

Field Crops

Growing Season Weather Summary

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The 2002 growing season began with a period of abnormally warm weather during the middle two weeks of April. Mean daily temperatures at or in excess of 90 degrees were recorded at some locations in the State. Temperatures at least 35 degrees above climatological normal high temperatures for the season set new maximum records at many locations on April 16 to 18. Seasonal growing degree day (GDD) accumulations, which had been near zero due to cooler than normal temperatures during much of March and early April surged to much above normal levels, resulting in rapid early growth and development of most overwintering crops, and allowing rapid progress of spring fieldwork and planting. Base GDD accumulations for April 8 to 20 ranged from about 40 units in the far northern Upper Peninsula to more than 150 units in the southern Lower Peninsula, which was nearly double the normal accumulation for this time of year and versus the 2001 growing season totals. The unusual warmth came to an abrupt end on April 20 and again on April 25 with the passages of cold fronts through the region. The change in the jet stream was accompanied by snowfall on April 21 and 22, and near-record minimum temperatures which fell into the upper teens and twenties on the morning of April 23. The cold temperatures caused extensive damage to many perennial crops, especially tree fruit and grapes.

In contrast to the record warmth of April, much of May and June were cooler than normal. A series of frontal systems also brought above normal precipitation totals to much of the State. The cool, wet weather caused major delays in spring planting and slowed germination, growth, and development of all crops. In some areas, the conditions necessitated replanting. By mid-June, seasonal base 50 GDD totals lagged from 50 to 100 units behind normal, a dramatic change from the much above normal totals experienced at the beginning of the season. A return of an upper air ridging pattern across the midwest during late June led to yet another major weather change which continued through much of the remainder of the growing season. The middle and latter portions of the growing

season were characterized by warmer than normal temperatures, and during much of June, July, and early August, by much drier than normal conditions. During the period between the first week of June and the second week of July, rainfall totals were less than 0.25 inches across much of the Lower Peninsula. The dryness led to increasing levels of moisture stress in most spring and summer crops, but favored harvest of winter grains. Much needed rainfall brought relief to the stressful conditions in early August. A drier than normal pattern developed across much of the State once again in late August and continued through the remainder of the fall season. By late September, sections of southern Lower Michigan were characterized by NOAA's Palmer Drought Index as experiencing 'moderate' drought conditions. A notable exception to the drier than normal pattern were the western and central sections of the Upper Peninsula, where periodic heavy rainfall led to above normal precipitation totals and a Palmer Drought Index characterization of 'abnormally wet' conditions during much of the fall season.

September and much of October were characterized by warmer and drier than normal weather, which favored maturation and drydown of summer crops as well as harvest activities. The first killing freeze of the fall season occurred during the last week of September and first two weeks of October over most of the State, which is near to a few days later than normal. Overall, for the 5-month May to September period, mean temperatures and GDD accumulations ranged from near to above normal statewide. From a climatological standpoint, the varying nature of GDD accumulations during the season was unusual. It is uncommon in Michigan for significant GDD deficits or excesses that develop during the first half of the growing season to be reversed by the end of the season as was the case this year. Precipitation totals were also variable across the State, ranging from below normal totals across much of the Lower Peninsula to much above normal levels in the Upper Peninsula.

Field crops: Acres harvested and value of production, 1998-2002

Item	Unit	1998	1999	2000	2001	2002
Acres harvested	1,000 acres	6,653	6,730	6,593	6,448	6,483
Value of production	1,000 dollars	1,503,206	1,569,098	1,428,981	1,297,866	1,680,878

Grain storage capacity, December 1, 1998-2002

Year	Off farm		On farm capacity
	Facilities	Rated capacity	
	<i>Number</i>	<i>Million bushels</i>	<i>Million bushels</i>
1998	286	143	270
1999	270	141	280
2000	250	141	280
2001	245	146	280
2002	235	148	270

Field crops: Record highs and lows

Crop	Unit	Record high		Record low		Year estimates started
		Quantity	Year	Quantity	Year	
Barley						
Harvested acres	1,000 acres	303	1932	16	1974	1866
Yield per acre	Bushels	68.0	1985	13.5	1933	
Production	1,000 bu	8,400	1918	546	1866	
Dry Edible beans						
Harvested acres	1,000 acres	690	1930	130	2001	1909
Yield per acre	Pounds	2,100	1999	320	1917	
Production	1,000 cwt	8,585	1963	780	2001	
Corn for grain						
Harvested acres	1,000 acres	2,800	1981	480	1866	1866
Yield per acre	Bushels	130.0	1999	21.5	1917	
Production	1,000 bu	293,180	1982	15,120	1869	
Corn for silage						
Harvested acres	1,000 acres	498	1971	211	1942	1924
Yield per acre	Tons	17.5	1999	4.7	1930	
Production	1,000 tons	5,565	1977	1,542	1930	
Hay, alfalfa						
Harvested acres	1,000 acres	1,444	1950	74	1919	1919
Yield per acre	Tons	4.2	1993	1.1	1934	
Production	1,000 tons	5,040	1985,1986	118	1919	
Hay, all						
Harvested acres	1,000 acres	2,947	1924	780	1866	1866
Yield per acre	Tons	3.8	1993	0.6	1895	
Production	1,000 tons	5,743	1986	1,014	1866	
Oats						
Harvested acres	1,000 acres	1,658	1918	55	2001	1866
Yield per acre	Bushels	67.0	1985,1989	18.5	1921	
Production	1,000 bu	69,388	1946	3,520	2001	
Potatoes						
Harvested acres	1,000 acres	374.0	1895	36.4	1975	1866
Yield per acre	Cwt	315.0	1998,1999,2000	26.0	1887,1916	
Production	1,000 cwt	23,256	1904	3,557	1876	
Soybeans						
Harvested acres	1,000 acres	2,130	2001	1	1930	1924
Yield per acre	Bushels	40.0	1995,1999	8.0	1927	
Production	1,000 bu	78,155	2002	10	1930	
Spearment						
Harvested acres	1,000 acres	8.7	1954	0.7	1935	1935
Yield per acre	Pounds	50.0	2001,2002	20.0	1965	
Production	1,000 lbs	280	1948	27	1996	
Sugarbeets						
Harvested acres	1,000 acres	190	1999	48	1943,1953	1909
Yield per acre	Tons	21.3	1970	5.5	1916	
Production	1,000 tons	3,534	1999	298	1943	
Wheat, winter						
Harvested acres	1,000 acres	1,515	1953	400	1987	1909
Yield per acre	Bushels	72.0	2000	10.5	1912	
Production	1,000 bu	45,600	1984	7,350	1912	

