



Agri

January 2024

The Economic Impact of Flax on Manitoba's Economy: 2023

Contents

Introduction	1
Summary of Results	3
Part A. Manitoba Results – Overview	4
The direct impact of flax on Manitoba’s economy	5
The total impact of flax on Manitoba’ economy (direct + indirect + induced effects)	6
Part B. Methodology for deriving direct and total impact of Manitoba’s flax value chain.....	8
Multipliers	8
Flax farming	9
Farm family members	10
Elevation.....	10
Crop and product delivery.....	11
Processing	12

List of Tables

Table 1: Flax economic impact assessment by value chain component.....	4
Table 2: Direct economic impact of flax on Manitoba’s economy	5
Table 3: Direct employment impact of flax on Manitoba’s economy	6
Table 4: Direct wage impact of flax on the Manitoba’s economy	6
Table 5: Total economic impact of flax on Manitoba’s economy.....	6
Table 6: Total employment impact of flax on Manitoba’s economy	7
Table 7: Total wage impact of flax on Manitoba’s economy	7
Table 8: National-level multipliers derived from StatCan input-output tables	8

List of Diagrams

Diagram 1: Direct effects of flax on Manitoba’s economy	5
Diagram 2: Total effect of flax on the Canadian economy	7
Diagram 3: Flax multipliers by steps in the value chain.....	8
Diagram 4: Manitoba flax production and farmgate flaxseed price.....	9
Diagram 5: Manitoba direct hired worker farm jobs and flax planted area	9
Diagram 6: Flax farmers and farm family members	10
Diagram 7: Flax deliveries to elevators and total elevation fees	11
Diagram 8: Flax transport via trucking and rail shipments	12
Diagram 9: Truck and rail rates for crop shipments interprovincially and to the US border	12
Diagram 10: Share of output from Manitoba’s flax processing.....	13
Diagram 11: Processing value added and ex-farmgate flax price.....	13

Introduction

The Manitoba Crop Alliance (MCA) commissioned GlobalData to undertake research that quantifies the benefit of flax to the Canadian province of Manitoba. The benefit is assessed in terms of:

1. **Economic impact**
2. **Number of people dependent on the sector**
3. **Wages**

This report provides the results of that independent analysis.

The focus is specifically on the production of flax and its associated products within the province of Manitoba. This spans several steps in the value chain, from the production of flax, its subsequent storage and processing (as appropriate in Manitoba), to the transportation of the crop or processed goods locally or to other provinces, as well as to the United States border for export.

Note that the results only consider the economic impact of flax produced within the province. Any imported flax from overseas, or other provinces, are discounted. Similarly, the results only consider the economic impact of the processing of Manitoba grown flax that takes place within the province. Any processing of Manitoba grown flax that takes place overseas or in other provinces is not considered in the final results.

The results capture:

1. The **direct** benefit from each stage
2. The **indirect** benefit from associated economic activities and industries
3. The **induced** benefit from household spending of the income earned from the flax sector.

The data are presented for **Direct** benefits and **Total** benefits (the sum of the direct, indirect and induced benefits above) for each step of the value chain.

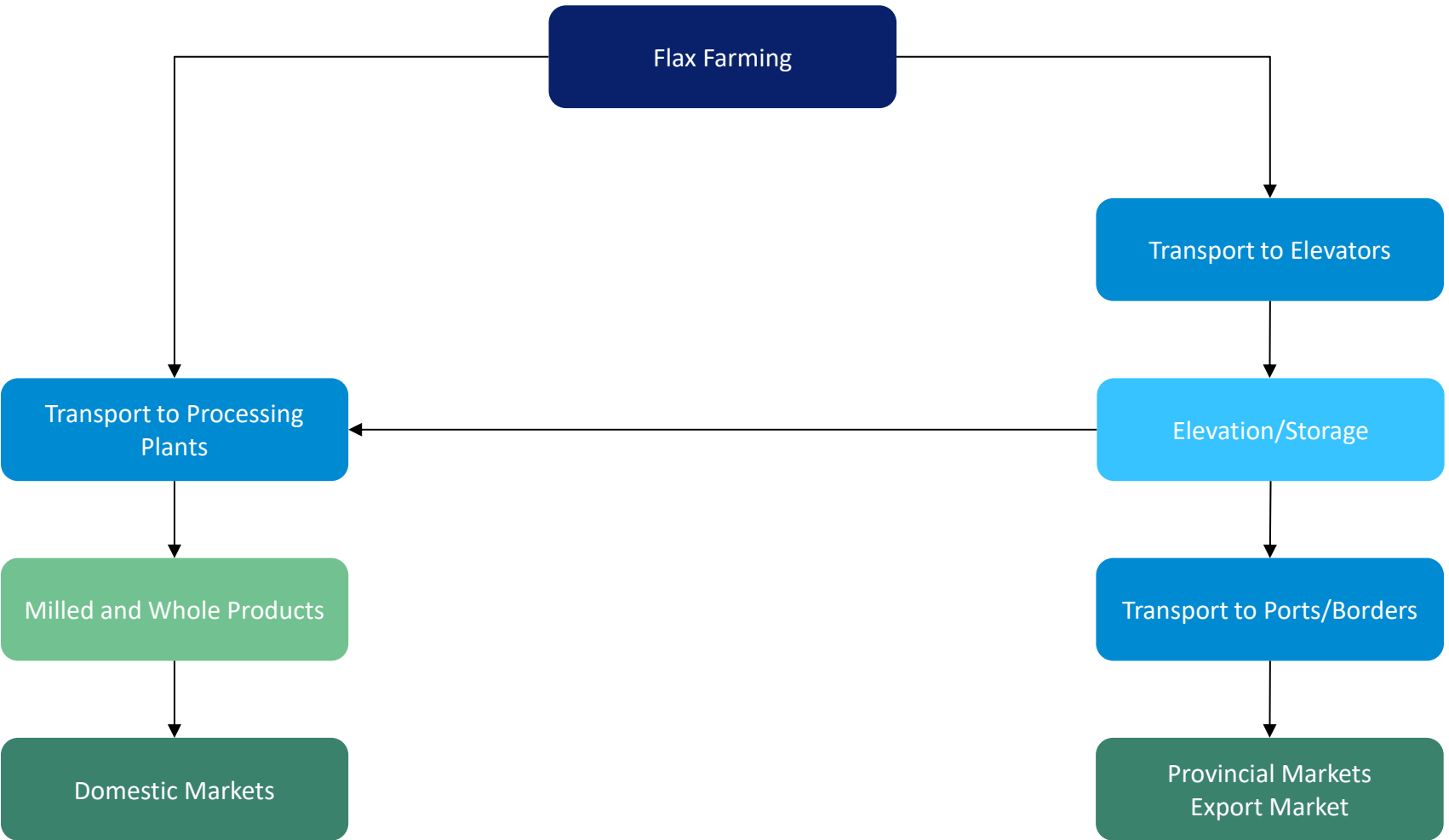
The objective is to develop an up-to-date assessment, using:

