



Canadian Poultry
Research Council

Le Conseil De
Recherches Avicoles
Du Canada

Call for Letters of Intent

April 2010

The Canadian Poultry Research Council (CPRC) and its member organizations are currently calling for Letters of Intent (LOIs) in the following priority areas:

1A. AVIAN GUT MICROBIOLOGY

There is increasing pressure worldwide to reduce and perhaps eventually eliminate the use of antimicrobial drugs in farm animal feeds. Several projects have received CPRC support as part of the Avian Microbiology Network (AviMicroNet) which is directed towards a better understanding of the effects of antibiotics on microbes in the avian gut. These projects are working towards the following:

- Understanding the effects of antibiotic use on population changes and gene expression in gut microflora, and the subsequent effects that these changes have on the bird's immune system
- Determining why certain strains of the bacterium *Clostridium perfringens* cause necrotic enteritis in birds, while others do not; finding the reasons behind these differences will provide insights into the epidemiology of the disease which may, in turn, lead to better control measures
- Characterizing polysaccharide hydrolysis products from carbohydrase enzymes to determine their effect on gut microflora *in vitro* and *in vivo*
- Understanding how *Campylobacter jejuni* colonizes the gut of the bird, insights into which may lead to development of a vaccine or other control strategy for this bacterium
- Using cyclic-di-GMP to stimulate avian immune responses to pathogens
- Engineering phage products for controlling *C. jejuni* populations
- Investigating cell-cell signaling in *Clostridium perfringens* infection for developing a novel disease-control strategy
- Investigating pathogenic characteristics of *Clostridium perfringens* and its interactions with the avian host

The current Call for LOIs is intended to attract research proposals that build on work already underway under the AviMicroNet and to perhaps expand the scope of this research towards novel alternatives to antimicrobials.

1B. ANTIMICROBIAL RESISTANCE AND ALTERNATIVES TO ANTIBIOTICS

Over and above the funding provided by CPRC in the area of Avian Gut Microbiology, Chicken Farmers of Canada (CFC) will allocate up to an additional \$200,000 over three years for projects dealing with antimicrobial resistance and alternatives to antibiotics.

Both applied and fundamental research proposals will be considered, however it is preferred that CFC's additional allocation be used mainly for applied research. Proposals must adhere to the same budgetary, quality and funding requirements as other proposals to CPRC.

Issues of importance include, but are not limited to:

- The risks associated with raising birds without antibiotics and how these risks can be mitigated
- Further development of alternatives to antibiotics
- Emergence of antimicrobial resistance in organic/antibiotic-free chicken compared to conventional chicken
- Disease risk factors in organic/antibiotic-free chicken compared to conventional chicken
- Research into current antimicrobial usage practices
- Research into salmonella resistance to ceftiofur

2. ENVIRONMENT

The CPRC is requesting Letters of Intent from those researchers who wish to enhance the ability of Canada's poultry industry to face current environmental issues. Issues of importance include, but are not limited to:

- Nutrient management (NPK)
- Regulatory processes
- Water use (producer/processor)
- Rendering
- Evaluation of production systems to reduce negative impacts on soil, water, air
- Recycling waste – creation of new products rather than disposal
- Alternatives to bird disposal and reduction of the impact of by-products to the environment
- Housing environment and its effect on poultry and people (especially indoor air quality)
- Bio-processing

The environment represents a very broad spectrum of issues. Furthermore, most of these issues are inter-related. Specific environmental problems should therefore be addressed while remaining mindful of secondary and tertiary effects; changing one environmental factor will almost undoubtedly affect several others. It is for these reasons that Letters of Interest representing research of an interdisciplinary approach to environmental issues will be favoured. Furthermore, collaboration among researchers and institutions is encouraged.

It is anticipated that some LOIs received in response to this Call will incorporate research that builds upon the projects listed below, which received CPRC support. Project summaries are provided on the CPRC website (www.cp-rc.ca/research_programs.html):

- Distribution Uniformity and Emission Reduction Potential of a Precision Applicator for Surface and Sub-surface Land Application of Poultry Manure
- Development of a Dynamic Model of Ca and P flows in Layers
- Activity-specific Workplace Exposures of Poultry Barn Workers
- Reducing Pollution from Veterinary Pharmaceuticals in Agricultural Runoff from Poultry Manure
- Utilization of protein-containing agriculture waste and by-products for adhesive development.
- Assessment of concentrations and emissions of airborne pollutants at various poultry operations

NOTES FOR APPLICANTS

Deadline

The deadline for all Letters of Intent is 5:00 pm EST on **June 1, 2010**.

Please use the attached LOI form for your submission. 

Please submit an electronic copy to info@cp-rc.ca. In addition to the electronic copy, an original, signed hard copy should be sent to:

Canadian Poultry Research Council
483 Arkell Rd
Guelph, ON N1H 6H8

Budget

Funds for this granting program will be limited; applicants should limit their requests from CPRC to a maximum of \$20,000 per year over three years for a maximum total of \$60,000. Funds from other sources are welcome. Larger budgets should be discussed with the CPRC office before submitting an application for evaluation.

Review process

The CPRC Scientific Advisory Committee will review all LOIs. It will make recommendations to the CPRC Directors. All applicants will be informed if the CPRC will support their application.

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

Funding partners

If approved for CPRC support, NSERC-eligible applicants will be instructed to submit applications to NSERC-CRD program through their respective university Research Grants Offices. AAFC scientists will be instructed to submit their approved applications to the appropriate AAFC channels.

CPRC will also accept applications indicating matching funds from other sources. 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. If matching funds are not secured within one year of the CPRC grant notice, CPRC reserves the right to withdraw the grant.

Training of highly qualified personnel

The CPRC supports poultry research in Canada and the training of highly qualified people for Canada's poultry sector.

Future Calls

After considering input from the CPRC Scientific Advisory Committee, as well as current budget limitations, the CPRC Directors have decided to announce annual Calls for Letters of Intent that pertain to two research priority areas at a time. The priority areas for the next two calls are as follows:

Date of Call	Priority areas
April 2011	<ul style="list-style-type: none"> ▪ Poultry Welfare & Behaviour ▪ Food Safety & Quality – Impact of Poultry Health & Disease
April 2012	<ul style="list-style-type: none"> ▪ Avian Gut Microbiology ▪ Environment

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 LOIs should be directed to Mr. Gord Speksnijder via email at gords@cp-rc.ca or phone at 289-251-2990.