



**Canadian Poultry
Research Council**

**Le Conseil De
Recherches Avicoles
Du Canada**

Call for Letters of Intent

April 2014

Dear applicant:

Please note that the Canadian Poultry Research Council (CPRC) adopted a two-stage grant review process in 2012 involving:

1. Industry review of Letters of Intent (LOIs)
2. Scientific review of detailed methodology

Please refer to the 'Notes to Applicants' section of this document for details.

CPRC has historically issued calls for LOIs in five categories. The research categories have been amended for 2014 to better align with the National Research Strategy for Canada's Poultry Sector (The Strategy), which is available [here](#). The Strategy lists nine overlapping research areas and the 2014 call groups five of these areas into two LOI categories. LOIs do not have to address all aspects of each category but can target one or all of the priorities within the category.

On behalf of its member organizations, CPRC is calling for LOIs in the following priority areas. Please also consult the CPRC Member priority lists at the end of this document for more details on specific areas:

1. Food Safety and Animal Health Products

Food Safety

Canada has one of the safest poultry value chains from the producer to the consumer of any poultry sector worldwide. Maintaining this level of food safety for the Canadian consumer presents ever-changing challenges that must be anticipated well in advance. Protecting the poultry value chain, as it extends from the parent flock through production and processing to the consumer, from pathogens that may cause human illness is a fundamental issue with constantly evolving challenges.

Industry Goal

Continue to provide safe food and maintain consumer confidence in light of emerging issues.

Research Target Outcomes

- Reduce the incidence of poultry-related pathogens (e.g. campylobacter, salmonella, E. coli, Listeria, emerging issues)
- Consumers recognize that poultry products are safe
- Benchmark, improve and validate food safety programs, including biosecurity

Animal Health Products

There is increasing pressure from consumer groups to reduce antibiotic use in poultry because of fears of antibiotic resistant bacteria. Research must define the prudent use of antibiotics and explore innovations that will provide the poultry sector with an array of alternative methods with which to combat disease and optimize flock performance.

Industry Goal

Continue to promote the prudent use of antimicrobials and reduce their use where possible. Increase the use of alternatives to antibiotics.

Research Target Outcomes

- Understand the link between the use of antimicrobials in the poultry industry with emergence of bacterial resistance in animals and humans
- Understand the mechanism of resistance to antimicrobials
- Development of evidence-based mitigation procedures/tools related to the use of antimicrobials based on:
 - International lessons
 - Effect of currently used antimicrobials on gut microflora, emergence of resistance and avian immunity
- Alternatives to currently used antimicrobials
- Understanding of the impact of alternative production systems and genetics

2. Genetics, Poultry Health and Poultry Welfare**Genetics**

Genetic issues and opportunities encompass most of the other classifications identified in The Strategy; therefore, outcomes in this area of research are broad.

A major issue faced by all agriculture is the loss of genetic diversity within the gene pools of the agricultural products produced. With the advent of more sophisticated methods of gene identification for specific traits, gene preservation also maintains the potential for new discoveries related to currently unimagined new, desirable and/or marketable characteristics. The diversity of genetic material is constantly being challenged due to economic pressures and increased selection intensities.

Industry Goal

Protect and enhance beneficial genetic traits to the benefit of the poultry industry, poultry, consumers and society

Research Target Outcomes

- Beneficial genetic characteristics are preserved so that there is ready access to diverse genetic material
- Poultry research uses the most effective and current genetic tools to support poultry industry sustainability

Poultry Health

Canadian poultry stakeholders must regularly address the presence and evolving nature of disease-causing organisms and must be ready for any disease outbreak that could put Canada's poultry populations or human health at risk. Research will be required to develop improved disease prevention and control strategies.