- Official data as far as possible
- The latest data for 2021/22 and previous years (which are officially revised over time)
- Interviews with industry participants
- Best practice in estimating economic benefits.

The analysis aims to provide the most accurate and independent assessment possible. To this end, we took guidance from industry participants, applied the most recent official data where relevant and used *Statistics Canada* multipliers to arrive at our totals in each category. The total results reflect the government's most recent multipliers for each sector.

*Note: Value throughout the study is presented in **Canadian dollars**, whether noted as dollars, or with the symbols \$ or C\$, unless otherwise specified.*

The value chain presented on the next page represents the value chain for **flax in Manitoba** as covered by this report.



Summary of Results

For the average of the past three years, **2019/20-2021/22**:

- The **total economic impact** on Manitoba's economy from its flax sector averaged C\$89 million per year and peaked in the last marketing year (2021/22) at around C\$113 million.
- Around 414 **full time equivalent jobs** are supported by the flax sector, comprising 354 paid jobs and an additional 60 farm family members (beyond the growers themselves) who support and are supported by flax farming operations.
- The **total wage impact** of the sector averaged C\$51 million and peaked in the past marketing year around C\$79 million.

The flax sector has benefitted from higher crop prices in recent years, averaging around C\$1,180 per tonne ex-farmgate in Manitoba in 2022, up from a long-run average of around C\$550 per tonne since 2010.

Farming contributes the largest employment impact of any stage in Manitoba's flax value chain, with an average of around 280 full time equivalent farm owners and hired workers. An additional 60 farm family members both support and are supported by flax farming operations.

The report is structured as follows:

- **Part A** of the report focuses on the results, which are presented based on an average of 2019/20-2021/22 data across all stages of Manitoba's flax value chain.
- **Part B** of the report outlines the methodology for each stage of the value chain in more detail.

Part A. Manitoba Results – Overview

This study evaluates the impact along the value chain for flax via three different metrics:

- **Economic impact:** quantifies the value added to the Manitoba economy by its flax sector
- **Employment impact:** estimates the number of full-time equivalent (FTE) jobs contributed by the flax value chain in Manitoba
- **Wage impact:** evaluates the sum of all wages for individuals employed on a FTE basis in the value chain

We evaluate Manitoba's flax value chain at several distinct steps, tracing the impact from production through to the value-added processing sectors.

- In each case, our analysis ends at the point where the flax is transported, either as a raw material or as a processed good, within Manitoba or to another province for domestic consumption, or when it crosses Manitoba to the United States as an overland export.

The economic indicators for each step of the value chain are presented at two levels: **Direct effects** only, and **Total effects** (which is the sum of Direct, Indirect and Induced effects).

- **Direct effects:** the economic, employment and wage impacts that can be directly attributed to the flax value chain. These results are calculated by LMC based on models driven by publicly and privately available data, industry knowledge, and interviews with industry stakeholders.
- **Indirect effects:** the economic, employment and wage impacts created by those industries that supply the flax value chain, or by individuals who work at the periphery of the sector.
- **Induced effects:** the economic, employment and wage impacts that stem from household spending of the income earned from the flax sector.

Note: The indirect and induced effects of the flax sector are estimated based on input-output tables developed by Statistics Canada (StatCan). The use of these multipliers is discussed in greater detail later in the study.