Barley

Michigan barley growers planted 20,000 acres and harvested 19,000 acres in 2002. Total production was 988,000 bushels, down 2 percent from 2001. The average yield decreased 4 bushels to 52 bushels per acre. Barley planting in Michigan was delayed by cool, wet weather in May, but was completed by early June. Rainfall was

above normal for the barley growing season. Hot, dry weather in July dried the crop down quickly. Harvest weather in August was generally favorable.

Barley: Acres, yield, production, and value, 1998-2002

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Bushels</i>	<i>1,000 bushels</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1998	27	23	50	1,150	1.50	1,725
1999	23	21	66	1,386	1.70	2,356
2000	20	19	60	1,140	1.10	1,254
2001	21	18	56	1,008	1.50	1,512
2002	20	19	52	988	1.60	1,581

¹ Marketing year average.

Corn

Michigan had 2.25 million acres planted to corn in 2002, up 2 percent from 2001. Grain corn production was 232.3 million bushels, up 16 percent from 2001; 2.02 million acres were harvested for grain. The yield of 115 bushels per acre was up 10 bushels from the 2001 crop. Michigan ranked eleventh among states in corn for grain production. Farmers harvested 220,000 acres of corn for silage with an average yield of 15.0 tons per acre.

Planting of corn in Michigan began in earnest the last week of April. Cool, wet weather during May kept planting progress about one week behind normal throughout the month and slowed emergence. Planting was completed near schedule by mid-June. Moisture and heat stress became a problem in late June. Curling leaves were a common sight due to the dryness. As of August 1, the corn crop improved and was tasseling. Just over half of the crop reached the silked stage by August 1, near the 5-year average. The corn crop was about one week behind the average stage of

development by September 1. The major corn growing areas of the State received 2 to 4 inches of rain during August, improving the yield potential.

Combining of Michigan's corn began on schedule the last week of September. Plant development, pushed by above normal September temperatures, was ahead of average. About 40 percent of the crop was rated in good to excellent condition. Yield potential varied widely across the State. Nearly 75 percent of the Michigan corn crop was harvested by November 1. That was about two weeks ahead of the 5-year average. November field conditions were very good, and harvesting neared completion by mid-November, ahead of normal.

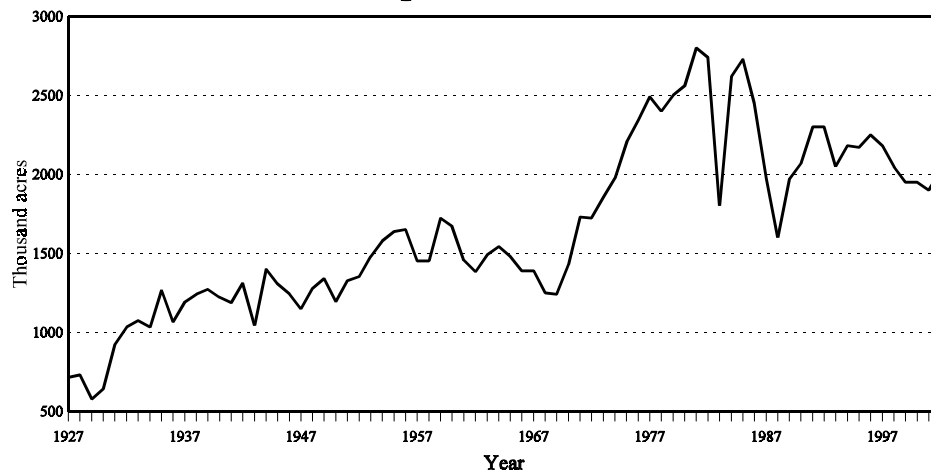
The 2002 corn crop was valued at \$534 million, up 36 percent from 2001. Corn continued to be Michigan's number one crop in value of production. The top four counties in corn production in 2002 were Huron, Sanilac, Tuscola, and Saginaw.

Corn: Acres, yield, production, and value, 1998-2002

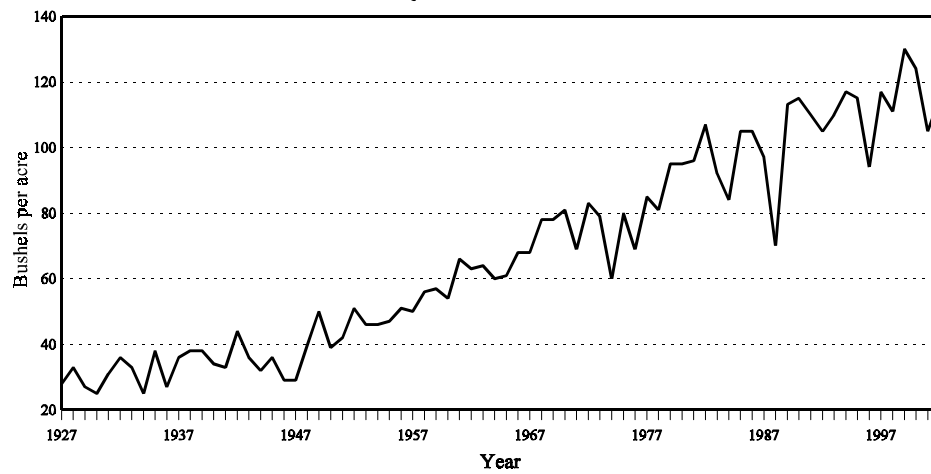
Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Bushels</i>	<i>1,000 bushels</i>	<i>Dollars</i>	<i>1,000 dollars</i>
All						
1998	2,300					
1999	2,200					
2000	2,200					
2001	2,200					
2002	2,250					
Grain						
1998		2,050	111	227,550	1.90	432,345
1999		1,950	130	253,500	1.78	451,230
2000		1,950	124	241,800	1.90	459,420
2001		1,900	105	199,500	1.97	393,015
2002		2,020	115	232,300	2.30	534,290
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Tons</i>	<i>1,000 tons</i>		
Silage						
1998		240	12.5	3,000		
1999		235	17.5	4,113		
2000		230	14.0	3,220		
2001		280	13.0	3,640		
2002		220	15.0	3,300		

¹ Marketing year average.

