

---

*Impact Report // FDC Report*

---

# Research Moves Commodities from Manitoba Farms to Tables Around the World

---



Research  
Manitoba

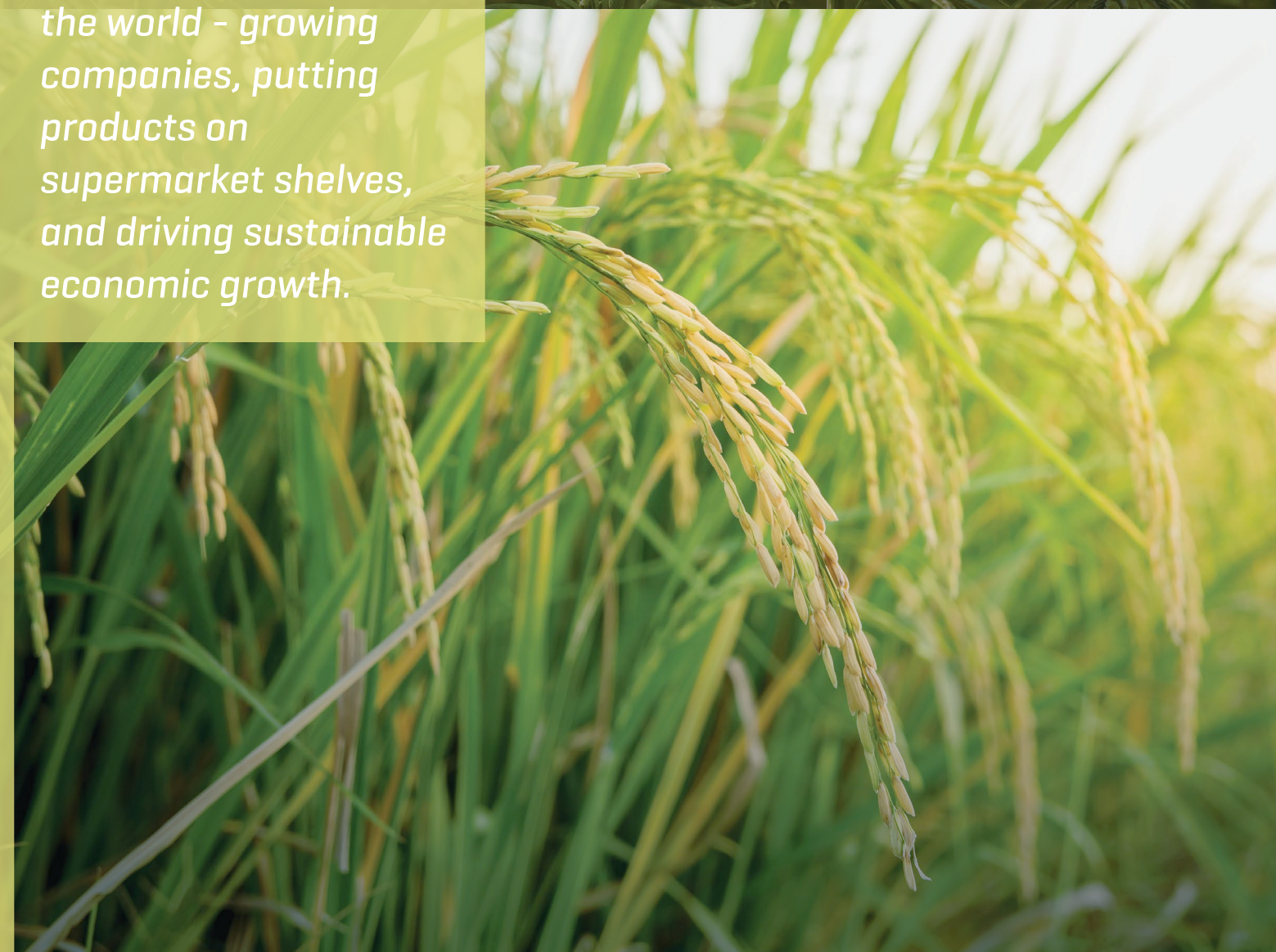




—  
*Manitobans have  
a long history  
of pioneering  
innovation in  
processing and  
distributing quality  
products to the global  
marketplace.*

