

Economic Impact Analysis of Grain Farming in Ontario

Prepared for Grain Farmers of Ontario

Final Report

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MNP

Table of Contents

Executive Summary	ii
Introduction	1
Background and Purpose	1
Approach.....	1
Structure of the Report.....	1
Report Limitations.....	2
Definition of the Oilseed and Grain Farming Value Chain.....	3
Overview.....	3
Value Chain.....	3
Profile of the Oilseed and Grain Farming Industry.....	6
Production	6
Number of Farms	7
Farm Product and Input Prices	8
Exports.....	10
Economic Impact Analysis.....	12
Economic Impact Methodology.....	12
Economic Impacts.....	13
Economic Impact Comparison to Other Industries.....	16
Community and Social Contributions Case Study.....	17
Conclusion.....	19
Appendices	20
Appendix A: Economic Impact Methodology.....	20
Appendix B: Impacts by Industry Group.....	21
Appendix C: Historical Comparison of Economic Impacts.....	24
Appendix D: About MNP	25

Executive Summary

Ontario's oilseed and grain farming industry group includes corn, soybean, wheat, oats and barley farming. In 2022, these industries covered approximately 6.8 million acres, produced approximately 19.6 million metric tonnes, generated approximately \$5.7 billion in farm cash receipts, and contributed approximately \$2.7 billion in international exports. These outputs then become inputs into other industries, such as manufacturing, including grain and oilseed milling and chemical manufacturing, as well as transportation and warehousing. The Grain Farmers of Ontario (GFO) engaged MNP LLP (MNP) to carry out an economic impact analysis of Ontario's oilseed and grain farming value chain.

Key Trends

- Ontario is home to over half of Canada's total seeded area and production of both soybeans and corn for grain.
- There are 28,000 grain and oilseed producers in Ontario.
- Farm cash receipts for Ontario's oilseed and grain farming industries have been increasing since 2019 driven by increases in production between 2019 and 2021 as well as increases in product prices beginning in 2021. Also driving the increases in product prices are increases in the prices of key inputs, most notably for fertilizer.
- International exports of Ontario's oilseed and grain farming industries are sent primarily to Japan, the United States, and China. International exports have also been increasing since 2020.
- Total economic output has increased from \$16.5 billion in 2010 to \$26.6 billion in 2022

Economic Impacts

In 2022, the economic impacts generated by the output of Ontario's oilseed and grain farming value chain were approximately:

- \$17,441 million in direct economic output and \$26,605 million in total economic output.
- \$5,636 million in direct GDP and \$10,448 million in total GDP.
- \$1,084.6 million in direct revenue for all three levels of government and \$2,318.0 million in total government revenue.
- 53,000 direct FTEs and 91,920 total FTEs.

Compared to 2010, the economic impacts in 2022 generated approximately 60 percent more total economic output, approximately 46 percent more total GDP, 64 percent more in total government revenue, and 2 percent fewer FTEs.

Table A: Total Economic impacts of Oilseed and Grain Farming in Ontario, 2022

Category	Output (\$ millions)	GDP (\$ millions)	Employment (FTEs)	Federal Tax (\$ millions)	Provincial Tax (\$ millions)	Municipal Tax (\$ millions)
Crop Production						
Soybean	\$5,092	\$2,441	25,240	\$237.9	\$201.1	\$120.8
Corn	\$4,769	\$2,286	23,650	\$222.8	\$188.3	\$113.1
Wheat	\$1,518	\$728	7,530	\$70.9	\$59.9	\$36.0
Oats	\$48	\$23	250	\$2.3	\$1.9	\$1.1
Barley	\$33	\$16	170	\$1.6	\$1.3	\$0.8
Manufacturing						
Grain and oilseed milling	\$6,975	\$1,547	8,780	\$159.7	\$116.0	\$34.8
Basic chemical manufacturing	\$3,552	\$1,020	3,650	\$106.2	\$81.2	\$21.7
Transportation and Wholesaling						
Transportation and wholesaling	\$4,618	\$2,389	22,650	\$268.1	\$207.6	\$63.0
Total	\$26,605	\$10,448	91,920	\$1,069.3	\$857.4	\$391.3

Introduction

Background and Purpose

The Grain Farmers of Ontario (GFO) is a farm commodity organization working to create a prosperous business environment for grain farmers in the province. GFO promotes a favorable policy environment to support the sustainability of farming operations. Its primary objectives include enhancing the utilization and market worth of Ontario grains in both domestic and international markets, as well as allocating resources towards research and knowledge dissemination to improve the competitiveness of the sector. GFO engaged MNP LLP (MNP) to carry out an economic impact analysis of the Ontario grain farming value chain.

Approach

In preparing this report, MNP carried out the following activities:

- Conducted research through publicly available articles and reports.
- Gathered industry data and statistics through agencies and sources such as Statistics Canada and the Government of Canada's Research and Business Intelligence.
- Developed an economic impact model using the data collected through secondary research of published information and statistics.
- Developed a report of the findings of the research and analysis.

Structure of the Report

The remaining sections of this report are organized as follows:

- Section 3 introduces and defines the Ontario oilseed and grain farming industry group, along with the corn, soybean, wheat, oats, and barley farming value chain.
- Section 4 provides an up-to-date profile of Ontario's oilseed and grain farming industries.
- Section 5 provides a description of the economic impact methodology and provides aggregate results as well as industry-specific results of economic impacts.
- Section 6 provides a case study of the contribution of oilseed and grain farming to the Municipality of Chatham-Kent.
- Section 7 summarizes the findings of the study.
- The appendices include a summary of the methodology used to estimate the economic impacts as well as detailed economic impacts for each industry. It also provides some background information about MNP.

Report Limitations

The report is provided for information purposes and is intended for general guidance only. It should not be regarded as comprehensive or a substitute for personalized, investment or business advice.

We have relied upon the completeness, accuracy, and fair presentation of all information and data obtained from the GFO and public sources believed to be reliable. The accuracy and reliability of the findings and opinions expressed in the presentation are conditional upon the completeness, accuracy, and fair presentation of the information underlying them. As a result, we caution readers not to rely upon any findings or opinions for business or investment purposes and disclaim any liability to any party who relies upon them as such.

The findings and opinions expressed in the report constitute judgments as of the date of the report and are subject to change without notice. MNP is under no obligation to advise of any change brought to its attention which would alter those findings or opinions.

Definition of the Oilseed and Grain Farming Value Chain

Overview

The primary sub-sectors of the Ontario oilseed and grain farming industry group include corn, soybean, wheat, oats and barley farming. These will collectively be referred to as the Ontario oilseed and grain farming industries for the remainder of this report. We have used the following North American Industry Classification System (NAICS) definitions for the industry sub-sectors, including:

- Corn farming (NAICS 11115) comprises establishments primarily engaged in growing corn.¹
- Soybean farming (NAICS 11111) comprises establishments primarily engaged in growing soybeans.
- Wheat farming (NAICS 11114) comprises establishments primarily engaged in growing wheat.
- Oats and barley farming (NAICS 11119) is a subset of 'other grain farming' which comprises establishments primarily engaged in growing other grains. This sub-sector also includes establishments primarily engaged in growing a combination of oilseeds and grains.