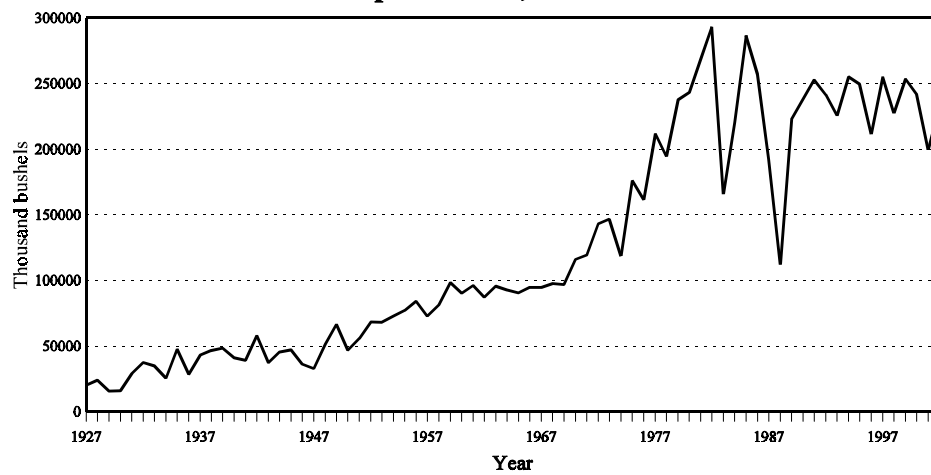
Corn for grain acres, 1927-2002



Corn yield, 1927-2002



Corn production, 1927-2002



Corn for grain: Stocks by quarter, 1998-2002

Crop year	December 1		March 1		June 1		September 1	
	On farm	Off farm	On farm	Off farm	On farm	Off farm	On farm	Off farm
	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>
1998	150,000	59,500	90,000	44,200	58,000	21,000	22,000	13,650
1999	135,000	68,300	95,000	49,700	53,000	30,500	26,000	15,000
2000	145,000	58,200	90,000	46,800	55,000	24,800	21,000	12,500
2001	120,000	55,700	80,000	46,700	54,000	29,050	16,000	13,600
2002	130,000	59,800	88,000	46,700	40,000	27,600		

Corn: Percentage of acreage planted, 1998-2002

Year	Month and day						
	April		May			June	
	20	30	10	20	30	10	
1998	0	20	50	88	96	100	
1999	0	5	46	80	94	99	
2000	0	3	39	69	84	92	
2001	0	14	62	81	93	100	
2002	0	9	34	54	81	96	
5-year-average	0.0	10.2	46.2	74.4	89.6	97.4	

Corn: Percentage of acreage silked, 1998-2002

Year	Month and day					
	July			August		
	1	10	20	30	10	20
1998	0	11	40	79	95	100
1999	0	10	46	88	100	100
2000	0	1	15	53	81	94
2001	0	2	22	66	91	100
2002	0	0	8	63	88	98
5-year-average	0.0	4.8	26.2	69.8	91.0	98.4

Corn: Percentage of acreage dent stage, 1998-2002

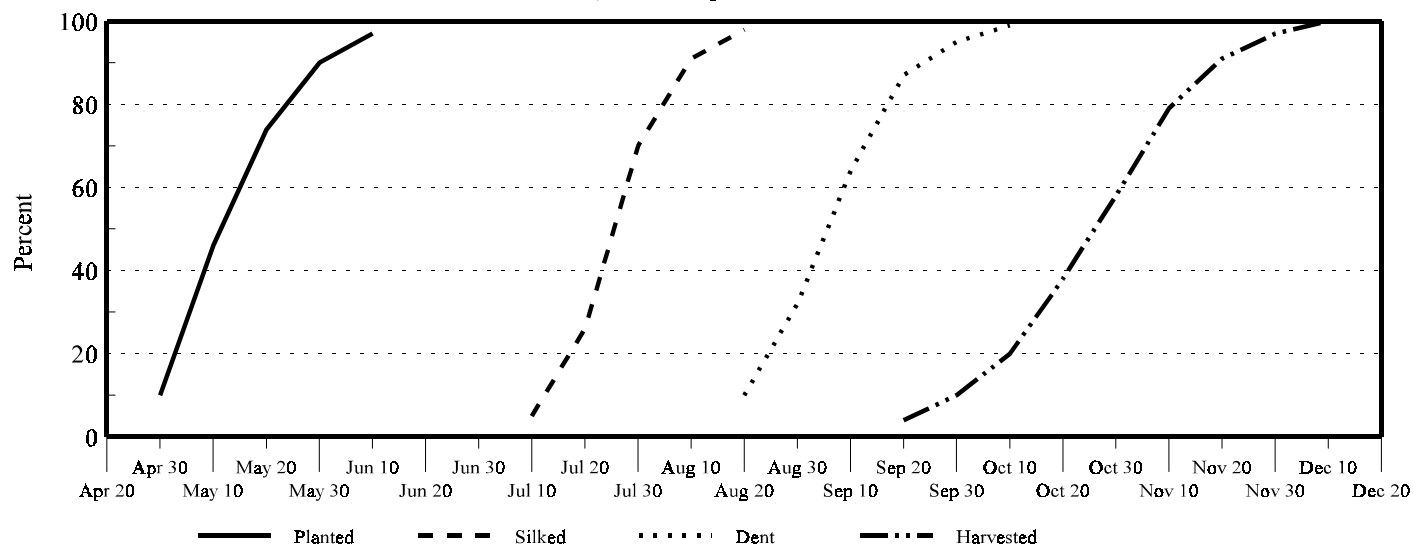
Year	Month and day						
	August			September			October
	10	20	30	10	20	30	10
1998	0	19	60	90	94	100	100
1999	0	17	50	85	97	100	100
2000	0	3	10	33	73	86	98
2001	0	10	25	52	76	93	98
2002	0	2	16	62	96	98	100
5-year-average	0.0	10.2	32.2	64.4	87.2	95.4	99.2

