

CPRC Update: Poultry Nutrition Chair at University of Saskatchewan

The National Sciences and Engineering Research Council of Canada (NSERC), poultry industry and University of Saskatchewan came together in August 2013 to establish an Industrial Research Chair (IRC) in Poultry Nutrition and Dr. Henry (Hank) Classen was appointed to the position. CPRC Member Organizations contributed to the initiative through CPRC along with eight other industry stakeholders, including:

Aviagen North America
Chicken Farmers of Saskatchewan

Lilydale Inc. (a Sofina Foods Company)
Poultry Industry Council

Prairie Pride Natural Foods Ltd.
Saskatchewan Broiler Hatching Egg
Producers' Marketing Board
Saskatchewan Egg Producers
Turkey Farmers of Saskatchewan

Funding for the IRC in Poultry Nutrition covers more than a research position – it is a research program. Dr. Classen designed a complete five-year research plan including graduate students, support staff and other research inputs. Funding commitments are dedicated to these research activities as well as the Chair position.

In addition to Dr. Classen, the NSERC-IRC program has expanded to include a core that includes a Research Associate, Head Technician and Research Assistant. A Post-Doctoral Fellow position has been funded and will be filled in future. The group also includes three Ph.D. students, three M.Sc. students and an undergraduate student, all of whom are conducting research projects under Dr. Classen's supervision.

A feature of the NSERC-IRC is that the university agrees to hire a tenure track faculty member in Poultry Science to ensure that the position is maintained after the NSERC-IRC term expires. Dr. Karen Schwean-Lardner was appointed as an Assistant Professor of Poultry Science in the Department of Animal and Poultry Science effective June 1, 2014 to fulfill this obligation. Dr. Schwean-Lardner previously held the position of Research Scientist and Manager of the Poultry Research and Teaching Unit at the University of Saskatchewan.

The NSERC-IRC group presently has five projects underway with many more to come. Present projects include:

- 1) *Determining the impact of extent and rate of starch digestibility on performance, behaviour and welfare of broiler breeders*, research lead Aman Deep, Ph.D. candidate and recipient of the 2012 CPRC Scholarship. The objective of this research is to determine if starch digestibility rate affects broiler breeder growth and reproductive performance, energy metabolism, satiety and behaviour. The project is expected to be completed by the end of this year.
- 2) *In vitro assessment of starch digestibility*, research leads Namalika Karunaratne, M.Sc. Student – wheat, and Dr. Classen – barley, corn, oats. The objectives of this research are to determine the effect of cultivar and grain growing environment on the rate of starch digestibility using an *in vitro* model of the chicken digestive tract and the relationship of starch characteristics to the rate and extent of starch digestion. Completion date is September 30, 2014.

- 3) *In vitro assessment of protein digestibility*, research lead Dervan Bryan, Ph.D. candidate. The objective of this research is to fill a knowledge gap on the lack of research on the rate of protein digestion in poultry species. An *in vitro* model will be developed to assess protein-rich ingredients for the rate and extent of protein digestibility.
- 4) *The use of hydrolyzed dietary proteins during the first 5 days of turkey life to enhance gut maturation, bird health and long term productivity; and on gut development in broiler chickens*, research leads Megan DeVisser, M.Sc. candidate and Kailyn Beaulac, undergraduate student. This research is designed to determine the effect of protein source on early turkey development and gastrointestinal tract development (DeVisser), and to determine the effect of phytate on broiler chicken gut development (Beaulac). Expected completion August 31, 2015.
- 5) *Examining the value of protein from cereal grains in laying hen diets using high levels of crystalline amino acids*. This research consists of determining protein and amino acid requirements of laying hens (Dinesh Kumar, M.Sc. candidate), phase feeding of amino acids to laying hens based on weight gains (Dr. Classen) and determining if hens can self-select their amino acid requirements (Dr. Schwean-Lardner). Completion is scheduled for August 31, 2015.

The NSERC-IRC Chair in Poultry Nutrition is an example of cooperation among government, universities and industry to support a comprehensive program in a targeted research area.

For more details on any CPRC activities, please contact The Canadian Poultry Research Council, 350 Sparks Street, Suite 1007, Ottawa, Ontario K1R 7S8, phone: (613) 566-5916, fax: (613) 241-5999, email: info@cp-rc.ca, or visit us at www.cp-rc.ca.

The membership of the CPRC consists of Chicken Farmers of Canada, Canadian Hatching Egg Producers, Turkey Farmers of Canada, Egg Farmers of Canada and the Canadian Poultry and Egg Processors' Council. CPRC's mission is to address its members' needs through dynamic leadership in the creation and implementation of programs for poultry research in Canada, which may also include societal concerns.