



# Economic Impact Study of the Canadian Soybean Industry

PREPARED FOR SOY CANADA

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# 1. EXECUTIVE SUMMARY

## INTRODUCTION

Soy Canada is a national association representing groups involved in the development, production, handling, processing and export of Canadian soybeans.

Over the last ten years, the soybean industry has achieved considerable growth in terms of production, seeded area, farm cash receipts, and exports. As a result, Soy Canada commissioned MNP LLP (MNP) to carry out an economic impact assessment of the Canadian soybean industry.

## INDUSTRY PROFILE

Canada is one of the top ten soybean producing countries in the world.<sup>1</sup> In 2014, Canada produced approximately 6 million metric tonnes of soybeans.<sup>2</sup> In the ten years from 2005 to 2014, the industry's production increased by 92 percent<sup>3</sup>, seeded area increased by 92 percent<sup>4</sup>, farm cash receipts increased by 201 percent<sup>5</sup>, and exports increased by 190 percent.<sup>6</sup>

Table A below summarizes the key statistics for the soybean industry in Canada in 2014.

**Table A: Key Statistics for the Canadian Soybean Industry in 2014**

|            |                              |                                     |
|------------|------------------------------|-------------------------------------|
| Production | Soybean Farms                | 27,215 (2011 Census)                |
|            | Seeded Area                  | 2.3 million Ha *, 5.6 million acres |
|            | Yield                        | 2,700 (Kg/Ha), 40 (Bu/acre) **      |
|            | Total Production             | 6 MMT ***                           |
|            | GM Production                | 4.8 MMT                             |
|            | Non-GM Production            | 1.2 MMT                             |
|            | Farm Cash Receipts           | \$2.3 billion                       |
| Processing | Total Soybean Crushing       | 1.6 MMT                             |
|            | Soybean Meal Produced        | 1.2 MMT                             |
|            | Soybean Oil Produced         | 0.3 MMT                             |
| Exports    | Exports of Soybeans (Volume) | 3.4 MMT                             |
|            | Exports of Soybeans (Value)  | \$2.0 billion                       |

All statistics are based on 2014 data unless otherwise stated and were obtained from organizations such as Statistics Canada, Agriculture and Agri-Food Canada, and the Canadian Oilseed Processors Association.

\* Ha - Hectares.

\*\* Bu - Bushels (27.22 kg).

\*\*\* MMT- million metric tonnes.

<sup>1</sup> United States Department of Agriculture, Oilseeds: World Markets and Trade, March 2016. Available here: <http://apps.fas.usda.gov/psdonline/circulars/oilseeds.pdf>

<sup>2</sup> Statistics Canada. CANSIM Table 001-0010 - Estimated Areas, Yield, Production And Average Farm Price Of Principal Field Crops, In Metric Units, 2014.

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Statistics Canada, CANSIM Table 002-0001 - Farm Cash Receipts, 2014.

<sup>6</sup> Statistics Canada and CATSNET Analytics, 2014.

## ECONOMIC IMPACTS OF THE CANADIAN SOYBEAN INDUSTRY

In 2014, the activities of the soybean industry generated total revenue of \$5.8 billion. Based on this value, the Canadian soybean industry is estimated to have generated the following economic impacts:

- Approximately \$12.7 billion in total output, including direct output of \$5.8 billion, and indirect and induced output of \$6.9 billion.
- Approximately \$5.6 billion in total GDP, including direct GDP of \$2.2 billion, and indirect and induced GDP of \$3.4 billion.
- Approximately 54,435 total full time equivalent (FTE) positions, including direct employment of 20,809 FTEs, and indirect and induced employment of 33,626 FTEs.
- Approximately \$1.3 billion in total federal, provincial and municipal tax revenue, including direct tax revenue of \$486 million, and indirect and induced tax revenue of \$780 million<sup>7,8</sup>.

Table B summarizes the estimated economic impacts generated by the activities of the soybean industry.

**Table B: Economic Impacts of Canada's Soybean Industry**

|                         | Output<br>(million) | GDP<br>(million) | Employment<br>(FTEs) | Government Taxes<br>(million) |
|-------------------------|---------------------|------------------|----------------------|-------------------------------|
| Direct                  | \$5,765             | \$2,195          | 20,809               | \$486                         |
| Indirect and<br>Induced | \$6,962             | \$3,441          | 33,626               | \$780                         |
| <b>Total</b>            | <b>\$12,727</b>     | <b>\$5,636</b>   | <b>54,435</b>        | <b>\$1,266</b>                |

<sup>7</sup> Please note that because tax revenues can regularly change due to modifications in tax policy, the tax revenue impacts in this report are estimates only and subject to change. They should be viewed as approximate in nature.

<sup>8</sup> Direct, indirect and induced tax impacts include personal income taxes, product taxes, production taxes and some level of corporate taxes.

## ECONOMIC IMPACTS OF THE CANADIAN SOYBEAN INDUSTRY BY PROVINCE

Table C presents the economic impacts of the soybean industry in Canada by province. Most of the economic impacts are generated in Ontario and Quebec, with these two provinces accounting for approximately 85 percent of all of Canada's value of output generated by the soybean industry.

**Table C: Total Economic Impacts of Canada's Soybean Industry by Province<sup>9,10</sup>**

|                | Total Output (million) | % of Total  | Total GDP (million) | % of Total  | Total Employment (FTEs) | % of Total  | Total Taxes (million) | % of Total  |
|----------------|------------------------|-------------|---------------------|-------------|-------------------------|-------------|-----------------------|-------------|
| Ontario        | \$8,140                | 64%         | \$3,471             | 61%         | 34,996                  | 64%         | \$807                 | 64%         |
| Quebec         | \$2,673                | 21%         | \$1,339             | 24%         | 11,569                  | 22%         | \$269                 | 22%         |
| Manitoba       | \$1,061                | 8%          | \$480               | 8%          | 4,841                   | 9%          | \$117                 | 9%          |
| Saskatchewan   | \$198                  | 2%          | \$87                | 2%          | 567                     | 1%          | \$17                  | 1%          |
| Atlantic       | \$175                  | 1%          | \$146               | 3%          | 792                     | 1%          | \$17                  | 1%          |
| Rest of Canada | \$480                  | 4%          | \$112               | 2%          | 1,670                   | 3%          | \$39                  | 3%          |
| <b>Total</b>   | <b>\$12,727</b>        | <b>100%</b> | <b>\$5,635</b>      | <b>100%</b> | <b>54,435</b>           | <b>100%</b> | <b>\$1,266</b>        | <b>100%</b> |

<sup>9</sup> Please note that because tax revenues can regularly change due to modifications in tax policy, the tax revenue impacts in this report are estimates only and subject to change. They should be viewed as approximate in nature.

<sup>10</sup> Direct, indirect and induced tax impacts include personal income taxes, product taxes, production taxes and some level of corporate taxes.

## 2. INTRODUCTION

### 2.1 BACKGROUND AND STUDY PURPOSE

Soy Canada is a national association representing groups involved in the development, production, handling, processing and export of Canadian soybeans. Soy Canada commissioned MNP LLP (MNP) to carry out an economic impact study of the Canadian soybean industry.

The scope of the study included:

- An overview of the Canadian soybean industry - a summary of key statistics relevant to the economic performance of the Canadian soybean industry and its main value chain components.
- An analysis of the economic impacts generated by the activities of the Canadian soybean industry. The analysis quantified output, GDP, employment, and tax revenues.

### 2.2 MNP APPROACH

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

- Gathered industry data and statistics through public and private sources such as Statistics Canada and Agriculture and Agri-Food Canada.
- Conducted an online survey of seed breeders to gather information about their economic activity in Canada.
- Estimated the economic impacts arising from the activities of the soybean industry for Canada as a whole and by province.
- Estimated the economic impacts of the Canadian soybean industry by sector.

### 2.3 ORGANIZATION OF THE REPORT

The remaining sections of the report are organized as follows:

- Section 3 provides an overview of the Canadian soybean industry with key industry statistics as well as an industry value chain depicting the linkages between the soybean industry and its suppliers and other industries.
- Section 4 presents a summary of the economic impacts generated by the activities of the soybean industry in Canada as a whole and by province.
- Section 5 includes the appendices, which include data sources, a glossary of economic impact terms, a summary of the methodology used to estimate the economic impacts along with relevant assumptions, and background information about MNP.

## 2.4 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, professional advice.

We have relied upon the completeness, accuracy and fair presentation of all information and data obtained from public sources. 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.

Additionally, the findings and opinions expressed in the presentation constitute judgments as of the date of the presentation, 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.



