



Canadian Poultry
Research Council

Le Conseil De
Recherches Avicoles
Du Canada

Poultry Science Cluster call for Letters of Intent (LOI): Environmental and Climate Change Research Projects

May 2022

Dear applicant:

The Science Cluster Program was originally introduced in Agriculture and Agri-Food Canada's (AAFC) Growing Forward Agricultural Policy Framework more than a decade ago. CPRC is presently administering the third Poultry Science Cluster supported by the national poultry organizations, which established the Canadian Poultry Research Council (CPRC) more than 20 years ago. AAFC has not confirmed that the Science Cluster Program will be renewed for the Agricultural Policy Framework presently being discussed between AAFC and its provincial government counterparts; however, CPRC expects that there will be a program in the next agreement due to take effect April 1, 2023. AAFC has made changes to the program that may alter CPRC's approach to the next cluster and it is important that submissions take those changes into account. The changes are discussed in more detail below.

Please note that the Canadian Poultry Research Council will continue the present approach to the grant review process for Poultry Science Cluster 4. The approach is designed to reduce the time required to make funding decisions while ensuring CPRC and its member organizations support research that meets industry needs. The approach consists of:

- An expanded LOI that requests:
 - More detailed and additional information on project objectives and background.
 - More detailed description and explanation of the proposed research and methodology.
- LOIs will be reviewed initially by CPRC and its member organizations with a focus on industry priority and impact, and AAFC priorities. Those projects that are of strong interest to CPRC and its member organizations will move to the peer review stage.
- Detailed work plans will be requested for projects going to peer review.
- Principal investigators will be provided the opportunity to respond to peer review comments.

Please refer to the 'Notes to Applicants' section of this document for details. LOIs are due June 24, 2022.

CPRC is issuing a call for research projects covering the following topics:

- **Net Zero Farming**
 - For example: basic concepts, strategies, innovation, barn construction, byproduct/end product utilization, benchmarks
- **Alternative/renewable energy sources**
 - For example: renewable energy (wind, solar, heat transfer technologies, manure, etc.)
- **Production methods**
 - For example: Assess production methods and technologies/equipment to reduce environmental emissions/contaminants, improving decontamination and filtration systems. See below for further details.
- **Manure Management**
 - For example: common practices, nitrogen and ammonia management, economic value. See below for further details.
- **Data to improve environment sustainability**
 - For example: data capture, economic analysis, predictive analytics, benchmarking, reporting.
- **Feed efficiency**
 - For example: novel feed ingredients/supplements/vaccination strategies enhancing efficiency, animal health, growth, nutrient excretion to reduce the impact on the environment and determine if there are influences on bird and manure emissions.
- **Soil management and carbon sequestration**
 - For example: improvements to soil management to increase carbon capture.

More specifically, CRPC members have identified detailed areas of research associated with the topics above. These detailed areas include:

- **Manure Management:** In order to create a research focus that is geared to address the Government of Canada's objectives of reducing emissions from fertilizer use by 30% below 2005 levels by 2030, there is an opportunity to improve ways to optimize the use of organic fertilizer (poultry manure) across Canada's poultry farming sectors.
 - CPRC seeks research proposals that:
 - Examine the economic value of poultry manure as a resource
 - Contribute to a better understanding of manure composition and fertilizer value:
 - Understanding the differences in the nutrient value a range of poultry settings: sector, stocking density, litter type, feed type, geographical location, etc.
 - Carbon and nitrogen dynamics in different ecological poultry-growing zones in Canada
 - How feed nutrient management influences manure composition and its emissions into the atmosphere.
 - Assess the environmental performance (and economic value) of Canada's existing poultry manure management practices

- Identify manure management practices and technologies having the greatest emission reduction potential and scalability. (e.g. precision agriculture methods) and can lead to an overall reduced dependency on chemical fertilizers
- Assist in credibly measuring changes in environmental performance over time