Corn: Percentage of acreage harvested for grain, 1998-2002

Year	Month and day									
	September			October			November			December
	10	20	30	10	20	30	10	20	30	10
1998	0	5	19	32	55	71	87	98	100	100
1999	2	7	13	28	50	76	89	96	99	100
2000	0	0	3	8	24	40	70	81	94	100
2001	0	3	7	14	27	41	62	87	94	100
2002	0	3	8	20	34	63	89	94	97	100
5-year-average	0.4	3.6	10.0	20.4	38.0	58.2	79.4	91.2	96.8	100.0

Corn progress

Five-year-average, 1998-2002



Dry Edible Beans

Michigan dry beans were planted at a normal pace with adequate moisture. Conditions were excellent for a rapid start. Hot and dry weather persisted from late June through most of July. Significant rainfall did arrive in most dry bean areas in late July. The major bean areas received nearly 3 inches of rainfall in August to help during pod set. Some fields were damaged by too much rain. Warm, dry conditions in September helped dry the crop down. Harvest advanced quickly and was nearly complete by mid-October, ahead of normal.

Michigan's 2002 total dry bean production was 4.9 million

hundredweight (cwt) which represented 16 percent of U.S. production. Michigan ranked second in dry bean production for 2002, compared to seventh last year. The number one dry bean producer in the nation was North Dakota with 10.6 million cwt.

Michigan continued to lead the country in cranberry and black bean production. Michigan dry beans are consumed throughout the world and are largely shipped to the United Kingdom, Japan, France, Mexico, and Italy.

Dry edible beans: Acres, yield, production, and value, 1998-2002

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Cwt</i>	<i>1,000 cwt</i>	<i>Dol/cwt</i>	<i>1,000 dollars</i>
1998	300	295	1,500	4,425	21.60	95,580
1999	350	350	2,100	7,350	16.80	123,480
2000	285	275	1,500	4,125	13.70	56,500
2001	215	130	600	780	24.60	19,188
2002	270	265	1,850	4,903	14.50	71,094

¹ Marketing year average.

Dry edible beans: Acres, yield, and production, by class, 1998-2002

Class and Year	Planted	Harvested	Yield	Production
	<i>Acres</i>	<i>Acres</i>	<i>Pounds</i>	<i>1,000 cwt</i>
Black				
1998	135,000	134,000	1,570	2,100
1999	108,000	108,000	2,090	2,260
2000	55,000	53,000	1,580	840
2001	63,000	52,000	640	335
2002	110,000	108,000	1,880	2,030
Cranberry				
1998	27,000	26,000	1,100	285
1999	31,000	31,000	1,600	496
2000	26,000	25,000	1,520	380
2001	26,000	12,000	580	70
2002	20,000	19,000	1,530	290
Great Northern				
2001	8,000	3,500	570	20
2002	3,000	3,000	2,000	60
Navy				
1998	75,000	74,000	1,600	1,180
1999	150,000	150,000	2,300	3,450
2000	125,000	120,000	1,500	1,800
2001	65,000	30,000	570	170
2002	85,000	84,000	1,930	1,620
Pinto				
1998	21,000	20,000	1,470	293
1999	9,000	9,000	1,890	170
2000	21,000	20,000	1,450	290
2001	7,000	4,500	510	23
2002	9,500	9,500	1,930	183
Red kidney, dark				
1998	9,000	9,000	1,000	90
1999	9,000	9,000	1,700	153
2000	12,000	12,000	1,520	182
2001	9,000	7,000	430	30
2002	8,500	8,000	1,630	130
Red kidney, light				
1998	14,000	13,000	1,310	170
1999	17,000	17,000	1,800	306
2000	19,000	19,000	1,500	285
2001	18,000	11,000	770	85
2002	15,000	14,500	1,790	260
Small, red				
1998	11,000	11,000	1,820	200
1999	15,000	15,000	2,070	310
2000	8,000	8,000	1,410	113
2001	12,000	6,500	420	27
2002	11,000	11,000	1,890	208
Other				
1998	8,000	8,000	1,340	107
1999	11,000	11,000	1,860	205
2000	19,000	18,000	1,310	235
2001	7,000	3,500	570	20
2002	8,000	8,000	1,530	122

Hay and Haylage

Michigan hay production was estimated at 3.7 million tons, down 3 percent from 2001. Alfalfa and alfalfa mixtures accounted for 85 percent of all dry hay produced. All hay harvested acres were estimated 1.15 million, unchanged from 2001. The average all hay yield was 3.2 tons per acre, down 0.1 tons from 2001. First cutting of alfalfa was slowed by cool weather conditions in May. Weevils were found in moderate numbers. The second cutting was

poor to fair and short because of lack of rain and damage from potato leafhoppers. The third cutting was an improvement over the second cutting. Alfalfa accounted for 900,000 acres of the total harvested with a yield of 3.5 tons per acre. Other hay accounted for 250,000 acres with a yield of 2.2 tons per acre. Value of the hay crop was \$292 million, up 9 percent from 2001.