Value Chain

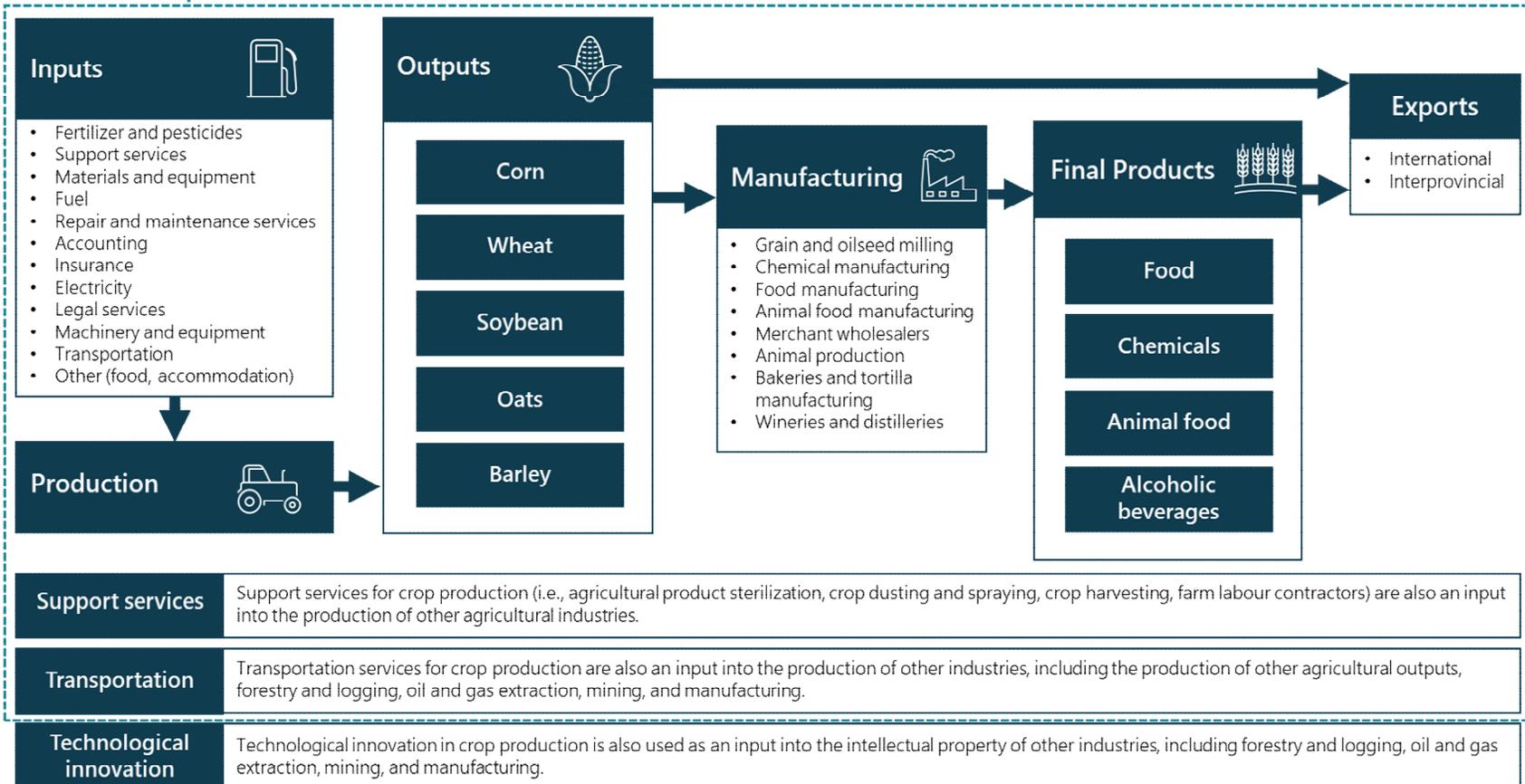
The economic activity created by Ontario's oilseed and grain farming industries can be described in terms of the industries' value chain. A value chain is a high-level model of how businesses receive raw materials as input, add value to the raw materials through various processes, and distribute finished products to customers. It illustrates the cycle of activities for a firm or specific industry and shows the linkages with other industries.

The value chain for Ontario's oilseed and grain farming industries is depicted in Figure 1 and described in more detail in the following paragraphs. The dotted line in the figure depicts the portion of the value chain included in the economic impacts in this report.

¹ Includes corn for feed. Excludes sweet corn.

Figure 1. Industry Value Chain

Economic Impact



Source: Statistics Canada. Supply and use table, 2019.

For Ontario's oilseed and grain farming industries, the value chain begins with inputs, such as fertilizer, pesticides, materials and equipment, and repair and maintenance services. Ontario suppliers provide most of the support, repair, and maintenance services, as well as diesel and biodiesel fuels and motor gasoline used in the crop production industry; all other inputs are sourced primarily from outside of Ontario.

After inputs, the value chain then flows to production, from which the outputs of corn, wheat, soybean, oats, and barley are produced. Additional outputs generated by this process include support services to crop production (i.e., agricultural product sterilization services, crop dusting and spraying services, crop harvesting services, farm labour contractors), transportation, and technological innovation.

These outputs then become inputs into other industries, such as manufacturing (i.e., chemical manufacturing, food manufacturing), the use of support services for crop production in the production of other agricultural industries, and the use of transportation services for crop production in the transportation of other agricultural commodities and industries. These processes then create either final products (i.e., food, chemicals) or are included in the formation of other fixed capital, such as intellectual property.

Final products and services then become items which are exported either interprovincially or internationally.

Profile of the Oilseed and Grain Farming Industry

This section contains a statistical profile of Ontario’s oilseed and grain farming industries. MNP drafted the profile based on available industry statistics from Statistics Canada.

Production

In 2022, the seeded area for Ontario’s oilseed and grain farming industries totaled over 6.8 million acres, approximately 17 percent of the Canadian total, and production totaled approximately 19.6 metric tonnes, approximately 26 percent of the Canadian total.² As shown in Table 1, Ontario is home to over half of Canada’s total seeded area and production for both soybeans and corn for grain.

