The newly expanded renewable fuels standard requires 36 billion gallons of renewable fuels be used annually by 2022, which allows continued expansion of starch-based ethanol production from present levels estimated at 7.9 billion gallons to 15 billion gallons annually. This level of biofuel production will consume forage and cereal grain resources historically utilized in livestock production but will produce millions of tons of by-products that can be fed in the livestock sector. Future viability of the livestock industries will depend on efficiently utilizing these feed resources in production systems. However, potential interactions of by-product-based finishing diets with genotype are unknown.

Research

Resources allow investigation of many post-weaning beef cattle production systems, including grazing stocker cattle, newly received stressed calves, high-forage backgrounding diets, finishing diets, and the ability to characterize digestion characteristics in metabolism studies. Current research focuses on impacts of feeding by-products of the bioenergy industry on

- Animal health, performance, and efficiency
- Nutrient utilization and metabolism
- Environmental implications
- Beef quality, nutrition, and safety

Accomplishments

- Interactions of corn processing method and inclusion of wet distillers’ grains
- Supplementation strategies of dry distillers’ grains to stocker cattle
- Different roughage sources in receiving diets containing wet corn gluten feed
- Level of roughage required in finishing diets containing wet distillers’ grains
- Impacts of wet distillers’ grains on marbling and consumer acceptance of beef

Potential Interaction with Cargill

- Investigate interactions with genotype and high by-product diets as related to feedlot finishing performance, animal health, and beef quality.
- Provide a research platform for other research.
  - Combined research capacity of 1,400 head in 90 experimental pens, 54 individually fed Calan gates, 24 forage research paddocks (5.5 acres each), metabolism facilities
  - Existing linkages with other programs

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