Industry Goal

Continue to enhance poultry health while reducing the possibility, and mitigating the effects of, severe disease outbreaks in Canada's poultry flocks

Research Target Outcomes

- Improve and enhance programs to maintain and enhance poultry health
- Safe and effective use of alternative approaches to ensure poultry health
- Stronger poultry immune systems through research on genetics, nutrition, etc.
- Prepared for catastrophic disease outbreak (including bird depopulation and disposal)
- Development of effective vaccines for use in poultry (e.g.: necrotic enteritis, salmonella, avian influenza)

- Understand how diseases spread and predict their future occurrence
- Understand impact of high performance on poultry health and sustainability of various production systems

Poultry Welfare

Canadian consumers expect poultry to be produced, transported and processed under humane conditions. A comprehensive poultry welfare program requires expertise not only in behaviour, but also in animal health, genetics, nutrition, and management


Industry Goal

Enhance existing and develop new science-based production systems and strategies to further improve the well-being of Canada's poultry flocks and maintain consumer confidence and trust

Research Target Outcomes

- Safe and effective use of alternative approaches to ensure poultry welfare at all levels of the complex poultry production chain
- Understand the link between genetic selection and poultry welfare
- Methods to identify and humanely euthanize birds with undesirable characteristics
- Identification of science-based management practices and tools for:
 - Maintaining appropriate conditions throughout flock production, catching, transport and slaughter
 - Determining humane endpoints for sick or injured birds and euthanasia techniques
 - Morphological alterations
 - Transportation and handling in all sectors
 - On-farm harvesting techniques
- Understand links between productivity and welfare, including the relationship between production system (e.g.: cage design, housing), genetics and high productivity

3. Chicken Farmers of Canada Request for Proposals

A Request for Proposals (RFP) from Chicken Farmers of Canada (CFC) for on-farm trials is attached to this Call for LOIs. 

CPRC is assisting CFC in its process to develop the RFP into a research project. CFC will use the same process as is described below for receiving and reviewing responses to its RFP and developing an acceptable research project. **LOI submissions are to be submitted to CPRC but clearly identified as being in response to the CFC Request for Proposals.**

Examples of previously funded projects, grouped by the pre-2014 research categories, are available [here](#).

NOTES FOR APPLICANTS - the grant review process was changed in 2012, please read:**Grant Review Process**

CPRC has adopted a two-stage grant review process involving 1) an industry review of LOIs; and 2) a scientific review of methodology.

Stage 1 Industry review of Letters of Intent (LOIs)

Please use the attached LOI form for your submission. Instructions on completing the form are included. 

Please email your completed LOI in Word format to info@cp-rc.ca by **June 6, 2014 5:00 pm EST**.

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 to info@cp-rc.ca or hard copy to:

Canadian Poultry Research Council
350 Sparks Street
Suite 1007
Ottawa, ON K1R 7S8

Your electronic submission is due June 6, however signed hard copies need not arrive by June 6.

Budget

Applicants should limit their requests from CPRC to a maximum of \$20,000 per year over three years for a total of \$60,000 per investigator. Collaboration among multiple investigators working towards a common objective(s) is encouraged and overall budgets exceeding \$60,000 will be considered for such collaborations, especially when involving multiple institutions. Budgets exceeding \$60,000 per investigator should be discussed with the CPRC office before submitting an application for evaluation.

Industry dollars, whether from CPRC or other industry sources, must be matched with non-industry dollars at a ratio of at least 1:1. Higher leverage ratios are preferred.

Review process

LOIs will be scored 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.

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. Successful applicants will be invited to submit a detailed description of the proposed methodology (Stage 2, described below).

Stage 2 Scientific review of detailed methodology.

Based on the review of LOIs, successful applicants will be invited to submit a Detailed Proposal that includes specifics of the proposed methodology. Further details and application guidelines will be provided at that time.

All applicants will be informed of the CPRC Board decision to accept or reject the Detailed Proposal. CPRC will commit to funding successful applications at the end of this stage, provided matching funds are secured. The preference is that funds from the poultry sector (CPRC and other sources) be matched at least 1:1 with funds from outside the poultry sector (e.g. other agricultural sectors, private sector, government funds etc.). CPRC staff are available to assist in applying for matching funds.

Future Calls

CPRC's Board will set the research categories that will be used for the next several years at its summer meeting. This information will be posted on the CPRC website.

With input from academe, government and industry, the CPRC will continually review its research priority list and, if necessary, adjust it to reflect existing and emerging issues of importance to its members. Provided they remain of high importance, individual priority areas will be the subject of future Calls at regular intervals so as to promote continuity in existing research programs.

Questions?

Inquiries regarding this call for Grant Applications should be directed to Dr. Bruce Roberts via email at bruce.roberts@cp-rc.ca or phone at 613-566-5916.

