

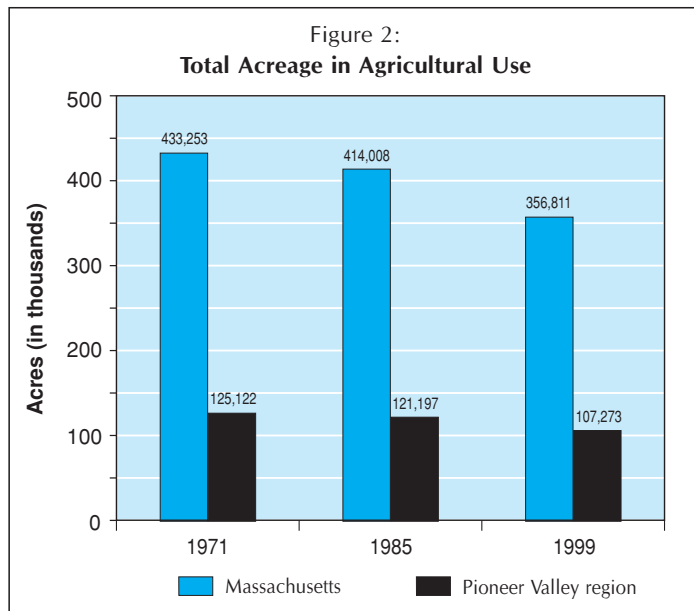
Agriculture in the Pioneer Valley Region

The Pioneer Valley region, comprised of 43 cities and towns has been a center of agriculture dating back to colonial times. The region's agricultural sector, fueled by some of the richest soils in the world, serves the region in many ways. The products of the industry supply citizens with sustenance, while the farms themselves provide jobs throughout and tourism to the region. Though the agricultural sector has experienced a decline in both amount of farm land and economic output, farmers and interested community organizations are increasingly capitalizing on the sector's capacity to serve local needs. In particular, the region's agricultural sector has become a center of organic farming, supplying specialty produce to local stores and restaurants.

Between 1987 and 2002, the acreage of farmland in the region fell from 111,314 acres to 88,393 acres, a 20.6 percent decline over 15 years. This corresponded with a drop in the number of farms from 1,114 to 1,000, a 10.2 percent reduction. In the same period of time, the acreage of orchards fell from 1,866 to 855 acres, a 54.2 percent reduction, and the number of orchards fell from 112 to 55, a loss of 50.9 percent.

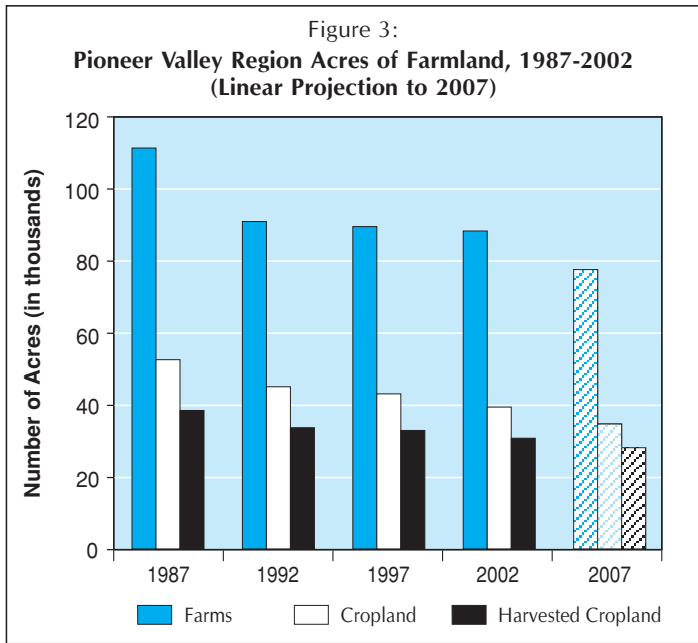


According to the 2002 Census of Agriculture conducted by the U.S. Department of Agriculture, of the Pioneer Valley region's 1,000 farms, 68.6 percent are between 10 and 179 acres in size, 17.6 percent of the farms consist of less than 10 acres and 13.8 percent cover 180 or more acres. In 2002, the average size of all farms was approximately 88 acres, an 11.5 percent decline from 15 years before (1987). Furthermore, the average size of the region's 55 orchards was 15.5 acres in 2002, an overall decline in average orchard size of 6.7 percent since 1987.