Hay, haylage, and greenchop: Acres, yield, production, and value, 1998-2002

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Tons</i>	<i>1,000 tons</i>	<i>Dollars</i>	<i>1,000 dollars</i>
All dry hay						
1998		1,250	2.85	3,565	89.00	306,410
1999		1,300	3.40	4,415	69.00	305,805
2000		1,300	3.33	4,330	62.50	272,040
2001		1,150	3.30	3,790	70.50	266,740
2002		1,150	3.22	3,700	80.00	291,850
Alfalfa hay						
1998		850	3.30	2,805	90.00	252,450
1999		950	3.80	3,610	72.00	259,920
2000		1,000	3.70	3,700	64.50	238,650
2001		900	3.60	3,240	73.50	238,140
2002		900	3.50	3,150	82.00	258,300
Alfalfa seedings						
1998	95					
1999	100					
2000	140					
2001	100					
2002	125					
Other hay						
1998		400	1.90	760	71.00	53,960
1999		350	2.30	805	57.00	45,885
2000		300	2.10	630	53.00	33,390
2001		250	2.20	550	52.00	28,600
2002		250	2.20	550	61.00	33,550
All haylage and greenchop						
2000		310	5.76	1,785		
2001		340	5.82	1,980		
2002		280	6.05	1,694		
Alfalfa haylage and greenchop						
2000		280	6.00	1,680		
2001		320	6.00	1,920		
2002		260	6.20	1,612		

¹ Marketing year average.

Hay: Stocks on farms, 1999-2003

Year	May 1	December 1
	<i>1,000 tons</i>	<i>1,000 tons</i>
1999	566	2,110
2000	1,170	3,460
2001	1,000	3,450
2002	811	2,109
2003	480	

Maple Syrup

Michigan maple syrup production was estimated at 59,000 gallons for the 2003 season, 7,000 gallons below the 2002 output. This season was not ideal for the production of quality syrup. Sugar content of the sap was higher and the syrup was medium to dark in color, which was darker than last year.

Michigan ranked 5th in maple syrup production in 2003, up from seventh and produced about 5 percent of the total U.S. production. The tapping season started March 11th and ended April

5th for most producers. Total taps were 360,000 and the syrup yield in gallons was 0.164 per tap. In 2002, Michigan producers sold 65 percent of their syrup retail, 15 percent wholesale, and 20 percent bulk. The average price per gallon for 2002 was \$32.50 compared with \$29.70 in 2001. The value of production for 2002 was \$2.1 million up 20 percent from 2001.

Maple syrup: Taps, yield, production, price, and value, 1999-2003

Year	Taps	Yield per tap	Production	Price per gallon	Value of production
	<i>1,000</i>	<i>Gallons</i>	<i>1,000 gallons</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1999			73	28.20	2,058
2000			44	35.10	1,544
2001	332	0.181	60	29.70	1,782
2002	320	0.206	66	32.50	2,145
2003	360	0.164	59	(¹)	(¹)

¹ Published in June 2004.

Mint

Mint: Acres, yield, production, and value, 1998-2002

Year	Harvested	Yield	Production	Price per pound ¹	Value of production
	<i>1,000 acres</i>	<i>Pounds</i>	<i>1,000 Pounds</i>	<i>Dollars</i>	<i>1,000 dollars</i>
Peppermint					
2000	1.0	50	50	9.20	450
2001	1.0	50	50	9.90	495
2002	1.0	50	50	9.00	450
Spearmint					
1998	1.7	42	71	11.20	795
1999	1.7	40	68	10.00	680
2000	1.7	45	77	9.20	708
2001	1.7	50	85	9.80	833
2002	1.7	50	85	9.00	765

¹ Marketing year average.

Oats

Oat acreage increased in Michigan during 2002. Growers planted 80,000 acres of oats in 2002 compared with 70,000 the year before. Harvested acres, at 65,000, were up 10,000 from last year. The 2002 oat production was 4.16 million bushels, up 18 percent from the previous year. Yields remained the same as 2001, at 64 bushels per acre. Chilly weather in May slowed Michigan's oat crop progress; however, hot and dry weather in July moved the

crop along. Harvest began in late July with over half of the crop rated good to excellent. Rains in August slowed progress, and harvest was not completed until early September, slightly behind normal. Sanilac county ranked first in oat production for 2002, while Huron, Shiawassee, Presque Isle, and Tuscola rounded out the top five counties.

Oats: Acres, yield, production, and value, 1998-2002

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Bushels</i>	<i>1,000 bushels</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1998	110	100	48	4,800	1.42	6,816
1999	100	75	65	4,875	1.35	6,581
2000	95	75	64	4,800	1.30	6,240
2001	70	55	64	3,520	1.80	6,336
2002	80	65	64	4,160	1.75	7,280

¹ Marketing year average.

Potatoes

Michigan's 2002 potato production was 13.88 million hundredweight (cwt) down from 13.95 million in 2001. Planted acres were 46,500 and harvested acres were 45,500. The State's average yield was 305 cwt per acre, down from 310 cwt per acre in 2001. The potato growing season started with a cold spring, followed by a warm and dry summer. Potato harvest started late. Many growers indicated yields down due to the dry summer weather.

Michigan ranked tenth among states in potato production in 2002. Most Michigan potatoes are whites, which comprised approximately 85 percent of planted acreage, followed by russets and reds at 12 and 3 percent of planted acreage, respectively. Whites are processed for potato ships or sold for table use while russets are used for french fries and other frozen products.

Fall potatoes: Acres, yield, production, and value, 1998-2002

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Cwt</i>	<i>1,000 cwt</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1998	47.0	46.5	315	14,648	6.70	98,142
1999	48.0	47.5	315	14,963	6.80	101,748
2000	49.0	47.5	315	14,963	6.70	100,300
2001	46.0	45.0	310	13,950	7.65	106,718
2002	46.5	45.5	305	13,878	7.80	108,248

¹ Marketing year average.