CPRC MEMBER PRIORITY LISTS

As additional information, please see the following research priority lists from each of the CPRC Members. Please note that, where indicated, these lists are for overall research priorities and may include areas that are outside the current Call for LOIs.

Canadian Hatching Egg Producers (overall)

1. Food safety

- Alternatives to antimicrobials

2. Control of Salmonella

- Vaccination - methods and effectiveness
- General control

3. Breeder welfare

- Stocking density
- Euthanasia methods for birds >3kg
- Feed restriction programs
- Male mortality/longevity, including the influence of barn design, feed delivery systems or genetic influences
- Early mortality of breeder hens

4. Production-based research

- Low production of young breeders

5. Poultry health and disease

- White chick syndrome

6. Environmental research

- Control of ammonia

Chicken Farmers of Canada

Food Safety & Gut Microbiology

- 1) Research Area: Flock management practices to help reduce antibiotic use
 - Examining management practices at the breeder, hatchery and broiler producer levels to reduce the incidence of yolk sac infections (*Omphalitis*) with the objective of reducing 1st week mortality, morbidity and antibiotic use.
 - The purpose would be to explore management practices that producers can implement on-farm in order to support efforts of reducing antibiotic use and of optimizing early flock management.
- 2) Research Area: Pathogen reduction
 - An examination of best management practices at all segments of the chain to reduce pathogen (i.e. *Salmonella*, including *Salmonella* Enteritidis, and *Campylobacter*) levels.
 - An option is that the Canadian Food Inspection Agency is completing a national baseline survey on *Salmonella* and *Campylobacter* levels. If available, these results may present an opportunity to identify effective mitigation measures.
 - The purpose would be to explore options to reduce pathogen levels on finished poultry products.

- 3) Research Area: Vaccine development for necrotic enteritis
 - The purpose of this research would be to continue research on effective vaccines to prevent Necrotic enteritis.
- 4) Research Area: Transmission of *Campylobacter*
 - While *Campylobacter* has historically not been thought to be able to transmit vertically, there is some debate around this issue.
 - The purpose would be to investigate if *Campylobacter* can be transmitted vertically.

Poultry Welfare

- 1) Research Area: Density standards for roasters
 - Research on density levels for chickens has focused on broilers, but there is limited research on the appropriate density level for roasters (>3kgs). Several international animal welfare programs stipulate different densities based on bird weight.
 - The purpose of the research would be to identify density limits for roasters.

Egg Farmers of Canada (overall)

- 1) Human Health and Nutrition
- 2) Egg Production and Processing
- 3) Food Safety
- 4) Bird Health and Welfare
- 5) Feed and Nutrition
- 6) Genetics and Breeding
- 7) Environmental Sustainability
- 8) Functional and Innovative Products
- 9) Public Policy
- 10) Consumer Preferences and Market Information

*Note: This is not an exhaustive list – research may be funded in other areas if relevant and applicable.

EFC Research Priorities related to the 2014 CPRC Call for Letters of Intent include:

- Animal Care science related to housing systems
- Food Safety
- Use of antimicrobials in feed (baseline use, consumer perceptions)

Turkey Farmers of Canada (overall)

Food Safety and Quality

- Explore new turkey meat products that meet the needs of consumers (e.g., value-added, omega fatty acids, “ready-to-cook”, and “ready-to-eat”).
- Develop and validate rapid detection techniques for human food-borne pathogens associated with turkey meat.

Flock Health

- Evaluate and further develop flock management practices that reduce the need of antimicrobial use in turkey production.
- Identify the causative factors related to the development of breast blisters so that mitigation methods can be explored.
- Explore the turkey production and flock health effects of feed formulations with varying levels of macro and micronutrients.

Turkey Welfare

- Assess the effect of stocking density on flock performance parameters, behavioural indicators and environmental conditions to develop sound recommendations related to flock welfare.
- Assess the effect of short and long distance transportation on market-age turkeys and evaluate measures that reduce bird stress.
- Explore the effect of various lighting programs on flock performance parameters and behavioural indicators to develop sound recommendations related to flock welfare.

New Product Development

- Explore the use of novel feedstuffs, feed additives, and/or the modification of existing feedstuffs to create more nutritionally efficient turkey diets.

Production Sustainability

- Assess and validate farm production methods that promote the reduction of environmental contaminants from turkey farms (e.g., phosphorous, nitrogen, ammonia, dust).