

# TAME YOUR SELECTION CRITERIA



## Docility proven as economically relevant trait.

by Natalie Jones, Certified Angus Beef LLC, & Kasey Brown, associate editor

**Y**ou keep looking to beef quality, maternal traits and feed efficiency for herd improvement. What about docility? Research says it may affect more than you realize.

A study by Gordon Carstens' team at Texas A&M University with feedlot Angus, Brangus, Braford and Simbra heifers found the share grading Choice or higher was 63.5% for calm temperaments, compared to 55.5% for their excitable penmates. Based on weights and USDA's three-year-average grid, the calm advantage was \$56 per head.

The study evaluated the effects of temperament on feedyard and carcass performance based on exit velocity (EV) from a chute using electronic timers like those used in barrel racing. Despite finding no breed differences in temperament, animal-to-animal variation in temperament within breed was

highly associated with feedyard performance and carcass quality.

### In the feedyard

Calm heifers were heavier at arrival than excitable heifers, though similar in age. Likewise, they ate more and had longer and more frequent trips to the feedbunk, grew faster and more efficiently than their excitable penmates, and approached the feedbunk 12 minutes sooner after feed delivery each morning.

Looking at breed differences, Angus heifers grew faster and more efficiently than all others, but, Carstens says, "there was no evidence to suggest

breed influenced the effects of temperament."

Therefore, he suggests "sorting feeder calves by EV into targeted production-outcome groups to improve predictability of feedlot performance and consistency of beef quality."

Less-aggressive growth enhancement technologies might be applied to feeder calves with calm temperaments targeted for value-based marketing programs, Carstens says. "These ideas warrant further study."

### On the rail

Carcasses from the calm heifers were 24 pounds (lb.) heavier with more backfat and higher yield grades despite greater ribeye area compared with heifers with excitable temperaments. Additionally, Warner-Bratzler Shear Force (WBSF) tests showed

steaks from calm heifers had a significant tenderness advantage.

The carcass income premium for calm heifers over excitable heifers was 4%-5% higher in this study, which noted "further research could be performed to elucidate the impact that temperament has on carcass quality and profitability of feedlot cattle."

Breed significantly affected carcass value.

Angus heifers generated nearly 10¢ more per lb. of hot carcass weight compared to the other breeds, the study reports.

The point for Angus breeders is, Carstens says, "docility is an economically important trait."

From the lighter weights and lower efficiency to other research showing effects on health and reproductive efficiency, it would likely pay to include docility in a balanced-trait selection program.

### In the pasture

There's proof of progress within

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the American Angus Association database, says Kelli Retallick, genetic service director at Angus Genetics Inc. (AGI). The average expected progeny difference (EPD) for docility (Doc) has increased by 8 points in the 10 years it has been measured, she says. It has been an official EPD since early 2011.

Measured on yearlings, it's an accurate indicator going into the feedyard. The relatively new maternal weaned calf value (\$M) combines the maternal traits of heifer pregnancy, maternal milk, calving ease and docility to aid in multi-trait selection, she says.

"In a seedstock operation, it will be crucial to take note of docility scores, take some culling measures and breed for increased docility," Retallick says.

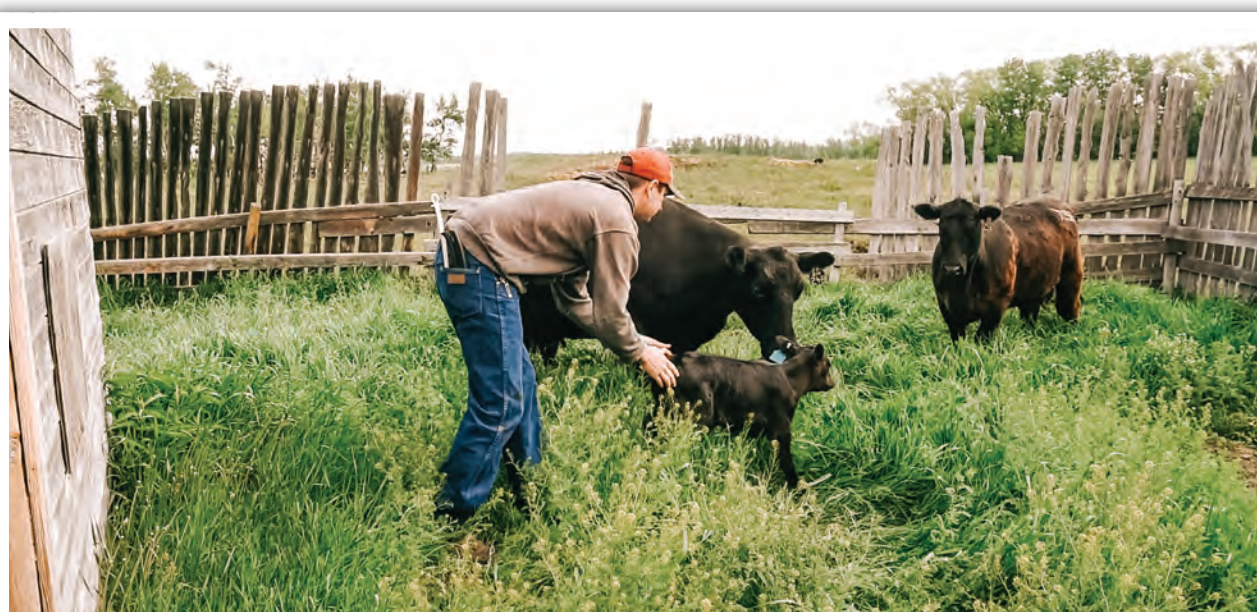
The index is an example, she says, of how the Association has focused on "decreasing the cow-cost side of the cattle operation to allow seedstock breeders to breed better cattle for the commercial cattle industry."

