

# Benefit-cost analysis of NIRS feeding initiative for the Alberta livestock and crop industry

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Near Infrared Reflectance Spectroscopy (NIRS) is a technology that may be used to quickly predict the nutrient content of feed ingredients for livestock rations. NIRS represents a potential tool for livestock producers that may allow them to better “tailor” rations for cattle (beef and dairy), hogs and poultry. There may also be indirect benefits to crop producers in terms of providing more accurate information concerning the value of their outputs. Work is underway to examine the feasibility of commercial introduction of this technology in Alberta.

This project evaluates the distribution of net benefits/costs associated with the adoption of NIRS by the Alberta livestock and crop sectors. Private and public net benefits of the NIRS feed grain initiatives will be estimated and extended to a regional level for Western Canada. Benefit-Cost Analysis (BCA) will be used to evaluate the NIRS program and, where feasible, will include social benefits/ costs (e.g. environment, manure production). The approach will undertake BCA separately for the AB dairy, beef (ILO), pork, poultry/broiler and beef (cow-calf) sectors. Estimates of cost savings, production changes and/or price changes will be developed, based on available literature, consultation with NIRS researchers, industry representatives and other expert opinion. These values are then used to estimate changes in the net benefits to the feed users (e.g., dairy farms) and feed sellers/producers (e.g., feed mills, grain suppliers such as AB crop farms). The BCA will be extended to include distributional analysis of the impact on different stakeholders, including the dairy sector. Preliminary results for ruminant livestock production sectors (beef and dairy) will be available in 2013.

**Implications:** Currently there is limited public information on the economic benefits and costs of NIRS in the dairy industry. Results from this study will serve as input into decision making by government and industry with respect to research and infrastructure investment, as well as contributing to the development of grading/pricing systems based on nutrient content.