Agri-Food Innovation Council (AIC)

FALL 2020 UPDATE

Agri-Food
Innovation Council
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Conseil de l'innovation
agroalimentaire

Agri-Food Innovation Council Fall Update

Welcome to the Agri-Food Innovation Council's (AIC) Fall 2020 Update.

The Agri-Food Innovation Council (AIC) is a unifying voice for agri-food research and innovation.

This year, as we celebrate our 100th anniversary, we reflect on how agri-food innovation has supported Canada's economy and helped protect the environment in the past, and how it can continue to do so through the COVID-19 recovery.

This newsletter is designed to help policy and decision makers have the most up-to-date information about the agri-food innovation sector and ensure that related policies allow the benefits to be more widely felt.

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Message from the Chair

Julianne Curran, PhD
Vice President, Market Innovation
Pulse Canada

The COVID-19 pandemic has changed many aspects of our lives, and Canada's agricultural sector has been impacted is a very tangible way. From the lack of available produce on shelves to crops going unharvested, our agricultural sector is adapting to the pandemic in unprecedented ways.

We know that innovation in agri-food can have a major impact on the Canadian economy and society: increasing crop yields, using less resources, higher nutritional value and more.

The post-COVID-19 recovery period offers many opportunities to revisit research and development priorities in the agricultural sector and within governments. This update will explore these opportunities and more.

In this issue you will find:

- Opportunities for research and innovation after COVID-19;
- Upcoming agri-food research events;
- Examples of ground-breaking agri-food innovation spearheaded by AIC's membership; and more.

AIC is open to meeting with you to provide more information about agri-food research in Canada.

Opportunities for Agri-Food Research Post COVID-19

The COVID-19 pandemic is expected to have a long-lasting impact on Canada's food system as a whole – from production and processing to distribution and foodservice.

It is crucial that the agri-food sector rebalance its priorities and making resilience as important to long-term grown as efficiency and productivity.

In this regard, AIC took a leadership role, undertaken a substantial consultation (survey, virtual conference), research and a second survey to validate the findings. AIC's virtual conference was an opportunity to take stock of how the pandemic had impacted the sector so far and identify how research priorities could best be reoriented.

Participants heard from:
- Alison Sunstrum, Founder, CEO, CNSRVX
- Keith Currie, President, Ontario Federation of Agriculture
- Denise Allen, President & CEO, Food Processors of Canada
- Jitendra Sagili, Chief R&D and Food Technology Officer, Maple Leaf Foods
- Jeff Hall, Food Safety Specialist, Canadian Produce Marketing Association
- Bill Greuel, CEO, Protein Industries Canada
- Dr. Stan Blade, Dean, Faculty of Agricultural, Life and Environment, University of Alberta
- Troy Taylor, Vice President of Operations, Restaurants Canada

More information can be found here, and the virtual conference can be viewed here.

These efforts, together with other independent research, culminated in AIC's recently published report, Strengthening the Agri-Food Sector Post-COVID-19, that explores the opportunities for agri-food research in a post-COVID-19 world. This includes:
- Securing production, and distribution of goods by plugging the gaps in the value chain;
- Fostering innovation to strengthen the capacity the respond to emergencies and disasters in a timely manner;
- Rethinking organizational structures;
- Accelerating the adoption of new technologies; and more.

Read the full report here.

This report was funded by the National Research Council of Canada.

Upcoming Legislative Sessions

The upcoming legislative sessions – federally, provincially and territorially – offer an opportunity to further explore government priorities for the agri-food research sector, post COVID-19 and more generally.

We encourage the various agricultural committees across all jurisdictions to explore issues such as:

- New technologies utilized by producers to address challenges exacerbated by the COVID-19 pandemic, and steps that could be taken to encourage adoption.
- Ways in which governments can increase public trust in the agri-food sector.
- How agri-food innovation can help address farm labour shortages.

Investment Environment for Agri-Food Research and Innovation

Over the past decade, Canada's agri-food research and innovation sector has evolved by leaps and bounds. The investment climate has transitioned from one where funding was relatively limited to one where venture capital groups are competing to invest in the sector.

Through a series of web-based conference sessions, the Agri-Food Innovation Council (AIC) will seek to address where our agri-food research and innovation sector is currently and changes that can be made to help it achieve its full potential.

Learn more about these events here.

AIC Conference 2020: Investment Environment Agri-Food Research and Innovation
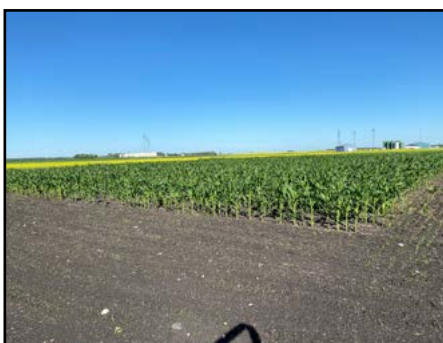
Web Conference Fall 2020

Examples of ground-breaking agri-food innovation spearheaded by AIC's membership

Enterprise Machine Intelligence and Learning Initiative (EMILI)

EMILI is an industry-led non-profit focusing on leveraging intelligent technology with a focus on digital agriculture. They work with industry and academia to accelerate the adoption of these technologies. They are spearheading a number of initiatives, including:

- **Labelled dataset of prairie crops and weeds.** This will further fuel digital agriculture innovation in Western Canada, by creating advanced datasets that will distinguish between crops and weeds. The dataset will be publicly available and has the potential to reduce the costs of inputs from farmers by up to 90%.