Table 1: Flax economic impact assessment by value chain component

Value chain component	Description	Economic impact	Employment	Wages	Multiplier used
Flax farming	Production of flax by farmers using land and inputs such as seed, fertilizers and crop protection	yes	yes	yes	yes
Farm family members	Unpaid family members who may indirectly support farm operation. Paid family members would be captured under farming	captured in flax farming	yes	captured in flax farming	no
Elevation	Primary elevation of flax	yes	yes	yes	yes
Crop delivery	Delivery of crop to elevators or processing plants locally in Manitoba and other provinces, or to point of export by truck	yes	yes	yes	yes
Processing	Processing seed for milled and whole products	yes	yes	yes	yes
Product delivery	Delivery of crop or processed goods to local end-users in Manitoba or other provinces by truck	yes	yes	yes	yes

The direct impact of flax on Manitoba's economy

- Between 2019/20 and 2021/22, **the direct economic impact of flax on the local Manitoba economy averaged C\$43 million** (Table 2). This value peaked in the past marketing year at around C\$54 million, with support from sharp-rising crop prices (Diagram 2).
- The farming sector drives much of the **direct employment impact** in the flax value chain, with farm employment related to output. Out of around 150 full time equivalent jobs across the whole flax value chain, around 80% of these are in the farming sector alone.
- When additional flax farm family members – who contribute to the overall success of the farming enterprise – are included to the overall direct employment impact figure, **the number of people supported by the flax industry increases to around 210**.
- Between 2019/20 and 2021/22, **the direct wage impact of flax on the local Manitoba economy averaged around C\$16 million**.

Diagram 1 below illustrates the **direct** impact of flax to the local Manitoba economy. The diagram presents the aggregate results for the entire value chain according to our three separate measures: *economic impact*, *employment* and *wage impact*. The data for each measure, broken down by each stage in the value chain, are presented in Tables 2-4.

Diagram 1: Direct effects of flax on Manitoba's economy

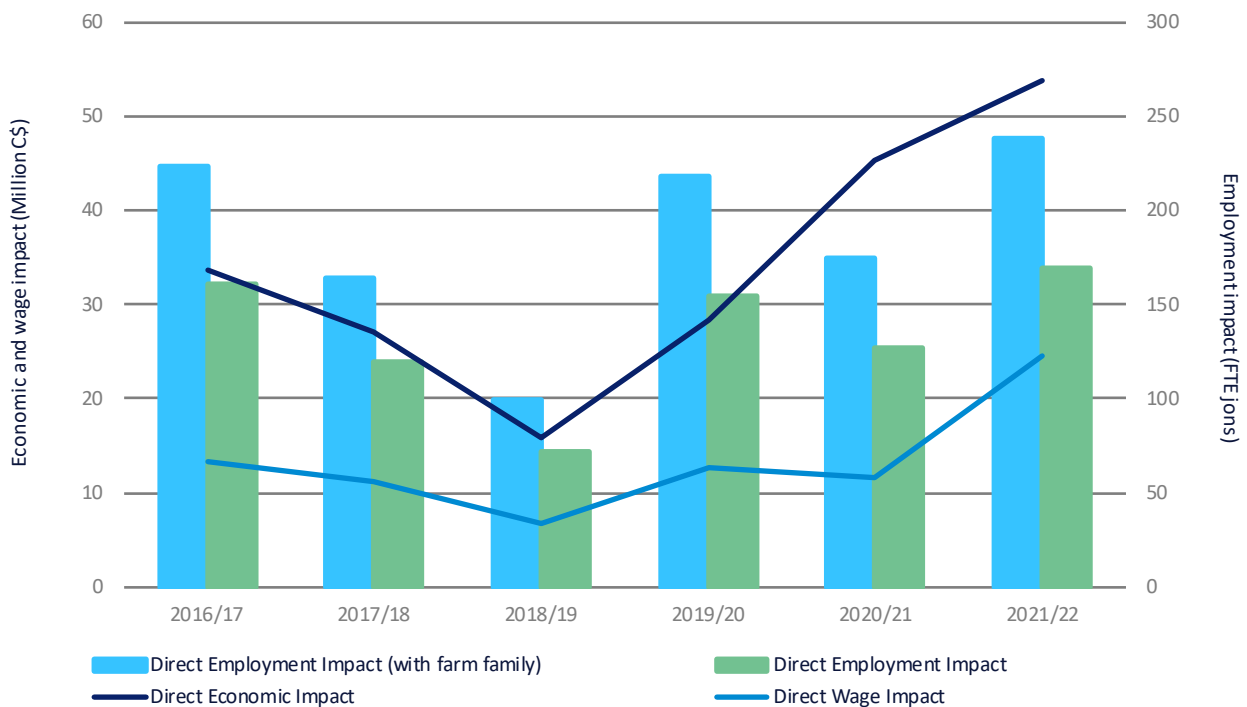


Table 2: Direct economic impact of flax on Manitoba's economy (C\$ million)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	Average 2019/20 - 21/22
Farming	28.71	22.68	12.92	24.43	39.58	46.61	36.87
Elevation	1.55	1.47	1.31	1.35	1.43	1.43	1.40
Crop delivery	0.81	0.60	0.84	0.82	1.04	0.66	0.84
Processing	2.16	1.88	0.57	1.59	2.88	4.75	3.07
Product delivery	0.41	0.39	0.12	0.30	0.37	0.45	0.37
Direct Economic Impact	33.65	27.02	15.75	28.48	45.31	53.89	42.56

Table 3: Direct employment impact of flax on Manitoba's economy (jobs)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	Average 2019/20 - 21/22
Farming	123	89	55	128	96	137	121
Elevation	4	4	4	3	3	3	3
Crop delivery	6	3	5	5	6	4	5
Processing	25	22	6	16	19	23	20
Product delivery	3	2	1	2	2	2	2
Direct Employment Impact	161	120	72	155	127	170	150
<i>Additional farm family members</i>	62	44	28	64	48	68	60
Direct Employment (with farm family)	223	164	99	219	174	238	210

