

Second Interim Update on the Economic Impact of Michigan's Agri-Food and Agri-Energy System

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Introduction

This report represents the second interim update to a report published in January 2006 entitled "The Economic Impact and Potential of Michigan's Agri-Food System." The original report was based on a complete set of 2004 data for both agriculture and related food (manufacturing, distribution, and retail) sectors of the full economy. In January 2007, a first interim update was published reflecting 2006 actual data for agriculture and 2006 estimates for the food sectors. This report likewise updates the agriculture impacts for 2007 based on actual data and 2007 estimates for the food sectors. The next time both sets of actual data will exist simultaneously will be late 2010. As a result, this report and last year's report are only interim updates.

Findings

The total economic impact (including direct and indirect) of Michigan's agri-food and agri-energy system is estimated to be \$71.3 billion, an increase of approximately \$7.6 billion or 11.9 percent from the adjusted interim 2006 study. The direct economic impact of the agri-food system is estimated to be \$42.6 billion and the direct economic impact of the agri-energy system (ethanol) is estimated to be \$378 million. Table 1 summarizes the economic impact of the agri-food and agri-energy system.

Much of this increase is due to higher prices for farm products. Before adjusting for double counting, the total economic impact of farm production increased from \$7.1 billion in 2006 to \$8.25 billion in 2007 an increase of \$1.1 billion or 15.9 percent.

Table 1: Total Direct and Indirect Economic Activity Michigan Agri-Food and Agri-Energy System 2007 (Millions of Dollars)

Category	Direct	Indirect	07 Total	06 Total	% Change
Farming	5,705	2,546	8,251	7,122	15.9
Adjustment for Double Counting	(803)	(223)	(1,026)	(782)	
Net Farm Sector	4,902	2,323	7,225	6,340	14.0
Other Agri-Food (processing, wholesaling, retailing, etc.)	37,684	25,779	63,463	56,764	11.8
Total (Agri-Food)	42,586	28,102	70,688	63,104	12.0
Ethanol*	378	216	594	594	NA
Grand Total	42,964	28,318	71,282	63,698	11.9

*Ethanol impacts are based on value-added by the industry and are therefore net of corn value which is reflected in the Farming totals. The 2006 estimates were based on 2007 production numbers in order to represent the scale-up of the industry from one to five plants. As a result, 2006 and 2007 are the same estimate.

Methodology

These figures should be considered very rough estimates. Three year averages from 2005-2007 were used to get the farm level economic impacts. The figures are based on numbers obtained from the Michigan Agricultural Statistics Service. The other agri-food figures were based on spending for food and alcoholic beverages in 2007 and then adjusted by the state's share of the U.S. population. The economic impact of ethanol production was based on estimated ethanol output in 2007 and the average price of ethanol in 2007. The economic impact of ethanol excludes the value of corn, a major input into ethanol. Corn value for ethanol is included in the farming estimate.

A complete analysis of the impact of the agri-food and agri-energy system cannot be undertaken at this point in time. To do this, updated figures from the Economic Census need to be obtained. These figures will not be available until 2010. As a result impacts on employment have not been estimated. However, evidence suggests that employment in the agri-food system has probably increased since 2004.

Economic Impact of the Farm Sector

The economic impact of the farm sector is shown in the following tables. It should be noted that 2008 figures are not available. These figures are based on 2007 numbers

provided by the Michigan Agricultural Statistics Service with multipliers provided by IMPLAN to generate the total value.

Table 2 shows the economic impact of selected field crops. There have been large increases in feed crops and wheat. The increase in corn and soybean prices has also increased the cost of feed for livestock producers and has increased the offset for double counting shown in Table 1.

Table 2: Economic Impact of Selected Field Crops (Average 2005-2007)

Crop	Direct Value (\$1,000s)	Total Value (\$1,000s)
Barley	1,329	1,691
Corn for Grain	861,523	1,096,977
Dry Beans	83,917	106,851
Hay	324,071	412,640
Oats	8,240	10,491
Potatoes	117,285	149,339
Soybeans	556,301	689,591
Sugarbeets	114,854	146,243
Wheat	157,157	200,108
Others	50,710	64,568
Total	2,275,387	2,878,499

Table 3 shows the economic impact of fruit production. Fruit production also saw a healthy increase of 15.6 percent from the 2006 update. Most of the increase was generated by apples, blueberries and grapes.

