The 8 priorities identified at the industry consultation workshop held in November 2011 and endorsed by DFC have been regrouped as follows:

1) Animal issues
   • Animal health, animal welfare and reproduction (lameness, lifetime productivity, reproductive performance, udder infections, antimicrobial resistance, chemical residues, integrity of the immune system, production limiting diseases, feeding and lodging practices impact on animal issues);
   • Food safety (Canadian Quality Milk, to ensure that milk meets the food safety objectives for milk at farm level. N.B. Food safety strategies ideas at the processing level might be considered by potential processors partners).
2) Environmental and socio-economic sustainability of supply management

- Environmental and socio-economic sustainability (issues related to climate change and sustainable production systems, reducing production inefficiencies, addressing public concerns caused by the production of greenhouse gases caused by rumen fermentation and manure storage, implementing effective and responsible management of human resources, ensuring farm tasks are carried out safely and competently, managing the dairy farm to ensure its financial viability);
- Economic aspects of supply management (economic performance and contribution of the dairy sector within the supply management systems, farm business practices/models, market research on relative prices of milk, societal views of dairy farmers and dairy farming, use of results of lifecycle assessment to enhance the evaluation of the socioeconomic impacts);
- Positioning milk as a sustainable source of nutrients (the nutrition and health benefits associated with milk and milk products in relation to the impact on the environment, nutrient density of milk and milk products, health related properties of milk proteins and other nutrients, efficiency of land utilisation, use of by-products not consumable by humans, capacity of recycling large quantities of human food by-products rich in nutrients, efficiency of water utilisation, efficiency of processing milk versus other protein rich crops, role of dairy animals in the economy of developed and of developing countries, need to include forages in crop rotation in order to protect the soil integrity).

3) Milk biosynthesis and milk composition

(techniques aimed at improving the manufacturing and processing of milk and dairy products, altering the nutritional value of milk, improving the understanding of the regulation of milk synthesis, identify bioactive components in milk with potential to improve human health, using milk as a delivery system for nutraceuticals with known benefits to human health)

4) Genetic and Genomics

- Genetic improvement for productivity (with emphasis on health, reproduction, locomotion and feed efficiency) and for milk properties affecting human health; effect of genetic improvement on GHG emissions; development and application of genetic, genomic and epigenomic methods to achieve those objectives;
- Nutrition and “nutrigenomics” (identify the genes responsible for the molecular regulation of nutrient metabolism, modify ruminal fermentation to reduce carbon emissions, increase feed efficiency by improving the digestibility of dietary components, improve use of nitrogen and phosphorous for the animal’s benefit to reduce the risk of contaminating the environment, innovative nutritional strategies and feedstuff).

Please note that for dairy production innovations proposed, the economic implications are always considered by the industry before application. Hence, it is recommended to take this into account when addressing some priorities and involvement of economists in your research teams should be encouraged.