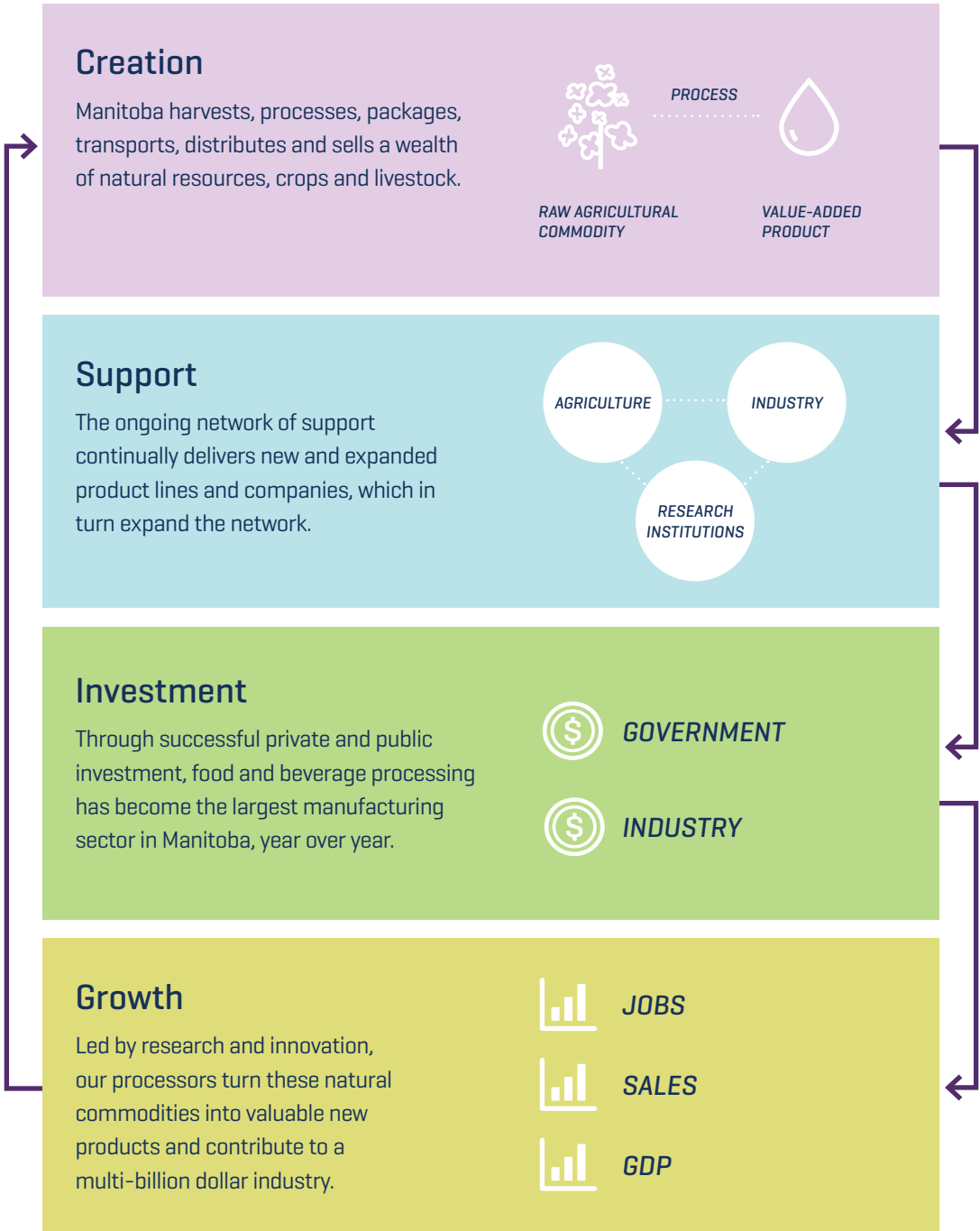


—  
*Our food development  
expertise attracts  
business from around  
the world - growing  
companies, putting  
products on  
supermarket shelves,  
and driving sustainable  
economic growth.*





