

SCROTAL CIRCUMFERENCE:

Measure It Right

BY TROY SMITH

Producers and professors don't always see eye-to-eye. Cow country and academia will agree, however, that fertility is the most important trait to be considered in a breeding program. Economically, fertility is five times more important to the cow-calf producer than growth performance and 10 times more important than product quality (carcass merit).

Practical experience shows it, and statistics prove it. The first thing you've got to do is get those cows bred.

"Those figures refer to the relative importance of these traits for the beef herd in total," says Glenn Coulter of Lethbridge Research Centre, Lethbridge, Alberta. "They are further magnified when discussing the bull component



Dr. Glenn Coulter

alone because of the male-to-female ratio at breeding. This is adequate justification to place much greater emphasis on the fertility of the bull."

Encouraging producers to strive for fertility first, Coulter recommends a yearly breeding soundness evaluation for every

bull. Four aspects of the evaluation should include:

- 1 Testicular and scrotal development;
- 2 Semen quality;
- 3 Ability to physically breed females; and
- 4 Bull reproductive behavior.

While Coulter calls each factor of equal importance to normal fertility, much attention has been focused on testicular and scrotal development.

In particular, testicular size and weight, and thus the amount of potential sperm-producing tissue, can be estimated through the use of scrotal circumference measurements. Bigger is better, up to a point, with regard to the

relationship between scrotal circumference and the probability that the bull will produce semen of satisfactory quality.

Also accepted as a more accurate predictor for establishing when a bull reaches puberty than either age or body weight, yearling scrotal circumference is essentially a measure of age at puberty. And, there is evidence bulls with above-average testicular size may sire daughters that reach puberty at a younger age and that cycle more regularly.

So, if size is important, the measurement had better be right. Coulter says some commonly used techniques for measuring scrotal circumference result in error. Even some veterinarians take erroneous measurements, so Coulter urges adherence to the technique recommended by the Society of Theriogenology and the American Veterinary Society for the Study of Breeding Soundness.

"First, the testes are palpated firmly into the lower part of the scrotum so they are side by side and scrotal wrinkles that might inflate the measurement are eliminated," says Coulter. This is particularly important in cool weather (below 50°F). If the temperature is below freezing, bulls should be evaluated in a warmer environment.

"Second, the thumb and fingers of one hand are placed on the sides of the scrotum, cradling the testes. Avoid grasping either the front and back, or the neck of the scrotum, which can introduce error," Coulter continues. "Then the looped scrotal (measuring) tape is slipped up over the scrotum and contracted around the largest circumference, where the measurement is taken. Once a reading has been obtained, the procedure should be repeated to confirm the result."

Moderate tension is placed on the tape and little compression of the scrotum should occur when measuring

CONTINUED ON PAGE 180



MEASURE IT RIGHT

bulls with normal, healthy testes. However, with bulls having a thick, fat scrotum or soft testes, compression may be substantial. Unfortunately, variation among individuals taking scrotal circumference measurements often results from different amounts of tension placed on the tape, since “moderate tension” may be interpreted differently.

Consequently, Coulter devised a specialized measuring tape to minimize error.

The Coulter Scrotal Tape

features a constant tension spring within the handle that provides the same amount of tension every time a scrotal measurement is taken, regardless of operator.

Coulter says common sense dictates caution be exercised when using the spring-loaded tape, so as not to snap it tight.

Recommended minimum scrotal circumference for Angus bulls	
Age, months	Measure, cm
12-14	32
15-20	34
21-30	35
>30	36

Not only could that action lead to an erroneous measurement, but it likely would mean discomfort for the bull and, therefore, the operator as well.

Large variation in testicular size among bulls of the same age and breed, coupled with the high heritability of the trait, offers considerable opportunity to improve the testicular size of bulls within a herd through selection. Coulter calls consistent scrotal circumference measurement technique essential if comparisons are to

be made among bulls for selection purposes, or if minimum standards are applied as an eligibility criterion for bull performance test stations or shows.

As a selection aid, the accompanying table shows Coulter’s recommended minimum scrotal circumference measurements, by age. Bulls having measurements less than the minimums may on occasion produce an acceptable semen sample; however, such bulls have limited sperm-producing

capacity. Unsatisfactory fertility would be likely under moderate to heavy breeding pressure.

“Cattlemen selecting herd sires should choose bulls having scrotal measurements substantially greater than the minimums listed,” says Coulter. “Those are rock-bottom minimums. I’d recommend selecting bulls with scrotal circumferences equal to or greater than the breed average. The objective should be to improve through selection of superior bulls, not to maintain or lose ground.”

Editor’s note: For a more in-depth look at the importance of measuring scrotal circumference see, W.E. Beal’s article, “The Scrotal Circumference Bandwagon,” on page 144 of the August 1997 issue.