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

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

Summary

The total economic impact (including direct, indirect, and induced) of Michigan's agri-food and agri-energy system is estimated to be $125.8 billion an increase of about $21.1 billion or 20.2 percent, from the 2018 estimate, that was based primarily on 2016 data. The direct impact of the agri-food system is estimated to be about $74.0 billion, and the direct impact of the ethanol sector is estimated to be $619 million. The primary driver of this growth has been the increase in food inflation driven primarily by increased commodity prices and supply chain disruptions.

Table 1 summarizes the economic impact of the agri-food and agri-energy system. It should be noted that the consumer price index for food was used to estimate the change in the other agri-food category. This generates a very rough estimate that is subject to change as more up to date data become available.

Table 1: Direct and Total Economic Activity in the Michigan Agri-Food System ($1,000s)

Category	Direct	Indirect and Induced	2023 Total	2018 Total	Percent Change
Farming	7,626	3,869	11,495	12,690	(9.4)
Adjustment or Double Counting	(1,232)	(664)	(1,896)	(1,905)	(0.5)
Net Farm Sector	6,394	3,205	9,599	10,785	(11.0)
Other Agri-Food (processing, wholesaling, retailing, etc.)	64,539	47,416	111,955	89,299	25.4
Turfgrass Services and Retail	3,055	500	3,555	4,297	(17.3)
Net Impact of Ethanol Production	619	89	708	271	161.3
Grand Total for the Food and Agriculture System	**74,607**	**51,210**	**125,817**	**104,652**	**20.2**

The figure for the impact of farming is likely understated. An average of 2019 through 2021 was used to generate the estimates. Farm prices rose in 2022, but final figures are not yet available. The source of growth was in food processing, wholesaling, and retailing. Higher petroleum prices made ethanol a more attractive substitute for gasoline which drove up the price, and therefore the economic impact of ethanol production. Its economic impact more than doubled compared to the 2018 estimate.

Methodology

These figures should be considered very rough estimates. For agricultural commodities, three year averages from 2019-2021 were used to get the farm level economic impacts. This understates the economic impact of the farm sector because although the figures are yet fully available farm prices and

farm income were high in 2022. The numbers are based on numbers obtained from the Michigan Agricultural Statistics Service except where noted. The other agri-food figures were based on spending on food and alcoholic beverages and adjusted for the food CPI.

A complete analysis of the impact of the agri-food and agri-energy system cannot be undertaken at this point in time. This is due to issues in obtaining up to date data. A complete analysis would require data that is not yet available. This is primarily due to the fact that good data on food processing, wholesaling, and retailing is only released once every five years. The results in this interim report are subject to revision.

As a result of this incomplete data, impacts on employment have not been estimated. Given the growth of the sector and its relative maturity employment is likely to be relatively stable. COVID may have reduced employment in the restaurant industry as that industry has yet to fully recover. Also, labor shortages may be impacting other sectors especially fruit and vegetable production as well as some processing sectors. Labor shortages are a constraint to growth in the agri-food sector.

Economic Impact of the Farm Sector

The economic impact of the farm sector is shown in the following tables. As previously noted these are averages for 2019 through 2021. An average is used to smooth out year to year variations in price and yields. However, the years 2019 through 2021 were less profitable years than the mid-2010s. Farm prices and income rebounded in 2022 but are not reflected in the farm income tables. These figures are based on numbers provided by the Michigan Agricultural Statistics service with multipliers provided by IMPLAN, a standard economic impact software package, to generate the total impact figures.

Table 2 shows the economic impact of selected field crops.

Table 2: The Economic Impact of Field Crop Production

Crop	Direct Impact ($1,000s)	Total Impact ($1,000s)
Corn	1,127,167	1,935,414
Dry Beans	176,132	302,436
Hay	353,397	570,707
Soybeans	998,510	1,332,956
Sugarbeets	161,873	263,726
Wheat	204,124	350,501
Maple Syrup	8,053	13,005
Oats	4,955	8,508
Potatoes	206,812	333,981
Total	**3,241,023**	**5,111,234**

Overall, the value of field crop production declined by more than $1.0 billion or 25 percent from the previous study. Most of this decline was due to the decline in corn from $1.87 billion to $1.13 billion.

