Canadian Poultry Research Council
Le Conseil De Recherches Avicoles Du Canada

Call for 2016 Letters of Intent (LOI)

December 2015

Dear applicant: Please note that the Canadian Poultry Research Council (CPRC) adopted a new approach to the grant review process in 2015 designed to provide more flexibility and efficiency to both CPRC and the research community. 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 new approach, compared to the LOI form used since 2012, 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 major focus on industry priority and impact. Those projects that are of strong interest to CPRC and its member organizations will move to the peer review stage.***
- ***Principal investigators will be provided the opportunity to respond to peer review comments.***
- ***CPRC reserves the option to request additional information, such as a detailed work plan and methodology, expansion of knowledge transfer activities, etc.***

CPRC has again made changes for the 2016 call. The research categories previously used were unable to accommodate some new initiatives in poultry research (i.e.: climate change, smart agriculture, precision agriculture). The CPRC Board of Directors decided that* ad hoc *category that was originally designed to fill these gaps was not as effective as it has been in the past. The Board established a three-category approach for the 2016 call designed to accommodate both ongoing research issues and respond to evolving areas of research. Specific priority areas and desired research outcomes, most included in the 2012* National Research Strategy for Canada's Poultry Sector *(http://www.cp-rc.ca/2010_Update/2010_research.html), have been identified within the categories. The 2016 call for LOIs encompasses the three categories and their priorities that are identified below. Research priorities specific to CPRC member organizations are listed by organization at the end of this document.

Please refer to the 'Notes to Applicants' section of this document for details, including submission deadline. LOIs are due February 5, 2016.

Research Categories and Priorities – 2016 Call

Food Safety

Research Priorities Included in Category

- Food Safety
- Economic Viability
- Animal Health Products
- Genetics/Genomics
- Smart Agriculture (Not in 2012 Strategy)

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Phone : (613) 566-5916 fax: (613) 241-5999 email: info@cp-rc.ca

Poultry Health and Welfare

Research Priorities Included in Category

- Poultry Health
- Poultry Welfare
- Economic Viability
- Genetics/Genomics
- Animal Health Products
- Smart Agriculture (Not in 2012 Strategy)

Productivity and Sustainability

Research Priorities Included in Category

- Economic Viability
- Environment
- Functional and Innovative Poultry Products
- Poultry Feedstuffs
- Genetics/Genomics
- Animal Health Products
- Smart Agriculture (Not in 2012 Strategy)
- Precision Agriculture (Not in 2012 Strategy)
- Climate Change (Not in 2012 Strategy)

Examples of previously funded projects, grouped by the pre-2016 research categories, are available on the CPRC website (www.cp-rc.ca) at the Programs section.

Notes for Applicants:

Industry review of Letters of Intent (LOIs)

Please use the CPRC LOI form for your submission for both the CPRC call and CFC RFP. Instructions on completing the form are included in that document.

Please email your completed LOI in **Word** format to info@cp-rc.ca by 5:00 pm EST **February 5, 2016**. 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
350 Sparks Street
Suite 1007
Ottawa, ON K1R 7S8

Your electronic submission is due February 5, 2016, however signed hard copies need not arrive by that date.

Budget

Applicants should limit their requests from CPRC to a maximum 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 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.

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.

Future Calls
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 LOI 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.

Canadian Hatching Egg Producers

Note: Topics marked ***bold** are high priority

1. ***Food Safety**
    a. Alternatives to antimicrobials
    b. Egg washing / Egg sanitization
        - Mechanical sanitization
        - Effectiveness
            - e.g. H_2O_2, quaternary ammonia, ultraviolet light
        - What effect does proper sanitization have on chick quality?
        - Could it be a possible solution for periodic shortages in the industry?
        - Method: *Salmonella* control
        - Fumigation
    c. Egg size
        - The ability to be able to set eggs below 52 grams if required
        - What is the largest acceptable egg: 75 grams or larger?
        - Potential factors that contribute to large egg size at the end of lay

2. ***Control of *Salmonella***
    a. Vaccination (methods and effectiveness)
    b. General control
    c. Sources of infection
    d. Possible barn differences, what type of construction, material, insulation, volume of air, angle to the sun (infrared radiation)
    e. What is transferred to the chick? How does egg incubation affect *Salmonella* cells?
    f. On-farm strategies to reduce and prevent *Salmonella* while birds are in production

3. ***Breeder Welfare**
    a. Stocking density
    b. Euthanasia methods for birds >3kg, including low atmospheric pressure stunning (LAPS)
    c. Feed restriction programs
    d. Male mortality/longevity, including the influence of barn design, feed delivery systems or genetic influences
    e. Early mortality of breeder hens (calcium tetany)

4. **Environmental Research**
    a. Ammonia control
    b. Effects of improper temperature control on egg transfer vehicles, including egg sweating and links to rots after eggs leave the farm.