Table 1. Seeded Area and Production for Ontario’s Oilseed and Grain Farming Subsectors, 2022

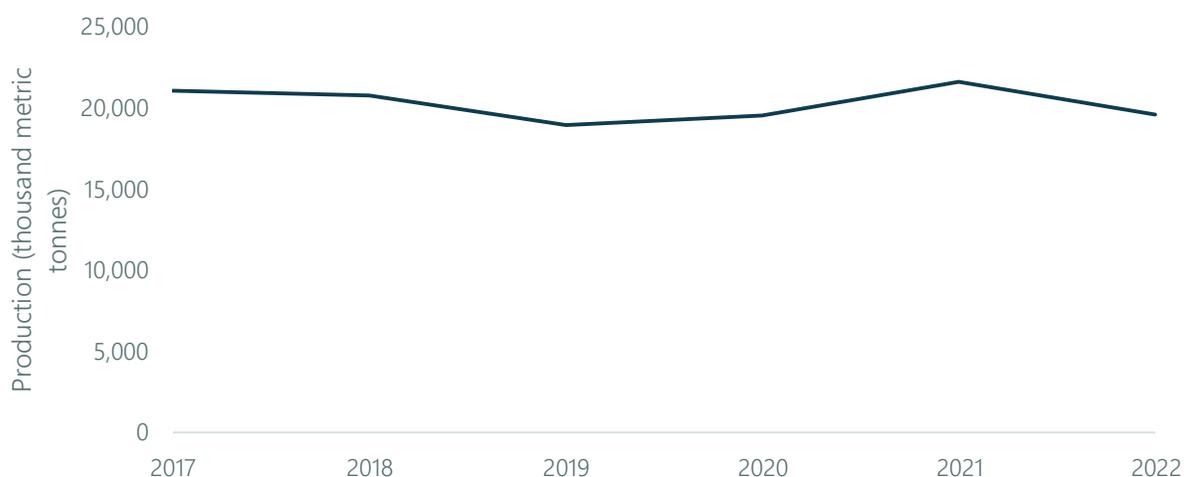
Grain Industry	Seeded Area		Production	
	Acres (thousands)	Proportion of Canadian Total	Metric tonnes (thousands)	Proportion of Canadian Total
Soybean	3,080	58%	4,000	61%
Corn (for grain and silage)	2,540	56%	12,940	52%
Wheat (excluding durum)	1,020	5%	2,390	8%
Oats	90	2%	110	2%
Barley	70	1%	100	1%
Mixed grain	40	12%	40	21%
Total	6,840	17%	19,580	26%

Source: Statistics Canada. Estimated areas, yield, production, average farm price and total farm value of principal field crops. Table 32-10-0359-01. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210035901>

Although Ontario’s seeded area for oilseed and grain farming remained relatively stable from 2017 to 2022, production varied from a low of 18,945 metric tonnes in 2019 and to a high of 21,600 metric tonnes in 2021 (Figure 2).

² Statistics Canada. 2022. Estimated areas, yield, production, average farm price and total farm value of principal field crops. Table 32-10-0359-01. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210035901>

Figure 2. Ontario's Oilseed and Grain Farming Production, 2017 to 2022



Source: Statistics Canada. Estimated areas, yield, production, average farm price and total farm value of principal field crops. Table 32-10-0359-01. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210035901>

Number of Farms

According to data from GFO, there are approximately 28,000 farmers in Ontario that produce oilseeds and grains. This number represents all licensed producers, and includes farms, partnerships, sharecroppers, and individual producers.

Table 2 shows the breakdown of farms primarily producing oilseeds and grains by primary crop in 2021, the latest period for which data were available. Ontario farms account for approximately 29 percent of the farms that primarily produce oilseeds and grains in Canada. Almost three-quarters of farms producing primarily soybeans in Canada and almost 70 percent of farms producing primarily corn in Canada are in Ontario. Data on the distribution of crops for farms that produce some oilseeds and grains as part of their rotation were not available.

Table 2. Number of Farms in Ontario's that Primarily Produce Oilseed and Grains, 2021

Grain Industry	Number of Farms	Proportion of Canadian Total
Soybean	8,590	73%
Corn	3,610	68%
Other grain (i.e., oats, barley)	3,610	20%
Wheat	1,430	18%
Oilseed (except soybean)	40	<1%
Total	18,040	29%

Source: Statistics Canada. Farms classified by farm type, Census of Agriculture 2021. Table 32-10-0231-01. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210023101>

Farm Product and Input Prices

In 2022, total farm cash receipts for Ontario’s oilseed and grain farming industries totaled approximately \$5.6 billion, which is approximately 11 percent of the Canadian total (Table 3). Soybean cash receipts make up approximately 62 percent of the Canadian total, while all other oilseed and grains each account for less than 10 percent.

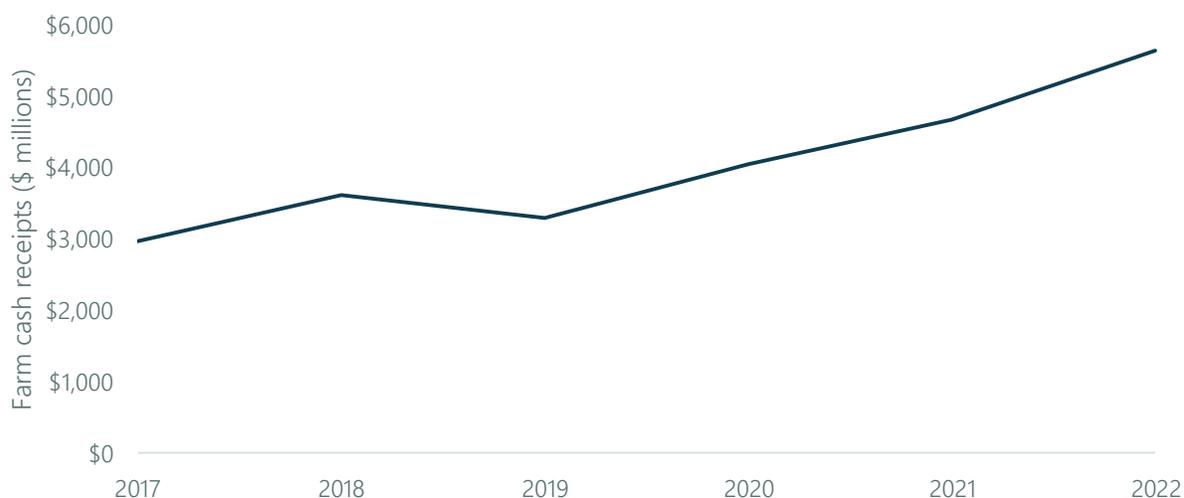
Table 3. Ontario’s Oilseed and Grain Farming Cash Receipts by Subsector, 2022

Grain Industry	Cash Receipt Value (\$ millions)	Proportion of Canadian Total
Soybean	\$2,510	62%
Corn	\$2,350	6%
Wheat	\$750	8%
Oats	\$20	2%
Barley	\$20	1%
Total	\$5,650	11%

Source: Statistics Canada. Farm cash receipts, annual. Table 32-10-0045-01. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210004501>

Figure 3 shows Ontario’s oilseed and grain farming industries’ total farm cash receipts from 2017 to 2022. Declines in production led to a decline in farm cash receipts between 2018 and 2019. Production increased between 2019 and 2020 and prices also began to rise leading to a substantial increase in the value of farm cash receipts.