## 3. PROFILE OF THE CANADIAN SOYBEAN INDUSTRY

### 3.1 INDUSTRY VALUE CHAIN

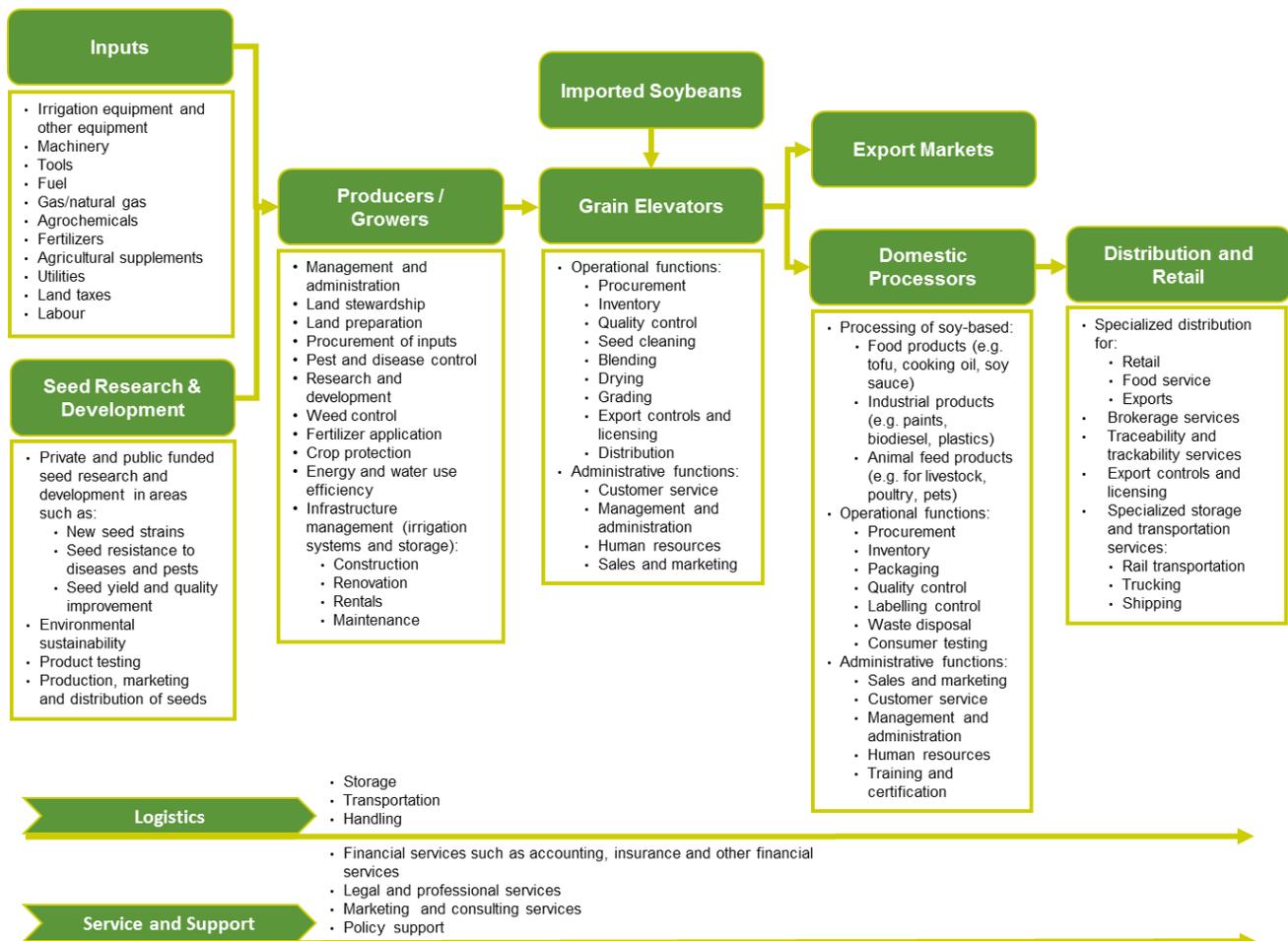
A value chain illustrates the activities carried out by an industry that add value at each stage in the production process. Using the value chain as a starting point, linkages between an industry's main components and other industries can be highlighted. This is done by identifying inputs provided by suppliers and external service providers that the industry uses to create and deliver goods and services.

The Canadian soybean industry's main value chain components include:

- Production.
- Seed innovation and research.
- Transportation and handling.
- Processing.
- Exports.

The value chain graphic in Figure 1 displays the linkages between the soybean industry and its suppliers by illustrating its main components and the industries and organizations with which it interacts.

Figure 1: Canadian Soybean Industry Value Chain



## 3.2 OVERVIEW OF THE SOYBEAN INDUSTRY

This section contains an overview of key statistics for the Canadian soybean industry and its main value chain components. The overview is based on available industry statistics from organizations such as Statistics Canada, Agriculture and Agri-Food Canada, and the Canadian Oilseed Processors Association. For a full list of our data sources, please see Appendix A of this report.

### KEY INDUSTRY STATISTICS

Table 1 below summarizes the key statistics for the Canadian soybean industry in 2014.

**Table 1: Key Statistics for the Canadian Soybean Industry in 2014**

|                   |                               |                                     |
|-------------------|-------------------------------|-------------------------------------|
| <b>Production</b> | Soybean Farms                 | 27,215 (2011 Census)                |
|                   | Seeded Area                   | 2.3 million Ha *, 5.6 million acres |
|                   | Yield                         | 2,700 (Kg/Ha), 40 (Bu/acre) **      |
|                   | Total Production              | 6 MMT ***                           |
|                   | Commodity Soybean Production  | 4.8 MMT                             |
|                   | Food Grade Soybean Production | 1.2 MMT                             |
|                   | Farm Cash Receipts            | \$2.3 billion                       |
| <b>Processing</b> | Total Soybean Crushing        | 1.6 MMT                             |
|                   | Soybean Meal Produced         | 1.2 MMT                             |
|                   | Soybean Oil Produced          | 0.3 MMT                             |
| <b>Exports</b>    | Exports of Soybeans (Volume)  | 3.4 MMT                             |
|                   | Exports of Soybeans (Value)   | \$2.0 billion                       |

All statistics are based on 2014 data unless otherwise stated.

\* Ha - Hectares.

\*\* Bu - Bushels (27.22 kg).

\*\*\* MMT- million metric tonnes.

### HISTORICAL TRENDS

Over the last ten years, the soybean industry in Canada has experienced significant growth in terms of production, seeded area, farm cash receipts, and exports.<sup>11,12,13</sup>

- Farm cash receipts from the sale of soybeans increased 201 percent, from \$0.76 billion in 2005 to \$2.3 billion in 2014.
- The area of soybeans sown in Canada increased 92 percent, from 2.9 million acres in 2005 to 5.6 million acres in 2014.
- Soybean production in Canada increased 92 percent, from 3.1 million metric tonnes in 2005 to 6 million metric tonnes in 2014.
- Soybean exports increased 190 percent, from 1.2 million metric tonnes in 2005 to 3.4 million metric tonnes in 2014.

<sup>11</sup> Statistics Canada. CANSIM Table 001-0010 - Estimated Areas, Yield, Production And Average Farm Price Of Principal Field Crops, In Metric Units, 2014.

<sup>12</sup> Statistics Canada, CANSIM Table 002-0001 - Farm Cash Receipts, 2014.

<sup>13</sup> Statistics Canada and CATSNET Analytics, 2014.

Table 2 illustrates the historical trends in the farm cash receipts, seeded area, production, and exports of the soybean industry from 2005 to 2014.

**Table 2: Historical Trends of the Soybean Industry from 2005 to 2014**

|   | Farm Cash Receipts<br>(\$ thousands) | Seeded Area<br>(Acres) | Production<br>(Metric Tonnes) | Exports<br>(Metric Tonnes) |
|---|--------------------------------------|------------------------|-------------------------------|----------------------------|
| 2005                                    | 760,135                              | 2,897,100              | 3,155,600                     | 1,180,699                  |
| 2006                                    | 680,765                              | 2,998,369              | 3,465,500                     | 1,469,505                  |
| 2007                                    | 1,031,837                            | 2,900,900              | 2,686,200                     | 1,883,332                  |
| 2008                                    | 1,124,397                            | 2,971,300              | 3,335,900                     | 1,850,640                  |
| 2009                                    | 1,345,098                            | 3,518,000              | 3,581,600                     | 2,279,066                  |
| 2010                                    | 1,537,831                            | 3,738,800              | 4,444,600                     | 2,630,865                  |
| 2011                                    | 1,559,896                            | 3,851,662              | 4,466,500                     | 2,555,258                  |
| 2012                                    | 2,322,949                            | 4,152,900              | 5,086,400                     | 3,387,246                  |
| 2013                                    | 2,482,248                            | 4,618,900              | 5,358,900                     | 3,485,123                  |
| 2014                                    | 2,291,107                            | 5,561,900              | 6,048,600                     | 3,427,061                  |
| <b>Average from 2005-2014</b>           | 1,513,626                            | 3,720,983              | 4,162,980                     | 2,414,880                  |
| <b>Percentage Change from 2005-2014</b> | 201%                                 | 92%                    | 92%                           | 190%                       |