Table 4: Direct wage impact of flax on the Manitoba's economy (C\$ million)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	Average 2019/20 - 21/22
Farming	11.26	9.30	5.84	10.91	9.68	22.56	14.38
Elevation	0.22	0.24	0.25	0.27	0.20	0.22	0.23
Crop delivery	0.29	0.17	0.29	0.28	0.33	0.23	0.28
Processing	1.45	1.30	0.38	0.99	1.20	1.49	1.23
Product delivery	0.15	0.10	0.05	0.11	0.11	0.11	0.11
Direct Wage Impact	13.37	11.12	6.81	12.57	11.52	24.60	16.23

The total impact of flaxseed on Manitoba's economy (direct + indirect + induced effects)

The total effect of flax on the Canadian economy is not limited to the people working directly in the industry. The full impact also accounts for the indirect and induced effects that occur. The results of the total impact (direct + indirect + induced effects) are presented in Tables 5-7.

- In 2021/22, the total **economic impact** peaked at around C\$113 million. The average economic impact of flax on Manitoba over the past three years of full data, 2019/20 and 2021/22, was around **C\$89 million**.
- The total **employment effect** of flax between 2019/20 and 2021/22 averaged around 414. This includes flax farm family members.
- Over the same period, the **wage effect** of flax on the local Manitoba economy averaged **C\$51 million**.

Table 5: Total economic impact of flax on Manitoba's economy (C\$ million)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	Average 2019/20 - 21/22
Farming	55.55	42.03	26.46	50.03	81.06	95.45	75.51
Elevation	2.67	2.56	2.32	2.39	2.54	2.54	2.49
Crop delivery	2.34	1.72	2.42	2.37	3.02	1.89	2.43
Processing	5.14	4.49	1.37	3.85	6.99	11.53	7.46
Product delivery	1.19	1.12	0.34	0.86	1.08	1.29	1.08
Total Economic Impact	66.89	51.93	32.92	59.50	94.68	112.70	88.96

Diagram 2: Total effect of flax on the Canadian economy

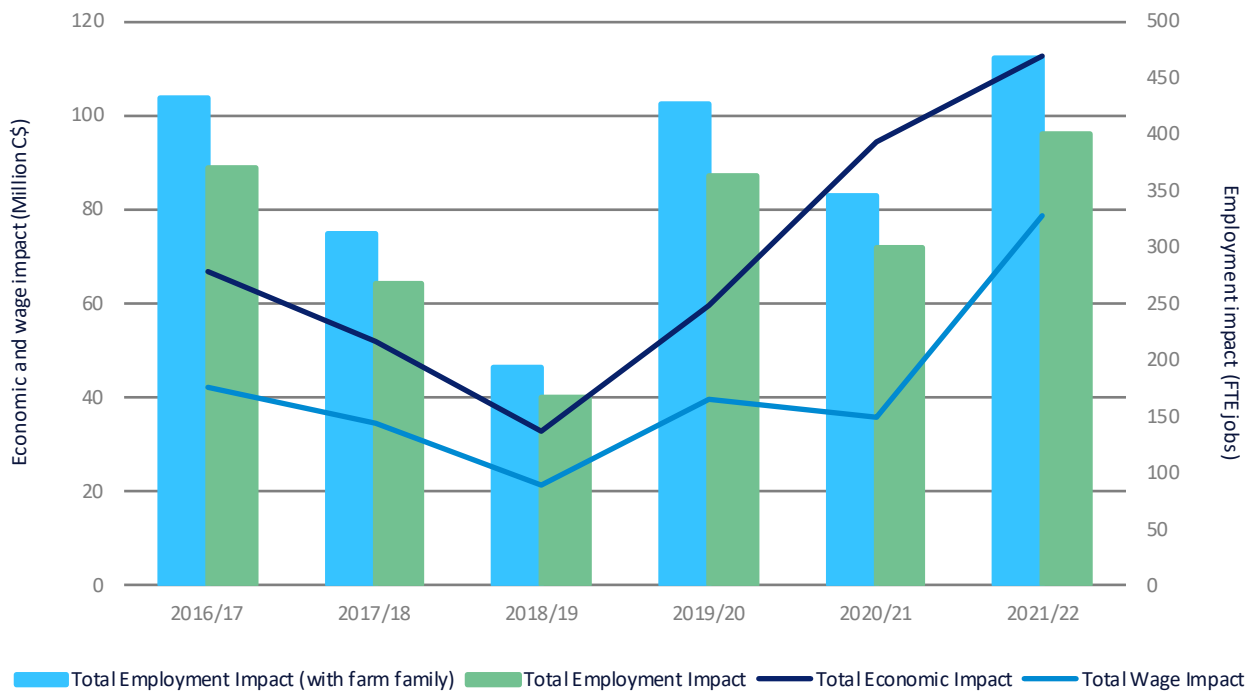


Table 6: Total employment impact of flax on Manitoba's economy (jobs)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	Average 2019/20 - 21/22
Farming	276	195	130	300	225	322	282
Elevation	6	6	6	5	5	5	5
Crop delivery	14	8	13	12	14	8	11
Processing	68	55	16	42	51	61	51
Product delivery	7	5	2	5	5	4	5
Total Employment Impact	371	268	167	364	299	400	354
<i>Additional farm family members</i>	62	44	28	64	48	68	60
Total Employment (with farm family)	433	313	194	428	347	468	414

Table 7: Total wage impact of flax on Manitoba's economy (C\$ million)