Poultry Barn Air Inlet Protection Systems:

- The Government of Canada's objectives for research topics in this current Science Cluster include enhancing the resiliency of farming systems in the face of Climate change. Global migratory bird behavior and range are reported to be impacted by Climate Change. In Canada, birds have been found to be migrating earlier in Spring and some are delaying their departure in Fall. This change in migratory patterns may be placing the Canadian poultry sector at increased risk of avian influenza virus transmission, which in turn can negatively impact poultry health and welfare, and the poultry farming sector resiliency as a whole.
- In recent months, Canadian commercial poultry farms have experienced widespread incursions of highly pathogenic avian influenza through infected waterfowl populations migrating northward. Scientifically based barn biosecurity practices are well established and embedded into on-farm programs. These practices are proven to protect the health of poultry populations and, in this case, to reduce the likelihood of introducing contaminated feces from waterfowl into a barn setting. One domain of biosecurity that has not been addressed through current mitigation measures is the potential role of air in distributing the avian influenza virus through poultry barn ventilation inlets. At this time, sufficient scientific evidence exists to support a role for contaminated fecal dust derived through air intakes as a potential source of infection to poultry.
 - Consequently, CPRC is seeking research proposals for:
 - The design and assessment of novel filtration/decontamination systems for air inlets of commercial poultry barns
 - Attention should be given to the following attributes in the design:
 - Effective for a range of particulate matter sizes
 - Effective for decontamination claims (with regulatory approval)
 - Sector-adapted to various barn types (chicken, turkey, table egg and broiler breeder barns)
 - Seasonally adaptable system for biannual migrations.
 - Durable under Canadian temperature and weather conditions
 - Affordable to Canadian farmers

Examples of previously funded projects are available on the CPRC website (<https://cp-rc.ca/en/funding/call-for-lois>) at the Funding section.

Notes for Applicants:

Industry review of Letters of Intent (LOIs)

Instructions for completing the form are included in that document.

Please email your completed LOI in **Word** format to info@cp-rc.ca by **June 24, 2022**. If you do not receive email confirmation of your submission within two business days, contact the CPRC office.

If your completed LOI does not already include a signature, please also forward a signed electronic scan with a signature to info@cp-rc.ca or hard copy to:

Canadian Poultry Research Council
225 Metcalfe Street, Suite 314
Ottawa, ON K2P 1P9

Your electronic submission is due **June 24, 2022**, however, signed hard copies need not arrive by that date.

Budget and Funding Sources

The Science Cluster Program allows the poultry industry to broaden its research scope to longer research projects (up to five years) and potentially more in-depth research. Industry funds are matched at a rate to be determined by AAFC. **CPRC urges researchers to obtain industry funds from other sources in addition to CPRC and/or its Member Organizations.** CPRC expects AAFC to maintain its practice of allowing industry (not university) in-kind (e.g.: materials and supplies, birds, etc.) for a portion of its funding contribution.

Review process

LOIs will be reviewed on the following criteria:

- **Scientific concept and approach:** The proposal must be scientifically sound, technically feasible, and promise either to generate new knowledge or to apply existing knowledge in an innovative manner.
- **Industry impact:** The proposal must identify how the work will benefit the poultry industry, especially in terms of helping industry reach its research target outcomes, and should outline any additional potential social and/or economic benefits that will be realized in Canada.
- **Knowledge transfer and commercialization:** The proposal should describe how outcomes of the work will be shared with the research community and how it might be utilized by industry, including suggestions on how the resulting technology might be commercialized.
- **How well the proposal addresses CPRC and AAFC priorities.**

Collaboration among scientists and institutions is encouraged and will be a consideration during the review process.

All applicants will be informed of the CPRC Board decision to accept or reject the LOI after each of the internal and peer review steps identified above.

Questions?

Inquiries regarding this call for Grant Applications should be directed to via email at caroline.wilson@cp-rc.ca.