

# **Agricultural Data: Michigan Agricultural Statistical Service and the U.S. Census of Agriculture**

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## **SAMPLING PROCEDURE**

The U.S. Census of Agriculture is conducted every five years and is a survey sent out to every farm operator in the state. Because of the comprehensive nature of the mailing to all potential farm operators, data can be reported on a county basis. The information that is reported is actual data representing the census respondents and does not add back in the nonresponse data. One can still compare trends over time since the past five censuses include 92 percent of the actual number of farms, 95 percent of the land in farms, and 98 percent of the market value of agricultural products sold. The data reported are actual numbers compiled from survey respondents.

The Michigan Agricultural Statistical Service (MASS) conducts an annual survey to a small, but statistically accurate sampling of farm operators and the data collected are then extrapolated to reflect statewide numbers. Because of the sampling nature and procedure, data are reported on a 100 percent statewide basis only and are not used to report county information. The data are usually reported to the nearest 1,000 farms and the nearest 100,000 acres of farmland.

A crude analogy could be made to voter ballots: The U.S. Census of Agriculture attempts to count every single vote every five years, while the MASS survey represents data based on a small, but statistically accurate sampling of the votes every year.

## **DEFINITIONS**

The definition of a farm is the same for both surveys: an establishment from which \$1,000 or more of agricultural products were sold or would normally be sold during the year. In 1997, the land in farms also included acreage in the Conservation Reserve Program, cut Christmas trees, short rotation woody crops, and maple trees tapped.

A farm operator is a person who operates a farm, either doing the work or making day-to-day decisions about such things as planting, harvesting, feeding, and marketing—it does not include those who rent out their land to others.

## **SUMMARY**

Both surveys can provide useful information, with the MASS survey including a sampling of the farmers between census years and the U.S. Census of Agriculture providing a complete survey of all operators every five years. The numbers are meant to reflect general trends and, it is hoped, the definition of farms and land in farms does not change significantly over time. For more accurate and detailed data, including the availability of county data, the U.S. Census of Agriculture is used. (See exhibit.)

<b>Comparison of Michigan Agricultural Statistics Service and U.S. Census of Agriculture Surveys</b>		
<b>Basis of Comparison</b>	<b>Michigan Agricultural Statistics Service</b>	<b>U.S. Census of Agriculture</b>
Sampling methodology	Statistical sample of a small number of farmers	Survey of every farmer in the state
Survey interval	Conducted annually	Conducted every 5 years
Scope of data reported	Statewide only	Statewide and county data
Data reporting	Sampling used to report 100% of the population	Actual data reported from the survey respondents—representing 92% of farmers, 95% of land in farms, and 98% of agricultural production
Data rounding	Usually reported to the nearest 1,000 farmers and 100,000 acres of farmland	Data represents a sum of actual data collected
1982 number of farms	65,000 (1980 - 100%)	58,661 (1982 - 92%) (63,761 based on 100%)
1997 number of farms	53,000 (1997 - 100%)	46,027 (1997 – 91.4%) (50,357 based on 100%)
1982–1997 change in number of farms	-12,000	-12,634
1982 land in farms (acres)	11,400,000 (1980 = 100%)	10,942,172 (1982 – 95%) (11,518,075 based on 100%)
1997 land in farms (acres)	10,400,000 (1997 = 100%)	9,872,812 (1997 – 94.7%) (10,425,355 based on 100%)
1982–1997 change in land in farms (acres)	-1,000,000	-1,069,360

SOURCE: Information compiled by Dr. David Skjaerlund, Midwest Land Legacies.

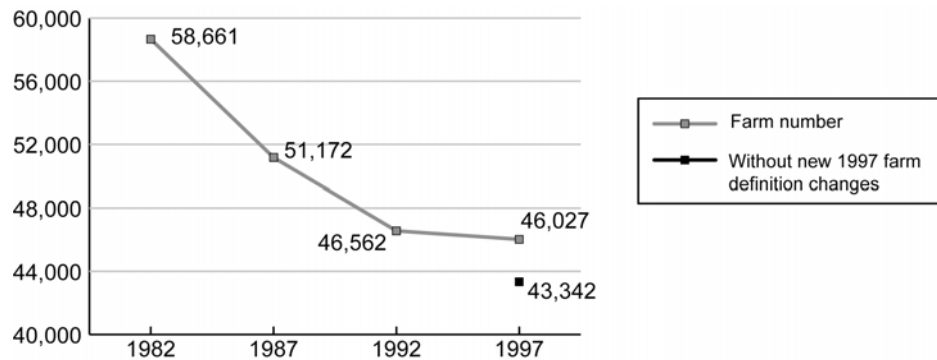
The most accurate land use data, from the standpoint of farmland conversion, would be to provide a 25 year update of the MiRIS data, last collected in 1978 based on actual land use cover imaging. Aerial photos are generally taken every year but it requires a financial investment to digitize the information. This land use cover information could then be utilized by all local units of government in land use decision making.