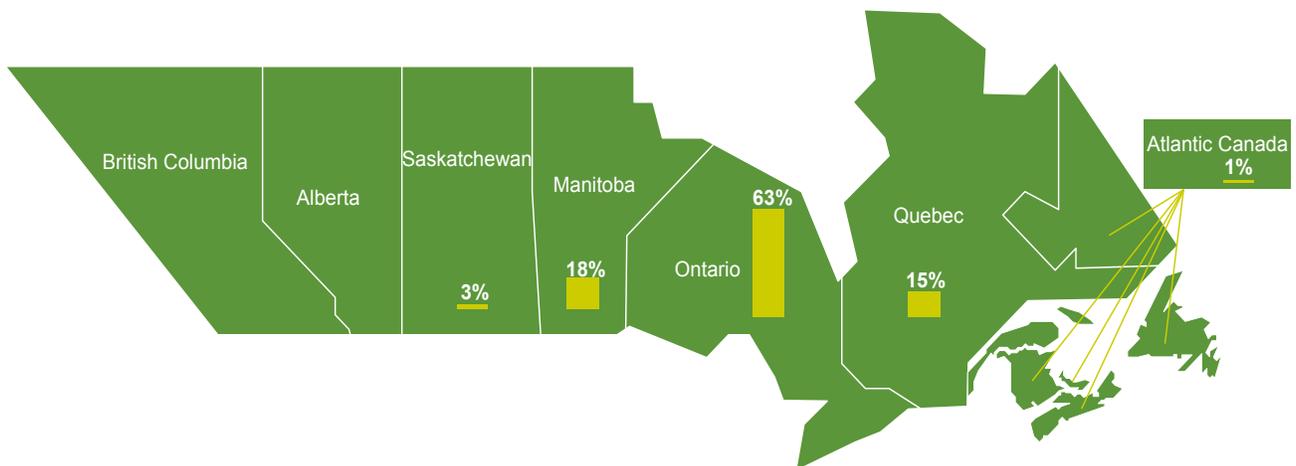
Sources: Statistics Canada, CANSIM Table 002-0001 - Farm Cash Receipts, 2005-2014, Statistics Canada. CANSIM Table 001-0010 - Estimated Areas, Yield, Production And Average Farm Price Of Principal Field Crops, In Metric Units, 2005-2014, Statistics Canada and CATSNET Analytics, 2005-2014.

## PRODUCTION

### SOYBEAN PRODUCTION

Canada is one of the top ten soybean producing countries in the world.<sup>14</sup> In 2014, Canada produced approximately 6 million metric tonnes of soybeans.<sup>15</sup> As shown in Figure 2, Ontario is the leading soybean producing region in Canada, accounting for 63 percent (3.8 million metric tonnes) of the total Canadian soybean production in 2014.<sup>16</sup> Manitoba and Quebec are the second and third largest producing regions accounting for 18 percent (1.1 million metric tonnes) and 15 percent (0.9 million metric tonnes) of the total production in Canada.<sup>17</sup> Saskatchewan and Atlantic Canada accounted for three percent (0.2 million metric tonnes) and one percent (0.1 million metric tonnes) respectively of the total soybean production in Canada.<sup>18,19</sup>

**Figure 2: Share of Canadian Soybean Production by Province, 2014**



Source: Statistics Canada. CANSIM Table 001-0010 - Estimated Areas, Yield, Production And Average Farm Price Of Principal Field Crops, In Metric Units, 2014.

<sup>14</sup> United States Department of Agriculture, Oilseeds: World Markets and Trade, March 2016. Available here: <http://apps.fas.usda.gov/psdonline/circulars/oilseeds.pdf>

<sup>15</sup> Statistics Canada. CANSIM Table 001-0010 - Estimated Areas, Yield, Production And Average Farm Price Of Principal Field Crops, In Metric Units, 2014.

<sup>16</sup> Ibid.

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.

<sup>19</sup> Provinces that produce soybeans within Atlantic Canada include Nova Scotia, Prince Edward Island, and New Brunswick.

In 2014, soybeans were the fourth largest seeded crop in Canada among principal field crops, behind wheat, canola, and barley.<sup>20</sup>

Table 3 shows the distribution of seeded area, harvested area, and average yield of soybeans by province in 2014.

In 2014, Ontario reported the largest soybean seeded area and harvested area in Canada, followed by Manitoba and Quebec. Nova Scotia ranked second to Ontario in average yield but had a much lower seeded and harvested area.<sup>21</sup>

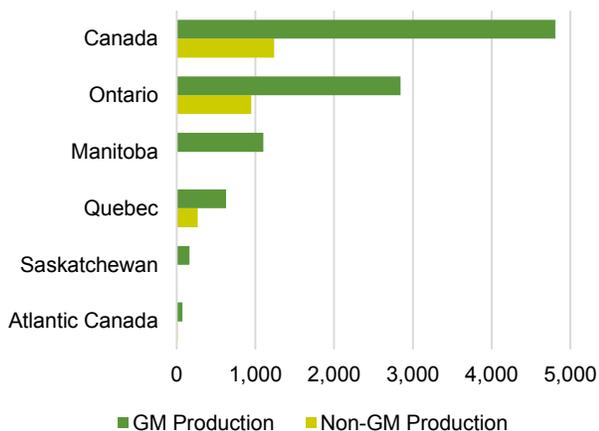
**Table 3: Estimated Seeded Area, Harvested Area and Average Yield of Soybeans, 2014**

|                         | Seeded Area<br>('000s Ha /<br>'000s Acres) | Harvested area<br>('000s Ha /<br>'000s Acres) | Average<br>Yield<br>(kg/Ha /<br>Bu/Acre) |
|-------------------------|--|---|--|
| Ontario                 | 1,243 / 3,071                              | 1,238 / 3,060                                 | 3,100 / 45.5                             |
| Quebec                  | 348 / 860                                  | 345 / 853                                     | 2,600 / 38.7                             |
| Manitoba                | 514 / 1,270                                | 510 / 1,260                                   | 2,200 / 32.3                             |
| Saskatchewan            | 109 / 269                                  | 105 / 260                                     | 1,600 / 23.1                             |
| Prince Edward<br>Island | 26 / 64                                    | 26 / 64                                       | 2,300 / 34.5                             |
| Nova Scotia             | 5 / 12                                     | 5 / 12  | 3,000 / 45.4                             |
| New Brunswick           | 6 / 15                                     | 6 / 15  | 2,300 / 34.5                             |
| Canada                  | <b>2,251 / 5,562</b>                       | <b>2,235 / 5,523</b>                          | <b>2,700 / 40.2</b>                      |

Source: Statistics Canada. CANSIM Table 001-0010 - Estimated Areas, Yield, Production And Average Farm Price Of Principal Field Crops, In Metric Units, 2014.

## GM AND NON-GM SOYBEAN PRODUCTION

**Figure 3: Estimates of GM and Non-GM Soybean Production by Province, 2014 ('000 Metric Tonnes)**



Sources: 1) Statistics Canada. CANSIM Table 001-0010 - Estimated Areas, Yield, Production And Average Farm Price Of Principal Field Crops, In Metric Units, 2014. 2) Agriculture and Agri-Food Canada Industry Estimates, 2014.

As shown in Figure 3, genetically modified (GM) soybean varieties accounted for approximately 80 percent (4.8 million metric tonnes) of the total soybean production in 2014. In 2014, there were over 200 varieties of non-GM or food-grade soybeans produced in Canada.<sup>22</sup>

Figure 3 illustrates that nearly all the non-GM soybeans produced in Canada in 2014 were grown in Ontario and Quebec. The two provinces accounted for 76 percent (0.9 million metric tonnes) and 22 percent (0.3 million metric tonnes) of the total Canadian non-GM soybean production respectively. Manitoba, Saskatchewan, and Atlantic Canada produced mainly GM soybeans, and only accounted for approximately 2 percent of Canadian non-GM soybean production.

<sup>20</sup> Statistics Canada. CANSIM Table 001-0010 - Estimated Areas, Yield, Production And Average Farm Price Of Principal Field Crops, In Metric Units, 2014.

<sup>21</sup> Ibid.

<sup>22</sup> Ontario Soybean and Canola Committee, Food-Grade Soybean Database, 2014.

