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The Economic Contribution of Michigan's Vegetable Farming and Processing Sectors

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Introduction

Vegetable production is an important part of the Michigan agri-food system. This is despite the fact that the sector faces difficulties related to rising input prices, accessing labor (Bardenhagen et al), and government regulations. The climate and soils in some parts of Michigan make the state well suited to produce some vegetables, some of these same factors make it difficult to profitably grow corn, wheat, and soybeans profitably on current acreage devoted to vegetables.

Staff at the MSU Product Center Food-Ag-Bio were contracted by the Michigan Vegetable Council to assess the role the vegetable sector plays in the Michigan economy. This study assesses the impact at two levels: the farm level and the processing level. IMPLAN, a standard economic impact software package was used to generate the total economic contributions of farming and processing. IMPLAN estimates the indirect impact; impacts of related businesses such as input suppliers, brokers, food retailers, and supply chain participants, as well as the induced impacts; spending at the household level resulting from vegetable farming and processing.

This study attempts to gauge the overall importance of the vegetable farming and processing sectors without estimating the impact of alternative activities (Bardenhagen et al). As such, economic contribution is a more accurate description of this study than an economic impact study.

This analysis will estimate the total economic impact of vegetable farming and vegetable processing in both dollar terms and in employment. In 2022, Michigan had 3,213 farms that produced vegetables on 152,833 acres (Census of Agriculture). The estimated contribution of vegetable farming is $1.19 billion in sales, with a total contribution of $2.11 billion. These figures might be an overestimate. Vegetable farming is estimated to employed about 7,800 workers with a total impact on employment of approximately 13,000. The employment figures are almost certainly an underestimate as migrant workers are likely not counted. The employment figures are based on IMPLAN estimates.

While a very rough estimate, the vegetable processing sector contributes more than $1.92 billion in direct sales, with an estimated total contribution to the Michigan economy of $3.28 billion. The vegetable processing sector employs about 4,400 people with a total contribution of about 13,400 jobs.

Adding the vegetable farming impacts to the impacts of processing yields an estimate of about $5.39 billion with a total impact on employment of approximately 26,400.

Economic Contribution of Vegetable Farming

Michigan is an important producer of some vegetables and vegetable products. The state's sandy and muck soils make it well suited to produce vegetables (Bardenhagen et al). Some of these soils would make it difficult to produce other crops such as corn, wheat, and soybeans. In 2022, Michigan had 3,213 farmers that grew vegetables on 152,833 acres (Census of Agriculture). Nationally Michigan is a leader of several vegetable commodities. Table 1 shows Michigan's national ranking of several vegetables in 2023.

Table 1: National Ranking of Michigan Vegetables 2023

Vegetable	National Rank
Asparagus	1
Squash	1
Cucumbers	2
Snap Beans	4
Bell Peppers	5
Cabbage	6
Potatoes	6
Pumpkins	6

Source Michigan Agricultural Statistics 2024

Michigan produces about 50 percent of the nation's asparagus. It also produces about 30 percent of the cucumbers and 25 percent of the squash. Michigan is the second largest producer of all dry beans, and is a major producer of potatoes, especially for potato chips.

Table 2 shows the estimated sales of selected vegetables averaged from 2022 to 2024. Most of the vegetables produced in Michigan are shown in Table 1. The first column shows the level of sales at the farm level and the second column, Total Contribution estimates the economic contribution of vegetable farming. These figures should be considered rough estimates. It is becoming increasingly difficult to track the production of some vegetables. As a result, some vegetable production may be captured in the "other" category.

Table 2 : Value of Sales and Economic Contribution of Vegetable Farming ($1,000s)

Crop	Direct Impact	Total Contribution	
Asparagus	27,919.3	49,540.0	
Cucumbers for Processing	42,143.0	74,778.5	
Carrots*	16,352.0	29,015.0	
Snap Beans	20,087.0	35,642.4	
Cabbage	29,252.3	51,905.3	
Cucumbers	14,636.7	25,971.4	
Bell Peppers	24,130.7	42,817.5	
Peas*	650.0	1,153.4	
Pumpkins	15,749.0	27,945.0	
Onions***	18,700.0	33,181.3	
Squash	38,007.0	67,439.6	
Tomatoes*	9,775.0	17,344.8	
Sweet Corn***	31,000.0	55,006.4	
Other**	902,147.5	1,600,770.5	
Total	**1,190,549.5**	**2,112,511.0**	

Sources: USDA, * Michigan Vegetable Council for the volumes and USDA for the prices, ** Bardenhagen et al, ***Karst

Total sales during the time period averaged approximately $1.19 Billion a year. The total economic contribution of vegetable farming is approximately $2.11 billion a year. These figures indicate that despite the difficulties facing vegetable farmers, the level of sales has remained fairly constant. Again, it should be noted that some of these figures should be considered estimates. This is especially true for the “other” category. The figures may be an overestimate.

Sales of cucumbers for processing, squash, cabbage, asparagus, bell peppers and snap beans all exceed $20 million a year. Dry beans and potatoes are also major vegetable crops.

Many vegetable products are labor intensive. In fact, the cost of labor and the difficulty in obtaining labor is a major issue facing vegetable producers. The employment in vegetable farming and the total contribution to employment in the Michigan economy is shown in Table 3. These figures are based on IMPLAN estimates and should be considered a very rough estimate.