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	Average 2019/20 - 21/22
Farming	37.49	30.32	19.13	35.76	31.72	73.95	47.14
Elevation	0.33	0.36	0.37	0.41	0.30	0.33	0.35
Crop delivery	0.71	0.40	0.70	0.69	0.79	0.55	0.67
Processing	3.52	3.06	0.94	2.42	2.93	3.62	2.99
Product delivery	0.35	0.25	0.13	0.27	0.27	0.27	0.27
Total Wage Impact	42.40	34.39	21.27	39.55	36.02	78.71	51.43

Part B. Methodology for deriving direct and total impact of Manitoba's flax value chain

This section presents the methodology applied in deriving direct and total economic, employment and wage effects across the distinct stages in Manitoba's flax value chain. We begin with an outline of how the multipliers are derived, before delving into the various steps in the value chain.

Multipliers

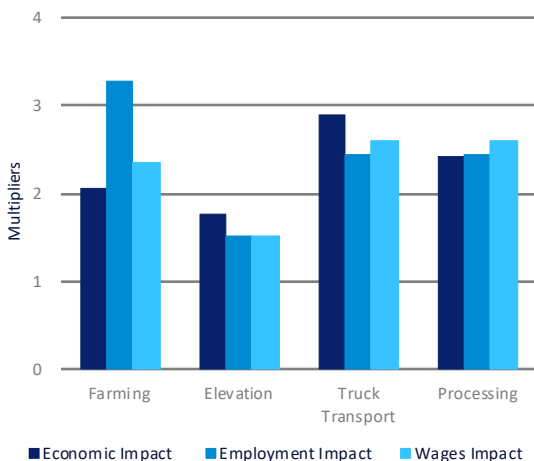
The **direct effects** of flax ignore the additional impact the industry generates in Manitoba via a ripple effect on supporting industries. These are known as the **indirect effects**. For some steps in the value chain, the indirect effect can be significant, particularly in capital intensive sectors such as food processing.

Many jobs associated with keeping a facility operational, from white collar jobs in engineering to trade professions like electricians, plumbers and pipefitters, are done on a contractual basis with outside firms, making the true impact of the processing facility much higher than just the direct employees.

Similarly, direct effects fail to capture the economic activity stemming from expenditures of households drawing a salary from a given sector. While these "**induced**" effects are typically smaller than indirect effects, they can still constitute a sizeable economic force, particularly in a local area.

These economic and employment spin-offs are known as the **multiplier effect** in established economic literature. Multipliers measure the impact on the broader economy from an exogenous shock to a specific sector of the economy. In this report, we employ different multipliers for the economic, employment, and wage effects, and the size of the multiplier effect also varies across different subsectors of the flax value chain. Fortunately, *StatCan maintains industry multipliers at a detailed sectoral level.*

Diagram 3: Flax multipliers by steps in the value chain



Statistics Canada's Industry Accounts Division has estimated over 250 economic multipliers. **We adopt national-level multipliers throughout when estimating the total impact of flax on the Manitoba economy.**

This ensures consistency with existing economic impact studies. The multipliers are available for each of our impact measures, i.e. 1) economic impact, 2) employment impact and 3) wage impact, at the direct, the direct+indirect, and the direct+indirect+induced levels.

One challenge associated with using multipliers for sophisticated economies is that multipliers can change over time to reflect not only new economic realities, but also methodological developments. Also, constructing multiplier tables is both data and labour-intensive, resulting in infrequent reporting. As of the time of writing, the most recent multipliers available were from 2018 (Table 8).

Table 8: National-level multipliers derived from StatCan input-output tables

Value-added activity	StatCan Industry Designation	Multipliers		
		Economic Impact	Employment Impact	Wages Impact
Farming	<i>Crop Production</i>	2.05	3.28	2.34
Elevation	<i>Warehousing and Storage</i>	1.77	1.51	1.53
Truck Transport	<i>Truck Transportation</i>	2.89	2.41	2.35
Flax processing	<i>Other food manufacturing</i>	2.43	2.43	2.60

Flax farming

We determine the economic impact of flax farming in Manitoba by considering the **flax revenues** earned by farmers; *i.e. volumes produced multiplied by prices received*.

Unlike the other sectors in our analysis, this calculation does not estimate the value added by the sector: to do this, we would have to subtract the prices of inputs in order to derive a flax farming gross margin. However, if we did that, we would fail to capture the economic impact of the wide array of inputs used in flax farming, such as seed, fertilizers and crop protection. To include these would necessitate a multitude of value-added calculations for each input into flax farming.

The best way to view the flax **farming impact** in this report, therefore, is to view it as **a summation of all the value added by all the sectors up to and including the farming stage**.

The value of flax farming is determined by two main factors:

- **Flax prices:** We use an aggregated monthly ex-farmgate Manitoba flax price series, provided by StatCan.
- **Flax output:** We use planted area and production series' provided by StatCan and by MCA.

For this study, we took full-time equivalent paid flax farm employment to be a combination of **growers and paid labour**. While many growers may hire an immediate family member (such as a son or daughter), we assumed that hired labour was primarily found outside the immediate family. The employment effect on unpaid family members is captured in the next section.

Estimating **grower employment** in flax farming was made on the basis of the flax area in Manitoba as a proportion of the total field crop area in the province. This percentage was then applied to the total number of field crop farms in Manitoba, assuming that there is one full time farmer per farm. This data series is constructed every five years, with the last data from 2021/22.