Wheat, sugarbeets, and soybeans also declined in value. Potatoes and dry beans are the two field crops that showed an increase in their value and economic impact. Corn and soybeans remain the most important field crops in terms of acreage and value of production

Table 3 shows the economic impact of fruit production.

Table 3: The Economic Impact of Fruit Production

Crop	Direct Impact ($1,000s)	Indirect Impact ($1,000s)
Apples	388,807	603,109
Blueberries	264,844	410,826
Peaches	8,525	13,224
Tart Cherries	37,738	58,539
Total	**699,914**	**1,085,698**

The value of fruit production increased by more than $300 million or 87 percent from the previous study. The value of apple production more than doubled and the value of blueberry production almost doubled. The tart cherry industry continues to face difficulty due to changing consumer tastes and foreign competition. Access to labor is also an issue facing some fruit growers. Not all fruits are captured in table 3 as the USDA represses some data to protect the identity of some producers. However, total farm receipts are included in the farming figure in Table 1.

There appears to be a fairly dramatic decline in vegetable production. The USDA no longer publishes output of carrots, sweet corn, celery, and fresh and processed tomatoes. This is likely due to the increased concentration in the production of these vegetables as well as a reduction in the output of these vegetables.

Table 3 outlines the value and economic impact of vegetable production from 2019 through 2021.

Table 3: The Economic Impact of Vegetable Production

Crop	Direct Impact ($1,000s)	Total Impact ($1,000s)
Cucumbers for Processing	38,443	59,145
Asparagus	24,180	37,201
Snap Beans	25,994	39,992
Cabbage	19,807	30,473
Cucumbers	21,006	32,318
Bell Peppers	16,171	24,879
Pumpkins	14,125	21,731
Squash	42,815	65,871
Michigan Total	**202,541**	**311,609**

Compared to the 2018 figure, sales of vegetables declined by $75.78 million, and the total economic impact has declined by $116.59 million. This may somewhat overstate the decline as some vegetable production figures may be suppressed to prevent the disclosure of some farms' output. However, it appears that vegetable production has declined in the state.

This is likely due to the lack of labor to plant and harvest vegetables. The COVID outbreak restricted labor movement and immigration, and current immigration policy also appears to restrict immigration despite the wages and benefits paid by farmers. Increased foreign competition has also been an issue in some vegetable markets.

Table 5 shows the economic impact of livestock production

Table 5: The Economic Impact of Livestock Products

	Direct Impact ($1,000s)	**Total Impact ($1,000s)**
Milk	1,990,234	2,993,892
Cattle	538,088	730,213
Hogs	399,184	565,110
Eggs	223,809	306,627
Turkeys	160,142	219,400
Honey	13,501	19,113
Wool	216	306
Trout	1,426	2,019
Horses*	150,000	212,340
Other	88,159	124,798
Total	**3,564,759**	**5,173,818**

*Census of Agriculture

The figures for livestock are essentially unchanged from the 2018 study. Dairy, and hogs are up slightly, and beef is down slightly. Eggs are down 32 percent and are seriously underestimated. Egg prices were low in 2020 and 2021 and made a major recovery in 2022.

A Word of Caution

These figures should be considered a rough estimate. Inflationary pressures have increased food prices and have led to an increase in the economic impact of the agri-food system. Most of this increase is in the food processing, wholesaling, and retail industries. The restaurant industry is still recovering from COVID, and the impact of more people working at home.

The figures for the farm sector are probably somewhat understated. Prices for most farm commodities increased in 2022 and are not captured here. It is anticipated that farm prices and net farm income will decline somewhat in 2023.