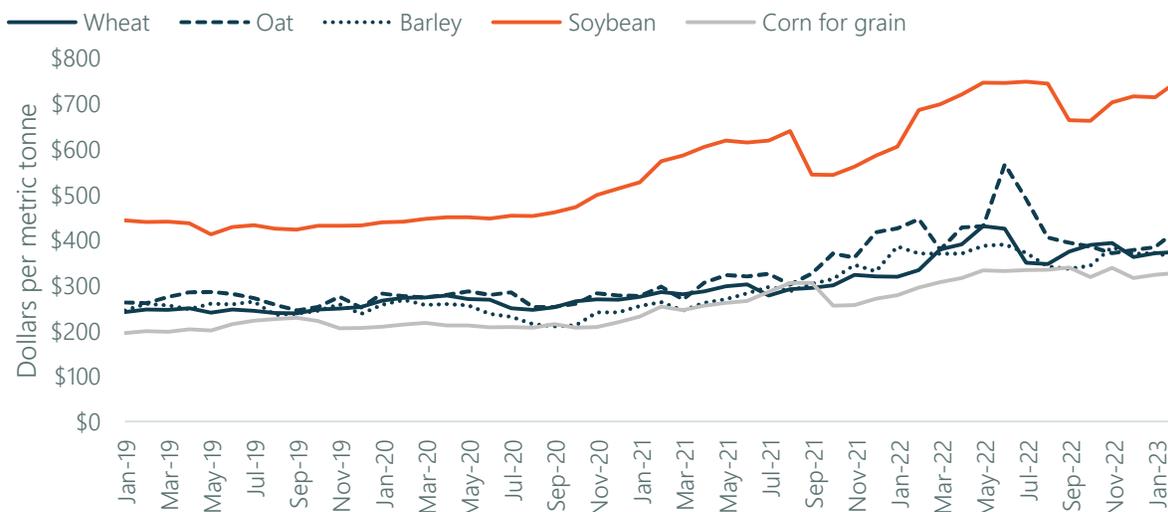
Figure 3. Ontario’s Oilseed and Grain Farming Cash Receipts, 2017 to 2022



Source: Statistics Canada. Farm cash receipts, annual. Table 32-10-0045-01. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210004501>

As shown in Figure 4, prices began to increase in 2020 and continued to rise through 2022. This was due to a combination of tight domestic supplies, increases in input prices, disruptions in the supply chain, reductions in global supply due to droughts in Europe and parts of Canada, and the Russian invasion of Ukraine. Soybean prices are higher than the other crops, reaching approximately \$750 per metric tonne in February 2023, compared with between \$325 and \$450 per metric tonne for other crops. Oat prices increased significantly in June 2022 reaching approximately \$570 per metric tonne before declining through the remainder of the year.

Figure 4. Ontario's Oilseed and Grain Farming Product Prices, January 2019 to February 2023

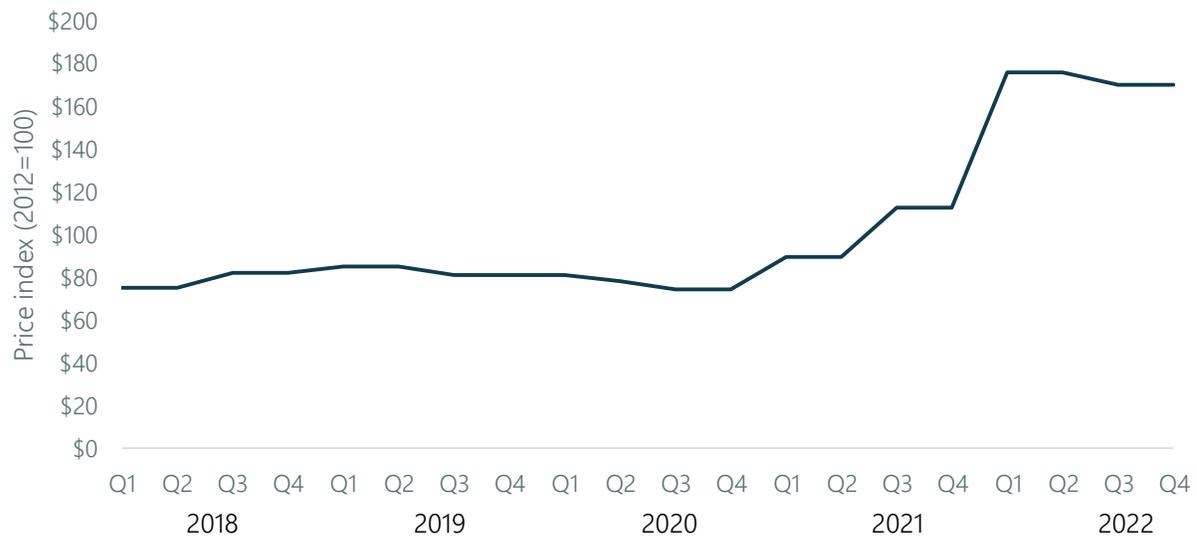


Source: Statistics Canada. Farm product prices, crops and livestock. Table 32-10-0077-01. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210007701>

Of particular note is the rising price of fertilizer, which increased significantly between Q3 2021 to Q2 2022 (Figure 5). Fertilizer is an important input for oilseed and grain farms, accounting for approximately 50 percent of crop expenses and between 16 and 20 percent of total expenses.³ Although the higher commodity prices (Figure 4) have helped offset part of the rising price of inputs for Canadian farmers, these prices are expected to have an impact on crop production (i.e., shift to crops which require less fertilizer, reduce overall acreage, reduce profitability).

³ Statistics Canada. Table 32-10-0136-01. Farm operating revenues and expenses, annual. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210013601>

Figure 5. Ontario's Price Index for Fertilizer, Q1 2018 to Q4 2022



Source: Statistics Canada. Farm input price index, quarterly. Table 18-10-0258-01. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810025801>

Exports

Table 4 shows the value of exports from Ontario of oilseed and grain products reported by Statistics Canada. It is important to note that the value of corn and soy reported in Table 4 as being exported from Ontario is expected to be primarily attributable to crops grown in Ontario, as Ontario is the leading production and export region for these commodities. The value for wheat and other grains being exported from Ontario may include some cereals grown in the prairie region that are transshipped through the Great Lakes. GFO estimates that in 2022 over 322,420 tonnes of Ontario wheat, valued at \$123 million was exported.⁴ This is based on bulk vessel exports reported by the Canadian Grain Commission (CGC). In addition, there are other exports shipped by rail, truck and containerized modes that would not be captured in CGC's statistics. To account for this, Table 4 includes an adjusted estimate of wheat. Based on this adjustment the value of exports of oilseed and grain grown in Ontario in 2022 was approximately \$1.9 billion, which is approximately 12 percent of the Canadian total. Soybean and corn make up the majority of Ontario's total exports at 67 percent and 25 percent, respectively.

