

Scrotal Circumference: Indicator of Heifer Fertility?

by **PAIGE NELSON**, *field editor*

“If we want to improve economic efficiency in our herds, what’s the best thing that we can do? Have more calves,” said Matt Spangler, University of Nebraska

beef genetics extension specialist at the Applied Reproductive Strategies in Beef Cattle (ARSBC) symposium hosted in Stillwater, Okla., last fall.

Having more calves on the ground starts with improving the fertility level of the

parents. Before improvement can be made, measurement must happen, but measuring female fertility is a difficult process, and data from most females are recorded later in life, said Spangler. Thus, current fertility selection measurements have gone to the bulls.

Spangler explained that scrotal circumference is recognized as an indicator trait for potentially improving fertility in female offspring. It is a trait that is cheap and easy to collect and can be taken on yearling bulls. He referenced data suggesting that it is 45% heritable.

“The fact is, if we select on scrotal circumference, we can certainly change it,” he stated.

Scrotal circumference also plays a role in age at puberty for female offspring, although the genetic correlation is relatively weak.

“A larger scrotal circumference has a tendency to decrease age at puberty,” he said.

However, its correlation to heifer pregnancy in *Bos taurus* cattle is null and in *Bos indicus* cattle is slight, perhaps even negligible, explained Spangler. Although the literature disproved scrotal circumference as a pathway for improving female fertility, according to Spangler, it is still the best indicator of male fertility.

“While it may not be directly related to female fertility, certainly there have been examples in the literature where increasing scrotal circumference does have a desired effect on several sperm traits. Even though the relationship between scrotal circumference and female reproductive traits is near zero, it doesn’t necessarily mean that we should discard scrotal circumference EPDs (expected progeny differences),” he emphasized.

Spangler outlined alternate approaches to selecting for fertility. For commercial producers, he encouraged crossbreeding as a method to improve fertility. He also named several breed associations that use a stayability EPD, which is essentially a measure of reproductive longevity.

Spangler explained that the American Angus Association and the Red Angus Association of America have a heifer pregnancy EPD.

“If you want to select for improved female fertility in bull selection, use the EPDs that directly get at that. You’ll be much more successful that way than selecting on an indicator trait like scrotal circumference, which the data suggest is perhaps not directly related,” said Spangler.

On a last note Spangler argued culling open cows is not a way to select for fertility.

He stated, “Selection for fertility says that you have put direct selection pressure to improve it through things like EPDs, selecting for the better ones instead of just removing the bad ones.”



Editor’s Note: Spangler spoke during Thursday’s ARSBC session focused on fertility in the male. Visit the Newsroom at www.appliedreprostrategies.com to view his PowerPoint, read his proceedings or listen to his presentation. Compiled by the Angus Journal editorial team, the site is made possible through sponsorship by the Beef Reproduction Task Force and provides comprehensive coverage of the symposium.