5. **Poultry Health and Disease**
    a. White chick syndrome

6. **Production-based Research**
    a. Ways to increase fertility

Chicken Farmers of Canada

1. AMU:
    a. Examining on-farm best management practices to reduce the need for antibiotics
    b. Examining effective alternatives to antibiotics (e.g. prebiotics, probiotics, oils etc.)
    c. Continued research on effective vaccines to prevent Necrotic enteritis

2. Food Safety:
    a. Focus on methods to reduce pathogen contamination (in coordination with the Federal-Provincial-Territorial initiative)

3. Animal Welfare:
    a. Heat stress management – examining the use of different types of cooling systems (e.g. misters, evaporating systems) to reduce heat stress with consideration to the effects on the environment (e.g. humidity, ammonia, litter quality)
    b. Barn management and transport practices to reduce the number of DOA's
    c. Examining different types of bedding based on diminished supply of shavings

4. Poultry Health:
    a. Research and development of new vaccines for viruses that have developed virulent resistant strains
    b. Chick Quality (from egg handling and incubation, to farm management) - Understanding links between chick quality, health, and welfare, methods to increase % of high quality chicks and maximizing chick livability
    c. Examining the effect of flock/barn management during hatching egg production on chick quality

5. Animal Disease:
    a. Examining more rapid methods for heath treatment of barns following a disease outbreak (e.g. Avian Influenza)
    b. Surveillance of wild bird populations to understand disease ecology and pressures

Egg Farmers of Canada

1) Animal Care science related to housing systems
2) Animal welfare emerging issues
3) Food Safety
4) Human health benefits of eggs
5) Identifying non-food uses of eggs
6) Environmental research

7) Use of antimicrobials in feed (baseline use, consumer perceptions)

8) Support for supply management

Turkey Farmers of Canada

1. FLOCK HEALTH

a. Evaluate and further develop flock management practices that reduce the need for antimicrobial use in turkey production.
b. Develop and validate improved methods for the detection of antimicrobial resistance on-farm.
c. Identify the causative factors related to the development of breast blisters so that mitigation methods can be explored.
d. Explore the turkey production and flock health effects of feed formulations with varying levels of macro and micronutrients.
e. Identify methods of disease transmission (e.g., avian influenza) amongst flocks and from wild sources, and assess the effectiveness of eradication techniques.
f. Identification and validation of effectiveness of biosecurity measures that will help to mitigate the spread of turkey diseases.
g. Development and evaluation of an assessment method for poult quality.
h. The effect of water quality and mineral levels, independently and in combination with others, on turkey gut health.
i. Explore the use of in-feed additives that reduce the levels of harmful pathogens (i.e., *Campylobacter*, *Salmonella*) in flocks during turkey production.

2. FOOD SAFETY AND QUALITY

a. Develop and validate rapid detection techniques for human food borne pathogens associated with turkey meat.
b. Explore the development and implementation of new in-plant pathogen control measures.
c. Explore new turkey meat products that meet the needs of consumers (e.g. value-added, omega fatty acids, “ready-to-cook”, “ready-to-eat”).
d. Assess and manipulate feed withdrawal processes to determine the effect of timing, transportation distance, and finisher diet on meat quality and characteristics (e.g. water loss), and bacterial load.
e. Explore the use of in-feed additives to reduce the prevalence of food-borne pathogens in turkey flocks and in turkey meat.

3. TURKEY WELFARE

a. Assess the effect of short and long distance transportation on market-age turkeys and evaluate measures that reduce bird stress.
b. Assess the effect of turkey loading equipment and trailer design on bird stress and welfare during loading and transportation.
c. Assess the effect of stocking density on flock performance parameters, behavioural indicators and environmental conditions to develop sound recommendations related to flock welfare.
d. Development and evaluation of potential new control strategies for lameness in turkeys, including both the application of on-farm measures (e.g., feeding practices, slow early growth) and an evaluation of genetic effects.
e. Explore the effect of various lighting programs on flock performance parameters and behavioural indicators to develop sound recommendations related to flock welfare.
f. Evaluate and further develop methods for humane on-farm euthanasia to be used in routine situations and during a mass depopulation.

g. Investigate new and emerging on-farm euthanasia methods and technologies to evaluate humaneness and effectiveness of various techniques.
h. Explore new and existing technologies and methodologies related to poult morphological alterations and skeletal development.

4. PRODUCTION SUSTAINABILITY

a. Develop practical alternative uses for turkey processing by-products.
b. Identify and explore alternative uses for turkey manure.
c. Assess and validate farm production methods that promote the reduction of environmental contaminants from turkey farms (e.g. phosphorus, nitrogen, ammonia, dust).
d. Assess the impact of turkey farming on the immediate and remote environment (including inputs and outputs) and develop novel farming methods that reduce the ecological footprint of the Canadian turkey industry.

5. NEW PRODUCT DEVELOPMENT

a. Explore and develop turkey feed formulations that meet the requirements of the “free-from” and “vegetable-grain fed” marketing requirements.
b. Explore the use of novel feedstuffs, feed additives, and/or the modification of existing feedstuffs to create more nutritionally efficient turkey diets.