⁴ Grain Farmers of Ontario. Ontario Grains by the Numbers. Five-year Production and Export Trends. Accessed at: <https://ontariograinfarmer.ca/2023/10/01/ontario-grains-by-the-numbers/>

Table 4. Ontario Oilseed and Grain Export Values, 2022

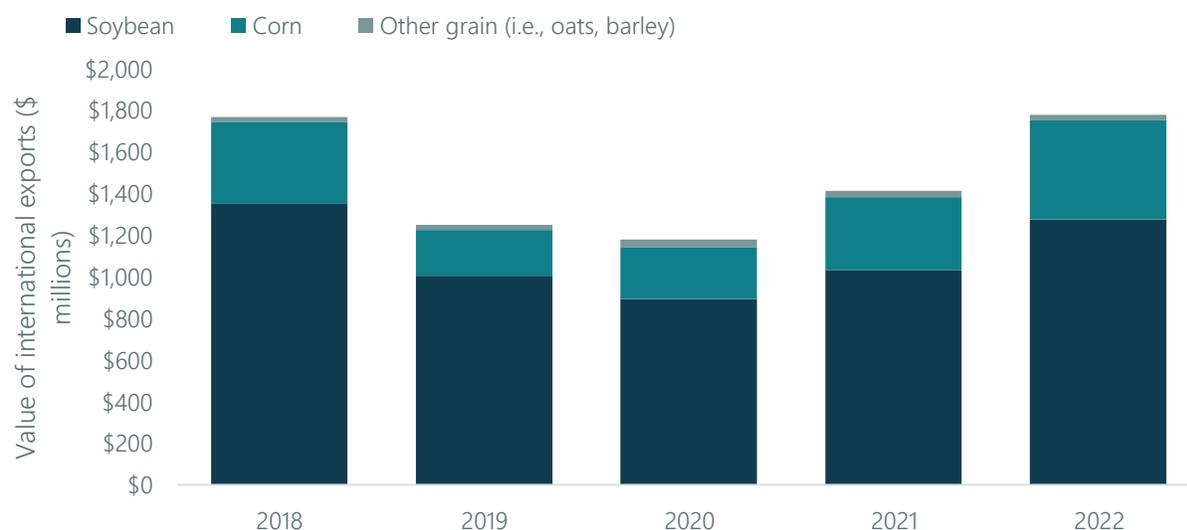
Industry	International Exports from Ontario (\$ millions)	International Exports of Crops Grown in Ontario* (\$ millions)	Proportion of Crops Grown in Ontario* of Canadian Total
Soybean farming	\$1,280	\$1,280	36%
Wheat farming	\$910	\$123	1%
Corn farming	\$480	\$480	53%
Other grain farming (i.e., oats, barley)	\$20	\$20	2%
Total	\$2,690	\$1,903	12%

Source: Government of Canada. Trade Data Online. Accessed at <https://ised-isde.canada.ca/site/trade-data-online/en> Notes: Other grain includes oat and barley farming. International exports include domestic exports and re-exports.

*Wheat estimates have been adjusted based on information from GFO.

As shown in Figure 6, the value of international exports from Ontario’s oilseed and grain farming industries has been steadily increasing since 2020.

Figure 6. International Export Values for Ontario’s Oilseed and Grain Farming Industries, 2018 to 2022*



Source: Government of Canada. Trade Data Online. Accessed at <https://ised-isde.canada.ca/site/trade-data-online/en>

*Wheat has been excluded as data on exports of wheat grown in Ontario between 2018 and 2021 were not available.

The top three export locations in terms of overall value for Ontario’s oilseed and grain farming industries are Japan (12 percent), the United States (11 percent), and China (10 percent).⁵

⁵ Source: Government of Canada. Trade Data Online. Accessed at <https://ised-isde.canada.ca/site/trade-data-online/en>

Notes: Includes soybean, wheat, corn, and other grain.

Economic Impact Analysis

Economic Impact Methodology

In general, economic impacts are viewed as being restricted to quantitative, well-established measures of economic activity. The most commonly used of these measures are output, GDP, employment, and government revenue:

- **Output** is the total gross value of goods and services produced by a given company or industry measured by the price paid to the producer. This is the broadest measure of economic activity.
- **Gross Domestic Product (GDP)**, or value added, refers to the additional value of a good or service over the cost of inputs used to produce it from the previous stage of production. Thus, GDP is equal to the unduplicated value of the goods and services produced.
- **Employment** is the number of additional jobs created. Employment is measured in terms of full-time equivalents (FTEs). One FTE is equivalent to one person working full-time for one year or one person-year of employment.
- **Government Revenues** are the total amount of revenues generated for different levels of government. Revenues arise from personal income taxes, indirect taxes less subsidies, corporate income taxes, taxes on products and royalties. Please note that because tax revenues can frequently change due to modifications in tax policy, the government revenues in this report are estimates only and subject to change. They should be viewed as approximate in nature.

Economic impacts may be estimated at the direct, indirect, and induced levels:

- **Direct impacts** are due to changes that occur in "front-end" businesses that would initially receive expenditures and operating revenue as a direct consequence of the operations and activities of an industry, organization, or project.
- **Indirect impacts** arise from changes in activity for suppliers of the "front-end" businesses.
- **Induced impacts** arise from shifts in spending on goods and services as a consequence of changes to the payroll of the directly and indirectly affected businesses.

To estimate the economic impacts generated by the Ontario oilseed and grain farming value chain, MNP employed an input-output methodology using provincial economic multipliers for Ontario published by Statistics Canada. Input-output modeling is a widely-used and widely-accepted approach, making it recognizable by many different stakeholders and audiences. The structure of the approach also facilitates easy comparisons between reported results for different industries and organizations.

A description of our methodology and assumptions are provided in Appendix A.

Economic Impacts

Economic impacts of grain farmers arise from direct expenditures on goods and services (i.e., machinery purchases, fuel expenses, seed purchases, fertilizer purchases, transportation expenses), the employment of support staff and the generation of tax revenues for local, provincial and federal governments. Indirect and induced impacts arise from the linkages that exist with suppliers and other industries.

MNP used output data from Statistics Canada’s supply and use tables and a combination of farm cash receipts, manufacturing sales, employment by industry, and business counts to estimate the direct output of Ontario’s oilseed and grain farming value chain. These values are listed in Table 5 and form the basis for the estimation of the economic impacts presented in the remainder of this section.

Table 5. Direct Output Estimates for Ontario's Oilseed and Grain Farming Value Chain^{6,7,8,9,10,11,12}

Industry Group	2022 Direct Output (\$ millions)	2010 Direct Output (\$ millions)
Crop Production		
Soybean	\$2,962	\$1,243
Corn (for grain)	\$2,774	\$1,739
Wheat	\$883	\$375
Oats	\$28	\$14
Barley	\$19	\$49
Manufacturing		
Grain and oilseed milling	\$5,698	\$4,014
Basic chemical manufacturing	\$2,605	\$1,877
Transportation and Wholesaling		
Transportation and wholesaling	\$2,470	\$1,264
Total	\$17,441	\$10,576

⁶ Statistics Canada, Farm cash receipts, annual. Table 32-10-0045-01. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210004501>

⁷ Statistics Canada, Supply and use tables, 2019

⁸ Statistics Canada, Manufacturing sales by industry and province, monthly. Table 16-10-0048-01. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1610004801>

⁹ Statistics Canada. Canadian business counts, with employees, June 2022. Table 33-10-0568-01. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3310056801>

¹⁰ Statistics Canada. Canadian business counts, without employees, June 2022. Table 33-10-0569-01. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3310056901>

¹¹ Statistics Canada. Employment by industry. Table 14-10-0202-01. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410020201>

¹² Ontario Ministry of Agriculture, Food and Rural Affairs. Historical Ontario field crop production by crop. Accessed at <https://data.ontario.ca/dataset/ontario-field-crops-production-estimate-by-crop>

Table 6 shows the estimated economic impacts arising from the output of \$17,441 million from the oilseed and grain farming value chain in Ontario. In 2022, the economic impacts generated from that output were approximately:

- \$17,441 million in direct economic output and \$26,605 million in total economic output.
- \$5,636 million in direct GDP and \$10,448 million in total GDP.
- \$1,084.6 million in direct revenue for all three levels of government and \$2,318.0 million in total government revenue.
- 53,000 direct FTEs and 91,920 total FTEs.

