



SEEKING BETTER

Livestock Research and Innovation Corporation

International Research Advisory Committee Report

February 2022



Improving Ontario's Livestock Innovation System

Ontario has a very good livestock innovation system, but it can be better. Livestock Research and Innovation Corporation (LRIC) has a mandate of continuous improvement, achieved through working with all parties in the system. During 2021, LRIC's International Research Advisory Committee (IRAC) undertook a review of the innovation system with elements defined as: funding, research priorities, project management, extension, and commercialization.

To help inform the IRAC discussions, members discussed written briefs that provided an overview of the current situation for each of the elements. Further input was gathered by LRIC through a survey of University of Guelph faculty that are, or could be, engaged in livestock related research. A complementary survey was sent to industry organizations as well. Response rate was excellent with 53 faculty and 11 industry responses.

This report provides LRIC, OMAFRA, industry organizations and the University of Guelph recommendations for changes they can make that will incrementally improve the innovation system. Each party plays a critical role in the system and improvement is contingent on all parties, in a spirit of partnership, having a willingness to make change. Improvement is iterative and so adopting a lens of "What, so what, now what?" is key.

Ontario's Livestock Innovation System:

For the purposes of this initiative, LRIC defined the innovation system as the sum and interaction of assets (funding, facilities, HQP) and processes (priorities, project management, commercialization, and extension) related to knowledge creation and the adoption of change along the supply chain. Commercialization was defined as activities bringing something that involved intellectual property to market. This system must benefit the economy through revenue generation and job growth; address environmental and animal welfare issues; result in sustainable growth of the Ontario livestock sector along the entire supply chain; and respond to consumer demands.

IRAC Members

- James White, Chair, LRIC Board Member
- Stan Blade, Dean, Faculty of Agricultural, Life & Environmental Sciences, University of Alberta
- Brian Lindsay, Director, Dairy Sustainability Frameworks, UK
- Paul Dick, President, Paul Dick & Associates, Guelph, ON
- Roberto Soares, Corporate Product Manager, Ceva Animal Health, ON
- Stephen Miller, Director, Animal Genetics and Breeding Unit, University of New England, Australia
- Jean Szkotnicki, LRIC Board Member, Former President of Canadian Animal Health Institute
- Don Gordon, LRIC Board Member, DFO Board Member

Committee Recommendations:

1. **“Industry pull” is key to successful innovation. Closer working relationships between researchers and industry, along with well defined problem statements from industry** will enable clear and meaningful research priorities, a documented benefit to industry and consequent action. Researchers need to understand industry norms, issues and structure while Industry must understand researcher capacity and interests. This relationship building should extend to Graduate students as well.
2. **Ontario’s new research and innovation facilities must be adequately funded to ensure optimal return on investment.** All parties should develop and maintain a plan to ensure resources (technicians, lab assistants, contract faculty, etc) that are not reliant on “soft” funds.
3. **Research priorities should be established using a collaborative approach of industry, government and faculty to ensure they reflect both industry and government needs.** More focus should be placed on cross sector opportunities and, where possible, take more of a systems approach.
4. **The livestock sector needs to “look sideways” and learn of issues and opportunities in other sectors.**
5. **Overhead charged for research must be competitively priced or projects will be lost to other providers.** This is central to keeping our excellent infrastructure in Ontario at the forefront of attracting research funds.
6. **Current processes should be more focused on the innovation system rather than being seen as siloed activities and responsibilities.** There needs to be a robust and realistic **evaluation** system that complements the initial funding approval process and takes into account the entire system including GRIP and commercialization. Specific milestones should be established and monitored for each project to ensure that research which fails, does so early.
7. **All parties should collaborate to establish a new system of Getting Research Into Practice (GRIP).** Many parties play a variety of roles (KTT, Ag Advisory, Knowledge Mobilization) now but there is a lack of coordination and confusion about roles that has led to a system that is not meeting industry needs. Consideration should be given to having a named industry champion for each research project.
8. **Excellence in GRIP and building strong relationships with industry should be considerations in faculty reward systems.** This need not involve changes to tenure and fiscal reward systems.
9. **Change is about people and so we need to better engage the social sciences to improve the adoption of research results.** The innovation system should be inclusive and reflect the diversity of parties involved as well as the consumers of livestock products.
10. **A core principle of commercialization should be Canada first.** Too often, Canadian results and inventions are commercialized and available in countries years in advance of being available to Canadian industry.

LRIC Recommendations:

	LRIC	Industry	UoG	OMAFRA
Funding				
Provide clear priorities and needs as input to the Alliance funding agreement and renewal process		√		
Collaborate with other entities (e.g. VIDO) that have existing facilities to avoid recreating infrastructure			√	
Provide more detailed feedback on Alliance proposals			√	
Ensure funding exists for small ongoing retrofits to ensure that facilities meet changing innovation needs and opportunities				√
Ensure that Alliance funding is sufficient to derive optimal benefits from existing infrastructure and that annual amounts are indexed to inflation				√
Build upon the successful early career mentorship program for faculty, expanding to include graduate students	√			
Engage industry in all faculty hiring decisions			√	
Research Priorities				
Annual “Shark Tank” sessions will give researchers early industry input to research ideas. Pilot with one sector 2022/2023.	√			
Host biennial outlook meetings with all parties (What, so what, now what?)	√			
Cross Discipline proposals particularly with data sharing should be encouraged and incentivized to involve more than one discipline in order to reflect the need for solutions that capture needs in environment, economics, animal welfare, social etc.			√	
Release the priority document and call at a consistent time of year, giving more time for industry input and proposal submission				√
Project Management				
Proactively respond to Alliance call by reaching out to researchers to initiate proposals		√		
Use, as much as possible, one common contract for research at the University of Guelph		√	√	
Ensure due diligence with a minimum of process			√	√
Proactively monitor research projects, building a stronger bridge with industry and ensuring results are distributed in a timely manner (Pilot 2022/2023)	√			
Provide project management training for PI’s			√	
Participate/Lead in project/theme/topic close out sessions with OMAFRA both to review success and to inform research priorities for the future	√	√	√	√
GRIP				
All parties work together to find a new model for GRIP including annual evaluation	√	√	√	√
Enhanced communications as part of improving GRIP	√			
Coordinate an annual livestock innovation conference	√			
Revise either the responsibilities or the reward system for faculty ensure that the KTT part of GRIP is effective			√	
Provide GRIP training to researchers		√	√	
Better and more timely communication of results from research centers	√		√	
Model the successful Dairy at Guelph and create similar initiatives for beef, poultry, swine and small ruminants			√	
Utilize new livestock research facilities and staff to train and prepare undergraduates to join the work force			√	
Commercialization (specific to research involving IP)				
Build and encourage networks with key players (e.g. RH Accelerator)	√			
Encourage discussion (Deans Council, UofG/OMAFRA) on commercialization (expectations, process, Canada-first)			√	√
Ensure clarity of role and process of commercialization in a university setting			√	