



ADM Animal Nutrition™ Beef Research: Where Innovative Nutritional Technologies Begin

The ADM Animal Nutrition Beef Research team includes scientists with expertise in ruminant nutrition, beef cattle management, rumen microbiology, metabolic biochemistry, feed ingredient handling and processing, and environmental management. Research resources include a pilot plant for research on handling characteristics of new ingredients, product and process development, and a 130-head research brood cow herd. The cattle research facilities include an *in-vitro* and *in-situ* research center and feedlot facility with a Grow Safe feeding system. Research projects and market demonstrations are also conducted in cooperation with commercial operations (field research) and universities. Major renovations at the Beef Research Center have expanded our replication capabilities for cow-calf and stocker research evaluating protein/mineral range supplements and co-product applications.

Feedlot

Feeding studies are designed to examine gain, feed efficiency, and health status of receiving, growing, and



finishing cattle. Feed preparation is very flexible; dry grains and co-products, silage and liquid ration conditioners plus any low inclusion rate ingredients can be included in research diets.

Cattle performance along with accurate records of feed composition and daily intakes are recorded. Research studies include the evaluation of liquid co-products from ADM and evaluation of new arrival product formulations. Feedlot research effort is focused on getting receiving cattle to eat early and eat often.

Cow-Calf and Stocker

The research cow herd consists of approximately 130 crossbred cows. The cows are managed as a research herd year-around and are kept in groups of 10 to 15 cows per pasture or winter drylot. Typical research measurements include cattle weights, body condition scores, and feed intakes. More



intensive measures, such as blood samples, may also be collected. Fall-born calves are weaned in the spring and used for summer grazing experiments in a 16-lot stocker facility. Intake control technology and evaluation of ADM co-products are examples of research projects which benefit ADM Animal Nutrition clients by enhancing cost effectiveness of nutritional products and programs.

Field Trials and University Studies

Cow-calf and stocker studies are conducted to determine best management and nutrition practices for beef brood cows. The goal of these studies is to determine underlying principals affecting cow reproductive performance and optimum programs for calf nutrition.

Commercial application of basic test results is modeled using



the expertise of ADM Animal Nutrition's technical and marketing teams. The results of university studies are confirmed using extensive field testing under commercial conditions. ADM Animal Nutrition technical

personnel are primarily responsible for implementing studies, with direct assistance from research personnel.

Typically, three or four university studies and five to ten field studies are conducted annually in this research area. A staff of trained technicians provides direct oversight of protocols.

ADM Animal Nutrition Beef Research has developed and helped commercialize propriety products and technology such as Proponse® yeast, Mintrate® XL tubs, RumenNext®-Beef, and Endo-Fighter® range minerals. This research team also cultivates links with ADM corporate research, universities, and other sources of innovation to bring advanced technologies in functional ingredients and ADM co-products into value-added beef nutritional products.

Taken together, the facilities and professional expertise of the ADM Animal Nutrition and Feed Technology scientists add up to an industry-leading beef research program focused on developing products and programs to benefit the beef producer's bottom line.