BCRC Beef Science Cluster
Research Facts
IN PROGRESS

Optimizing protein levels in feedlot diets containing DDGS FDE.01.09

Project Title: Nutritional Strategies to Optimize Protein Value of Feeding Ethanol By-Products to Beef Cattle

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Background: The grain-based ethanol industry is moving to a fractionation process that increases fermentation efficiency and increases market opportunities for by-products. Dried distillers grains with solubles (DDGS) derived from the partial fractionation dry-grind ethanol process contain less fat and phosphorus but have more protein than non-fractionated by-products. In addition, heating during the drying process also reduces protein availability in the digestive tract.

The study will develop recommendations to help Canadian feedlot managers maximize the utilization of DDGS without reducing cattle performance

Objective: To optimize protein utilization from barley-based rations containing DDGS from the dry-grind partial fractionation process.

These researchers will collect regular samples of DDGS from ethanol plants using the traditional or partial fractionation process. These samples will be used in live animal and laboratory experiments to determine ruminal protein degradability and intestinal digestibility of DDGS from traditional vs. partial fractionation production processes. A backgrounding and finishing trial will compare the effects of the protein source (i.e. DDGS produced through traditional vs. fractionation methods) on feed intake, weight gain, feed efficiency and carcass characteristics.

Implications: Information on the rumen degradability and intestinal digestibility of DDGS protein will help develop recommendations to optimize protein utilization in feedlot cattle fed DDGS.

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