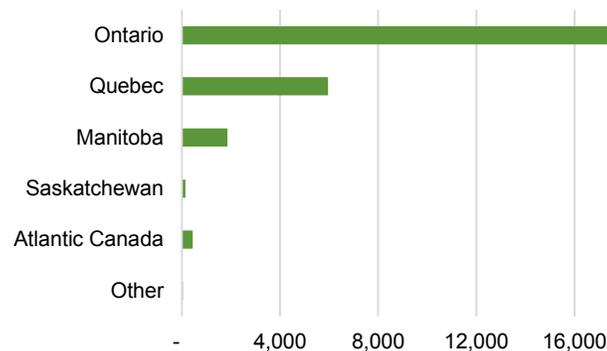
Soybean farmers involved in the production of non-GM soybeans receive a premium above the world price of commodity soybeans (i.e. Chicago Board of Trade) due to the additional management required to meet the strict quality characteristics required by the exporting companies and ultimately by the end-users. The premium typically varies annually and also across the different types of non-GM soybean varieties. Depending on the year, the premiums typically range from \$2.00 per bushel for a generic identity preserved (IP) soybean to a high of \$7.00 per bushel for a more specialized IP variety.<sup>23</sup> The highest premiums are to compensate the grower for any yield gaps associated with the production of the lower yielding larger seeded Tofu varieties or the smaller seeded natto varieties.<sup>24</sup>

Non-GM soybean processors/exporters are also compensated for their value-added processing through margins that compensate for investments in segregation, sophisticated cleaning and packaging infrastructure, as well as the time involved in quality assurance protocols (i.e. traceability and IP systems) to maintain the specific quality traits desired by end buyers. Depending on the year, the additional value-added economic benefit across production and processing of non-GM soybean varieties can generate additional revenue of approximately \$150 to \$250 million.<sup>25</sup>

### NUMBER OF FARMS

In 2011, there were approximately 27,215 farms that reported growing soybeans with approximately 69 percent of the farms located in Ontario, 22 percent in Quebec, and seven percent in Manitoba. The remaining two percent of the farms were located in Atlantic Canada.<sup>26</sup> Figure 4 shows the distribution of soybean farms by province.

**Figure 4: Number of Farms Reporting Growing Soybeans in Canada by Province, 2011**



Source: Statistics Canada, CANSIM Table 004-0213 - Census of Agriculture, Hay and Field Crops, Every 5 Years, 2011.

<sup>23</sup> Agriculture and Agri-Food Canada and Soy Canada Industry Estimates, 2014.

<sup>24</sup> Ibid.

<sup>25</sup> Ibid.

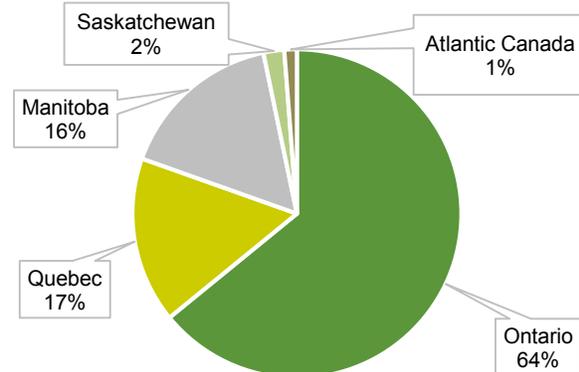
<sup>26</sup> Other provinces that reported soybean farms were Alberta and British Columbia (34 farms).

### SOYBEAN FARM CASH RECEIPTS

In 2014, soybeans were the third largest principal field crop in Canada in terms of farm cash receipts.<sup>27</sup> Canadian soybean farmers reported approximately \$2.3 billion in farm cash receipts from the sale of soybeans in 2014.<sup>28</sup>

As shown in Figure 5, Ontario generated the majority of the farm cash receipts reported in 2014 at 64 percent (\$1.5 billion), followed by Quebec and Manitoba at 17 percent (\$374 million) and 16 percent (\$373 million) respectively. The remaining provinces reported approximately three percent (\$75 million) in farm cash receipts.

**Figure 5: Soybean Farm Cash Receipts by Province, 2014**



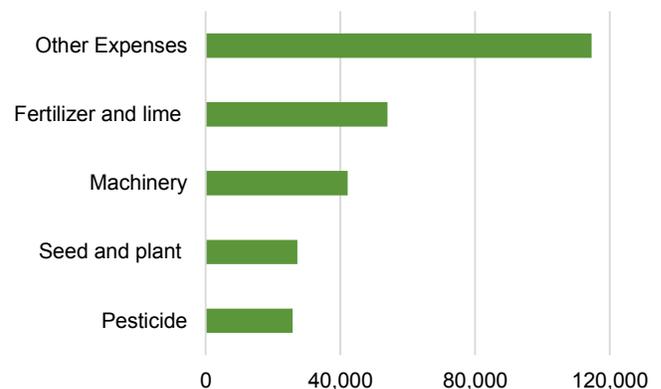
Source: Statistics Canada, CANSIM Table 002-0001 - Farm Cash Receipts, 2014.

### SOYBEAN FARM EXPENSES

Canadian oilseed and grain farmers were reported to have incurred average operating expenses of approximately \$263,800 in 2014.<sup>29</sup> The major expenses incurred included fertilizer and lime (20 percent), machinery and fuel (16 percent), pesticide (10 percent), and seed and plants (10 percent).<sup>30</sup> Other expenses incurred by the oilseed and grain farmers included custom work and machine rental, salaries and wages, insurance, rent, and other miscellaneous expenses.<sup>31,32</sup>

Figure 6 shows the major average operating expenses for grain and oilseed farms in 2014.

**Figure 6: Average Operating Expenses for Oilseed and Grain Farms, 2014 (\$)**



Source: Statistics Canada, CANSIM Table 002-0044 - Detailed Average Operating Revenues and Expenses of Farms, 2014.

<sup>27</sup> Statistics Canada, CANSIM Table 002-0001 - Farm Cash Receipts, 2014.

<sup>28</sup> Ibid.

<sup>29</sup> Statistics Canada, CANSIM 002-0044 -Detailed Average Operating Revenues and Expenses of Farms, by Farm Type, Incorporated and Unincorporated Sectors, Canada and Provinces, 2014.

<sup>30</sup> Ibid.

<sup>31</sup> Ibid.

<sup>32</sup> The operating expenses estimates include other oilseed and grain farms including pea, rice, wheat and other grain farming.

## SEED INNOVATION AND RESEARCH

Seed innovation and research organizations comprise both publicly and privately funded plant breeders that research and develop new seed varieties. These organizations work in collaboration with producers, processors and manufacturers to develop the appropriate seed varieties for the intended end uses.<sup>33</sup> Traits developed include yield, disease resistance, colour, protein, and sugar levels. Seed varieties are also produced for herbicide resistance, insect tolerance and unique oil characteristics (i.e. high oleic).

The soybean industry in Canada benefits from a combination of public and private research programs. In the public sector this includes federal and provincially funded research, much of it occurring at Canada's institutions of higher learning. In the private sector, the industry benefits from investment by large multi-national life science companies and highly innovative Canadian-owned private seed companies.<sup>34</sup>

## TRANSPORTATION AND HANDLING

### MODES OF TRANSPORTATION

While the majority of soybeans are transported by truck, soybeans are also transported to local and international markets by ship and rail. Trucks are used more extensively in Eastern Canada, whereas rail transport is more prevalent in Western Canada.

### GRAIN ELEVATORS

Grain elevators are used for grain blending, handling, drying, and storage before distribution to the end user, manufacturer, or for export. There are three main categories of grain elevators:

- Primary Elevators - mainly receive grain directly from producers for storage or dispatch.
- Process Elevators - mainly receive and store grain for direct manufacture or processing.
- Terminal Elevators - mainly receive grain from other elevators for cleaning, handling, and storage before dispatch.

The elevators are essential in the soybean supply chain as they allow for the storage of soybeans while they await transportation to direct users, processors or export markets. In Canada, there were 401 licensed elevators in 2015, with approximately 75 percent located in Ontario, Quebec and Manitoba.<sup>35</sup>

<sup>33</sup> Soy 20/20, Canada's Soybean Value Chain, 2015.

<sup>34</sup> Information provided by Soy Canada.

<sup>35</sup> Canadian Grain Commission, Grain Elevators in Canada, 2015.

## PROCESSING

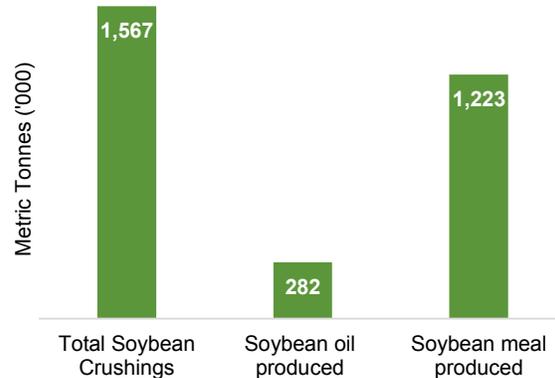
After processing, approximately 21 percent of the weight of a soybean is turned into oil, while 75 percent is turned into meal. The remaining four percent of the weight of the soybean is lost during processing.<sup>36</sup>

Figure 7 shows the volume of soybean oil and meal produced in Canada. About 1.6 million metric tonnes of Canadian soybeans were processed (crushed) in 2014. Approximately 1.2 million metric tonnes of soybean meal and 0.3 million metric tonnes of soybean oil were produced in 2014.

