "Jet Star", William Starzec, Assistant Commissioner of Agriculture (right) and William Boyle, farm owner. The M&T Farm was one of several vegetable farms in the western part of the state visited by produce buyers on a tour organized by the Department.

2. John Bauer of South Deerfield explaining his farm operation during the produce buyers' tour.

3. (left to right) Cindy Lesiczka and Pam Srybny of Wally's Vegetable Farm, Haverhill, at Copley Square Farmers' Market, Boston.

Right Column (top to bottom)

1. (left to right) Maple producers Daniel and Jessie Krug of Westhampton and Karin Cook of Worthington at the June Dairy Festival on the Boston Common.

2. Beekeeper Lynne Lees explaining the honeymaking process to visitors at the June Dairy Festival.

3. Governor Michael Dukakis proclaiming August "Vegetable Month" in Massachusetts. (left to right) R. Alden Miller, Regional Vegetable Sepcialist from Worcester County Extension Service, Leslie Wilson of Wilson Farms, Lexington, Guy Paris and Diane Baedeker, Massachusetts Department of Food and Agriculture, and Alan Wilson, also Wilson Farms in Lexington.


FRESH
VEGETABLES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