## 1997 Census of Agriculture Highlights, Michigan (1997)

The 1997 Census of Agriculture for Michigan and the United States was completed by the U.S. Department of Agriculture and includes all farms with more than \$1,000 in annual production and sales. There was a change in the national definition of a farm and, for the first time, included in the farm count were Michigan producers who produced cut Christmas trees (1,204 farms), maple sap (282 farms), or short rotation woody crops or had acreage entirely in the Conservation Reserve Program or the Wetlands Reserve Program (another 1,199 farms).

Thus, the definition change resulted in the addition of 2,685 farms and approximately 170,000 farmland acres for Michigan that were not included in previous censuses, partially offsetting the trend loss of farms and farmland observed over the past 15 years. There are 46,027 farms in the 1997 Census of Agriculture compared to 58,661 farms in 1982—more than one-fifth fewer farmers today than 15 years ago.

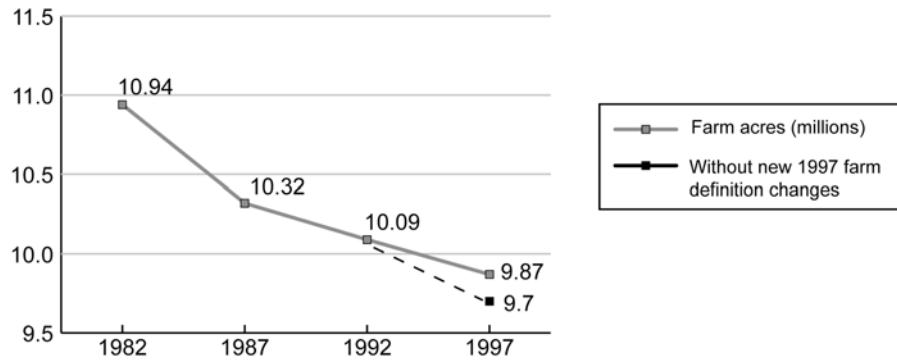
**EXHIBIT 1**  
Number of Michigan Farms



SOURCE: Information compiled by Dr. David Skjaerlund, Midwest Land Legacies, based on U.S. Census of Agriculture completed by the United States Department of Agriculture.

## EXHIBIT 2

### Michigan Farmland Acres



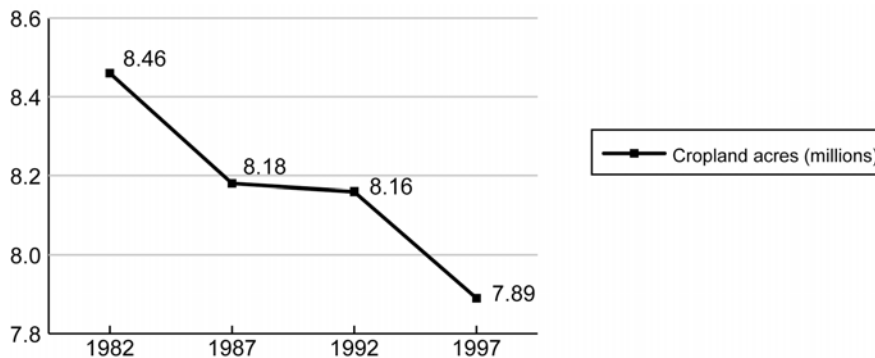
SOURCE: Information compiled by Dr. David Skjaerlund, Midwest Land Legacies, based on U.S. Census of Agriculture completed by the United States Department of Agriculture.

More than one million acres of farmland have been lost in the 15 years since 1982, slipping to 9.87 million acres in 1997. This represents the equivalent of losing an average sized farm (215 acres) almost every day.

More than 53 percent of the total cropland loss since 1982 has occurred within the last five years alone from 1992 to 1997 (cropland does not include pasture land or woodlots). More than 53 percent of all agriculture production comes from the 25 urban-influenced counties (metropolitan statistical areas—MSAs) in which more than 45 percent of all the cropland in Michigan is located. These 25 urban-influenced counties have the greatest development pressure and, combined, represent over 75 percent of the total cropland lost in Michigan from 1992 to 1997.

## EXHIBIT 3

### Michigan Cropland Acres



SOURCE: Information compiled by Dr. David Skjaerlund, Midwest Land Legacies, based on U.S. Census of Agriculture completed by the United States Department of Agriculture.