# Research in Manitoba Enriches our Agriculture Sector



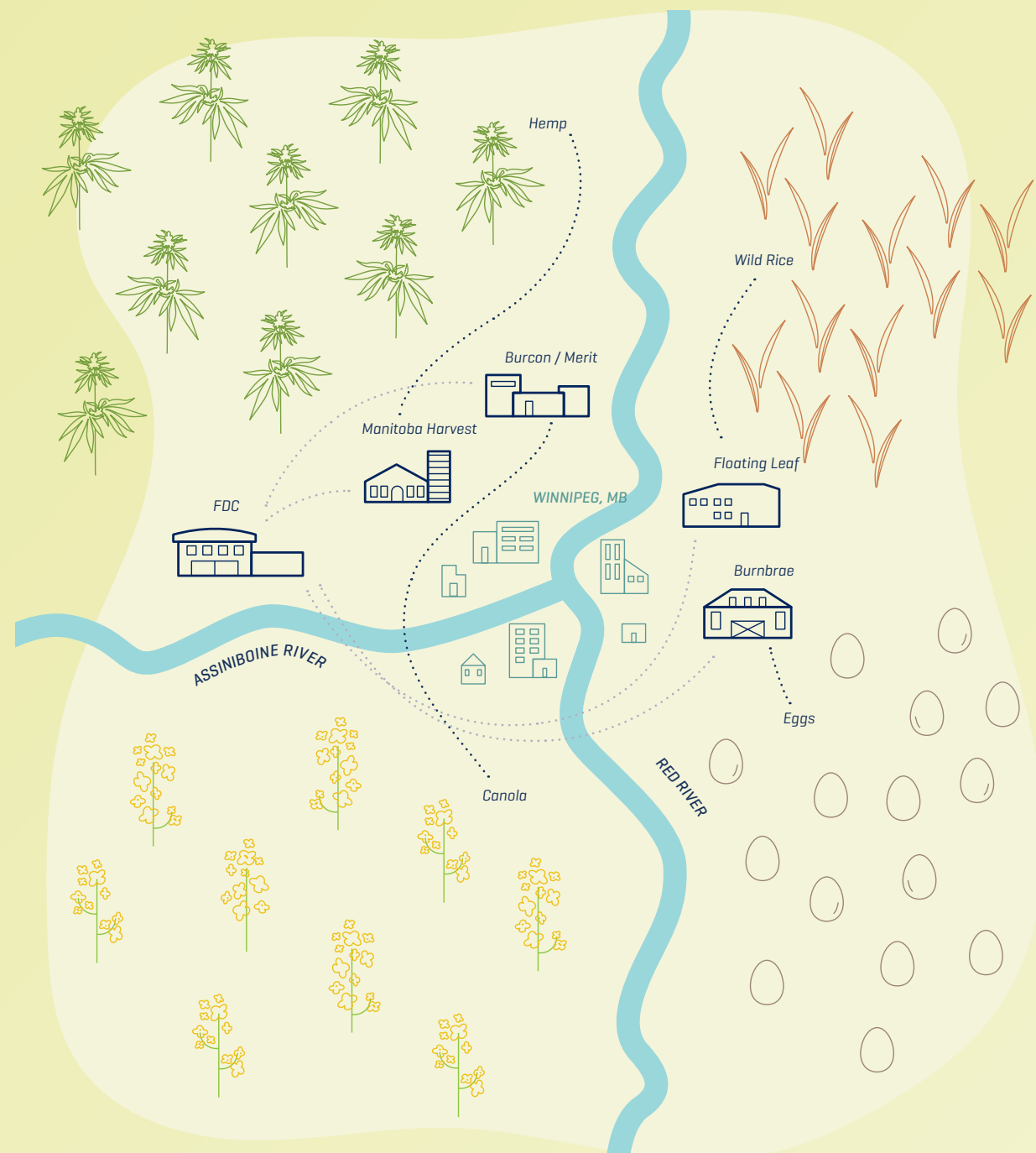
Here are four stories of local companies who contribute to Manitoba's wealth and economy through research and innovation.