Fall potatoes: Stocks by type as percent of total stocks, December 1, 1998-2002

Type	1998	1999	2000	2001	2002
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
White	81	87	86	90	85
Russet	18	11	12	8	12
Red	1	2	2	2	3

Fall potatoes: Production and disposition, 1998-2002

Crop year	Production	Total used for seed	Farm Disposition		Sold
			Seed, feed, and home use	Shrinkage and loss	
	<i>1,000 cwt</i>	<i>1,000 cwt</i>	<i>1,000 cwt</i>	<i>1,000 cwt</i>	<i>1,000 cwt</i>
1998	14,648	888	200	1,348	13,100
1999	14,963	1,005	213	1,300	13,450
2000	14,963	1,099	250	1,700	13,013
2001	13,950	1,181	245	945	12,760
2002	13,878	1,123	205	1,400	12,273

Fall potatoes: Stocks, 1998-2002

Crop year	December 1	January 1	February 1	March 1	April 1	May 1
	<i>1,000 cwt</i>	<i>1,000 cwt</i>	<i>1,000 cwt</i>	<i>1,000 cwt</i>	<i>1,000 cwt</i>	<i>1,000 cwt</i>
1998	9,100	7,500	5,400	4,100	2,200	800
1999	8,800	7,100	5,800	4,200	2,700	1,300
2000	8,700	6,900	5,200	3,400	1,500	700
2001	8,200	6,200	4,800	3,200	1,500	400
2002	7,900	6,500	5,600	4,500	2,900	1,000

Soybeans

Michigan soybean production totaled 78.2 million bushels, up 22 percent from 2001. The yield was 38.5 bushels per acre in 2002. Planted and harvested acres were down from the 2001 total to 2.05 million and 2.03 million, respectively. Soybean planting began at a slow pace, but by June 2, earlier planted fields had started to emerge and planting was 72 percent complete. Grubs and crusting

on some soils hurt the soybean crop as it emerged. Aided by ample soil moisture, emergence was good in later planted soybeans. Soybean harvest got off to a good start and advanced ahead of normal pace. Harvest was nearly complete by the beginning of November. Sanilac, Saginaw, Lenawee, Gratiot, and Monroe were the top five counties in soybean production.

Soybeans: Acres, yield, production, and value, 1998-2002

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Bushels</i>	<i>1,000 bushels</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1998	1,900	1,890	39.0	73,710	4.99	367,813
1999	1,950	1,940	40.0	77,600	4.61	357,736
2000	2,050	2,030	36.0	73,080	4.54	331,783
2001	2,150	2,130	30.0	63,900	4.47	285,633
2002	2,050	2,030	38.5	78,155	5.50	429,853

¹ Marketing year average.

Soybeans: Stocks by quarter, 1998-2002

Crop year	December 1		March 1		June 1		September 1	
	On farm	Off farm	On farm	Off farm	On farm	Off farm	On farm	Off farm
	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>
1998	30,000	18,000	22,000	9,950	11,000	5,600	4,000	2,150
1999	33,000	20,200	17,000	12,750	6,000	6,250	4,100	1,500
2000	30,000	19,800	18,000	9,600	8,500	3,225	2,400	1,220
2001	30,000	20,800	18,000	11,750	7,700	5,450	1,200	1,700
2002	26,000	21,000	16,000	13,450	9,100	5,650		

Soybeans: Percentage of acreage planted, 1998-2002

Year	Month and day						
	May			June			July
	10	20	30	10	20	30	10
1998	10	56	81	92	98	100	100
1999	12	49	81	93	99	100	100
2000	12	29	42	63	82	94	100
2001	31	58	75	80	91	96	100
2002	16	26	59	88	98	100	100
5-year-average	16.2	43.6	67.6	83.2	93.6	98.0	100.0

Soybeans: Percentage of acreage setting pods, 1998-2002

Year	Month and day					
	July			August		
	10	20	30	10	20	30
1998	0	17	57	73	96	100
1999	0	20	48	77	93	100
2000	0	4	20	42	74	86
2001	0	15	46	70	84	94
2002	0	4	29	62	95	100
5-year-average	0.0	12.0	40.0	64.8	88.4	96.0

Soybeans: Percentage of acreage shedding leaves, 1998-2002

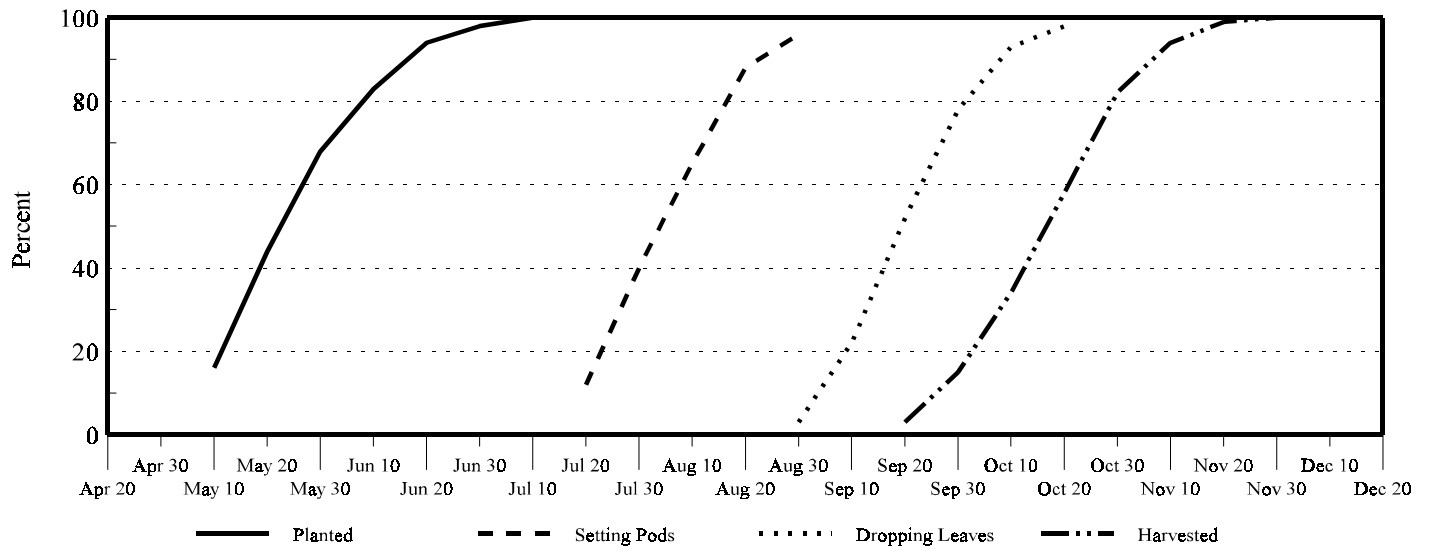
Year	Month and day						
	August		September			October	
	20	30	10	20	30	10	20
1998	0	9	40	68	87	100	100
1999	0	2	31	66	98	100	100
2000	0	0	3	26	54	78	93
2001	0	4	18	47	64	87	99
2002	0	0	17	52	89	99	100
5-year-average	0.0	3.0	21.8	51.8	78.4	92.8	98.4