Table 6. Economic Impacts of Ontario's Oilseed and Grain Farming Value Chain, 2022

Category	Output (\$ millions)	GDP (\$ millions)	Employment (FTEs)	Federal Tax (\$ millions)	Provincial Tax (\$ millions)	Municipal Tax (\$ millions)
Direct	\$17,441	\$5,636	53,000	\$511.9	\$378.7	\$194.0
Indirect and Induced	\$9,165	\$4,812	38,920	\$557.4	\$478.7	\$197.3
Total	\$26,605	\$10,448	91,920	\$1,069.3	\$857.4	\$391.3

Table 7 provides the same impacts for 2010 for comparison. Compared to 2010, the economic impacts in 2022 were:

- Approximately 65 percent higher in direct economic output and approximately 60 percent higher in total economic output.
- Approximately 70 percent higher in direct GDP and approximately 46 percent higher in total GDP.
- Approximately 59 percent higher in direct revenue for all three levels of government and 64 percent higher in total government revenue.
- Approximately 17 percent higher in direct FTEs and approximately 2 percent lower in total FTEs.

Table 7. Economic Impacts of Ontario's Oilseed and Grain Farming Value Chain, 2010

Category	Output (\$ millions)	GDP (\$ millions)	Employment (FTEs)	Aggregate Tax (\$ millions)
Direct	\$10,576	\$3,308	45,480	\$682.2
Indirect and Induced	\$6,008	\$3,839	48,610	\$731.4
Total	\$16,584	\$7,147	94,090	\$1,413.5

Note: A further breakdown of the tax impacts are not available.

Table 8 shows the total impacts by industry group. Crop production accounts for approximately 43 percent of impacts, manufacturing accounts for approximately 40 percent of impacts, and transportation and wholesaling accounts for the remaining 17 percent of impacts. Breakdowns of impacts at the direct, and indirect and induced levels of each industry group are provided in Appendix B. Equivalent breakdowns for 2010 are provided in Appendix C.

Table 8: Economic Impacts by Industry Group

Category	Output (\$ millions)	GDP (\$ millions)	Employment (FTEs)	Federal Tax (\$ millions)	Provincial Tax (\$ millions)	Municipal Tax (\$ millions)
Crop Production						
Soybean	\$5,092	\$2,441	25,240	\$237.9	\$201.1	\$120.8
Corn	\$4,769	\$2,286	23,650	\$222.8	\$188.3	\$113.1
Wheat	\$1,518	\$728	7,530	\$70.9	\$59.9	\$36.0
Oats	\$48	\$23	250	\$2.3	\$1.9	\$1.1
Barley	\$33	\$16	170	\$1.6	\$1.3	\$0.8
Manufacturing						
Grain and oilseed milling	\$6,975	\$1,547	8,780	\$159.7	\$116.0	\$34.8
Basic chemical manufacturing	\$3,552	\$1,020	3,650	\$106.2	\$81.2	\$21.7
Transportation and Wholesaling						
Transportation and wholesaling	\$4,618	\$2,389	22,650	\$268.1	\$207.6	\$63.0

Economic Impact Comparison to Other Industries

To provide perspective on the size of the economic impacts generated by Ontario's oilseed and grain farming value chain, it is useful to compare the impacts with those created by other industries. The following are comparisons with other important industries in Ontario:

- **New Home Construction.** The direct and indirect employment supported by Ontario's oilseed and grain farming value chain (77,950 FTEs) in 2022 is roughly equivalent to the employment supported by the construction of 38,780 new homes in Ontario.¹³ This is equivalent to approximately 40 percent of new home starts in Ontario in 2022.
- **Mining.** The total employment supported by Ontario's oilseed and grain farming value chain (91,920 FTEs) in 2022 is roughly equivalent to the employment generated by the mining industry in Ontario.¹⁴
- **Forestry.** The total employment supported by Ontario's oilseed and grain farming value chain (91,920 FTEs) in 2022 is equivalent to about 60 percent of the employment generated by the forestry industry in Ontario.¹⁵
- **Ontario GDP.** The direct GDP generated by Ontario's oilseed and grain farming value chain (\$5.6 billion) in 2022 is equivalent to about 34 percent of the total GDP (\$16.6 billion) generated by these industries in Ontario.^{16,17}

¹³ Canadian Home Builders' Association. 2022. *Economic Impacts of New Home Construction, Ontario*. Accessed at <https://www.chba.ca/impacts>

¹⁴ Ontario Mining Association. 2021. *Facts and Figures*. Accessed at https://oma.on.ca/en/ontario-mining/facts_figures.aspx

¹⁵ Ontario Ministry of Environment and Energy. 2021. *Success at a glance: Ontario's forest sector strategy progress report*. Accessed at <https://www.ontario.ca/page/success-glance-ontarios-forest-sector-strategy-progress-report>

¹⁶ Statistics Canada. *Gross domestic product (GDP) at basic prices, by industry, provinces and territories, growth rates. Table 36-10-0402-02*. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=3610040202>

¹⁷ Statistics Canada. *Implicit price indexes, gross domestic product, provincial and territorial. Table 36-10-0223-01*. Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610022301>

Community and Social Contributions

Case Study

Chatham-Kent is a municipality in southern Ontario with a population of approximately 104,300. It has a diverse agriculture base due to its climate (i.e., lots of sunshine, long growing season, rich soil) and its proximity to various transportation networks (i.e., 401 highway, international border crossings, rail networks).

Grain farming and its related activities are a main stay in the municipality and have been important in the growth of the agri-food sector. Approximately 2,400 farms are located in the municipality, and approximately 80 percent of them grow oilseeds and grains as their main activity.¹⁸ Of the remaining farms, very few do not have grains as part of the rotation. This strong agricultural base attracts new agriculture-related businesses as well as employees to the region.¹⁹

Farming in Chatham-Kent directly employs over 2,400 people and an additional 1,000 people are employed in industries which are indirectly tied to farming.²⁰ This includes grain and oilseed milling, chemical manufacturing, agriculture machinery manufacturing, farm product merchant wholesalers, agricultural supplies merchant wholesalers, truck transportation, and farm product warehousing and storage.

A significant proportion of farmers operating in Chatham-Kent are multi-generational farmers.