# A Research Ecosystem

Manitoba has created a rich ecosystem of research institutions, government organizations, academic centres and private companies. These organizations collaborate, generate ideas, market solutions, and produce innovative products. Together, they are leaders in value-added development.



# Helping Businesses Grow



*From startups to multi-national corporations, companies choose to do business at Manitoba's Food Development Centre.*



The Food Development Centre (FDC) is a food innovation facility located in Portage la Prairie, Manitoba. They are experts in the food and beverage industry helping local, national, and international companies grow.



FDC's mandate to support Manitoba's value-added food and beverage sector aligns with provincial and federal government strategies to grow the sector. FDC's work has boosted sales, attracted investments, fostered collaboration and created jobs in Manitoba.



FDC is a key asset for Manitoba Agriculture and Resource Development, helping the province attract and retain companies with global impacts. FDC works with hundreds of successful companies, including the ones featured in this report: BMW Canola [Burcon NutraScience], Burnbrae Farms, Manitoba Harvest, and Floating Leaf Fine Foods.



PHOTO 1 AND 4 BY: TINE BUTLER PHOTOGRAPHY, PORTAGE LA PRAIRIE.  
PHOTO 2 AND 3 BY: ROBIN YOUNG, FOOD DEVELOPMENT CENTRE



# Extracting the Highest Value

*Scaling-up canola protein*

## What's in Canola?

Canola is a cultivar of a yellow flowering plant called rapeseed. Set right in its name, canola is a Canadian invention: the “can” stands for Canada, and “ola” marks the oil which is processed and safe to eat.

Canola is the abbreviation of a phrase ‘Canadian oil, low acid’ speaking to the lower amount of erucic acid in canola as compared to rapeseed, from which canola was developed.



## 1970

**Canola is created** by changing the nutritional profile of rapeseed, creating canola through conventional breeding techniques. This was done by University of Manitoba Professor Baldur Stefansson through a partnership with Agriculture and Agri-Food Canada.

## 1991

**A technology is created to extract high quality, pure canola protein and BMW Canola is formed** by Dr. Don Murray, protein scientist, and Paul Westdal, Professor Stefansson’s nephew. They started work at FDC to scale-up the technology.

## 1996-1999

**BMW Canola patents an oilseed protein extraction and scales up the protein technology for commercial production.** This furthers the processing of canola, adding more value to the crop.

## 1999

**Burcon NutraScience acquires BMW Canola,** incorporating elements of BMW Canola’s protein technology into Burcon’s growing portfolio of plant-based protein technologies.

## 2019

**Merit Functional Foods is formed** as a joint venture between Burcon and three food industry executives. Burcon licenses its plant-based protein technologies to Merit, including the canola protein technology.

## 2020

**Canola protein ingredients will be produced in a new commercial-scale facility** using Burcon’s canola protein technology. The facility, to be completed by the end of 2020, will employ 85 staff initially and more than 200 staff in the future. With the help of global food leaders, the canola protein technology will reach the world marketplace.



*Rendering of Merit’s new plant protein processing facility.*

# Harvesting Opportunities

*A new hemp company emerges out of FDC*

1998 was a big year for Canadian hemp. Following decades of prohibition, the versatile crop was legalized, opening the door for a new industry and Manitoba Harvest was born.

Manitoba Harvest grew rapidly. With the help of FDC, they have become a world leader in hemp foods today.