Soybean meal is primarily used to produce animal feed due to its high protein value, with a small fraction used to produce soy flour, soap stock and other industrial products. Soybean oil is primarily consumed as edible oil, and the remaining fraction is used to make components such as biodiesel, waxes, solvents, lubricants, paints, coatings among other industrial products.<sup>37</sup>

The main soybean processing facilities are located in Ontario and Quebec. These include ADM Agri-Industries in Windsor, Ontario; Bunge Canada in Hamilton, Ontario and Viterra in Becancour, Quebec.<sup>38</sup>

**Figure 7: Canada's Soybean Oil and Meal Production, 2014, ('000 Metric Tonnes)**



Source: Canadian Oilseed Processors Association, 2014.

<sup>36</sup> Soy 20/20, Canada's Soybean Value Chain, 2015.

<sup>37</sup> Soy 20/20, Canada's Soybean Value Chain, 2015.

<sup>38</sup> Information provided by Soy Canada.

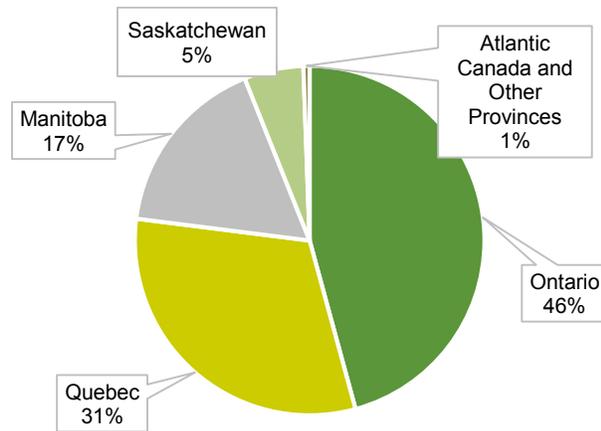
## EXPORTS

### SOYBEAN EXPORTS

Soybeans are exported to over 50 countries globally through ports of exit located across the country.<sup>39</sup> In 2014, Canada exported approximately \$1.9 billion worth of soybeans (3.4 million metric tonnes).<sup>40</sup> Regionally, Ontario reported the highest value of soybean exports at \$886 million (1.5 million metric tonnes) followed by Quebec at \$604 million (1.0 million metric tonnes), Manitoba at \$328 million (0.7 million metric tonnes), and Saskatchewan at \$106 million (0.2 million metric tonnes).<sup>41</sup> Soybean exports from the rest of Canada were valued at \$11 million (0.01 million metric tonnes).<sup>42</sup> Figure 8 shows the share of Canadian soybean export value by region in 2014.

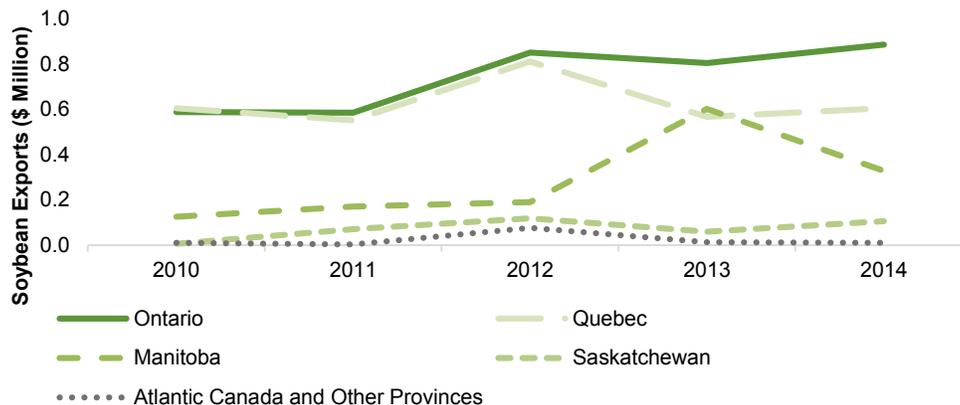
In general Canadian soybean exports have been increasing in both volume and value. The volume of soybean exports increased by approximately 30 percent between 2010 and 2014.<sup>43</sup> This corresponds to a 45 percent increase in the value of soybean exports within the same period.<sup>44</sup> Figure 9 illustrates the value of soybeans exported by province from 2010 to 2014.

**Figure 8: Value of Canadian Soybean Exports by Province, 2014**



Source: Statistics Canada and CATSNET Analytics, 2014.

**Figure 9: Value of Canadian Soybean Exports by Province (\$ Million), 2010- 2014.**



Source: Statistics Canada and CATSNET Analytics, 2014.

<sup>39</sup> Statistics Canada and CATSNET Analytics, 2014.

<sup>40</sup> Ibid.

<sup>41</sup> Ibid.

<sup>42</sup> Ibid.

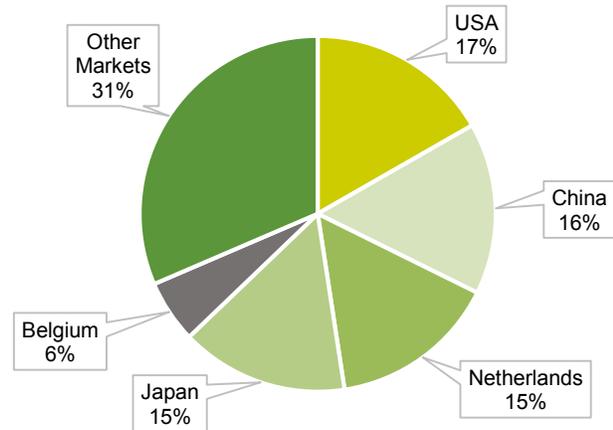
<sup>43</sup> Ibid.

<sup>44</sup> Ibid.

### SOYBEAN EXPORT MARKETS

Canada's top destinations for soybean exports in 2014 were USA, China, Netherlands, Japan, and Belgium.<sup>45</sup> In 2014, Canada exported \$323 million worth of soybeans to the USA and approximately \$300 million each to China, Japan and the Netherlands.<sup>46</sup> In terms of volume, in 2014 Canada exported the most soybeans to the Netherlands (approximately 650 metric tonnes) followed by China (587 metric tonnes), and USA (579 metric tonnes).<sup>47</sup> Figure 10 shows the top five export markets for Canadian soybeans by value in 2014.

**Figure 10: Share of Canadian Soybean Export Value by Market, 2014**



Source: Statistics Canada and CATSNET Analytics, 2014.

<sup>45</sup> Statistics Canada and CATSNET Analytics, 2014.

<sup>46</sup> Ibid.

<sup>47</sup> Ibid.

# 4. ECONOMIC IMPACT ANALYSIS OF THE CANADIAN SOYBEAN INDUSTRY

## 4.1 ECONOMIC IMPACT ANALYSIS OVERVIEW

The main goal of an economic impact study is to quantify the economic contributions that an industry, project or organization makes to a region. 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 tax revenue:

- **Output** is the total gross value of goods and services produced by a given organization, industry or project 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 equivalent to the unduplicated value of goods and services produced.
- **Employment** is the number of additional jobs created. Employment is measured in terms of full-time equivalents (“FTEs”).
- **Government Tax Revenues** are the total amount of tax revenues generated for different levels of government. Please note that because tax revenues can frequently change due to modifications in tax policy, the tax revenue impacts 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 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.
- **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.

MNP’s estimates of the economic impact of the activities of the Canadian soybean industry were developed in consultation with Statistics Canada, using a Statistics Canada input-output model and related economic multipliers. Input-output models are based on statistical information about the flow of goods and services among various industries, and are normally used “to simulate the economic impact on the business sector of an expenditure on a given basket of goods and services or the output of one of several industries.”<sup>48</sup>

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 projects, organizations or industries. For a detailed description of MNP’s economic impact terms and methodology, please refer to Appendices B and C.

<sup>48</sup> Statistics Canada. Input-Output Model Simulations (Interprovincial Model), April 2013. Retrieved from <http://www5.statcan.gc.ca/bsolc/olc-cel/olc-cel?lang=eng&catno=15F0009X>.

## 4.2 ECONOMIC IMPACTS OF THE CANADIAN SOYBEAN INDUSTRY

In 2014, the activities of the Canadian soybean industry generated total revenue of \$5.8 billion. Based on this value, the Canadian soybean industry is estimated to have generated the following economic impacts:

- Approximately \$12.7 billion in total output, including direct output of \$5.8 billion, and indirect and induced output of \$6.9 billion.
- Approximately \$5.6 billion in total GDP, including direct GDP of \$2.2 billion, and indirect and induced GDP of \$3.4 billion.
- Approximately 54,435 total full time equivalent (FTE) positions, including direct employment of 20,809 FTEs, and indirect and induced employment of 33,626 FTEs.
- Approximately \$1.3 billion in total federal, provincial and municipal tax revenue, including direct tax revenue of \$486 million, and indirect and induced tax revenue of \$780 million<sup>49,50</sup>.

