

**FACULTY OF AGRICULTURAL AND FOOD SCIENCES
University of Manitoba**

**Strategic Research Plan
September 2008**

Vision statement

The Faculty of Agricultural and Food Sciences has nationally and internationally recognized research programs which contribute significantly to the production of healthy food, feed, energy, fiber and other products; to sustainability of Manitoba ecosystems, and to rural community stability and economic viability. The Faculty generates significant agricultural knowledge, science and technology to improve the soil, crop, livestock and human resources in Manitoba and internationally.

Mission Statement

The Faculty of Agricultural and Food Sciences will enhance linkages between production-oriented research and longer-term multifunctional research and student training, expand its focus beyond the individual producer and consumer to the community and build across disciplinary expertise to better address complex agricultural and consumer issues. Key components in meeting development and sustainability goals will be the Faculty's ability to increase stakeholder participation in our research and knowledge transfer processes and ability to respond to new priorities and changing circumstances. This may include strategic initiation or participation in centre(s) of excellence and networks, with regional or national mandates, in selected research areas.

The key areas of research include **Healthy Food, Healthy Environment, Healthy Bioproducts** and **Healthy Communities**. The Dean of the Faculty of Agricultural and Food Sciences, with guidance from the Faculty Executive, will provide leadership in these critical endeavors as the Faculty addresses the changing research environment over the next five year period.

Major Objectives of the Strategic Plan:

The strategic research plan will build capacity in the emerging areas of provincial, national and international importance through: i) creation of a positive and stimulating atmosphere where researchers are encouraged to develop new ideas about food, agriculture and global stewardship; ii) increased participation in tri-council programs¹ and other funding agencies²; iii) strategic allocation of Canada Research Chairs and other chairs; iv) strategic research partnerships with other research institutions, including federal and provincial governments as well as

¹ NSERC, CIHR and SSHRC

² Federal (non tri-council), provincial and industry R & D funding programs

international institutions; v) recruitment of high quality graduate students, postdoctoral fellows and research associates; vi) faculty and research promotion and vii) fundraising.

Background:

The Faculty of Agricultural and Food Sciences conducts research in:

- Production and genetic improvement of plants and animals for food, feed and bioproducts
- Safe and sustainable processing of plant and animal products for food, feed and bioproducts
- Improvement of environment and utilization of resources in production and processing of food, feed and bioproducts
- Assurance of safe and healthy products for Manitoban, Canadian and international consumers
- Economics of production, processing, markets, environment, risk and trade
- Global environmental stewardship related to research on managed and natural ecosystems

Internationally or nationally recognized areas of research in the Faculty of Agricultural and Food Sciences include long standing programs in the areas of canola and cereal breeding, sustainable animal and crop production systems, grain storage and handling, food chemistry and processing, production economics and risk management. The novel aspects of these programs are largely contained in the individual research specialties of academics within the Faculty and are demonstrated by the research publications, technologies and high quality graduate students produced, invitations for collaboration, consultations and key note addresses, and awards received by staff and students. Novel or innovative features of the Faculty include:

- the University of Manitoba is the only institution in Canada that has a Department of Entomology associated with a Faculty/College of Agriculture or Veterinary Medicine.
- the Canada Wheat Board Centre for Grain Storage Research and the associated researchers are the only group in Canada dedicated to research and graduate student training in grain handling and storage.
- considerable expertise has been directed towards an improved understanding of biochemical and physiological responses of plants to abiotic and biotic stressors; with the Faculty home to the largest group in Canada working on host:pathogen interactions.
- the FAFS boasts a broad range of systems-based researchers using economic, modeling and process science tools to assess and improve conventional and alternative practices in areas such as waste management, production agriculture, and alternative energy.
- across the FAFS there is expertise that is bridging the gap with Medicine and Community Health, including expertise in biomedical engineering,

- cardiovascular health, natural health products, nutrition/metabolism and, microbiology.
- the Faculty has established research groups conducting work in the area of bioproducts, including natural health products, bioenergy, industrial oils and composites.
 - the Faculty is a major partner in the Richardson Centre for Functional Foods and Nutraceuticals (RCFFN), a well-equipped facility focused on development and commercialization of healthy foods and natural health products.
 - the Husky Biofuel program is a major initiative that has plant scientists, molecular biologists, process engineers and animal nutritionists working in a comprehensive manner to optimize energy and co-products from starch and cellulose.
 - the Faculty is home to the National Centre for Livestock and the Environment, a team of scientists that engages in multidisciplinary research partnerships to further the economic, environmental and social issues affecting sustainability of integrated livestock and crop production systems
 - considerable expertise and infrastructure is embedded in fundamental research related to physical, biological and chemical processes in agricultural production, processing and natural systems. New knowledge is used to address environmental issues and to facilitate production agriculture in a time of global change.