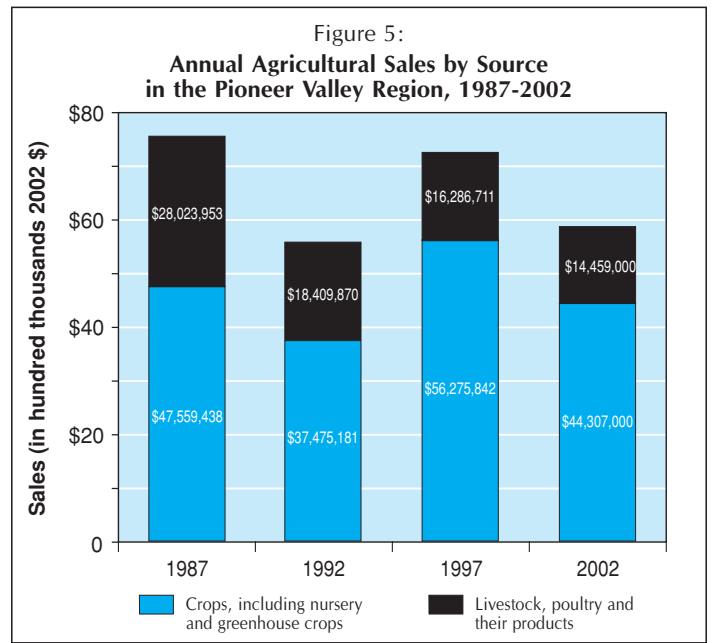


Source: Massachusetts Executive Office of Environmental Affairs.

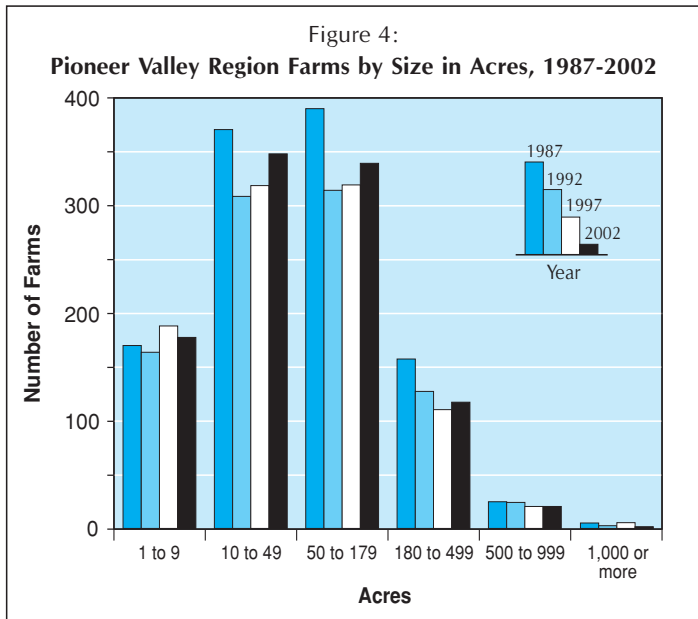
The decline of the livestock industry between 1987 and 2002, especially that involving cattle and their products, contributed substantially to shrinking the region's overall agricultural sector. The loss of 105 beef cattle farms and 102 dairy cattle farms was a principal contributing factor in the reduction of total farmland in the region. In the 1987 Census of Agriculture, the 442 beef farms in the region boasted an inventory of nearly 16,400 cattle and calves; however, by 2002 these numbers were cut nearly in half to 9,000 animals distributed among 232 farms. The dairy cattle farms experienced a nearly



Source: U.S. Department of Agriculture, Agricultural Census; Pioneer Valley Planning Commission



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identical decline from approximately 7,600 cattle on 179 farms to 4,000 cattle on 77 farms.

With this reduction in livestock farming, the balance of agriculture in the region shifted. In 1987, 62.9 percent of total agricultural sales in the region were from crops (including nursery and greenhouse crops), and 37.1 percent of total sales came from livestock, poultry, and their products. In contrast, by 2002 the source of 75.4 percent of total agricultural sales in the region was crops (including nursery and greenhouse crops), while livestock, poultry, and their products accounted for only 24.6 percent of all agricultural sales.

Various forage and harvested fruits and vegetables are the dominant crops produced in the Pioneer Valley region. Among these principal crops are berries (381 acres), apples (855 acres), pumpkins (811 acres), squash (618 acres), tobacco (835 acres), corn (4,697 acres), and forage such as hay and alfalfa (16,657 acres). Cut Christmas trees (630 acres) and nursery and greenhouse plants (359 acres) also contribute substantially to the strength of crop agriculture in the region.