- **Ag Ecosystem Development.** As part of EMILI's is ongoing work to support the growth of digital agricultural in Western Canada they have established the Manitoba Digital Agriculture Table and are holding a conference in November to discuss agricultural technologies, AI and machine learning in the sector.

Global Institute for Food Security (GIFS) at the University of Saskatchewan

GIFS works with its partners to discover, develop and deliver innovative solutions for the productions of globally sustained food.

- **OMICS and Precision Agriculture Laboratory (OPAL).** This GIFS-managed laboratory is the first of its kind in Canada, bringing digital data analyses of plant genes and traits together with the latest precision agtech to improve crop yield, sustainability and more.
- **Bangladesh Partnership.** This international partnership is helping to promote sustainable food security in Bangladesh. Efforts are focused on enhancing farmer incomes, addressing effects of climate change and more. A new Agricultural Technology Centre will be established in Dhaka to help meet these goals.

Examples of ground-breaking agri-food innovation spearheaded by AIC's membership

Research teams at Mitacs have examined various agri-food-related issues, notably:

- **Cannabinoids and algae.** The research team created a type of cannabis surrogacy in algae that was a sustainable, waste-free and less expensive.
- **Sanitizing N95 masks.** An Ontario-based company was able to diversify their business by turning UV technology for cleaning fresh produce into a mask decontaminant thanks to support from Mitacs researchers.

Olds College is the first post-secondary institution to deploy the fully autonomous DOT Power Platform as a teaching and research tool on the College's Smart Farm. Over 2,200 acres were either seeded, fertilized or sprayed using this platform. This project will explore the benefits and challenges and measure the economic and environmental impact of autonomous agricultural equipment.

This is a one-of-a kind learning opportunity for students.

PROTEIN INDUSTRIES CANADA

Canada's plant-protein sector is growing, and PIC's members are ensuring that the sector is as innovative, sustainable and forward-thinking as possible. PIC's members and partners are working at the forefront of agricultural innovation, including:

- Precision.ai, Sure Growth Solutions, Exceed Grain Marketing and GIFS are developing new technologies that detects and sprays only crop-pests. Expected to reduce pesticide use by up to 95%.
- Provision Analytics, Verge Technologies, Skymatics and Coutts Agro are working to improve on-farm logistics and food traceability by using machine learning.
- Farmers Edge and OPIsystems are developing a platform that will increase farmer
- decision-making efficiency while opening new plant-protein markets.

**UNIVERSITY OF SASKATCHEWAN
College of Engineering
ENGINEERING.USASK.CA**

More than one-third of faculty members at the University of Saskatchewan's College of Engineering are pursuing research activities that are related to engineering for agriculture. These projects touch on many aspects of the sector including: crop monitoring, smart farms, water management, animal health and more.

- Research groups are exploring a wide variety of topics, including:
- Machine recognition of plant characteristics in order to enable selective treatment.
- Advanced robotics to support collection of plant data.
- Big data management and sensors to allow farmers to access better data about their land.
- Water management strategies (together with the Global Institute for Water Security).
- Cost-effective and energy efficient post-harvest processing technologies.
- Developing new materials from waste products.
- Biosecurity of livestock.

New AIC Members

- Aurora Cannabis Enterprise Inc.
- AVAC Group
- Beef Cattle Research Council
- BioTalent Canada Inc.
- Canadian Meat Council
- Canola Council of Canada
- Global Institute for Water Security
- Greenhouse Technology Network (Niagara College)
- MITACS
- Saskatchewan Polytechnic
- UFA Co-operative Limited
- University of Calgary, Faculty of Veterinary Medicine

About AIC

Founded in 1920, the Agri-Food Innovation Council (AIC) is a unifying voice for cross-sectorial research and innovation in the Canadian agri-food sector.

Our mandate is to advocate on behalf of agri-food research and innovation.

For over 100 years, AIC has responded to the needs of its members in service to the agri-food community, playing a central role as a source of credible information and comment for the Canadian agriculture and agri-food sector.

AIC is one of Canada's foremost advocates for agri-food research and innovation as well as an important tool to facilitate its dissemination to industry stakeholders.

The Agri-Food Innovation Council was previously known as the Agricultural Institute of Canada. In 2019, our organization rebranded to better reflect our nature and work.

We are funded through memberships and activities. All of our funding is Canadian.