



RESEARCH NEWS

Comments, submissions
and event listings to:
stefani@ms.umanitoba.ca
Phone: (204) 474-9020
Fax: (204) 261-3475

Finding ways to improve poultry feed formulation

By Frank Nolan, Research Promotion Officer

A new project in the Faculty of Agricultural and Food Sciences is examining better ways to formulate poultry feed. The project could not only improve production efficiency, it could also have significant environmental benefits.

Amino acids are among the most important, and most expensive, components of poultry feed. These protein building blocks provide young chicks and adult birds with the raw materials they need for healthy growth, development, and production.

Knowing exactly how much amino acid content to include in poultry feed is one of the major problems faced by commercial feed producers. If the level is too low, the birds won't get the nutrients they need, and if the level is too high, any excess amino acids are broken down and excreted as nitrogen, which is a major environmental concern.

To ensure adequate levels, many feed producers include a wide safety margin when determining how much protein content to include in poultry feed. This margin can be as high as 15 per cent, which adds extra cost to the feed and increases the potential for higher

nitrogen levels in manure.

"Currently, poultry feed formulation with respect to amino acids relies on digestibility coefficients generated using adult roosters," said Martin Nyachoti, animal science. "The question, though, is whether or not those adult roosters with their more developed digestive systems are physiologically similar to young chicks. We think there is a significant difference."

Nyachoti is investigating ways to generate more accurate digestibility coefficients for amino acids. His project recently received \$75,000 in new funding from the Natural Sciences and Engineering Research Council of Canada (NSERC).

"Reducing cost is definitely one of the benefits we think will come out of this project," he said. "If you're using the right digestibility coefficients, you can avoid the large safety margins when you formulate the diets, which can lead to significant cost benefits in the end."

Nyachoti's research is focused on amino acids derived from feed ingredients important to the prairie region, including wheat, peas, flax,



Photo by Frank Nolan

Martin Nyachoti, animal science, is researching optimum amino acid content in poultry feed.

corn and distiller's grains. For each ingredient, he will collect five samples from locations in Manitoba, Saskatchewan and Alberta, and quantify digestible amino acid coefficients using young broiler chicks.

"There is a huge interest in this research, from industry as well as

academia," he said. "This project will be conducted entirely at the University of Manitoba, but it is also a satellite part of a much larger program that involves industry partners and several universities in the United States that are working on the same kind of research."

Institute of Cardiovascular Sciences has a new director

The University of Manitoba and St. Boniface General Hospital have announced the appointment of Larry Hryshko as director of the Institute of Cardiovascular Sciences.

Hryshko, physiology, holds a Canada Research Chair in Cardiac Electrophysiology. He has been published in such prestigious works as the *Handbook of Physiology and in Cardiac Electrophysiology: From Cell to Bedside*, a widely utilized clinical textbook.

Hryshko succeeds Naranjan Dhalla, a world-renowned heart researcher and distinguished professor of physiology at the University of Manitoba. Dhalla is stepping down after two decades as head of the Division of Cardiovascular Sciences, which became the Institute of Cardiovascular Sciences in 1996.

Hryshko joined the Division of Cardiovascular Sciences in 1994, and has been a member of the Institute of Cardiovascular Sciences at the St. Boniface Hospital Research Centre since its creation. He and his team of researchers investigate the molecular properties of sodium-calcium exchangers - proteins essential for normal cardiac function. Hryshko's

laboratory collaborates locally, nationally, and internationally with academic research laboratories and pharmaceutical companies.

"I am very pleased that the new Director of the Institute of Cardiovascular Sciences is one of the University's and St. Boniface's leading researchers," said Michel Tétreault, President and CEO of St. Boniface General Hospital. "I believe that Dr. Hryshko's vision for cardiovascular research will significantly advance research in this field and assist in making our province a centre of cardiovascular excellence not only in research but in patient care."

"I congratulate Dr. Hryshko on his appointment as Director of the Institute of Cardiovascular Sciences," said University of Manitoba President and Vice-Chancellor Emőke Szathmáry. "He is an outstanding scientist who will continue the tradition of excellence established by Dr. Dhalla. We are very proud of the long-standing partnership with St. Boniface General Hospital that this Institute represents. Collaborative partnerships such as the Institute contribute greatly to health research."

Widely regarded as one of the pre-eminent basic cardiovascular research programs in the world, the Institute of Cardiovascular Sciences is a partnership between the University of Manitoba and St. Boniface General Hospital, and is a leading force in the fight against heart disease at the cellular and molecular levels. This multidisciplinary program includes over 80 researchers

investigating cardiac pathophysiology, electro-physiology, cellular and molecular biology. The Institute is also home to the journal *Molecular and Cellular Biochemistry*, the *International Academy of Cardiovascular Sciences*, and its journal *Experimental & Clinical Cardiology*.



(Photo courtesy of the St. Boniface General Hospital Research Centre)

Larry Hryshko, Canada Research Chair in Cardiac Electrophysiology.

Bringing Research TO LIFE

Research News is published by
the Office of the
Vice-President (Research)
www.umanitoba.ca/research