Of the two county areas represented in the Pioneer Valley region, the Hampshire County communities edge out the Hampden County communities in both agricultural land use and earnings. Both produce commodities atop the state rankings in acreage farmed and sales. Hampden County brings in the highest income in the state for tobacco (\$7,069,000) and the second highest income for cut Christmas trees (\$317,000), while Hampshire County boasts the highest income in the state for both corn for grain use (\$348,000) and all harvested vegetables (\$10,598,000). The most significant components of livestock and poultry agriculture in the region are incomes earned from dairy products such as milk (\$9,140,000) as well as sheep, goats and their products (\$196,000). Between the region's two counties, the value of all agricultural products sold in 2002 amounted to over \$58.5 million.

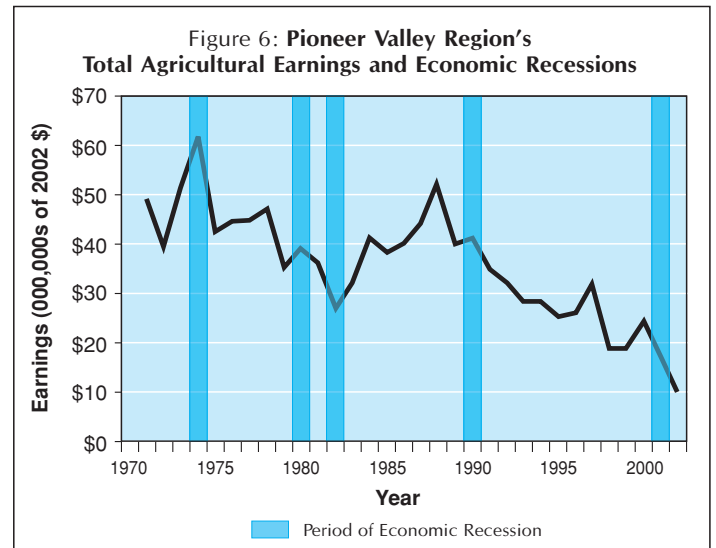
Family-owned farms account for 86.9 percent of the total, while the remaining 13.1 percent are largely organized as partnerships or family-held corporations. Nine out of 10 farms are run by one or two people. The majority (81.7 percent) of principal operators reside on the land they work; however, only half of all head operators indicate that farming is their primary occupation. This suggests that for many farmers, farming is a means of supplementing the earnings of a primary vocation off of the farm.

The agricultural sector in the Pioneer Valley region employed 3,000 laborers in 2002. Of farms using both seasonal and non-seasonal

laborers, roughly three quarters of these workers were hired seasonally. These workers earned approximately \$14 million in 2002, an average annual wage of \$4,666 per worker.

The economic contribution of the agricultural sector within the Pioneer Valley region has experienced a slow decline during the past 30 years. However, this is not a trend isolated to this region of the state; rather, it represents a trend that's unfolding across all of Massachusetts. Interestingly, significant years of decline in local agricultural earnings have coincided with national economic recessions in 1980, 1990-1991, and 2001. In recent years, the region experienced a peak in agricultural earnings in 1997 and 2000, but periodic increases ultimately have not been sustainable. However, efforts to market and boost the sales of local farms are showing promise and may over time break this cycle.

Finally, despite the drop in land use and economic contribution, the agriculture industry remains an intrinsic part of the Pioneer Valley region's overall health and appeal. The dominance of small, family-owned farms reveals the region's indigenously invested interest in the success of the agricultural sector. This interest is manifested in numerous farmers markets, roadside fruit and vegetable stands, and dozens of farms participating in agri-tourism; all of which help shape the region's connection with its rural spaces and culture. The



Source: U.S. Bureau of Economic Analysis, Regional Economic Information System; National Bureau of Economic Research.

agricultural sector's sustainability, appeal, and potential growth can be supported by continued efforts of groups like Community Involved in Sustaining Agriculture (CISA) to encourage awareness and participation in the Pioneer Valley region's locally-focused farming tradition.

Table 1: Select Crops by Acre

	1987	1992	1997	2002	Percent Change 1987-2002
GRAINS AND FORAGE					
Corn for grain or seed	2,354	2,231	2,095	<1,289*	NA*
Corn for silage or green chop	6,846	4,821	4,686	3,872	-43.44%
Hay (including alfalfa, small grain, wild, etc.)	21,222	18,754	18,075	16,657	-21.51%
HARVESTED VEGETABLES					
Asparagus	81	67	65	<59*	NA*
Snap Beans	65	47	44	58	-10.77%
Head Cabbage	190	195	136	80	-57.89%
Carrots	18	16	18	<23*	NA*
Cucumber and Pickles	327	283	812	<16*	NA*
Eggplant	11	50	40	10	-9.09%
Sweet Peppers	184	135	138	85	-53.80%
Potatoes	1,436	2,391	1,896	1,880	30.92%
Pumpkins	187	330	485	811	333.69%
Squash	478	650	617	618	29.29%
Sweet Corn	1,669	1,468	1,555	1,110	-33.49%
Tomatoes	140	133	88	75	-46.43%
FRUITS AND BERRIES					
Apples	1,647	1,404	987	811	-50.76%
Peaches	137	101	82	77	-43.80%
Pears	49	37	25	22	-55.10%
Tame Blueberries	132	133	206	<75*	NA*
Strawberries	89	81	109	85	-4.49%
NURSERY /GREENHOUSE/CUT TREES					
Cut Christmas Trees	na	na	28	630	NA*
Nursery and greenhouse plants (under glass and in the open)	464	393	1,111	359	-22.63%
TOBACCO	<217*	<182*	890	835	NA*