Table 4 summarizes the estimated economic impacts generated by the activities of the soybean industry.

**Table 4: Economic Impacts of Canada's Soybean Industry**

|                         | Output<br>(million) | GDP<br>(million) | Employment<br>(FTEs) | Government<br>Taxes<br>(million) |
|-------------------------|---------------------|------------------|----------------------|----------------------------------|
| Direct                  | \$5,765             | \$2,195          | 20,809               | \$486                            |
| Indirect and<br>Induced | \$6,962             | \$3,441          | 33,626               | \$780                            |
| <b>Total</b>            | <b>\$12,727</b>     | <b>\$5,636</b>   | <b>54,435</b>        | <b>\$1,266</b>                   |

Broadly speaking, the impacts of the industry arise from exports of soybeans, and from the industrial use and processing of soybeans within Canada. Both of these activities contribute substantially to the overall impacts of the industry, with exports generating approximately 30 percent of the total GDP and 34 percent of total employment, while industrial use and processing generate approximately 70 percent of total GDP and 66 percent of total employment. Please refer to Appendix D for the detailed distribution of the economic impacts of the Canadian soybean industry.

<sup>49</sup> Please note that because tax revenues can regularly change due to modifications in tax policy, the tax revenue impacts in this report are estimates only and subject to change. They should be viewed as approximate in nature.

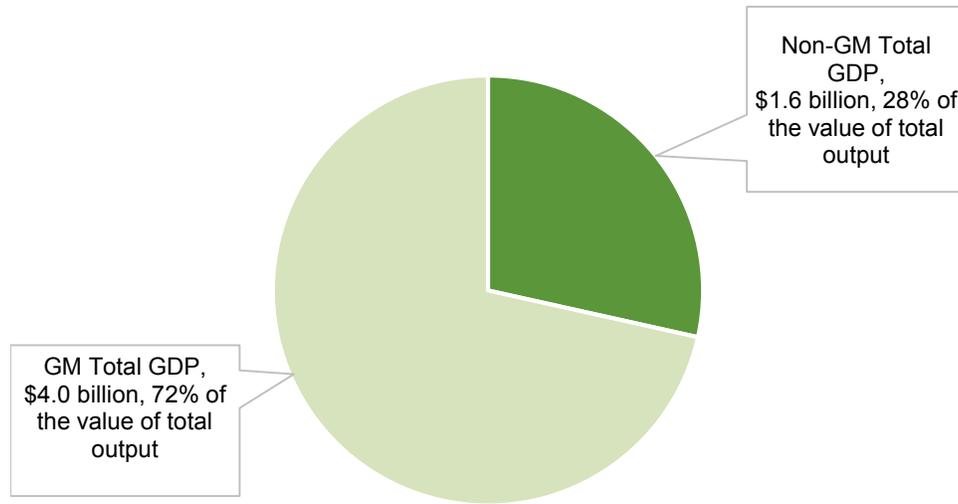
<sup>50</sup> Direct, indirect and induced tax impacts include personal income taxes, product taxes, production taxes and some level of corporate taxes.

### ECONOMIC IMPACTS OF THE CANADIAN SOYBEAN INDUSTRY – GM AND NON-GM

In 2014, non-GM soybeans accounted for approximately 20 percent of the total volume of Canada's soybean production<sup>51</sup>. Non-GM soybeans have a higher average selling price than GM soybeans<sup>52</sup>. Using the average selling prices for non-GM and GM soybeans, we estimate that in 2014, non-GM soybeans accounted for approximately 28 percent of the total value of Canada's soybean production. As a result, we estimate that non-GM soybeans generate 28 percent or \$1.6 billion of the total GDP impacts of the Canadian soybean industry.

Figure 11 shows the total GDP impacts of the Canadian soybean industry by GM and non-GM soybeans.

**Figure 11: Total GDP Impacts of Canada's Soybean Industry by GM and Non-GM Soybeans**



<sup>51</sup> Agriculture and Agri-Food Canada and Soy Canada industry estimates, 2014.

<sup>52</sup> Average prices of GM and Non-GM soybeans were calculated using Statistics Canada's 2014 export volume and value data for HS codes: 12019010 (Soya beans, other than seed for sowing, whether or not broken, for oil extraction) and 12019090 (soya beans, o/t seed for sowing, whether or not broken, o/t for oil extraction).

### 4.3 ECONOMIC IMPACTS OF THE SOYBEAN INDUSTRY BY PROVINCE

Canada's soybean industry generates economic activity in all of Canada's provinces. Most of the economic impacts are generated in Ontario and Quebec, with these two provinces accounting for approximately 85 percent of all of Canada's value of output generated by the soybean industry. The economic impacts of Canada's soybean industry by province are as follows:

- Ontario generated \$8.1 billion in total output, \$3.5 billion in total GDP, 34,996 FTEs in employment, and \$807 million in taxes for all levels of government.
- Quebec generated \$2.7 billion in total output, \$1.3 billion in total GDP, 11,569 FTEs in employment, and \$269 million in taxes for all levels of government.
- Manitoba generated \$1.1 billion in total output, \$480 million in total GDP, 4,841 FTEs in employment, and \$117 million in taxes for all levels of government.
- Saskatchewan generated \$198 million in total output, \$87 million in total GDP, 567 FTEs in employment, and \$17 million in taxes for all levels of government.
- Atlantic Canada<sup>53</sup> generated \$175 million in total output, \$146 million in total GDP, 792 FTEs in employment, and \$17 million in taxes for all levels of government.
- The rest of Canada generated \$480 million in total output, \$112 million in total GDP, 1,670 FTEs in employment, and \$39 million in taxes for all levels of government.

**Table 5: Total Economic Impacts of Canada's Soybean Industry by Province<sup>54,55</sup>**

|                       | Total Output<br>(million) | % of<br>Total | Total GDP<br>(million) | % of<br>Total | Total<br>Employment<br>(FTEs) | % of<br>Total | Total Taxes<br>(million) | % of<br>Total |
|-----------------------|---------------------------|---------------|------------------------|---------------|-------------------------------|---------------|--------------------------|---------------|
| <b>Ontario</b>        | \$8,140                   | 64%           | \$3,471                | 61%           | 34,996                        | 64%           | \$807                    | 64%           |
| <b>Quebec</b>         | \$2,673                   | 21%           | \$1,339                | 24%           | 11,569                        | 22%           | \$269                    | 22%           |
| <b>Manitoba</b>       | \$1,061                   | 8%            | \$480                  | 8%            | 4,841                         | 9%            | \$117                    | 9%            |
| <b>Saskatchewan</b>   | \$198                     | 2%            | \$87                   | 2%            | 567                           | 1%            | \$17                     | 1%            |
| <b>Atlantic</b>       | \$175                     | 1%            | \$146                  | 3%            | 792                           | 1%            | \$17                     | 1%            |
| <b>Rest of Canada</b> | \$480                     | 4%            | \$112                  | 2%            | 1,670                         | 3%            | \$39                     | 3%            |
| <b>Total</b>          | <b>\$12,727</b>           | <b>100%</b>   | <b>\$5,635</b>         | <b>100%</b>   | <b>54,435</b>                 | <b>100%</b>   | <b>\$1,266</b>           | <b>100%</b>   |

<sup>53</sup> New Brunswick, Prince Edward Island, Nova Scotia and Newfoundland and Labrador.

<sup>54</sup> Please note that because tax revenues can regularly change due to modifications in tax policy, the tax revenue impacts in this report are estimates only and subject to change. They should be viewed as approximate in nature.

<sup>55</sup> Direct, indirect and induced tax impacts include personal income taxes, product taxes, production taxes and some level of corporate taxes.

## 4.4 ECONOMIC IMPACTS OF THE SOYBEAN INDUSTRY BY SECTOR

The economic impacts of the soybean industry impact a wide range of industries and sectors, including crop and animal production, manufacturing, wholesale trade, transportation and warehousing, and finance, insurance, real estate, rental and leasing and holding companies.

Table 6 shows MNP's estimates of the economic impacts of Canada's soybean industry by sector.

- The crop and animal production industry is estimated to have accounted for approximately 40 percent of total output, 39 percent of total GDP and 44 percent of the total employment generated by Canada's soybean industry.
- The manufacturing industry is estimated to have accounted for approximately 27 percent of total output, 15 percent of total GDP and 10 percent of the total employment generated by Canada's soybean industry.
- The wholesale trade, transportation and warehousing, and finance, insurance, real estate, rental and leasing and holding companies each accounted for about 5 to 7 percent of total output, 6 to 8 percent of the total GDP and 5 to 7 percent of the total employment generated by Canada's soybean industry.
- Other industries are estimated to have accounted for approximately 16 percent of total output, 25 percent of total GDP and 27 percent of the total employment generated by Canada's soybean industry.