*“The province would be at a disadvantage if there wasn’t a facility like FDC, with the technical capabilities to help entrepreneurs. It’s literally impossible, especially in food, to start without that expertise and support.”*

— Mike Fata,  
MANITOBA HARVEST



## Charting Manitoba Harvest’s growth:

### 1998

**Employees:** THREE COFOUNDERS

**Products:** HEMP OIL

**Stores carrying Manitoba Harvest products:** 100

**Revenue:** \$50,000

### 2020

**Employees:** 160

**Products:** HEMP OIL, HEMP HEARTS, HEMP BUTTER, HEMP PROTEIN POWDER, HEMP MILK, HEMP CEREAL, HEMP GRANOLA, AND HEMP SNACKS

**Stores carrying Manitoba Harvest products:** 16,000

**Revenue:** > \$100 MILLION



# You Have to Break a Few Eggs

Turning a waste stream into a value-added product

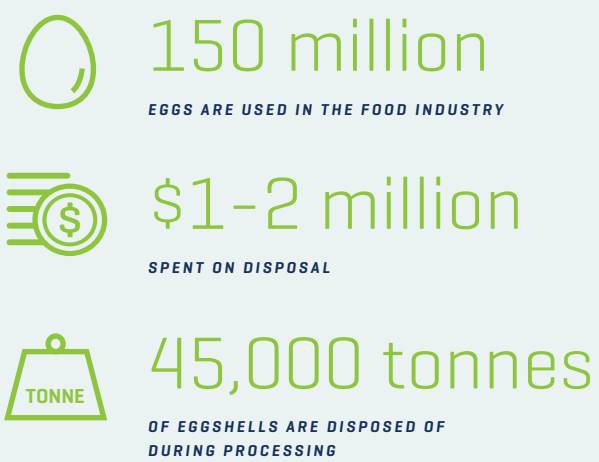
More than most, Burnbrae Farms knows that if you want to make an omelet, you have to break a few eggs. But what happens to all the waste produced during food processing? Typically, it ends up in the landfill or animal feed. Family-owned Burnbrae Farms is tackling this problem with a sustainable solution: repurposing the eggshells from processing.

At FDC, Burnbrae Farms discovered how to extract the calcium from discarded eggshells for use in the food, feed and cosmetic industries.

By turning eggshell waste into a value-added calcium product, Burnbrae Farms boosts sales, saves money, reduces wastes and creates jobs.

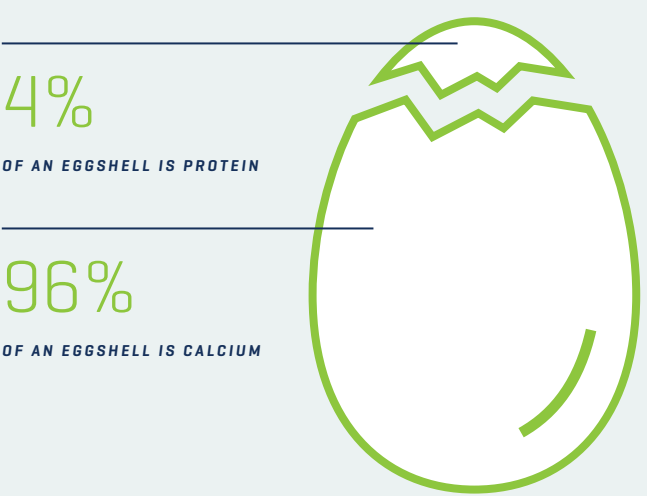


## Every year in Canada:



Source: <https://canadianfoodinnovators.ca/project/turning-egg-shells-into-a-functional-food-ingredient>

## Facts, in an eggshell:



# Untamed Expansion

New blends for a unique Canadian crop

Canadian wild rice grows naturally in the freshwater lakes of the northern prairies.

Since the 1950s, the Ratuski family business, Floating Leaf Fine Foods, has processed wild rice. They employ local workers, many of whom are Indigenous, from northern Manitoba and the Whiteshell.