Source: Interview findings

The storing of grains, once harvested, is an increasingly important activity in Chatham-Kent. Grain storage includes both elevators and on-farm storage. On farm storage is important for marketing as it provides farmers with more control over when they harvest allowing them to take advantage of more lucrative contracts earlier in the year. Rising crop yields coupled with transportation and supply chain issues have increased the demand for and importance of on-farm grain storage.²¹ On-farm grain storage as well as implementing improved crop drying systems have improved the efficiency of a local corn farm, enabling additional diversification in products including selling popcorn to retailers.²² Local companies which have elevators in the region include Andersons and Agris Co-Operative, while on-farm grain storage solutions are available through Total Grain Systems, Devolder Farms Inc., and Lambton Grain Storage.

¹⁸ Statistics Canada. *Farms classified by farm type, Census of Agriculture. Table 32-10-0231-01.* Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210023101>

¹⁹ MNP interview findings.

²⁰ Statistics Canada. *Industry groups by class of worker including job permanency, labour force status, age and gender. Table 98-10-0448-01.* Accessed at <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=9810044801>

²¹ MNP interview findings.

²² *Chatham Daily News*. 2022. *Award recognizes Wallaceburg farmers commitment to innovation (November 12, 2022).* Accessed at <https://www.chathamdailynews.ca/news/local-news/wallaceburg-farmer-improves-efficiency-with-updated-dryer-system>

The availability of inputs such as grain and the experienced workforce has led to the development of a robust food and beverage processing in Chatham-Kent. Queen Milling specializes in gluten-free flours and blends, Dover Corn specializes in dry corn milling, and Corteva and Pride Seed specialize in seed production and technology.

There are also a number of equipment dealers, tractor tire servicing, and farm drainage businesses located in Chatham-Kent. Some of the manufacturing facilities also custom-make equipment for grain-related businesses.²³

Local companies operating in this space include Dorssers Inc. and Kearney Planters.

Another industry indirectly tied to grain farming is distilleries. Greenfield Global has a distillery in Chatham-Kent which produces a variety of alcohols, including those used for industrial applications. Sons of Kent Brewing Company, Red Barn Brewing Company, and Bayside Brewing Co. are a few other distilleries located in the municipality of Chatham-Kent. In addition, a large commercial distillery is planned for the nearby township of St. Clair which will partner with farmers, including those in Chatham-Kent. The company chose to locate in southwestern Ontario in part because of the longer growing season.²⁴ Craft breweries also present a local market for grain producers, especially as on-farm storage solutions allow breweries to access the grains they require all throughout the year. Many of the products produced at these distilleries are sold at local restaurants in the municipality as well.²⁵

In addition, the University of Guelph's Ridgetown Campus is located in the municipality and conducts applied and theoretical research on a variety of agriculture-related topics, including plant trials. Many of their programs are related to agriculture, and several of the smaller farmers in the area do plot and seed testing for the university.²⁶ Many of the students that enroll in the Ridgetown campus end up being employed in the municipality given the high number of agriculture-type job openings.²⁷



"THANKS TO THE UNIQUE COMBINATION OF RICH SOIL, FRESHWATER, WARM CANADIAN CLIMATE, BRILLIANT RESEARCH AND THE SIMPLE DESIRE TO BE THE BEST, CHATHAM-KENT IS A KEY LOCATION NOT ONLY FOR AGRICULTURAL COMPANIES BUT ALSO FOR FOOD PROCESSING."

Chatham-Kent Economic Development

²³ MNP interview findings.

²⁴ Chatham Daily News. 2022. Local farmers to benefit from new distillery in St. Clair Township. (December 8, 2022). Accessed at <https://www.chathamdailynews.ca/news/local-farmers-to-benefit-from-new-distillery-in-st-clair-township>

²⁵ MNP interview findings.

²⁶ MNP interview findings.

²⁷ MNP interview findings.

Conclusion

The oilseed and grain farming industry is an important contributor to Ontario's economy. In 2022, the economic impacts generated by the output of Ontario's oilseed and grain farming value chain were approximately:

- \$17,441 million in direct economic output and \$26,605 million in total economic output.
- \$5,636 million in direct GDP and \$10,448 million in total GDP.
- \$1,084.6 million in direct revenue for all three levels of government and \$2,318.0 million in total government revenue.
- 53,000 direct FTEs and 91,920 total FTEs.

Oilseed and grain farming makes significant contributions to local communities throughout the province. In areas such as Chatham-Kent there is a long history of oilseed and grain production that has supported the development of a robust agri-food sector.

Within Canada Ontario is home to over half of Canada's total seeded area and production of both soybeans and corn for grain and accounts for approximately 29 percent of farms that primarily produce oilseeds and grains.

Production of oilseeds and grain has been increasing since 2010 and exports have increased. Japan, the United States, and China are the main export markets for Ontario's oilseed and grains.

Appendices

Appendix A: Economic Impact Methodology

MNP's approach to economic impact modelling is based on published Statistics Canada multipliers and input-output modelling. A step-by-step overview of our approach to estimating the economic impacts is provided in this appendix.

Step 1: Collect Data and Estimate Direct Output for each Industry

To calculate the direct output for crop production, MNP first collected data on farm cash receipts from Statistics Canada. As farm cash receipts don't include inter-farm sales, MNP then used Statistics Canada's 2019 supply and use tables to estimate the total direct output (including inter-farm sales) for each crop industry.

To calculate the direct output for grain and oilseed milling, MNP first collected data on output from Statistics Canada's 2019 supply and use tables. MNP then used the growth in crop farm cash receipts to estimate the output in 2022.

To calculate the direct output for basic chemical manufacturing, MNP first collected data on output from Statistics Canada's 2019 supply and use tables. MNP then collected data on employment by industry and Canadian business counts from Statistics Canada to estimate the portion of basic chemical manufacturing which generates other basic organic chemical manufacturing (which includes the production of ethanol). MNP then collected data on manufacturing sales from Statistics Canada and used the growth in sales to estimate the output in 2022.

To calculate the direct output for transportation and wholesaling, MNP first collected data on transportation and trade margins from Statistics Canada's 2019 supply and use tables. MNP then applied the proportion of transportation and trade margins to the 2022 output for both crop production and grain and oilseed milling.

Step 2: Apply Statistics Canada's Input-Output Multipliers to Estimate Economic Impacts

Statistics Canada's input-output multipliers were then applied to the direct output to estimate the economic impacts generated in Ontario for each industry. The following multipliers were used in this analysis:

- Crop production (except cannabis, greenhouse, nursery and floriculture production);
- Grain and oilseed milling;
- Basic chemical manufacturing;
- Truck transportation; and
- Farm product merchant wholesalers

Statistics Canada's input-output multipliers produced estimates of direct, indirect and induced output, GDP, and employment. MNP then used Statistics Canada's 2019 supply and use tables to estimate the total use share of supply in order to adjust indirect and induced impacts for both grain and oilseed milling and basic chemical manufacturing. This ensures that there is no double-counting of impacts between these industries. Finally, the impacts for each industry were then aggregated to estimate the economic impacts for Ontario's oilseed and grain farming value chain.