**Table 6: Total Economic Impacts of Canada's Soybean Industry by Sector**

|  | Output<br>(million) | Percent<br>of Total<br>Output | GDP<br>(million) | Percent<br>of Total<br>GDP | Employment<br>(FTEs) | Percent<br>of Total<br>FTEs |
|--|---------------------|-------------------------------|------------------|----------------------------|----------------------|-----------------------------|
| Crop and animal<br>production                                | \$5,037             | 40%                           | \$2,200          | 39%                        | 24,143               | 44%                         |
| Manufacturing  | \$3,380             | 27%                           | \$826            | 15%                        | 5,265                | 10%                         |
| Finance,<br>insurance, real<br>estate, rental and<br>leasing | \$845               | 7%                            | \$479            | 8%                         | 2,879                | 5%                          |
| Wholesale trade  | \$615               | 5%                            | \$368            | 7%                         | 3,797                | 7%                          |
| Transportation<br>and warehousing                            | \$604               | 5%                            | \$314            | 6%                         | 3,939                | 7%                          |
| Other Industries   | \$2,246             | 16%                           | \$1,448          | 25%                        | 14,412               | 27%                         |
| <b>Total</b>   | <b>\$12,727</b>     | <b>100%</b>                   | <b>\$5,635</b>   | <b>100%</b>                | <b>54,435</b>        | <b>100%</b>                 |

# APPENDICES



# APPENDIX A – DATA SOURCES

This appendix lists the key data sources that MNP consulted during this study. Supplementary references are included in the footnotes throughout the report.

## SECONDARY RESEARCH

- Statistics Canada, <http://www.statcan.gc.ca>
- Agriculture and Agri-Food Canada, <http://www.agr.gc.ca>
- Soy Canada, [www.soycanada.ca](http://www.soycanada.ca)
- Industry Canada, [www.ic.gc.ca](http://www.ic.gc.ca)
- Grain Farmers of Ontario, [www.gfo.ca](http://www.gfo.ca)
- Soy 20/20, [www.soy2020.ca](http://www.soy2020.ca)
- Canadian Oilseed Processors Association, [www.copaonline.net](http://www.copaonline.net)

## PRIMARY RESEARCH

MNP conducted an online survey of seed breeders to gather information about their economic activity in Canada.

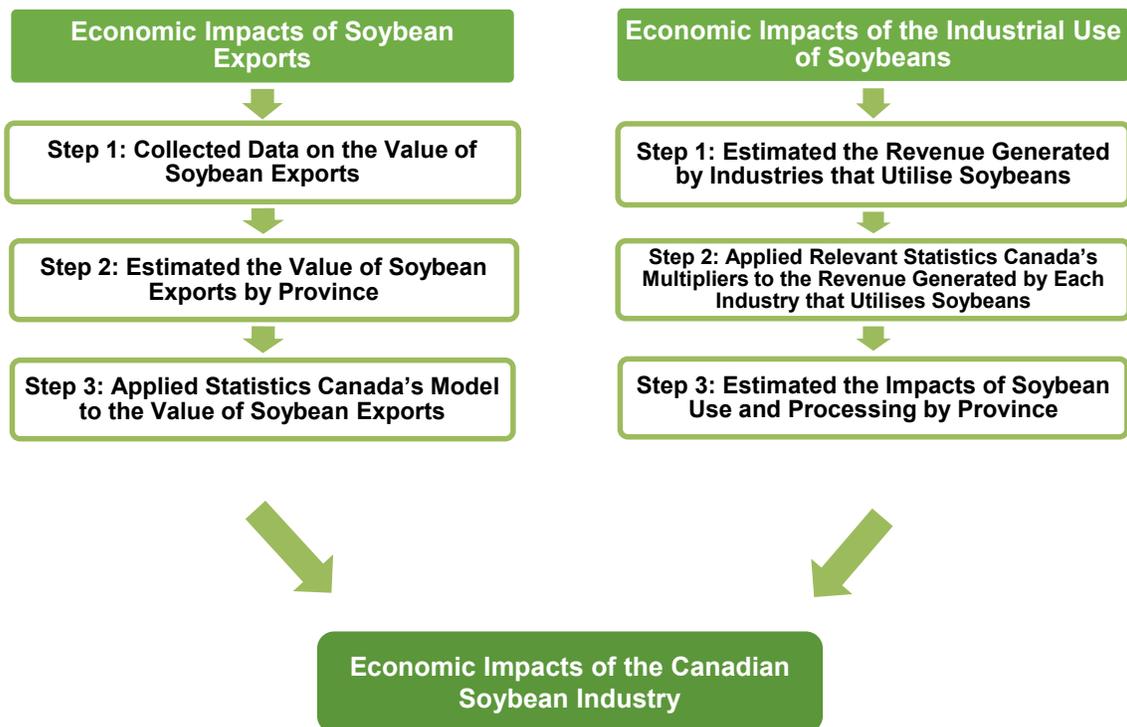
## APPENDIX B – GLOSSARY OF ECONOMIC IMPACT TERMS

| Term                          | Definition  |
|-------------------------------|---|
| <b>Direct Impacts</b>         | <ul style="list-style-type: none"> <li>• Direct impacts are the economic impacts of an industry that are due to changes to front end businesses that receive expenses or operating revenue as a direct consequence of an industry. Direct impacts are related to original purchases or “direct sales” from <b>primary suppliers</b>. <ul style="list-style-type: none"> <li>○ <i>Example: In the case of soybean production, direct impacts are related to the spending that soybean farmers make when purchasing goods and services from their suppliers, for instance purchasing fertilizer, seeds or fuel.</i></li> </ul> </li> </ul>  |
| <b>FTE</b>                    | <ul style="list-style-type: none"> <li>• FTE means full-time equivalent employee.</li> </ul>  |
| <b>GDP</b>                    | <ul style="list-style-type: none"> <li>• GDP is the “value added” to the economy (the unduplicated total value of goods and services).</li> </ul>   |
| <b>Government Tax Revenue</b> | <ul style="list-style-type: none"> <li>• Government tax revenue is the total amount of tax revenue generated for different levels of government, including municipal, provincial and federal taxes.</li> </ul>  |
| <b>Indirect Impacts</b>       | <ul style="list-style-type: none"> <li>• Indirect impacts are due to changes in the activity of an industry’s suppliers. Indirect impacts include the spending that soybean farmers’ suppliers make when purchasing goods and services from their own suppliers (i.e. <b>secondary suppliers</b>) in order to meet the demand generated by the soybean farming industry. <ul style="list-style-type: none"> <li>○ <i>Example: When soybean farmers spend money on fertilizer, fertilizer manufacturers purchase inputs such as minerals and natural gas, to meet soybean farmers’ demand. The spending by fertilizer manufacturers reflects the indirect impacts of soybean farming spending on fertilizer.</i></li> </ul> </li> </ul>  |
| <b>Induced Impacts</b>        | <ul style="list-style-type: none"> <li>• Induced impacts are due to shifts in spending on goods and services as a consequence of the <b>payroll of the directly and indirectly affected businesses</b>. In the case of soybean production, induced impacts reflect the additional spending by the employees of the soybean farmers’ suppliers (primary suppliers) and their suppliers’ suppliers (secondary suppliers). <ul style="list-style-type: none"> <li>○ <i>Example: Additional wages received by fertilizer manufacturers’ employees and seed breeders’ employees “induce” spending. For example, these employees make consumer purchases (e.g. at the grocery store or gas station). The jobs and income that result from these consumer purchases are considered induced impacts.</i></li> </ul> </li> </ul> |
| <b>Output</b>                 | <ul style="list-style-type: none"> <li>• Output is the total gross value of all business revenue. This is the broadest measure of economic activity.</li> </ul>   |

# APPENDIX C – ECONOMIC IMPACT METHODOLOGY AND ASSUMPTIONS

MNP's estimates of the economic impact of the activities of the Canadian soybean industry were developed in consultation with Statistics Canada, using a Statistics Canada input-output model and related economic multipliers. A step-by-step overview of our methodology is provided below.

**Figure 12: Economic Impact Methodology**



## **Analysis of the Economic Impacts of Soybean Exports**

### *Step 1: Collected Data on the Value of Soybean Exports*

MNP first collected data on the value of Canadian soybean exports from Statistics Canada's trade database.

### *Step 2: Estimated the Value of Soybean Exports by Province*

MNP used the total value of Canadian soybean exports and applied the provincial distribution of soybean farm cash receipts to estimate the allocation of soybean exports by province.

### *Step 3: Applied Statistics Canada's Model to the Value of Soybean Exports*

Statistics Canada's input-output model was then applied to the value of soybean exports to estimate the total economic impacts of soybean exports for Canada as whole and by province. Statistics Canada's input-output model produced estimates of direct, indirect and induced output, GDP, employment, and government revenues.

