Soundness exams, genetic testing improve herd performance

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Ranchers can benefit by having annual breeding soundness exams on all herd bulls, according to Dr. Bruce Carpenter, Texas A&M AgriLife Extension livestock specialist, Fort Stockton. Credit: Texas A&M AgriLife Communications

The value of a herd bull is determined not just by his genetic merit, but also by the number of calves he may or may not sire, according to a Texas A&M AgriLife Extension Service specialist.

Emerging DNA technology offers the opportunity to identify genetic markers for traits of interest and identify individual sires used in multiple-sire breeding pastures, said Dr. Bruce Carpenter, livestock specialist, Fort Stockton.

"We know there is a lot of variability that we can't manage in our herds, so let's do what we can, and that begins with an annual breeding soundness exam of all herd bulls," Carpenter said.

Carpenter, speaking at the recent Southwest Beef Symposium in Amarillo, said, "The thing we know about managing bull fertility is the breeding soundness exam performed by a qualified vet is the best and most practical predictor of potential fertility."

However, it is not a fertility guarantee, he said.

There are reasons some bulls don't perform, Carpenter said, and with new genetic testing technology, researchers are learning more about this.

"It is often said the bull is half the calf crop, but that's not always true – he can be more or less," Carpenter said. "And if he is genetically superior, that is great if he is more. But if he provides less desirable traits, but is siring 70-80 percent of the calves, that may not be so good."

He said in the past few years, large-scale studies coming from California and Australia have shed some light on which bulls may be doing their job out in the breeding pasture and which ones may not.

Genetic testing can be done on breeding herds to identify which bulls are getting the job done, according to Dr. Bruce Carpenter, Texas A&M AgriLife Extension livestock specialist, Fort Stockton. Credit: Texas A&M AgriLife Communications

"If you are just hauling pounds of beef to the sale ring, the most valuable bull may not be the one with the best genetics," Carpenter said. "It's the one that puts the most calves on the ground."

In all these studies, he said the bulls passed a breeding soundness exam, so that potential variable was removed, or bull prolificacy might have been even more inconsistent.

There were some bulls in California that sired a lot of calves, which made them more valuable than those which possessed superior genetics but provided fewer calves to sell, he said. In another California study, steers from 16 different bulls were sold at 10 months of age. Carcass

premiums averaged $721 and were similar for all bulls.

"The premiums, due to good carcass genetics sired by all these bulls, were sure nice for the producers to be able to put in their pockets," Carpenter said. "But when researchers identified which bulls were actually 'doing the work,' that ranged from a low of seven to a high of 77 steers sold per bull over five calf crops."

Because of the variability among individual bulls in number of calves sired, contributions to gross income ranged from $4,881 to $55,889, he said.

In a 5,000-calf study, the average number of calves sired across all bulls was 19, but it found that 4 percent of all the bulls sired no calves and one bull sired 62 calves in one calf crop. In 20 percent of all the herds they looked at, there was one bull in the bull battery that sired only one calf. But, in another 20 percent of the herds, there was one bull that sired 50 or more calves.

"That's direct proof of what we've always suspected, that stocking should be at about one mature bull per 25 cows, and one to 15 if using yearling bulls,"Carpenter said. "If you don't know much about a group of bulls, this would be a good rule of thumb."

He said there can be a lot of variability on the male side that is hard to manage, but it is certainly worth being aware of. And genetic testing, while not cheap, may be a consideration in some situations; the most common probably being for multiple-sire registered operations. A sire test for paternity is about $18 per sample per calf and bulls.

"That can get expensive, but if things aren't going the way they should and you are seeing low calf crops, and you've eliminated the usual suspects like disease and poor semen quality, sire testing is an option that

might help explain what might be going on in the pasture," Carpenter said. "It might be useful to determine who did his job that year and who maynot have."

For the most part, bulls in the California study remained as they were assessed at the initial paternity test. But testing in following years revealed that some yearlings, and even older bulls can and do change from their initial test.

Tracking collars were used in one single study to look at bull behavior in the breeding pasture, Carpenter said. But his group found no association between individual prolificacy of four bulls and either the distance each traveled or the distance each traveled from water, though they did see some unusual travel activity by these bulls during mid-day.

"We've always known there are studs and there are duds out there, but these studies have quantified it," Carpenter said.

Provided by Texas A&M University

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