Appendix B: Impacts by Industry Group

Table B.1. Economic Impacts of Ontario's Corn Industry, 2022

Category	Output (\$ millions)	GDP (\$ millions)	Employment (FTEs)	Federal Tax (\$ millions)	Provincial Tax (\$ millions)	Municipal Tax (\$ millions)
Direct	\$2,774	\$1,229	14,710	\$104.5	\$88.5	\$69.2
Indirect and Induced	\$1,995	\$1,057	8,940	\$118.3	\$99.8	\$43.9
Total	\$4,769	\$2,286	23,650	\$222.8	\$188.3	\$113.1

Notes: Includes only corn for grain.

Table B.2. Economic Impacts of Ontario's Soybean Farming Industry, 2022

Category	Output (\$ millions)	GDP (\$ millions)	Employment (FTEs)	Federal Tax (\$ millions)	Provincial Tax (\$ millions)	Municipal Tax (\$ millions)
Direct	\$2,962	\$1,312	15,700	\$111.6	\$94.5	\$73.9
Indirect and Induced	\$2,130	\$1,129	9,540	\$126.3	\$106.6	\$46.9
Total	\$5,092	\$2,441	25,240	\$237.9	\$201.1	\$120.8

Table B.3. Economic Impacts of Ontario's Wheat Farming Industry, 2022

Category	Output (\$ millions)	GDP (\$ millions)	Employment (FTEs)	Federal Tax (\$ millions)	Provincial Tax (\$ millions)	Municipal Tax (\$ millions)
Direct	\$883	\$391	4,680	\$33.3	\$28.2	\$22.0
Indirect and Induced	\$635	\$337	2,850	\$37.7	\$31.8	\$14.0
Total	\$1,518	\$728	7,530	\$70.9	\$59.9	\$36.0

Notes: Wheat impacts exclude durum wheat.

Table B.4. Economic Impacts of Ontario's Oat Farming Industry, 2022

Category	Output (\$ millions)	GDP (\$ millions)	Employment (FTEs)	Federal Tax (\$ millions)	Provincial Tax (\$ millions)	Municipal Tax (\$ millions)
Direct	\$28	\$12	150	\$1.1	\$0.9	\$0.7
Indirect and Induced	\$20	\$11	100	\$1.2	\$1.0	\$0.4
Total	\$48	\$23	250	\$2.3	\$1.9	\$1.1

Table B.5. Economic Impacts of Ontario's Barley Farming Industry, 2022

Category	Output (\$ millions)	GDP (\$ millions)	Employment (FTEs)	Federal Tax (\$ millions)	Provincial Tax (\$ millions)	Municipal Tax (\$ millions)
Direct	\$19	\$9	110	\$0.7	\$0.6	\$0.5
Indirect and Induced	\$14	\$7	60	\$0.8	\$0.7	\$0.3
Total	\$33	\$16	170	\$1.6	\$1.3	\$0.8

Table B.6. Economic Impacts of Ontario's Grain and Oilseed Milling Industry, 2022

Category	Output (\$ millions)	GDP (\$ millions)	Employment (FTEs)	Federal Tax (\$ millions)	Provincial Tax (\$ millions)	Municipal Tax (\$ millions)
Direct	\$5,698	\$838	4,180	\$74.9	\$44.2	\$8.9
Indirect and Induced	\$1,277	\$709	4,600	\$84.7	\$71.7	\$25.9
Total	\$6,975	\$1,547	8,780	\$159.7	\$116.0	\$34.8

Notes: The indirect and induced values have been adjusted to remove double-counting (i.e., production, transportation, and wholesaling).

Table B.7. Economic Impacts of Ontario's Other Basic Organic Chemical Manufacturing Industry, 2022

Category	Output (\$ millions)	GDP (\$ millions)	Employment (FTEs)	Federal Tax (\$ millions)	Provincial Tax (\$ millions)	Municipal Tax (\$ millions)
Direct	\$2,605	\$615	2,020	\$56.9	\$37.6	\$6.2
Indirect and Induced	\$946	\$405	1,630	\$49.3	\$43.6	\$15.5
Total	\$3,552	\$1,020	3,650	\$106.2	\$81.2	\$21.7

Notes: Includes the manufacturing of ethanol. The indirect and induced values have been adjusted to remove double-counting (i.e., production, transportation, and wholesaling).

Table B.8. Economic Impacts of Ontario's Transportation and Wholesaling Industries Generated by Ontario's Grain and Oilseed Industry, 2022

Category	Output (\$ millions)	GDP (\$ millions)	Employment (FTEs)	Federal Tax (\$ millions)	Provincial Tax (\$ millions)	Municipal Tax (\$ millions)
Direct	\$2,470	\$1,230	11,450	\$129.0	\$84.1	\$12.6
Indirect and Induced	\$2,148	\$1,159	11,200	\$139.1	\$123.5	\$50.4
Total	\$4,618	\$2,389	22,650	\$268.1	\$207.6	\$63.0

Appendix C: Historical Comparison of Economic Impacts

Table C.1. Economic Impacts of Ontario's Oilseed and Grain Farming Value Chain for 2010 and 2022

Category	Output (\$ millions)	GDP (\$ millions)	Employment (FTEs)	Aggregate Tax (\$ millions)
2022 Impacts				
Soybean	\$5,092	\$2,441	25,240	\$237.9
Corn	\$4,769	\$2,286	23,650	\$222.8
Wheat	\$1,518	\$728	7,530	\$70.9
Oats	\$48	\$23	250	\$2.3
Barley	\$33	\$16	170	\$1.6
Grain and oilseed milling	\$6,975	\$1,547	8,780	\$159.7
Basic chemical manufacturing	\$3,552	\$1,020	3,650	\$106.2
Transportation and wholesaling	\$4,618	\$2,389	22,650	\$268.1
2010 Impacts				
Soybean	\$2,220	\$996	19,370	\$216.0
Corn	\$3,106	\$1,393	27,100	\$302.3
Wheat	\$669	\$300	5,840	\$65.1
Oats	\$26	\$11	220	\$2.5
Barley	\$87	\$39	760	\$8.5
Grain and oilseed milling	\$5,633	\$1,805	15,030	\$318.0
Basic chemical manufacturing	\$2,670	\$1,262	6,960	\$232.0
Transportation and wholesaling	\$2,174	\$1,340	18,800	\$269.1

Appendix D: About MNP

For over 60 years, MNP has proudly served and responded to the needs of clients in the public, private and not-for-profit sectors. Today, MNP is the fifth largest Chartered Professional Accountancy and business consulting firm in Canada and is the only major accounting and business consulting firm with its head office located in Western Canada. MNP has more than 117 locations and over 7,100 team members across the country.



About MNP's Economics and Research Practice

Economic and industry studies are carried out by MNP's Economics and Research practice. The Economics and Research practice consists of a team of professionals that has a successful track record of assisting clients with a wide variety of financial and economic impact studies. Our work has encompassed a wide range of programs, industries, company operations and policy initiatives, and has helped clients with decision-making, communication of economic and financial contributions, documentation of the value of initiatives and activities, and development of public policy.



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