The economic impacts of soybean exports include the cost of production of soybeans as well as the costs involved in transporting the soybeans from the farm to the port of exit including storage, transportation, and other transaction costs.

## **Analysis of the Economic Impacts of the Industrial Use of Soybeans**

### *Step 1: Estimated the Revenues Generated by Industries that Utilise Soybeans*

MNP estimated the revenue generated by industries in Canada that utilise soybeans (e.g. for soybean re-planting or processing purposes) that is directly attributable to soybeans using Statistics Canada's input-output tables. The industries that utilise soybeans are as follows:

- Crop and animal production industry (i.e. for re-planting)
- Grain and oilseed milling industry
- Animal food manufacturing industry
- Other food manufacturing industry

### *Step 2: Applied Relevant Statistics Canada's Multipliers to the Revenue Generated by Each Industry that Utilises Soybeans*

Statistics Canada's industry multipliers were then applied to the revenue directly attributable to soybeans generated by each industry to estimate the economic impacts of the use and processing of soybeans in Canada. The economic impacts were estimated at the direct, indirect and induced levels, and included output, GDP, employment, and government revenues.

The economic impacts of soybean use and processing include the cost of production of soybeans, the costs involved in transporting the soybeans from the farm to industrial facilities, as well as the costs involved in re-planting and processing of soybeans.

### *Step 3: Estimated the Impacts of Soybean Use and Processing by Province*

The allocation of the economic impacts of soybean use and processing by province was estimated as follows:

- For the crop and animal production industry, economic impacts were allocated based on the provincial distribution of soybean farm cash receipts.
- For the grain and oilseed and milling industry, economic impacts were allocated based on the provincial distribution of soybean processing capacity.

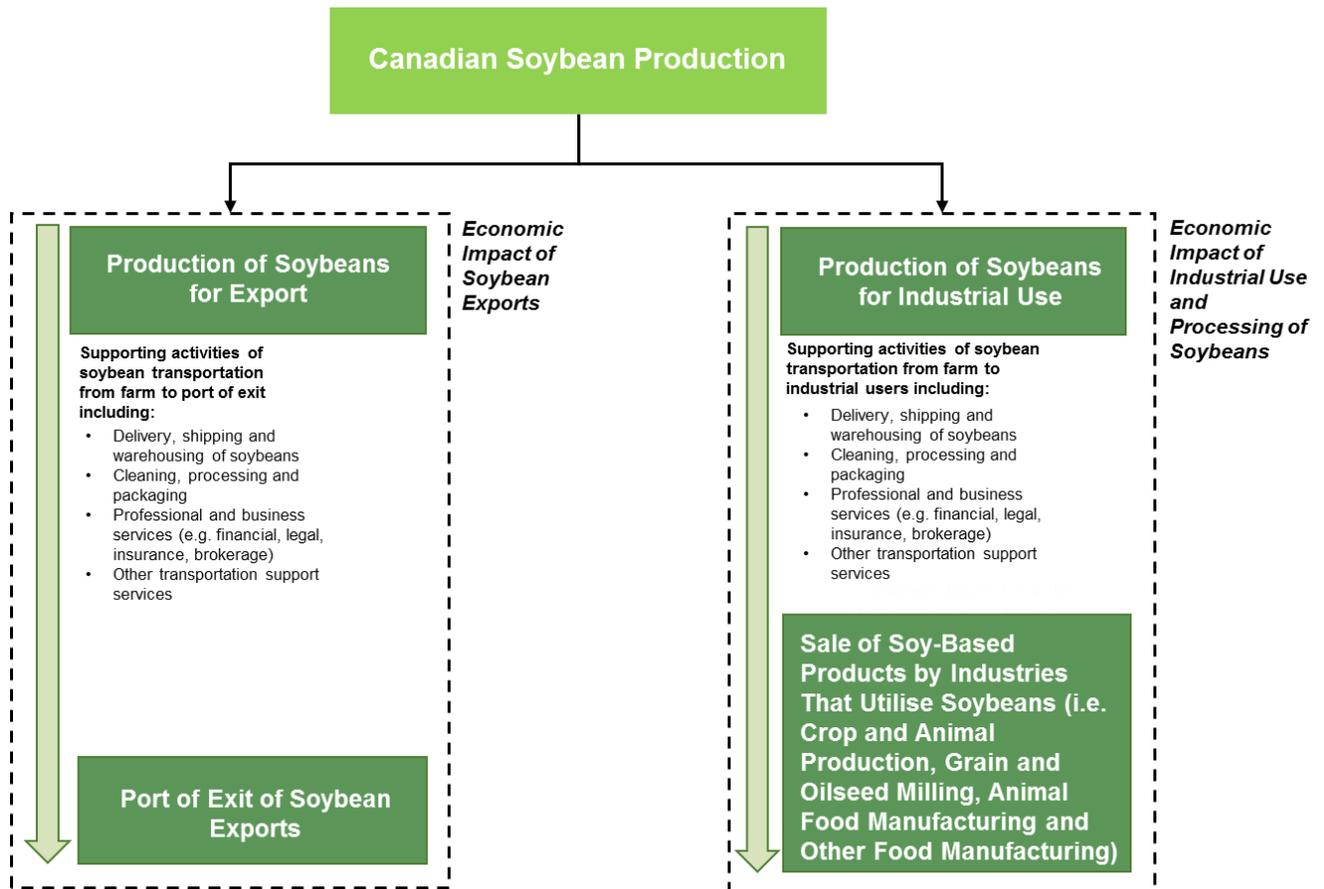
- For the animal and other food manufacturing industries, economic impacts were allocated based on the provincial distribution of these industries' manufacturing revenues.

### Economic Impacts of the Canadian Soybean Industry (Exports and Industrial Use of Soybeans)

The sum of the economic impacts of soybean exports and industrial use of soybeans was used by MNP as a measure of the economic impacts generated by the production, processing and export activities of the soybean industry in Canada.

Figure 13 below outlines the activities of the Canadian soybean industry that were assessed as part of MNP's economic impact analysis.

**Figure 13: Scope of Economic Impact Analysis**



## APPENDIX D – SUMMARY OF ECONOMIC IMPACT FINDINGS

Table 7: Economic Impacts of Soybean Exports

|                      | Output (million) | GDP (million)  | Employment (FTEs) | Government Taxes (million) |
|----------------------|------------------|----------------|-------------------|----------------------------|
| Direct               | \$1,733          | \$819          | 9,511             | \$136                      |
| Indirect and Induced | \$1,749          | \$896          | 8,958             | \$180                      |
| <b>Total</b>         | <b>\$3,482</b>   | <b>\$1,715</b> | <b>18,469</b>     | <b>\$316</b>               |

Table 8: Economic Impacts of Industrial Use and Processing of Soybeans

|                      | Output (million) | GDP (million)  | Employment (FTEs) | Government Taxes (million) |
|----------------------|------------------|----------------|-------------------|----------------------------|
| Direct               | \$4,032          | \$1,376        | 11,298            | \$350                      |
| Indirect and Induced | \$5,213          | \$2,545        | 24,668            | \$600                      |
| <b>Total</b>         | <b>\$9,245</b>   | <b>\$3,921</b> | <b>35,966</b>     | <b>\$950</b>               |

Table 9: Economic Impacts of the Soybean Industry (Exports and Industrial Use)

|                      | Output (million) | GDP (million)  | Employment (FTEs) | Government Taxes (million) |
|----------------------|------------------|----------------|-------------------|----------------------------|
| Direct               | \$5,765          | \$2,195        | 20,809            | \$486                      |
| Indirect and Induced | \$6,962          | \$3,441        | 33,626            | \$780                      |
| <b>Total</b>         | <b>\$12,727</b>  | <b>\$5,636</b> | <b>54,435</b>     | <b>\$1,266</b>             |

## APPENDIX F – ABOUT MNP LLP

MNP is the fastest growing chartered accountancy and business advisory firm in Canada. Founded in 1945, MNP has grown from a single office in Manitoba to more than 75 offices and 3,000 team members across Canada. MNP is a member of Praxity AISBL, a global alliance of independent firms, which enables us to access a broad range of sector specific expertise worldwide.

At MNP, our professionals are the driving force behind our success. They continue to demonstrate our culture and values which is integral to the way we conduct business, both internally and externally. As such, MNP is proud to be recognized as one of the *50 Best Employers in Canada* by *Maclean's* magazine.



### ABOUT MNP'S FOOD AND AG ECONOMICS TEAM

MNP's Food and Ag Economics Practice consists of a team of dedicated members that have a successful track record of conducting industry studies, market research studies and economic impact engagements in the agriculture and food and beverage processing sector. Our team consults on a range of agri-food related topics and has carried out assignments across Canada for businesses, industry associations and government.