Soybeans: Percentage of acreage harvested, 1998-2002

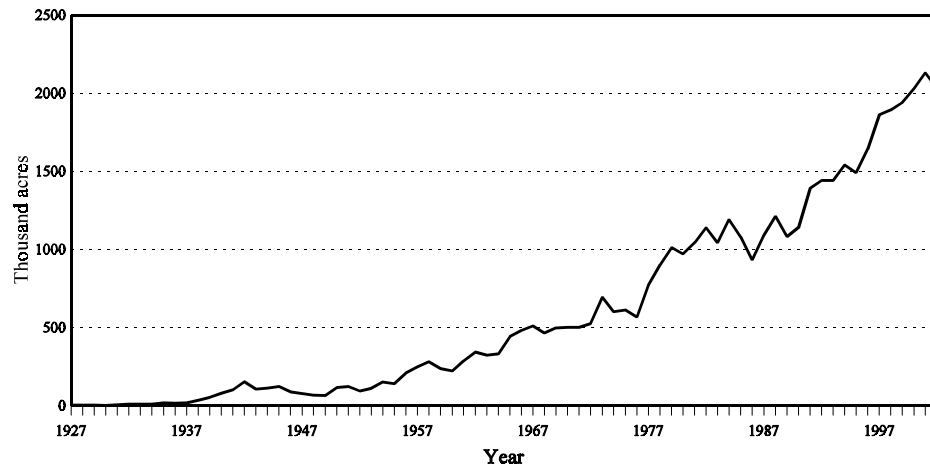
Year	Month and day								
	September			October			November		
	10	20	30	10	20	30	10	20	30
1998	0	3	22	44	66	93	99	100	100
1999	0	5	22	46	67	92	98	100	100
2000	0	0	3	15	48	76	92	100	100
2001	0	1	6	18	36	57	79	96	100
2002	0	4	20	45	73	93	100	100	100
5-year-average	0.0	2.6	14.6	33.6	58.0	82.2	93.6	99.2	100.0

Soybean progress

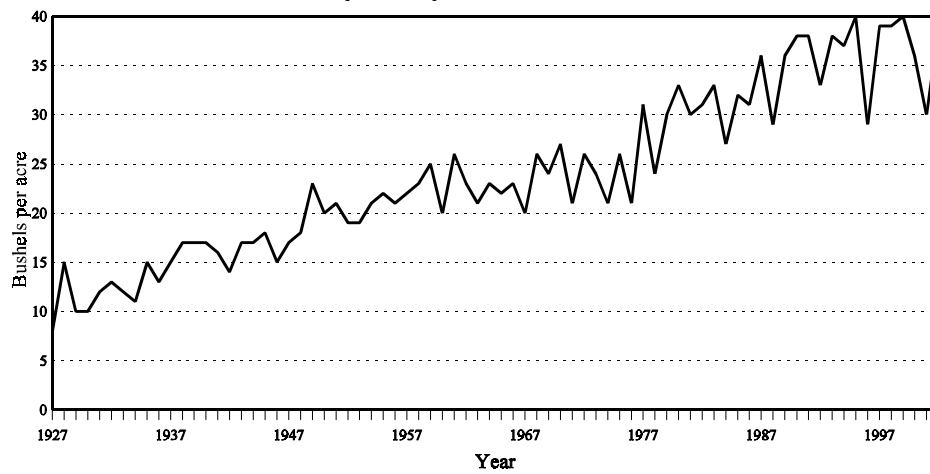
Five-year-average, 1998-2002



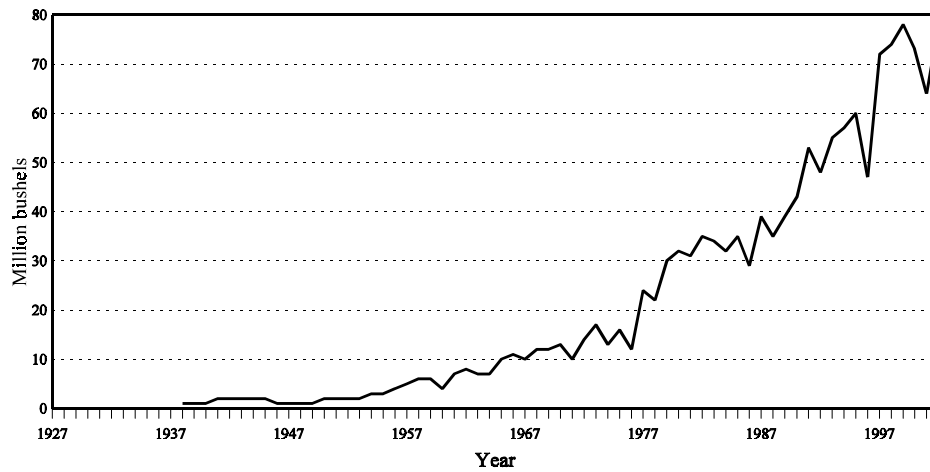
Soybean harvested acres, 1927-2002



Soybean yield, 1927-2002



Soybean production, 1927-2002



Sugarbeets

Acres planted to sugarbeets were estimated at 179,000, down 1,000 acres from the previous year. Harvested acreage at 177,000, increased 7 percent from 2001. All of the crop was planted by the middle of May. Planting conditions for sugarbeets were excellent. High winds damaged some acres and some re-planting was required. Sugarbeet harvest was slow and additional moisture would have made harvest easier. The rains and cooler weather in

October helped harvest speed up. Sugarbeet harvest wrapped up by the middle of November. Sugarbeet tonnage was light but had excellent quality. Yields averaged 18.1 tons per acres compared with 19.4 tons per acre in 2001. The total tonnage decreased 7 percent from 2001. Huron and Tuscola were the top sugarbeet producing counties for 2002.