Table 3: Estimated Employment in Michigan Vegetable Farming

Crop	Direct Impact	Total Contribution
Asparagus	204	340
Cucumbers for Processing	309	515
Carrots	119	198
Snap Beans	147	245
Cabbage	214	357
Cucumbers	107	178
Bell Peppers	176	293
Peas	4	7
Pumpkins	115	192
Onions	128	213
Squash	278	464
Sweet Corn	224	374
Tomatoes	71	118
Other	5,737	9,566
Total	**7,833**	**13,062**

Source: IMPLAN

IMPLAN does not differentiate between different types of vegetable farming and as a result these figures should be considered a rough estimate and is likely an understatement of actual employment. This is especially true given the likelihood that IMPLAN does not capture the employment of undocumented workers. Total employment in vegetable farming is estimated to be slightly more than 7,800 and the total impact on employment in the state is estimated to be about 13,000. These figures include both part-time and full-time employment. The figures are not adjusted to estimate full-time equivalents (FTEs).

Economic Contribution of Vegetable Processing

Michigan is an important processor of vegetables. About 60 percent of the state's vegetables are processed (Bardenhagen et al). According to IBISWorld Michigan has 36 facilities that manufacture frozen foods, and 165 facilities that process canned fruits and vegetables (Rose, 2025A, 2025B). Michigan's climate allows the state to produce high quality fruits and vegetables that processors prefer (Rose, 2025A). Its location near major metropolitan areas also improves the state's competitiveness. Rising food prices and the fact that many consumers face difficulties with respect to affordability may increase the demand for processed vegetables (Rose, 2025B).

Many firms in the state process both fruits and vegetables. Some of the largest food processors in the country have a presence in Michigan. Some of these are Burnette Foods, Gerber, Heinz, and Honee Bear Canning. The state plays a key role in production of processed vegetable products.

Vegetable processing is a larger industry than fruit processing. In order to separate out the estimated impact of vegetable processing fruit processing was subtracted from the industry total. As a result, the figures for total processing were reduced. The estimates for the impact of vegetable processing are shown in table 4. They include both canned processing and frozen processing. There is insufficient data available to estimate the impacts of other types of processing. As a result, the total economic contribution of vegetable processing is likely understated.

Table 4: The Impact of Vegetable Processing

	Output ($1,000s)		Employment	
	Direct	**Total**	**Direct**	**Total**
Frozen	824,678	1,457,073	1,836	6,120
Canned	1,099,571	1,827,369	2,623	7,324
Total	**1,924,249**	**3,284,442**	**4,459**	**13,444**

Source: Rose

The estimated direct contribution of vegetable processing is estimated to be approximately $1.92 billion, with a total economic contribution of more than $3.28 billion. Vegetable processing accounts for more than 4,400 jobs in the processing facilities with a total impact on employment of more than 13,400 jobs.

Summary and Conclusion

Vegetable production is an important part of the Michigan agri-food system. This is despite the fact that the sector faces difficulties related to rising input prices, accessing labor (Bardenhagen et al) and government regulations. The climate and soils in some parts of Michigan make the state well suited to produce some vegetables. Vegetable processing is an especially important activity in the state. It estimated that 60 percent of the vegetables produced in the state are processed.

In 2022, Michigan had 3,213 farms that produced vegetables on 152,833 acres (Census of Agriculture). The estimated contribution of vegetable farming in $1.19 billion in sales, with a total contribution of $2.11 billion. These figures might be an overestimate. Vegetable farming is estimated to employ about 7,800 workers with a total impact on employment of

approximately 13,000. These figures are almost certainly an underestimate as migrant workers are likely not counted. The employment figures are based on IMPLAN estimates.

To summarize, while a very rough estimate, the vegetable processing sector contributes almost $1.92 billion in direct sales, with an estimated total contribution of $3.28 billion which is likely to be an underestimate. The vegetable processing sector employs more than 4,400 people with a total contribution of about 13,400.

When added together, the total economic contribution of vegetable farming and processing to the state of Michigan is estimated to be about $5.39 billion with a total impact on employment of approximately 26,400 jobs.

Appendix: Methodology

This study estimates the economic contribution of Michigan's vegetable farming and processing sectors. It estimates the size of the sector without considering alternative uses for the assets devoted to vegetable production and processing (Bardenhagen et al)**.** For the purposes of this study economic contribution is essentially the same as economic impact.

IMPLAN, a standard Input-Output software package is used to generate the estimates. One advantage of IMPLAN is its extensive categorization of agricultural activities. IMPLAN considers three impacts: direct, indirect, and induced. The direct impact is the sales and employment in the industry itself. Indirect impacts are secondary inter-industry changes due to activity under consideration (Bardenhagen et al). These are transactions related to the industry under consideration, primarily input industries. Induced impacts are primarily household spending resulting from the direct activity. The total economic contribution is the sum of the direct, indirect, and induced impacts.

For farming a three year average of sales from 2022-2024 were used for most crops. This is designed to minimize the year to year variations in yield and prices. It also consistent with other similar studies (Bardenhagen et al, Ferris). For some crops, 2024 estimates provided by the Michigan Vegetable Council and other sources were used.

To assess the true impact of vegetable processing, the value of the vegetables used in processing were subtracted from the total contribution of processing to prevent double counting. To assess the true impact of vegetable farming, the impact on vegetable processing was also subtracted from the total contribution of vegetable farming to prevent double counting.

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