

SCROTUM

AN IMPORTANT FACTOR IN BULL SELECTION

When I buy a bull, I always start by looking at the 'business end of a bull'. I want to see large testicles and a well shaped scrotum. That's the most important part of a bull. No matter how good he is otherwise, if he can't sire calves, he's no good to me. (Anonymous)

By: CP Massmann, 2008 Simmentaler Journal

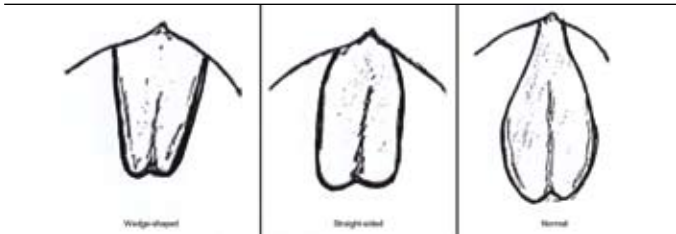
The scrotum plays an important role in the fertility of the bull and his daughters. The testicles are located outside of the body cavity in the scrotum. This is essential for normal sperm formation that occurs at a temperature 4 to 6 degrees below normal body temperature. The scrotum is important for controlling the temperature of the testicles (thermoregulation). This is done by means of

a temperature sensitive layer of muscle (cremaster muscle) located in the wall of the scrotum. This muscle relaxes when hot and contracts when cold. In warm temperatures relaxation increases the relative length of the scrotum, thus moving the testicles away from body heat. In cold weather, the scrotum shortens and the testicles are held close to the warm body.

Excessive fat deposits in the neck of the scrotum may interfere with temperature regulation and will result in lower fertility. Overfat bulls like you often see at shows normally also have decreased stamina for mounting and seeking cows in heat.

There are three basic scrotal shapes in beef bulls.

The *normal* or *bottle-shaped* scrotum with a distinct neck offers the best opportunity for temperature control of the testicles.



Often bulls with *straight-sided* scrotums are only moderate in testicle size. The straight-sided neck of the scrotum is generally the result of fat deposits that may impair proper thermoregulation. As bulls mature and lose condition, they will often develop a more normal scrotum.

Wedge-shaped scrotums are pointed toward the bottom and hold the testicles close to the body wall. Bulls with this scrotal configuration have undersized testicles and seldom produce semen of adequate quality.

Scrotal Circumference (SC)

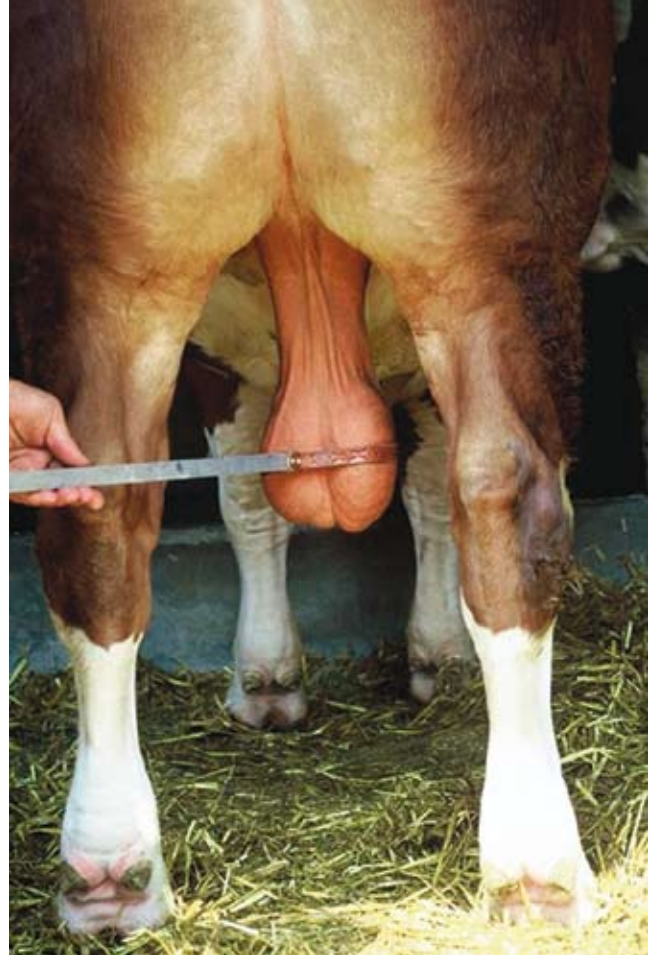
Research conducted in many countries with many breeds show that selection for increased scrotum circumference (SC) will lead to ...

- ... improve semen quality and production;
- ... younger age at puberty;
- ... daughters reach puberty earlier;
- ... greater life time reproductive potential of daughters.

One study showed that for every one centimeter increase of a sire's SC over the population average, one can expect a four day decrease in the age at onset of puberty in heifer offspring.

Scrotal circumference is an accurate measurement when obtained by use of a flexible centimeter tape slipped over the bottom of the scrotum and pulled snugly to the point of greatest diameter of the scrotal sac with the testes fully descended. We also have measuring sticks which are available from our Technical Advisors. Watch out for a scrotum which is not fully descended because it may have wrinkles on the scrotum that will inflate the measurement.

We recommend that Simmentaler breeders should measure the SC of **all** bulls on the same day they determine the 400 day weight (between 10 and 16 months of age). Enter the SC on the 400day weight form. Use a consistent technique (same person) for all the bulls. You will then get



a BREEDPLAN SC EBV which is a genetic measurement of SC and therefore a much better measurement for selection than the SC.

Our minimum standards

Our minimum SC for registration: <400kg = 32cm, 400-450kg = 33cm, 450-500kg = 34cm, 500-550kg = 35cm, 550-600kg = 36cm and >600kg = 37cm. The minimum SC for yearling Simmentals in North America is 33.5 cm (from 6 studies). According to a few reports rapid testicular growth takes place in young bulls from 6-16 months.

Is bigger better?

Watch out for bulls with an extra large SC. We are not aware of a study proving a correlation between excessive SC and a long scrotum but follow-up telephone calls by our office to buyers who purchased phase C bulls with extra large SC's confirmed that when older, these bulls have increased incidences of scrotum injury. A Canadian vet reports that SC above 38 cm at yearling does not result any more semen production and that 'invariable problems are encountered with abnormally large scrotal size'.

I asked a few well known scientists in the USA and Australia if there is a relation between pendulous udders in cows and pendulous scrotums of their sons. Not one was aware of any research in this regard and Dr S Blezinger said: "I don't think you can correlate a cow with a more pendulous udder as likely to produce son's with a weaker scrotal muscle since the tissue types are different".