Several urban areas experienced farmland loss at double the state average. In the last five years alone, Leelanau and Grand Traverse Counties surrounding Traverse City lost 7,866

acres of farmland or 6 percent, the five-county area encompassing Grand Rapids lost 38,095 acres of farmland or 4 percent, the six southeastern counties contiguous with Detroit lost 24,315 acres of farmland or just under 4 percent, and the three counties surrounding Lansing had 17,720 fewer farmland acres than in 1992 (which represents more than 27 square miles).

#### EXHIBIT 4 Farmland Loss for Selected Counties—Last 5 and 15 Years

County	1992–1997		1982–1997		County	1992–1997		1982–1997	
	Acres	Sq. Miles	Acres	Sq. Miles		Acres	Sq. Miles	Acres	Sq. Miles
Allegan	9,467	15	30,041	47	Lapeer	15,707	25	47,696	75
Cass	9,600	15	21,632	34	Leelanau	2,844	4	10,326	16
Charlevoix	9,960	16	15,972	25	Livingston	20,467	32	39,621	62
Clinton	12,386	19	22,886	36	Macomb	1,477	2	22,393	35
Eaton	2,051	3	12,681	20	Monroe	7,380	12	32,021	50
Genesee	19,114	30	42,857	67	Oakland	2,870	4	23,687	37
Grand Traverse	5,022	8	12,381	19	Ottawa	5,678	9	12,532	20
Ingham	3,286	5	32,337	51	Saginaw	20,283	32	24,887	39
Jackson	29,351	46	53,897	84	St. Clair	18,682	29	42,819	67
Kalamazoo	7,555	12	30,264	47	Shiawassee	22,646	35	30,165	47
Kent	4,253	7	36,762	57	Washtenaw	8,735	14	43,450	68

SOURCE: Information compiled by Dr. David Skjaerlund, Midwest Land Legacies, based on U.S. Census of Agriculture completed by the United States Department of Agriculture.

Nearly 40 percent of the farmland in Michigan is rented. Thus, a significant portion of the farmland is not under the ownership or control of those who actually farm the land.

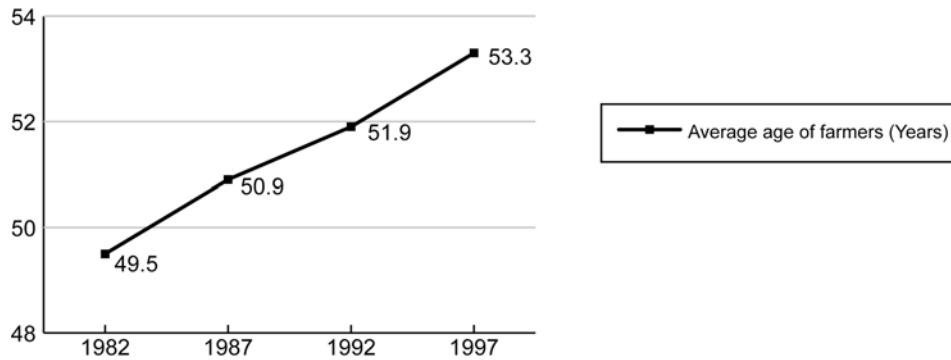
Michigan agriculture represents over \$3.5 billion dollars at the farm-gate and is often multiplied tenfold by the time it reaches the food-plate, making the food and fiber industry the second largest in Michigan.

The average age of farmers has steadily increased over the last 15 years from 49.5 to 53.3 years of age in 1997. Since 1982, the number of farmers under 35 years of age has dropped 62 percent, including a 32-percent drop in the last five years alone, while the number of farmers over 65 years of age has increased 14 percent. In 1997, 14 percent of all farm operators were over age 70. In 1997, 44 percent of all the farmland was farmed by operators 55 years of age or older. As these farms come up for sale across Michigan, time will tell who will be the highest bidder.

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**EXHIBIT 5**  
**Average Age of Farmers**

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SOURCE: Information compiled by Dr. David Skjaerlund, Midwest Land Legacies, based on U.S. Census of Agriculture completed by the United States Department of Agriculture.

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Over 87 percent of farms are owned by an individual or a family with the remainder consisting of family-held corporations (3.6 percent) or partnerships (8.2 percent) and less than 1 percent of the total number of farm operations are non-family held corporations. Farms with sales of \$100,000 or more, while representing only 16 percent of the total number of farms, accounted for 83 percent of the total value of products sold in 1997. The trend is towards fewer and larger farms with consolidation occurring in both the livestock and crop sectors.