Diagram 4: Manitoba flax production and farmgate flax price

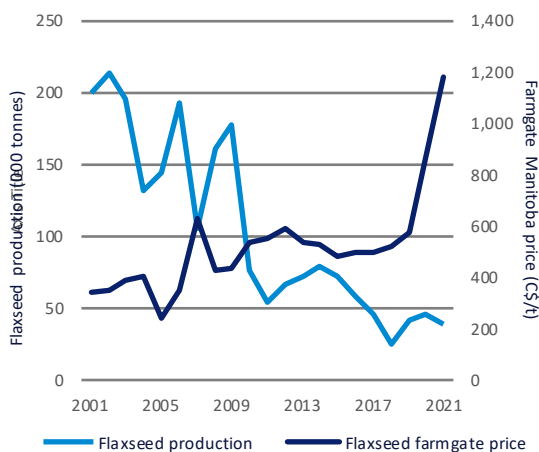
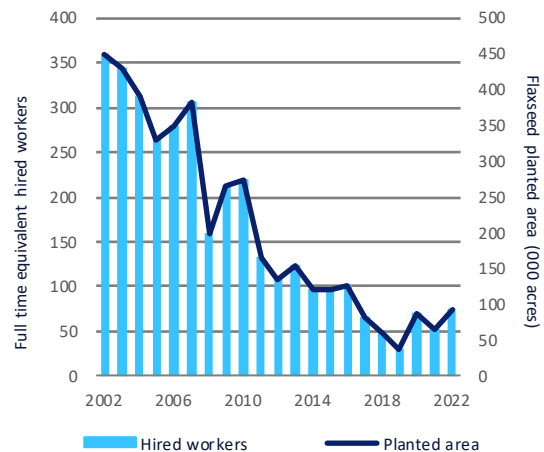


Diagram 5: Manitoba direct hired worker farm jobs and flax planted area



Flax's share of farm earnings was used to represent a grower's **flax wage**. Flax earnings were based on the average farm earnings for grain and oilseed farmers, from a data series available from StatCan. To account for the flax share of those earnings, we divided average flax acreage per farm by the average farm size.

Estimates for **hired labour** were based on crop budgets developed by agricultural ministry extension specialists from across the prairie provinces. While there was some variability in these budgets in terms of labour requirements, the data was fairly tightly clustered at around 1.6 man-hours per acre of flax. By multiplying the number of flax acres by 1.6 and dividing by 2,000 (50 weeks x 40 hours/week), we arrived at the number of hired hands working on flax farms on a full-time basis annually. As Diagram 5 shows, this effectively ties the FTE hired worker jobs total to area planted.

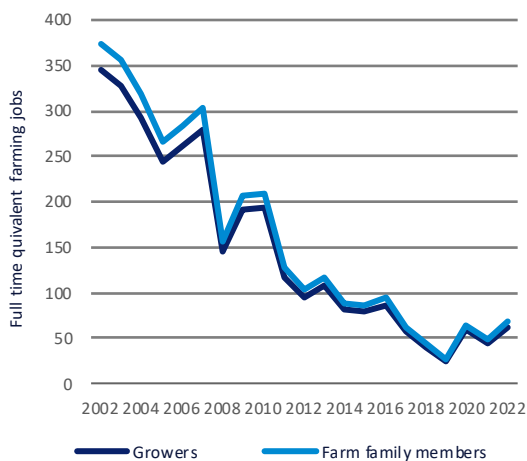
Wages for hired labour were also taken from StatCan, with total wages paid being the product of the number of hired workers and the prevailing wage.

Farm family members

Estimating the employment impact of an agricultural commodity presents the added challenge of how to account for farm family members other than the growers themselves. In some families, spouses and children may provide just a supporting role in farm operations, be it through keeping the books, buying supplies, or providing labour on an occasional basis. For other families, however, spouses and grown children may work on a nearly full-time basis, supported by farm revenues and, in the case of grown children, possibly working as a means ultimately to acquire the farm from their parents.

To account for this impact, we have included a sub-category in our employment estimates for **flax farm family members**. As labour that is unpaid in the traditional sense, this category is differentiated from the rest of our employment estimates across the flax value chain, which represent workers who draw a cash wage from working in the flax sector. Consequently, the total employment effect in this study is presented with and without this number. Note that the figure provides an estimate of the additional farm family members supported by flax production: *it is not intended as an estimate of the family members employed by flax activities on the farm — these would be captured by the hired workers category.*

Diagram 6: Flax farmers and farm family members



StatCan data sets detail the average size of Canadian families over time, suggesting an average Canadian farm family size of 3.1 resident persons. This implies that for every grower, there are just over two additional farm family members.

These family members are supported by *all* crops grown on the farm, and therefore we assume **just over one farm family member** is supported by each full time (FTE) flax farmer. As these family members are assumed to be uncompensated through wages, **no indirect or induced multiplier has been applied to this group and totals are the same whether looking at direct or total impacts.**

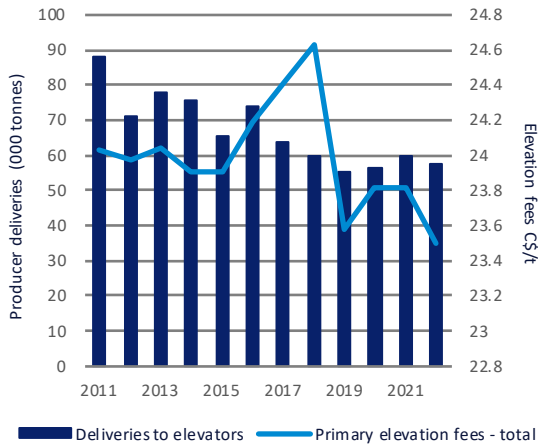
Lastly, we note that the economic impact associated with these workers has been captured under the previous heading, “flax farming.”