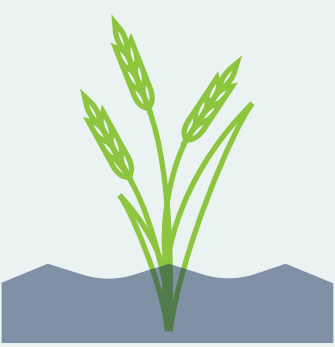
Floating Leaf developed eight new wild rice and pulse blends at FDC, which helped increase their workforce by 40%. Floating Leaf's products have reached Europe, Australia, Japan, Dubai, and South Africa.



*"A company is only so big. It could spend all its available funds in Research and Development and then have no means to take it to market. FDC has gone over and above all the time in helping us to develop new products."*

— Murray Ratuski,  
FLOATING LEAF PRESIDENT

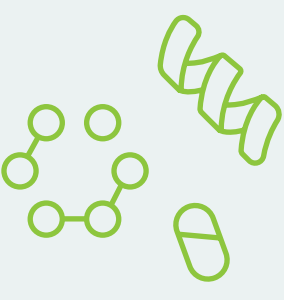
## What is Canadian wild rice?



Called "manoomin" in Ojibwe, wild rice is technically an aquatic grass.



Wild rice prefers sheltered, marshy areas and can grow up to 3 meters tall.



The nutty-tasting grain boasts an impressive nutritional profile of vitamins and minerals and is high in protein.



# Manitoba's Future is Protein-Packed

*We are a leader on the protein stage.*

Consumer interest in protein and its sources has brought new food innovations to the table. A growing world population, evolving socio-demographics and dietary changes are increasing the demand. The plant-based protein market alone is estimated at \$10.3 billion USD today and expected to rise to \$14.5 billion by 2025.

## Market growth estimates for plant-based protein:

2020 - \$10.3 Billion USD

2025 - \$14.5 Billion USD

## Manitoba Protein Advantage Strategy

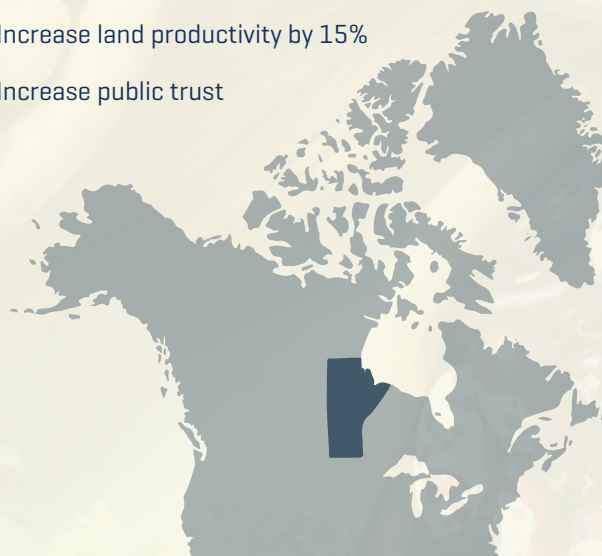
The Manitoba Protein Advantage is a strategy for sustainable protein production, processing and innovation. The strategy envisions Manitoba as North America's protein supplier of choice and an industry leader in Canada, profiting Manitoba's producers, processors and the provincial economy.

By mobilizing research innovations and engaging with industry, Manitoba can achieve long-term economic growth in the protein sector.

## Local Research Is Essential

### By 2025, the goal is to:

- Invest \$1.5 billion in the production and processing of plant and animal proteins
- Add 1,550 jobs to our economy
- Decrease carbon intensity by 15%
- Increase land productivity by 15%
- Increase public trust



## Protein Power



Proteins are a major nutrient, providing energy and essential building blocks to grow and maintain humans and animals.



Animals, such as pigs, chicken, beef, bison, turkey, sheep, lamb and fish are good sources of proteins.



Plants, such as soybean, wheat, barley, hemp, oat, pulses, and canola are also good sources of protein.



