

Improving Disposition In Cattle Using Docility EPDs In Selection



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F. DAVID KIRKPATRICK

KNOXVILLE, TENN.



Temperament reflects the ease with which animals respond to handling, treatment and routine management. Animals with disposition problems are a safety risk to handlers, themselves and other cattle as well as a liability for exposure for producers.

Surveys of commercial cow-calf producers rank disposition or temperament as important as calving ease in selection criteria for bulls in their breeding programs. Heritability estimates for temperament in beef and dairy cattle have been reported to be moderate to high, indicating that selection for improved temperament can be effective.

Cattle behavior has been shown to have an impact on economically important traits in the beef industry. Research from the Tri-County Steer Carcass Futurity Cooperative has shown a difference of \$62.19 per head in net dollars returned in favor of the most docile cattle compared to the most aggressive cattle in the feedlot. The more aggressive cattle had, on the average, lower average daily gains, lower quality grades and a higher incidence of dark cutters.

Docility Expected Progeny Differences (EPDs) is one of the newer EPD values developed by the beef industry. It was first implemented by the North American Limousin Foundation and is now being used by the American Angus Association along with other breeds.

Docility EPDs are developed from a yearling temperament score submitted on an individual animal to its particular breed association. Scores should be measured while cattle are restrained with the headgate but without motion restricted by squeeze. The docility score provided below is designed to subjectively evaluate differences in disposition when animals are processed through a squeeze chute.

1. DOCILE. Mild disposition. Gentle and easily handled. Stands and moves slowly during processing. Undisturbed, settled, somewhat dull. Does not pull on headgate when in chute. Exits chute calmly.

2. RESTLESS. Quieter than average, but may be stubborn during processing. May try to back out of chute or pull on headgate. Some flicking of tail. Exits chute promptly.

3. NERVOUS. Typical temperament is manageable, but nervous and impatient. A moderate amount of struggling, movement and tail flicking. Repeated pushing and pulling on headgate. Exits chute briskly.

4. FLIGHTY (Wild). Jumpy and out of control, quivers and struggles violently. May bellow and froth at mouth. Continuous tail flicking. Defecates and urinates during processing. Franti-

cally runs fence line and may jump when penned individually. Exhibits long flight distance and exits chute wildly.

5. AGGRESSIVE. May be similar to Score 4, but with added aggressive behavior, fearfulness, extreme agitation and continuous movement, which may include jumping and bellowing while in chute. Exits chute frantically and may exhibit attack behavior when handled alone.

6. VERY AGGRESSIVE. Extremely aggressive temperament. Thrashes about or attacks wildly when confined in small tight places. Pronounced attack behavior.

The four categories used in developing Docility EPDs were Docile (Score 1), Restless (Score 2), Nervous (Score 3) and the combined Flighty, Aggressive and Very Aggressive group (Scores 4, 5 and 6). The Docility EPD is presented as a percentage, where a higher value is considered more favorable in terms of docile temperament.

Docility EPDs can be used as a part of a complete selection program in the event that a breeder needs to make improvement in a cattle herd's temperament. For example, suppose you are experiencing temperament problems in your herd and wanted to make improvement in that trait. You have selected two different bulls that excel in other traits of importance to your herd and want to make sure you might not increase temperament problems. Be sure to evaluate those two bulls' Docility EPD.

For example, bull 1 has a Docility EPD of 25 and bull 2 has a Docility EPD of 10, for a difference of 15 percentage points between the two (25-10=15). On average, assuming the two bulls were mated to comparable set of females, one would expect 15 more calves out of 100 sired by bull 1 to have a temperament in the most docile score compared with calves sired by bull 2. If the two bulls were similar in the other traits of importance to your herd, bull 1 would be the most prudent choice.

If producers were not comparing two different bulls and wanted to make sure that they were not bordering on increasing temperament problems in the herd by the single bull they were considering, it would be wise to compare that bull's Docility EPD with the breed average Docility EPD to determine where that bull ranks within the breed from the standpoint of temperament. The current breed average EPDs for Docility are shown below. Just like EPDs for other traits, you can use Docility EPDs to rank animals within a breed but not between breeds.

Docility EPDs (Spring 2011) Avg. Range
Limousin (Current sires) +14.8 -26 to +45
Angus (Current sires) +9 -32 to +42
Limousin (non-parent) +16.4
Angus (non-parent males) +10

DR. F. DAVID KIRKPATRICK: Professor/Extension Beef Cattle Specialist, University of Tennessee