Elevation

The economic impact of flax elevation was determined by the product of volumes of flax being elevated and the fees incurred for elevation. For Manitoba, elevated flax volumes were determined by data available through the *Canadian Grain Commission* as well as conversations with industry experts.

- We estimate close to 60,000 tonnes of flax pass through elevator facilities in Manitoba, which is marginally lower than in previous years. The reduction largely reflects proportionate falls in local flax production. Elevators may either be stand-alone facilities or located at processors and end-users.
- Fees for primary elevation were also obtained from the *Canadian Grain Commission* based on annual surveys conducted for the costs of moving grain to points of export. Total fees, for receiving, removal of dockage and storage of flax's, typically average almost \$24 per tonne over the period.

Diagram 7: Flax elevator deliveries and total elevation fees



To understand the employment impact of flax elevation, we began with a “Working in Canada” report developed by the Canadian government. This identifies 6,250 individuals employed in the elevation of all agricultural commodities in Canada.

The flax share of this total was calculated by multiplying the total jobs figure by the ratio of flax in commercial positions over all grains in commercial positions.

Salaries for these positions were based on a StatCan series for jobs in grain processing and handling. The product of Manitoba flax elevation employment and salaries allows us to derive the wage.

Crop and product delivery

The value added from flax transport comprises:

- **Crop delivery:** transporting the flax crop to elevators and processors, plus transporting the crop interprovincially and overland to the US border.
- **Product delivery:** transporting whole and milled flax to distributors/retailers within Manitoba.

With near-infinite combinations of farm origins and end-use destinations, determining the economic impact of transportation of flax and its products is the most complicated aspect of our economic impact model.

For rail and trucking transport:

- The first step is to determine the transport mode employed for each type of flax delivery. Through interviews with industry experts, we identified that the lion’s-share of crop and product deliveries are conducted by truck from Manitoba. This includes deliveries from the farm to elevators/processors, other provinces, and to the US border, with negligible volumes delivered by rail.
- The next step is to compile a distance matrix between the centers of flax production, flax processing and points of Canadian processing/retail-use or points of export to the US border.

Note: No flax is exported from seaports within Manitoba. Exports to the United States are included in the transport section and all are assumed to be transported overland by truck.

Because flax transport networks are nationwide rather than being fixed at a single point, **transportation effects are presented on the basis of where the flax originates**. Thus, if Manitoba flax is transported by truck to another province, then Manitoba captures all of the delivery benefits accrued in our model.

Trucking

Trucking flax and its products was dealt with as follows:

- **Flax volumes trucked from farm to elevator/processor** were based on the volumes of flax passing through elevators, as well as the estimated volumes of flax processed locally in Manitoba (see next section). These data were obtained in part from StatCan and the Canadian Grain Commission.
- **Unprocessed flax** that does not pass through a primary elevator was also accounted for in volumes either trucked overland **for export to the United States** or trucked to **other provinces in Canada**.

- **Processed flax** is assumed to be trucked locally to retail markets within Manitoba. We assume the entirety of Manitoba-grown processed flax remains within Manitoba, with no additional Manitoba-grown processed flax flowing to provincial nor export markets.

The average distance trucked from farm to elevator was determined by dividing the number of square miles of flax planted by the volume of flax harvested.

Distances for flax trucked directly from farm to elevators/processors, and from there to retailers, were determined using the average distance between the geographic centers of production and elevation/processing facilities, as well as the average distance of geographic centers of these latter facilities to large urban retail markets.

Volumes were multiplied by distances to arrive at a figure in tonne-miles. This, in turn, was multiplied by a tonne-mile trucking rate sourced from StatCan to derive a final trucking expenditures number.

Diagram 8: Flax transport by product and destination

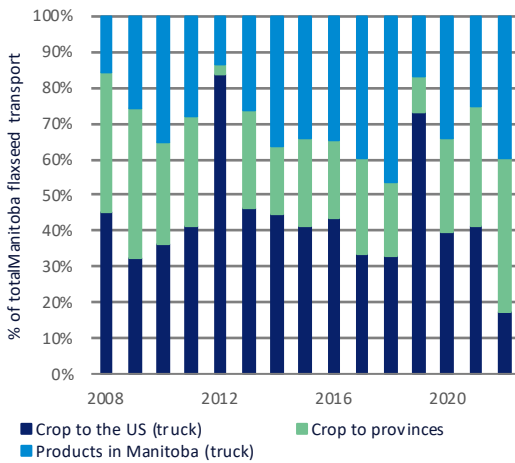
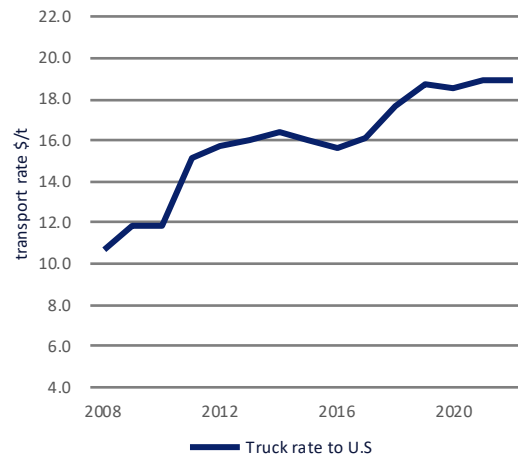


Diagram 9: Average truck rates to the US border



The direct **employment** impact of flax trucking was calculated from the tonne-miles of flax delivered by truck. This was converted to a full-time employment impact by assuming that a typical truck (with one driver):

- Transports 18 tonnes of cargo
- Averages 35-40 miles per hour
- A full-time trucker drives 2,000 hours per year
- Trucking wages were obtained from StatCan data.

