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Eyes on Efficiency

North Dakota researchers focus on Angus genetics for efficiency on the range and in the feedlot.

by Kindra Gordon

In a quest to cope with the higher feed costs facing the current cattle industry, efficiency is top of mind for producers, feeders and researchers. In North Dakota, two studies are under way to gain more knowledge — and possibly propagate better genetics — for the cattle efficiency equation. Both efforts are focusing on the Angus breed.

On the range

One study being initiated as a joint venture between North Dakota State University (NDSU) and the Northern Great Plains Research Laboratory (NGPRL) includes establishment of a foundation bloodline Angus herd to evaluate range efficiency traits. The NGPRL is a USDA Agricultural Research Service (ARS) facility at Mandan, N.D.

The project has similarities to the long-standing Line 1 Hereford Project at the USDA Fort Keogh Livestock and Range Research Laboratory at Miles City, Mont.

► **Above:** The CREC at Carrington, ND, was a stop on the North Dakota Angus Tour Sept. 17. The Center has initiated a study of Angus steers to determine efficiency in the feedlot.

For the North Dakota research herd, Angus genetics will be used, and the primary evaluation will be conducted on the ability of the herd's yearling progeny to grass-fatten with minimal supplementation and within an economically advantageous period of about 18 months or less, explains USDA research animal scientist Scott Kronberg, who is leading the study at Mandan.

Two Angus sons sired by Stenberg Coalition 509 were purchased in the spring of 2012 from the J Bar Stenberg Ranch at Charlo, Mont., by NDSU and NGPRL for the Angus cow herd featuring Ohlde and Shoshone genetics. Stenberg Coalition 509 has established himself as a breed leader in calving ease and accelerated first-year growth combined with very early puberty and maturity. He has a feed efficiency ratio of 5:1.

The North Dakota researchers believe 509 and his progeny's traits may be highly desirable for producing range-efficient cattle that are able to perform at an

optimum level under extensive forage-based range conditions — with only a little supplementation while grazing.

In addition to the quest to produce efficient, earlier-maturing cattle, Kronberg and his colleagues will also keep meat quality top of mind. Kronberg notes that marbling — the intramuscular fat that helps give meat its flavor — is easier to achieve when cattle are fed lots of corn. Kronberg hopes to attain Choice-grade beef that tastes similar to corn-fed by supplementing the cattle's

primarily grass-fed diet with small amounts of canola and flaxseed to increase amounts of oleic and omega-3 fatty acids in the beef end product.

Kronberg explains that when cattle are fed corn for a number of months, the oleic acid level in beef is elevated. He suspects a correlation between high oleic fatty acid content and the taste of corn-fed beef. He also believes supplementing canola may produce the same effect.

“These researchers could have gone to any breed, but they chose black Angus.”

— Jerome Stenberg

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The first progeny for the research study are due in spring 2013. Kronberg and Jerome Stenberg, who raised 509, are eager to see the calves and watch their performance.

Stenberg also emphasizes that the study is a very big deal for gaining valuable insight for future genetics in the Angus breed.

“These researchers could have gone to any breed, but they chose black Angus,” he says.

In the feedlot

A second North Dakota research project involving Angus genetics is taking place at NDSU’s Carrington Research Extension Center. North Dakota Angus producers have teamed with researchers there to increase their knowledge of cattle feeding in northern climates.

The inaugural program is called North Dakota Angus University and is a partnership between the North Dakota Angus Association (NDAA) and the Carrington research facility. The program allows Angus producers to retain ownership of their cattle during the feedlot finishing period so they can assess the performance and carcass traits of the animals from their herd.

Additionally, the cattle will be utilized in feedlot research that may improve cattle feeding methods. As examples, the program will allow for:

- ▶ Comparing performance resulting from feeding recommended or higher protein levels in feedlot finishing diets.
- ▶ Using corn stover as bedding to reduce



PHOTO COURTESY JEROME STENBERG

▶ Two sons of Stenberg Coalition 509 (pictured) were purchased for a joint effort by NDSU and the NGPRL to establish a foundation Angus herd to evaluate range efficiency traits.

heat stress during summer feedlot finishing.

- ▶ Evaluating the potential of corn stover as bedding to hold nutrients in manure that will be used as field crop fertilizers.

North Dakota researchers say the partnership will also help increase awareness of the potential for summer feedlot cattle finishing in North Dakota, while also promoting the use of the diverse grain and crop coproducts available in the region. The project should also help producers assess the value that can be realized by feeding cattle in the state instead of shipping them to other states for feedlot finishing.

In May, both yearling cattle and fall calves

were consigned to the study for a total of about 139 head of cattle from six North Dakota Angus producers. The yearlings are being marketed late September with the fall calves marketed in November or December. NDSU’s Vern Anderson reports that all of the animals are gaining 4.5 pounds (lb.) to more than 5 lb. per day in the trial.

Angus breeder Mike Wendel of LaMoure, N.D., consigned 65 yearlings to the project, about 15 are from his own herd and the remaining are from customer’s herds who use Wendel’s seedstock genetics. Wendel has 200 registered Angus, which are bred with synchronization and artificial insemination (AI). Some embryo transfer (ET) is also done within the herd. He hosts a production sale each May.

Wendel has ultrasound scanned progeny from his herd for carcass data, but is participating in this study to get the actual carcass data back from the grid.

He is also interested in the economics of the feeding trial. Wendel raises corn, sorghum and irrigated alfalfa and is expanding his current feedlot to about a 400-head capacity. He has kept a cohort group of steers at home, feeding them for a more modest gain. At the end of the study, the more aggressive feeding program at the Carrington Center will be compared with his less aggressive program for gain, cost of gain, carcass traits and net return.

Wendel, who also serves on the NDAA board of directors, is excited about the research partnership. He concludes, “It’s a great opportunity to promote Angus genetics in the state.”

The North Dakota Corn Utilization Council and the North Dakota State Board of Agricultural Research and Education provided funding for the research trial.

