

FEEDING THE FUTURE WITH CANADIAN TECHNOLOGY

Briefing Note for Incubators/Accelerators

The Opportunity: Advancing Canadian Ag-Tech

With a rising global population, the demand for efficient and sustainable food production is increasing. Agriculture and food technology (ag-tech) has the potential to meet this demand by reducing greenhouse gas emissions, solving labour shortages, and improving local and global food security.

Canada, known for its vast arable land, advanced farming practices, and diverse climate zones can become a global leader in ag-tech innovations that improve sustainability, productivity, and economic growth. We have a robust entrepreneurial development ecosystem, with over 160 incubators and accelerators from coast to coast to coast with an established track record of success. Many programs are regionally focused or sector-specific, with several agri-food focused programs such as Bioenterprise Canada and Creative Destruction Labs – Rockies and strong investment in research and development.

However, Canada struggles to turn ideas into marketable solutions, with many companies struggling to cross from start-up to scale-up, low levels of patents compared to other countries, and slower, more expensive paths to commercialization for Canadian companies. To fully realize our potential in developing ag-tech innovations, we must address barriers that impact how innovators are supported and how companies scale, adopt, train and recruit for ag-tech. Canada needs a coordinated approach from government, industry, academia and the broader innovation ecosystem.

Ag-tech could unlock up to \$30 billion of economic opportunity for Canada.¹

We have identified the following key messages and recommendations for incubators/accelerators and other actors in the innovation ecosystem to help support and grow Canadian ag-tech businesses.

How can ag-tech support Canada's environment, economy and society?

Technologies like livestock feed additives, precision agriculture, and biodigesters are already showing promise in reducing greenhouse gas emissions.

Advanced sensing, imaging, and analytical techniques are improving our ability to measure and predict changes in soil carbon.

Robotics, automation, autonomous equipment, and artificial intelligence (AI) can all contribute to solving agri-food labour shortages.

Evolving AI-powered precision agriculture and controlled environment production technologies are making it possible to increase marketable output per acre, sparing land for biodiversity.

More efficient production coupled with technologies to improve logistics and reduce food waste can contribute to reducing food costs and improving global food security.

1. Work with academia and governments to develop targeted training for ag-tech entrepreneurs that integrates technical skills with strategic thinking on commercialization and intellectual property.

Canada lags behind other countries in patent activity, especially in ag-tech. We need to build a strong culture and norms of intellectual property (IP) protection – which means we need to train aspiring entrepreneurs early. IP education must extend beyond filing patents, but also include ideation, product development, IP protection and IP commercialization.

Entrepreneurship education, moreover, needs to create founders who are adaptable and well positioned to succeed. They need to build skills in entrepreneurship, business and management, human resources, and conceptual and relationship skills.

Accelerators and incubators have the opportunity to work with academic institutions and government to create targeted training for agri-food entrepreneurs, along with targeted tax incentives to support Canadian IP.

2. Incubators and accelerators could increase their capacity in communicating agri-food specific challenges to venture capital (VC) investors and linking entrepreneurs with funding.

Agri-food entrepreneurs face a number of challenges specific to the sector. Early-stage companies have difficulties finding funds to cover large capital expenditures and overhead, particularly in areas such as vertical farming, automation and robotics, and large equipment manufacturing. Complex funding structures can make it difficult to access funding. Later-stage companies can struggle to scale in maturity, given complex regulatory requirements for product approvals and the relatively slow nature of research with biological systems and annual growing seasons.

Incubators and accelerators can play a role in communicating these specific challenges to VC investors and in finding solutions, such as securing incremental funding to support companies as they grow, and supporting governments in the development of strategies to incentivize patient capital.

3. Support the development of a new service organization that connects ag-tech small and medium enterprises (SMEs) with investors, programs and funding streams, agricultural specialists and markets.

Small and medium enterprises struggle with changing consumer demand, rising input costs, labour issues, and complex programs and funding streams. Additionally, emerging challenges include cybersecurity risks within our food system, disruptive technologies, and changing environmental and business conditions.

Although incubators and accelerators already support SMEs in navigating some of these complex challenges, we have heard that companies would benefit from increased access to existing supports, from increased connection to producers and extension specialists to ensure ideas meet real needs in the agri-food industry, and from additional connections to investors and international markets

We heard that a service-oriented organization could serve a variety of enabling and connecting functions, creating links between existing programs, streamlining access, pre-screening entrepreneurs and working alongside incubators/accelerators to create efficiencies. This organization, in addition to increased support for our agri-food focused incubators and accelerators, will ensure that all Canadians can effectively access support to develop and scale their agri-food innovations.

4. Support knowledge sharing and collaboration.

We need to fully integrate all parts of the agri-food system. Incubators and accelerators can play a key role in linking producers or businesses with aspiring innovators early in product development. This will ensure that products being developed are targeted to address real-world challenges, will allow for early product feedback and revision, and will help innovators to produce products that are ready for adoption and commercial success.

Similarly, incubators and accelerators may have a role to play in communicating with regulatory bodies, helping entrepreneurs to navigate these complex processes while working with regulators to develop paths to market that are more feasible for emerging companies.

Conclusion

Canada has the potential to lead the world in ag-tech innovations, but we need to act now to realize this potential. What we need most is a coordinated effort from all sectors – all working together to set priorities and goals, and develop the programs, policy, human resources, and infrastructure that will accelerate Canada’s agri-food innovation ecosystem.

By investing in ag-tech, you are not only tapping into a lucrative economic opportunity but also contributing to Canada’s leadership in global food security and sustainability.

For more information:

[Feeding the Future with Canadian Technology Final Report](#)



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References

- 1 Farm Credit Canada. (2023). Canadian agriculture’s \$30 billion opportunity. <https://www.fcc-fac.ca/en/about-fcc/media-centre/news-releases/2023/canadian-agriculture-opportunity#:~:text=Total%20factor%20productivity%20measures%20the,assessing%20trends%20in%20agricultural%20productivity>