Processing

The economic impact of the flax processing sector is determined based on the value it adds from the production of milled and whole products from crops exclusively grown in Manitoba.

To arrive at this, first, the volume of flax processed in Canada is estimated as the residual of Manitoba production after exports and interprovincial shipments.

To arrive at the value added per tonne from processing, the farmgate price is subtracted from the retail price of the finished goods.

We estimate the markup for processed flax goods in Manitoba to vary between 8-28% on the farmgate price depending on the good being produced, with Whole Products typically having the lowest margin. We further account for the higher volume of Whole Products processed relative to milled goods in our calculation of the overall value added from processing.

The value added from processing flax oil in Manitoba is not included in our calculation of the overall processing value added. This is because, although flax oil is further processed in the province, none of this oil is produced within Manitoba and is instead delivered from other regions (whether or not it first originates from Manitoba grown flax).

The **employment** impact of flax processing was determined via discussions with employees of major processors on the average number of full-time equivalent factory workers required to produce a given volume of finished product. The number reflects the equivalent labour required per tonne of processed flaxseed. This calculation is used so as to capture only the employment impact of processing exclusively Manitoba grown flax.

The average **wages** for employees of processing facilities were obtained from StatCan data.

Diagram 10: Share of output from Manitoba's flax processing

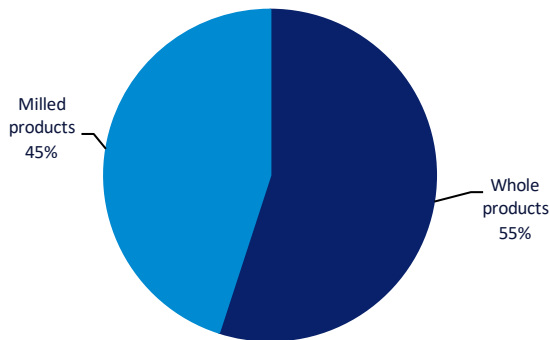
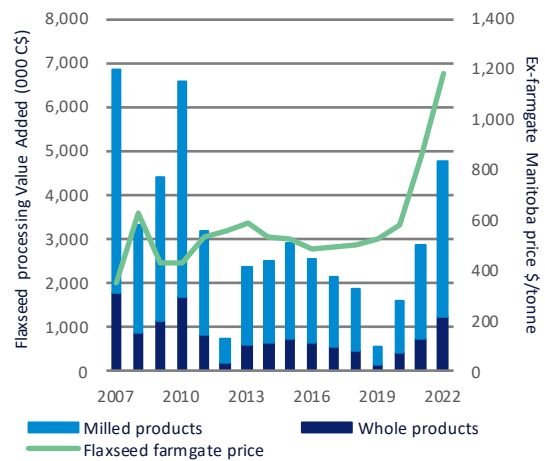


Diagram 11: Processing value added and ex-farmgate flax price



About GlobalData

GlobalData is a leading provider of data, analytics, and insights on the world's largest industries.

In an increasingly fast-moving, complex, and uncertain world, it has never been harder for organizations and decision makers to predict and navigate the future. This is why GlobalData's mission is to help our clients to decode the future and profit from faster, more informed decisions. As a leading information services company, thousands of clients rely on GlobalData for trusted, timely, and actionable intelligence. Our solutions are designed to provide a daily edge to professionals within corporations, financial institutions, professional services, and government agencies.

| Unique Data

We continuously update and enrich 50+ terabytes of unique data to provide an unbiased, authoritative view of the sectors, markets, and companies offering growth opportunities across the world's largest industries.

| Expert Analysis

We leverage the collective expertise of over 2,000 in-house industry analysts, data scientists, and journalists, as well as a global community of industry professionals, to provide decision-makers with timely, actionable insight.

| Innovative Solutions

We help you work smarter and faster by giving you access to powerful analytics and customizable workflow tools tailored to your role, alongside direct access to our expert community of analysts.

| One Platform

We have a single taxonomy across all of our data assets and integrate our capabilities into a single platform – giving you easy access to a complete, dynamic, and comparable view of the world's largest industries.

Contact Us

If you have any more questions regarding our research, please contact us:

info.agri@globaldata.com

Disclaimer: © GlobalData Plc. All Rights Reserved. This information has been extracted from GlobalData Intelligence Center by a registered user. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the publisher, GlobalData. The facts of this report are believed to be correct at the time of publication but cannot be guaranteed. Please note that the findings, conclusions and recommendations that GlobalData delivers will be based on information gathered in good faith from both primary and secondary sources, whose accuracy we are not always in a position to guarantee. As such GlobalData can accept no liability whatever for actions taken based on any information that may subsequently prove to be incorrect. GlobalData is not authorized or permitted to provide regulated investment advice. Any data or analysis provided by GlobalData, either verbally or in writing, should not be considered as regulated investment advice.