Table 3: Economic Impact of Fruit Production (Average 2005-2007)

Crop	Direct Impact (\$1,000s)	Total Impact (\$1,000s)
Apples	116,438	167,449
Blueberries	132,870	191,081
Tart Cherries	44,386	63,831
Peachers	12,449	17,902
Sweet Cherries	16,644	23,936
Grapes	19,608	28,199
Pears	1,192	1,714
Plums	1,105	1,589
Strawberries	5,277	7,589
Others	2,875	4,135
Total	352,844	507,425

Table 4 shows the economic impact of vegetable production. Vegetable production showed a small decline of \$9.9 million or 3.8 percent from the 2006 update. This could be due to a decline in acreage as farmers planted field crops instead of vegetable.

Crop	Direct Impact (\$1,000s)	Total Impact (\$1,000s)
Processing Carrots	2,855	3,777
Processing Cucumbers	32,021	42,357
Processing Snap Beans	11,070	14,643
Processing Tomatoes	9,645	12,758
Snap Beans	10,280	13,598
Cabbage	6,922	13,598
Carrots	14,264	18,868
Sweet Corn	15,583	20,613
Cucumbers	15,562	20,586
Onions	7,072	9,354
Tomatoes	21,129	27,949
Asparagus	14,096	18,646
Celery	14,228	18,820
Bell Peppers	9,479	12,539
Pumpkins	8,451	12,539
Squash	15,136	20,022
Others	45,650	60,386
Total	253,443	341,053

Table 5 shows the economic impact of livestock production. Total livestock sales increased by 9.5 percent. The increase was primarily a result of increased dairy sales although cattle, eggs, and turkeys also registered increases.

Table 5: Economic Impact of Livestock Production (Average 2005-2007)

Commodity	Direct Impact (\$1,000s)	Total Impact (\$1,000s)
Cattle	305,246	513,667
Dairy	1,151,246	1,937,317
Eggs	96,812	123,803
Hogs	223,294	342,778
Honey	4,709	7,229
Mink	2,774	4,259
Trout	778	1,194
Sheep and Lambs	3,397	5,215
Turkeys	77,583	99,985
Horses	256,000	392,985
Other	41,644	63,927
Total	2,163,483	3,492,359

Table 6 summarizes all of the economic impacts of the farm sector.

Table 6: Total Economic Impact of Farming (Average 2005-2007 Millions of Dollars)

Farm Sector	Direct Impact	Total Impact	Total Impact 2004-2006	Percent Change
Field Crops	2,275.0	2,878.0	2,447.5	17.6
Fruit	352.8	507.4	439.0	15.6
Vegetables	253.1	341.0	347.4	(1.9)
Livestock	2,163.5	3,492.0	2,865.7	21.9
Floriculture and Nursery	655.1	1,025.8	1,012.4	1.3
Miscellaneous	5.1	6.8	9.9	(45.6)
Total	5,704.6	8,251.0	7,121.9	15.9

This table does not adjust for double counting. It includes total farm sales from all sectors. The livestock sector showed the biggest increase at 21.9 percent and field crop sales increased by 17.6 percent. Vegetables had a slight decline and floriculture and nursery essentially stayed unchanged.

A Word of Caution

While these figures show an outstanding rate of growth from 2006 to 2007, it appears that the agri-food system is not immune to the impacts of the global recession. The recession has put downward pressure on oil prices which in turn has put downward pressure on ethanol prices, and in turn, corn prices. Milk prices have declined precipitously since 2007.

The recession will also adversely affect export markets as well, and the current credit climate will make investments in farm, food processing, food retailing and food service more difficult to obtain. In short, it is likely that the economic impact of the agri-food system will decline in absolute terms over the next few years. However, its position relative to manufacturing, tourism, etc. may improve. Food purchases vary much less than purchases for manufactured goods, tourist services and other types of activities.