



**Canadian Poultry
Research Council**

**Le Conseil De
Recherches Avicoles
Du Canada**

Call for Letters of Intent

April 2011

The Canadian Poultry Research Council (CPRC) and its member organizations are currently calling for Letters of Intent (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. POULTRY WELFARE & BEHAVIOUR

This program is intended to enhance the ability of Canada's poultry industry to face current issues relating to poultry welfare and behaviour. Information on research supported by CPRC in the past can be found in the "Results" section of our website. New research should build on past work and contribute to knowledge towards addressing one or more of the industry-identified issues listed below:

- Euthanasia
 - mass depopulation during emergencies
 - routine depopulation (especially disposal of end-of-cycle layers and unwanted male chicks, including alternative uses for males and pre-hatch sexing)
 - determining humane endpoints for sick or injured birds and appropriate techniques to euthanize
- Catching and Transportation
 - transit time and conditions
 - catching and loading/unloading techniques
 - education training
- Morphological alterations (beak trimming, toe trimming, snooding etc.)
 - best practices/methods
 - short and long-term effects
- Relationship between productivity and bird welfare
 - impact of high productivity on:
 - skeletal development, bone strength, lameness etc.
 - immune function
 - physiology
 - impact of genetic selection, strain effects etc.
 - economic impact of improving poultry welfare
- Effect of housing environment management
 - stocking density
 - air quality (humidity, temperature, ammonia, dust, carbon dioxide etc.)
 - lighting
 - litter quality
 - bedding material
 - impact on foot pad lesions
 - relationship with breast blisters, including interaction with other factors
 - alternative production systems
 - impact on bird behaviour, welfare, performance and production management
 - impact on pathogen load and disease control measures
- Identification of the animal welfare impacts of a soft molt on various egg-layer strains.
- Studies on pain, fear, frustration and emotional states


2. FOOD SAFETY & QUALITY – IMPACT OF POULTRY HEALTH & DISEASE

The CPRC is also requesting Letters of Intent from those researchers who wish to enhance the ability of Canada's poultry industry to face current issues relating to food safety and quality, especially with respect to the impact of poultry health and disease. Information on research supported by CPRC in the past can be found in the "Results" section of our website. New research should build on past work and contribute to knowledge towards addressing one or more of the industry-identified issues listed below:

- Disease prevention and mitigation
 - risks associated with raising birds without antibiotics and how these risks can be mitigated
 - prudent use of antibiotics, including understanding and minimizing development of resistance, and finding alternatives to traditional antimicrobials
 - ability to eradicate pathogens (particularly in breeder and layer flocks)
 - development of new vaccines and treatments for disease
 - creation of markers to differentiate birds exposed to a disease from those that have developed antibodies to a vaccine
 - identify routes of disease transmission
 - preparedness for disease outbreaks (including bird depopulation and disposal)
 - biosecurity measures that will help mitigate spread of disease
 - manure storage and/or composting techniques that reduce risks of pathogen carriage
 - effects of toxins/microorganisms on bird and human health
- Feed and Water
 - identify and characterize effects of water contaminants on poultry health
 - nutritional requirements
 - macro and micronutrients
 - differential requirements of modern/alternative strains/breeds
 - alternative feed ingredients (e.g. distillers grains)
 - feed withdrawal
 - effect of timing, transportation distance, finisher diet etc. on meat safety and quality
- Food Safety
 - explore the development and implementation of new in-plant (processor) pathogen control measures
 - Salmonella control
 - in the environment
 - techniques to block transovarian transmission
 - vaccines
 - detection and eradication of human pathogens in food products

NOTES FOR APPLICANTS

LOI submission

Please submit an electronic copy of your completed LOI to info@cp-rc.ca by 5:00 pm EST **June 1, 2011**. If you do not receive email confirmation of your submission within two business days, contact the CPRC office. ***Please use the attached LOI form for your submission.*** 

In addition to the electronic copy, please also send an original, signed hard copy to:

Canadian Poultry Research Council
4696 Barrie Rd
Port Hope, ON L1A 3V8

The signed copy need not arrive prior to June 1.

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 per investigator. Collaboration among multiple investigators working towards a common objective(s) is encouraged. Requests from CPRC exceeding \$60,000 will be considered for such collaborations, especially when involving multiple institutions. Funds from other sources are welcome. Larger budgets should be discussed with the CPRC office before submitting an application for evaluation.

Funding partners

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

Review process

The CPRC Scientific Advisory Committee will review all LOIs and make recommendations to the CPRC Board of 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.

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 call (April 2012) will pertain to 1) Avian Gut Microbiology and 2) 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.