*Data withheld by the federal government in order to avoid disclosing data for individual farms.

Source: U.S. Department of Agriculture, Agricultural Census

TABLE 2: Agriculture in the Pioneer Valley Region

	<i>1987</i>	<i>1992</i>	<i>1997</i>	<i>2002</i>
Total farms	1,114	937	957	1,000
Land in farms (acres)	111,314	90,936	89,509	88,393
Average size of farms (acres)	99.9	97.1	93.5	88.4
Estimated market value of land and buildings	\$487,738,967	\$373,806,995	\$350,839,215	\$531,857,106
Average per acre (actual)	\$4,382	\$4,111	\$3,920	\$6,017
Estimated market value of all machinery and equipment	\$105,364,189	\$71,677,068	\$69,397,230	\$91,940,000
Average per farm (actual)	\$94,582	\$76,496	\$72,515	\$91,940
Farms by size				
1 to 9 acres	169	163	187	176
10 to 49 acres	369	308	317	347
50 to 179 acres	389	313	318	339
180 to 499 acres	157	127	110	117
500 to 999 acres	25	24	20	20
1,000 acres or more	5	2	5	1
Total cropland (farms)	1,014	864	864	828
Total cropland (acres)	52,681	44,981	42,979	39,312
Average per farm	52.0	52.1	49.7	47.5
Harvested cropland (farms)	932	779	789	714
Harvested cropland (acres)	38,304	33,541	32,939	30,780
Average per farm	41.1	43.1	41.7	43.1
Market value of agricultural products sold	\$75,585,014	\$55,886,329	\$72,563,677	\$58,765,000
All Agricultural Products	\$67,850	\$59,644	\$75,824	\$58,765
Crops, including nursery and greenhouse crops	\$47,559,438	\$37,475,181	\$56,275,842	\$44,307,000
Crops	\$42,692	\$39,995	\$58,804	\$44,307
Livestock, poultry and their products	\$28,023,953	\$18,409,870	\$16,286,711	\$14,459,000
Livestock	\$25,156	\$19,648	\$17,019	\$14,459
Farms by value of sales				
Less than \$2,500	409	321	312	423
\$2,500 to \$4,999	185	122	122	128
\$5,000 to \$9,999	134	125	126	109
\$10,000 to \$24,999	124	127	123	104
\$25,000 to \$49,999	70	70	79	63
\$50,000 to \$99,999	79	62	71	54
\$100,000 or more	113	110	124	119
Operators by principal occupation				
Farming	555	495	487	507
Other	559	442	470	493
Operators by days worked off the farm				
Any	628	487	515	591
200 days or more	421	316	333	414
Livestock and poultry farms				
Cattle and calves	441	328	248	232
Beef cows	234	171	143	129
Milk cows	179	128	88	77
Hogs and pigs	72	67	51	38
Sheep and lambs	94	74	61	87
Chickens	130	92	77	114
Livestock and poultry inventory				
Cattle and calves	16,344	12,904	10,725	8,963
Beef cows	1,911	1,374	1,168	1,053
Milk cows	7,624	5,549	4,539	3,987
Hogs and pigs	3,056	3,276	2,286	1,456
Sheep and lambs	2,959	2,558	1,676	2,301
Chickens	29,389	11,117	*	*
Livestock and poultry per farm				
Cattle and calves	37	39	43	39
Beef cows	8	8	8	8
Milk cows	43	43	52	52
Hogs and pigs	42	49	45	38
Sheep and lambs	31	35	27	26
Chickens	226	121	*	*
Crop acres harvested	33,744	29,827	31,031	28,877
Orchard farms	112	101	82	55
Acres of orchard	1,866	1,558	1,119	855
Acres of orchard per farm	16.7	15.4	13.6	15.5

* Data is not reported by the federal government in order to protect the confidentiality of individual farms.

Source: U.S. Department of Agriculture, Agricultural Census



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