Sugarbeets: Acres, yield, production, and value, 1998-2002

Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Tons</i>	<i>1,000 tons</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1998	177	173	16.0	2,768	36.70	101,586
1999	194	190	18.6	3,534	32.80	115,915
2000	189	166	20.5	3,403	31.30	106,514
2001	180	166	19.4	3,220	34.80	112,056
2002	179	177	18.1	3,204	(²)	(²)

¹ Marketing year average.

² Published in February 2004.

Wheat

Michigan's 2002 winter wheat crop totaled 32.8 million bushels, down 3.0 million bushels from 2001. Planted acres were down from 570,000 acres the previous year to 500,000. Harvested acreage was at 490,000 acres. The average yield was 67 bushels per acre. The value of the crop rose 24 percent to \$108 million. Sanilac, Huron, Lenawee, Saginaw, and Tuscola were the top five counties in wheat production.

Planting began on schedule the second week of September. There was little snow cover for the 2002 winter wheat crop. There was, however, very little extremely cold weather. At the outset of

May nearly 70 percent of the crop was rated good to excellent. As a result of an exceedingly cool wet spring, the crop was behind normal progress. By June 1, almost 20 percent of the crop was headed, well below the five year average of 60 percent.

Just over half of the winter wheat crop was turning color as of July 1, below the average of two-thirds for that date. Michigan wheat growers had excellent weather for combining, which began on schedule the second week of July. The crop was generally of high quality. Harvest proceeded quickly with hot, dry conditions and the majority of the wheat crop was harvested by August 1.

Wheat: Acres, yield, production, and value, 1998-2002

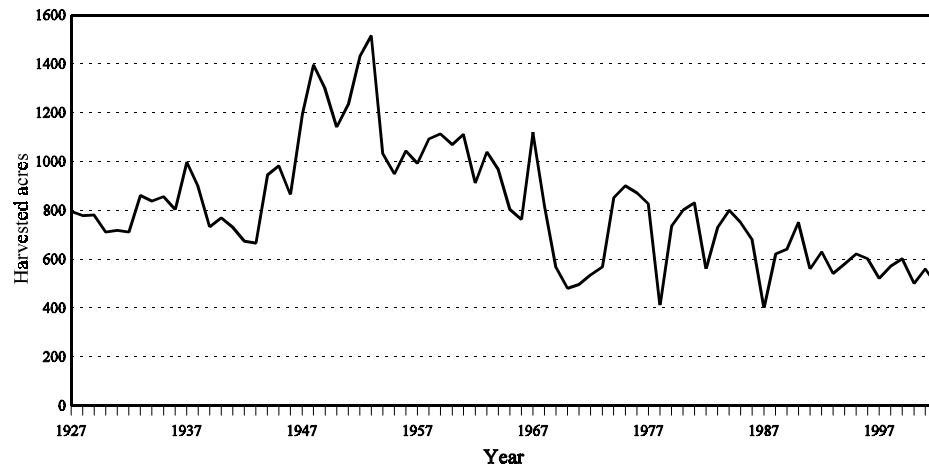
Year	Planted	Harvested	Yield	Production	Price ¹	Value of production
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Bushels</i>	<i>1,000 bushels</i>	<i>Dollars</i>	<i>1,000 dollars</i>
1998	600	570	54	30,780	2.33	71,717
1999	610	600	69	41,400	2.12	87,768
2000	530	500	72	36,000	2.11	76,000
2001	570	560	64	35,840	2.43	87,091
2002	500	490	67	32,830	3.30	108,339

¹ Marketing year average.

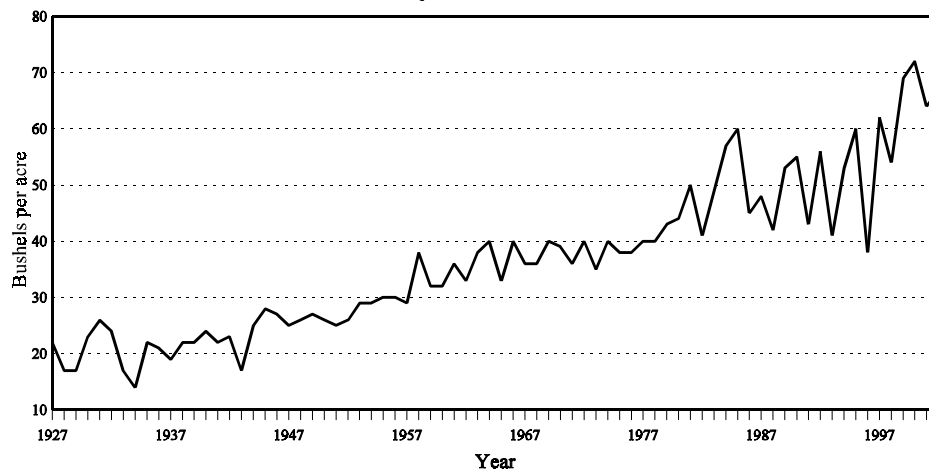
Wheat: Stocks by quarter, 1998-2002

Crop year	September 1		December 1		March 1		June 1	
	On farm	Off farm	On farm	Off farm	On farm	Off farm	On farm	Off farm
	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>	<i>1,000 bushels</i>
1998	6,500	25,200	4,500	21,000	3,000	17,500	1,100	12,000
1999	5,000	31,050	3,200	25,050	2,800	19,450	1,900	12,900
2000	7,000	28,950	4,100	22,400	3,000	17,150	800	12,380
2001	4,500	25,900	3,300	19,700	1,200	16,050	600	11,330
2002	2,800	23,700	1,200	15,700	400	12,450	300	6,580

Wheat harvested acres, 1927-2002



Wheat yield, 1927-2002



Wheat production, 1927-2002