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)

- Production-based research
- Environmental research
- Dark-meat utilization
- Food safety
- Salmonella vaccination in broiler breeders, control of Salmonella
- Early mortality of breeder hens
- Low production of young breeders
- Actual effect of climate control (in the hatching egg cooler, and cooling during transportation and/or at the hatchery) on fertility
- Comparison of bedding materials
 - Sand versus sawdust in the scratch area; other novel materials or methods

Chicken Farmers of Canada

Poultry Welfare & Behaviour:

- Effect of stocking density on bird welfare and flock performance parameters, behavioural indicators and environmental conditions to develop sound recommendations related to flock welfare.
- Effect of the housing environment on flock welfare
 - air quality management (humidity, ammonia, CO₂, ventilation)
 - litter management
 - temperature
 - lighting
- Leg health
 - barn management effects on leg health and foot pad lesions
 - lameness/lesions and its effect on bird welfare
- Catching and transport
 - humane catching & loading techniques to minimize bird stress
 - the effect of transport times and conditions on bird welfare

Food Safety & Quality – Impact of Poultry Health and Disease:

- The risks associated with raising birds without antibiotics and how these risks can be mitigated
- Further development of alternatives to antibiotics
- Development of new vaccines and treatments for disease
- Creation of markers to differentiate birds exposed to a disease from those that have developed antibodies to a vaccine
- Identify methods of disease transmission
- Preparedness for disease outbreaks (including bird depopulation and disposal)
- Biosecurity measures that will help mitigate spread of disease

Egg Farmers of Canada

Poultry Welfare & Behaviour:

- Examine egg production and bird health and welfare in alternative housing systems, in terms of strain of layer, density, production, layer stress, feather pecking, behaviour expression, and adaptability to varying Canadian climatic conditions.
- Study layer characteristics to increase bone strength and reduction in osteoporosis.
- Development of technologies to facilitate male chick disposal.
- Development of alternative uses for male chicks.
- Development of technologies identifying the sex of the chick before hatch.

- Continue developing alternative technologies for on-farm layer disposal and transportation vehicles carrying live birds to slaughter.
- Identification of the animal welfare impacts of a soft molt on various layer strains.
- Develop effective barn ventilation systems for filtration and/or absorption of ammonia and other gases, or excessive humidity.
- Develop new technologies for storing and/or composting poultry manure and for limiting pathogens within poultry litter.

Food Safety & Quality - Impact of Poultry Health & Disease:

- Examine egg layer skeletal integrity, strength and capacity to absorb additional nutrients.
- Assess the impact of production practice changes.
- Identify contaminants in poultry drinking water coming from varying sources across the country and measure poultry health consequences.
- Development of products for parasite and disease control for layers housed in various production systems.
- Identify feed requirements of various layer breeds.
- Identify and study the nutritional profile of alternative poultry feed ingredients (eg. distiller grains) and their use (digestibility) by laying hens.
- Develop techniques in blocking Salmonella transovarian transmission into the egg (eg. anti-Salmonella feed additive).
- Develop techniques in Salmonella control in the environment.
- Vaccine development.

Turkey Farmers of Canada (overall)

Flock Health:

- Evaluate and further develop flock management practices that reduce the need for antimicrobial use in turkey production.
- Develop and validate improved methods for the detection of antimicrobial resistance on-farm.
- Identify the causative factors related to the development of breast blisters so that mitigation methods can be explored.
- Development and evaluation of potential new control strategies for lameness in turkeys, including both the application of on-farm measures and an evaluation of genetic effects.
- Explore the turkey production and flock health effects of feed formulations with varying levels of macro and micronutrients.
- Identify methods of disease transmission and assess the effectiveness of eradication techniques.
- Identification and validation of effectiveness of biosecurity measures that will help to mitigate the spread of turkey diseases.

Turkey Welfare:

- Assess the effect of short and long distance transportation on market age turkeys and evaluate measures that reduce bird stress.
- Assess the effect of stocking density on flock performance parameters, behavioural indicators and environmental conditions to develop sound recommendations related to flock welfare.
- Evaluate and further develop methods for humane on-farm euthanasia to be used in routine situations and during a mass depopulation.
- Explore new and existing technologies and methodologies related to poult morphological alterations and skeletal development.

Food Safety And Quality:

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

- 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.

Production Sustainability:

- Develop practical alternative uses for turkey processing by-products.
- Identify and explore alternative uses for turkey manure.
- Assess and validate farm production methods that promote the reduction of environmental contaminants from turkey farms (e.g. phosphorus, nitrogen, ammonia, dust).

New Product Development:

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