Dan Moser, president of AGI, adds that he gets quite a few questions about docility. Cattlemen are often surprised that it is one of the most heritable traits in the Angus genetic evaluation at 0.44 (all EPDs range from 0 to 1). So, almost half the variation in behavior is due to genetic contributions from the animal's parents. The rest is due to environmental influences.

Moser says some breeders ask how objective and accurate the scoring is, and whether there is opportunity for bias in the data. While no data collection system is perfect, he says nearly 58% of Angus cattle registered last year were from artificial insemination (AI). Many different breeders submit docility scores on widely used sires, eliminating any potential for breeder bias.

## Stockmanship part of the equation

Moser notes to some extent, behavior is learned and the result



A calf's docility is affected by learned behavior from mama, experiences with humans and genetics. Low-stress stockmanship greatly enhances docility later in life. The American Angus Association prefers docility scores to be submitted as yearlings to reduce the maternal influence.

of the animal's experiences. If they have a bad experience with a type of equipment or situation, they will act nervously or aggressively. If they have good experiences, they will remain calm.

Additionally, calves often learn behaviors from their mama, he says. If the cow always runs to the other end of the pasture when she sees the truck, that calf will

The first is that stockmen need to keep the animal in thinking mode rather than survival mode. Pate and Gill both say stockmen can do this by working to communicate through sight and limited sound that allows the animal's brain to process what is being "asked" during this application of pressure. Too often stockmen put too much pressure

on cattle by moving too fast, yelling too loudly or simply putting pressure in the wrong place, and that forces the cow to switch to survival

vision, says Gill. A stockman's position affects where they put their head. If something unknown is behind them that they can't see, it is more likely to put them in survival mode. Everything a stockman does affects an animal's behavior.

Pate notes that animals need to see where the stockman is and where they need to go. You can work cattle from the front or the side and still communicate where they need to go.

Depending on the animal, position yourself in line with a cow's pin bones, so you form the far point of a triangle with her eye and pins. How far away that top point of the triangle needs to be depends upon the cow's response to pressure. Docile cows may need you to be right up next to them to get moving. Temperamental cows need more space.

"Point their head in the direction you want them to go. When they have to turn their head to see where you are, then that creates problems," Pate explains.

Management and selection go hand in hand. Progress on both fronts to improve docility will bring benefits at every level, from the cattle to their managers and ultimately beef consumers. ■

**"Point their head in the direction you want them to go. When they have to turn their head to see where you are, then that creates problems." — Curt Pate**

also run to the other end of the pasture, no matter if its sire had the highest docility EPDs available.

This is also why the Association assesses docility at yearling age so that maternal influence is lessened.

That learned behavior is greatly affected by stockmanship skills. Curt Pate, owner of Curt Pate stockmanship, and Ron Gill, Texas AgriLife Extension livestock specialist and associate department head for Extension at Texas A&M University, say there are a couple of simple things stock handlers can do to improve the behavior of cattle.

mode. Any animal in survival mode clearly isn't going to work smoothly.

Secondly, apply pressure from the correct angle and at the right time, says Pate. Stockmen should remember that almost all communication with an animal occurs through the eye. It's the stock handler's responsibility to manage this communication because it changes and influences the whole process.

Too often cattlemen try to work from behind, because humans are conditioned to work in lines. Animals communicate through