# Investing in Manitoba's Communities

*Manitoba has attracted over \$1.5 billion in agri-food investments in recent years.*

*Manitoba's agri-food industry is a robust processing and manufacturing sector featuring local companies that compete on the world stage and global companies who do business in Manitoba.*

## Recent investments in Manitoba's protein industry

Company	Investment
Roquette	\$600 M to construct the world's largest pea protein processing facility in Portage la Prairie, Manitoba.
Hylife Foods	\$212.5 M to expand pork processing in Neepawa and feed and pig production in southwestern Manitoba.
Merit Functional Foods	\$102 M to construct a pea and canola protein processing facility in Rosser.
Manitoba Dairy Ingredients [MDI] Holdings Inc.	\$100 M to construct a dairy processing facility in Winnipeg.
Parmalat	\$50 M to construct a fluid milk plant in Winnipeg.
Paterson GlobalFoods	\$93.7 M to construct an oat processing plant in Winnipeg.



# Manitoba's Food Economy by the Numbers

*Agriculture adds \$142 billion to Canada's GDP and employs 2.3 million Canadians*

## 2019 In Manitoba:



**\$5 billion**

IN FOOD MANUFACTURING SALES



**40,000**

AGRIFOOD JOBS IN MANITOBA;  
5.9% OF MANITOBA'S EMPLOYMENT



**\$6 billion**

IN MANITOBA AGRIFOOD EXPORTS



**7%**

OF MANITOBA'S GDP

## \$6.6 billion in farm cash receipts in 2019



**Manitoba canola:**  
\$1.3 billion



**Manitoba wheat:**  
\$1.1 billion



**Manitoba hogs:**  
\$1.1 billion





---

## RESEARCH MANITOBA

A201 CHOWN BUILDING  
753 MCDERMOT AVENUE  
WINNIPEG, MB R3E 0T6

T: 204-775-1096

F: 204-786-5401

E: [INFO@RESEARCHMB.CA](mailto:INFO@RESEARCHMB.CA)

[RESEARCHMANITOBA.CA](http://RESEARCHMANITOBA.CA)

THIS REPORT WAS MADE POSSIBLE DUE TO FUNDING RECEIVED  
FROM THE GOVERNMENTS OF MANITOBA AND CANADA, THROUGH  
THE CANADIAN AGRICULTURAL PARTNERSHIP.



## SOURCES

---

MANITOBA AGRICULTURE AND RESOURCE DEVELOPMENT

STATISTICS CANADA

CANADIAN FOOD INNOVATORS. TURNING EGG SHELLS INTO  
A FUNCTIONAL FOOD INGREDIENT. AVAILABLE AT: [HTTPS://  
CANADIANFOODINNOVATORS.CA/PROJECT/TURNING-EGG-SHELLS-  
INTO-A-FUNCTIONAL-FOOD-INGREDIENT](https://canadianfoodinnovators.ca/project/turning-egg-shells-into-a-functional-food-ingredient)

MARKETS AND MARKETS. PLANT-BASED PROTEIN MARKET.  
AVAILABLE AT: [HTTPS://WWW.MARKETSANDMARKETS.COM/MARKET-  
REPORTS/PLANT-BASED-PROTEIN-MARKET-14715651.HTML](https://www.marketsandmarkets.com/Market-Reports/plant-based-protein-market-14715651.html)

PROTEIN INDUSTRIES CANADA. PROTEIN INDUSTRIES CANADA FIVE-  
YEAR SUPERCLUSTER STRATEGY. (2018).

AMEIS, DUSTIN, ZAWALY KATHLEEN, & SOMMERSELL, NECOLE. 2020.  
RESEARCH MANITOBA. THE IMPACT OF THE FOOD DEVELOPMENT  
CENTRE IN MANITOBA. WINNIPEG, MB.

---

PREPARED (2020) BY: DUSTIN AMEIS AND NECOLE SOMMERSELL.

