

## **Gleaning the 2013 NDSU Beef Report**

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The beef research programs at NDSU main campus and research extension centers serve North Dakota producers and stakeholders by developing knowledge and technology to improve efficiency and sustainability. An annual North Dakota Beef Report provides the most recent results and summaries of projects and research related to beef cattle production.

Continuing work at the Carrington center with dry lot cow calf production identified similar performance of cows and calves fed in dry lot in lactation whether fed traditional silage based ration or a corn stover and distillers grains based ration. Using stover and distillers grains lowered daily feed costs over \$.50/day. An interim progress report of an ongoing six year study comparing drylot versus pasture based cow-calf production documented lower calf performance and higher feed costs associated with the drylot system (40 less lbs with \$61 more feed cost). However there are potential advantages to partial confinement system in regard to cattle management, and with increasingly expensive and scarce pasture and by using opportunity and cost saving feeds, there can be profit opportunities under current economic conditions.

Comparing the use of estrous synchronized fixed time AI followed by natural service clean up breeding to no synchronization and natural service bull turnout for the duration of the breeding season, calves born early in the calving season were found to have higher intakes and gain than latter born calves during a 65 day backgrounding period. The AI protocol group calves from within the first 21 days of calving averaged 7 days older at weaning and 20 pounds heavier. Distinct performance advantages of AI calves were not observed but genetic potential of turn out bulls and AI sires was not differentiated. Calving ease and the percentage of cows that become pregnant was similar between groups. Breeding herds were at both the Streeter and Hettinger centers with background feeding at the Southwest Feeders at Hettinger.

Feedlot studies at the Carrington Research Feedlot on management to alleviate heat stress on summer fed cattle summarized that bedding with corn stover reduced pen surface temperatures. Adjusting rations to higher protein levels by substituting distillers' grains for corn increased nutrient levels in manure. Neither treatment however influenced animal performance in either growing or finishing cattle. Carcass traits also were similar between protein level and bedding treatments.

Growing and finishing trials at the Carrington center further found barley and corn when fed with 25% distillers grains resulted in similar animal performance and carcass traits. While traditionally priced less, this work suggests a bushel of barley could be valued at 95% of corn. Another center trial evaluating level of forage in finishing diets, found no differences in gain, efficiency, carcass, and cost of gain when forage levels ranged from 20, 30 and 40%. A Carrington study evaluating self-fed rations to a totally mixed ration fed daily for finishing beef calves, found slightly lower gains and a higher total cost of gain for self-feeding in spite of lower yardage costs resulting in a net difference of \$24/hd. It was concluded self-feeding may still be a viable option for smaller operators. A final reported study from Carrington feeding research found a new feed enzyme product marketed as Cello-Gest when fed as part of a formulated

supplement including an ionophore to growing steers resulted in a tendency for improved gains and efficiency but not net return.

The Dickinson center evaluated yearling grazing systems and feedlot finishing of spring calves wintered on hay and corn aftermath. Calves placed directly in the feedlot in May had the longest feedlot feeding period, lower average gains, lighter finish weights, and a higher cost of gain which resulted in considerable feeding losses under high priced feed grains. For yearlings summer grazed prior to feedlot placement, steers which grazed a combination of perennial grass followed by annual pea and barley followed by standing corn were finished with 25 fewer days on feed and had \$40 greater net returns than steers grazing only perennial pasture prior to feedlot placement.

Results of a producer survey conducted in 2012 on future perceptions and attitudes revealed thoughts of the state's cattlemen whom are primarily commercial cow-calf cattle producers, mostly mid aged with considerable experience, with herds of 100-250 cows and over 1500 acres of pasture land. Factors felt most likely to have major negative impacts on profits included animal health issues, environmental regulation, severe weather, pasture yield, and price. The two highest rated strategies to reduce potential losses centered on maintaining herd health and financial working capital. Technologies that are popular or expected to be include: individually identifying cattle, extending grazing, testing feeds, vaccination, and use of cell phone and email. In regards to marketing, selling at an auction was by far the greatest method for calves, stockers, and cull cows. The greatest barrier to expansion was pasture and land availability, followed by high input costs, feed availability and labor. Rural life style, self-employment, working with livestock and family were considered attractions to the industry; while work hours, regulations, and input costs viewed as obstacles. In regards to NDSU Extension programing, preferred delivery was bulletins, newsletters, and meetings. Lack of time represented the greatest limitation to participation. Nutrition and production cost analysis rated greatest as areas for further educational material and training.

A copy of the 2013 NDSU North Dakota Beef Report can be obtained from county and area extension offices or on line at [www.ag.ndsu.edu/cattledocs/research-report](http://www.ag.ndsu.edu/cattledocs/research-report).