

2008

## 2007 Review—ISU Beef Nutrition Research Farm, North Dakota Avenue, Ames, Iowa

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## 2007 Review - ISU Beef Nutrition Research Farm North Dakota Avenue, Ames, Iowa

### A.S. Leaflet R2374

Rod Berryman, superintendent  
Animal Science Beef Nutrition Research Farm

#### History

The university purchased land for this farm in 1954. Construction of the original experimental cattle feedlot unit and feed mill was completed in 1955. Over the next 20 years a second cattle feedlot unit, a lamb-feeding unit, later converted to a cattle unit, four open cattle lots and a confinement building were added. In 1996 two of the cattle units were demolished and construction began on a 60 pen feedlot with commodities storage shed and a cattle handling facility.

#### Farm Area and Land Use

The farm consists of approximately 275 acres with the following use: 48 acres in crop rotation, 22 acres of permanent brome pasture, 58 acres of timber pasture, 50 acres of brome pasture for rotational grazing experiments, and 60 acres of fescue/red clover pasture for winter grazing experiments. The remainder includes the building site, small pastures and open lots, and areas used for containment of runoff.

#### Facilities

A 36' x 756' open front shed with 60, 6 head pens.  
A 28' x 196' open front shed with 16, 6 head pens.  
A 40' x 120' open front shed with 7, 6 head pens and a feed intake management feeding system.  
Four dirt lots with fence line bunks, concrete apron and windbreaks.  
Two dirt lots with concrete apron, one with fence line bunks, no windbreaks.  
76' x 184' concrete lot divided into various sized pens most with fence line bunks. There is a 16' x 60' open front shed.  
A feed mill with overhead storage, bag storage, grain processing, batch scale and two horizontal mixers.  
A 48' x 56' building with animal handling facilities, supply room and shop area.  
A 58' x 72' building used for commodities storage and feed mixing.  
A 36' x 40' hay storage building.  
A small wood bunker used to store wet by-product feeds.  
Three solid manure storage bunkers.  
A 30' x 34' hoop building used to store hay.

#### Mission

Provide facilities and support for research aimed at optimizing nutrition and management of beef cattle in Iowa.

#### Contributions

Feedlot Nutrition and management research.  
Summer and winter grazing research.  
Nutrient management research.  
Support metabolism and digestion trials in the Kildee Hall animal unit.  
Contribute to the teaching and outreach mission of the department.

#### Research Activities

Improvement of high sulfur byproducts by balancing cation:anion ratio. Principal Investigator (PI), Allen Trenkle  
Using ethanol co-products to finish beef cattle without grain. PI, Allen Trenkle  
A novel approach to improving tenderness of underutilized muscles from the round of pasture fed beef. PI, Trenkle, Bietz, PhD student Roxanne Knock.  
Reducing energy costs in ethanol production through on farm storage methods of high moisture distillers feeds. PI, Dan Loy.  
Comparison of steers and heifers fed high levels of wet distillers grains. PI, Allen Trenkle.  
Effects of feeding ethanol by-products on marbling and fatty acid composition of beef. PI, Jon Schoonmaker.  
Determination of the effects of Oligo Essential on growth and carcass composition of feedlot steers. PI, M.P. Hoffman.  
Winter grazing systems for Fall-calving cows producing calves for grass based beef production system. PI, Jim Russell.  
Dwarfism. PI, Jim Reecy.

#### Teaching Activities

Animal Science 226, Beef Cattle Science.  
Animal Science 319 lab. Animal Nutrition.  
Animal Science 336, Domestic Animal Behavior and Well Being.

#### Other Activities

4H Animal Science Roundup.  
Provide location for Agronomy 473 Soil Science labs.  
Host tours of feeding facilities with producers, extension personnel and researchers.  
Host feedlot run-off alternative technologies with an infiltration and wet land system.

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Feeding in the new Feed Intake Monitoring System barn.



Animal behavior class utilizing working facility at Beef Nutrition Farm.



Bull calf eating out of new FIMS bunk.