



Biography:

Dr. Colin Palmer is an Associate Professor of Theriogenology (Animal Reproduction) at the Western College of Veterinary Medicine. Originally from Nova Scotia, Dr. Palmer worked in mixed practices in Ontario and British Columbia and has owned/operated a practice in Saskatchewan. Dr. Palmer along with his wife Kim and children Lauren, Emily and Carter run a herd of purebred Red Angus cattle under the KC Cattle Co. name.

My last article offered pointers on selecting bulls for your breeding program, but what happens when you get your bull home can have a tremendous impact on his reproductive success and your satisfaction with your purchase.

Many producers lack adequate facilities to house bulls; therefore, the preference is often to put off delivery as long as possible; hopefully just before he is needed. Arrival at a new facility is stressful for any animal – add to this a change in diet, social dominance issues, fighting, major or minor injuries, exposure to new bacteria and viruses to name a few. In an ideal world every bull would have his own pen since mixing of bulls invariably results in fighting to establish dominance. If mixing is to occur then bulls should be placed according to age/ size. Yearlings with yearlings; two-year olds and older together. Even better would be to mix two-year olds and mature bulls in their own respective groups. My preference when mixing bulls is that all go into a new pen together as opposed to introducing a single bull to an established group. Fighting will still occur, but the new guy is less likely to be the focus. Similarly, when putting bulls to pasture try to place young bulls with young bulls and mature bulls with mature bulls. Mixing age groups invariably results in the mature bull dominating the younger bull and interfering in his breeding attempts. If you want to use the younger bulls in this breeding group, let the mature bulls breed for the first cycle or two of the breeding season, remove them, and then follow with the younger bulls. This will also give the younger bulls more time to mature and fewer cows to breed.

The two main causes of declines in sperm quality are heat and stress. Heat may come from a fever, inflammation of the scrotum or an increase in environmental temperature. Fat deposits in the neck of the scrotum can also impair the testicular cooling mechanism. Pain, soreness from fighting, bad weather are some of the causes of stress; however, the stressor needs to be of about 3 to 4 days duration to have a negative effect on sperm quality. Chasing a bull up a chute won't do it! The severity and duration of the heat and stress largely determine how bad the sperm will be affected and for how long. A single severe case of footrot may affect sperm production so dramatically that the bull will not have a satisfactory semen count (>70% morphologically normal) for the entire summer. Heat and stress can occur at the same time with a single condition. Bulls that are very sick for a few to several weeks may undergo testicular degeneration where the testicles actually shrink in size, sperm production is virtually eliminated and the few that are present are abnormal. Surprisingly, I have seen bulls recover from degeneration, but several months are required. Heat and stress tend to result in the appearance of the same sperm defects

Tips on Managing the Newly Purchased Bull

which appear sequentially in the semen sample as the sperm enter the ejaculatory pool similar to the appearance of specific birth defects being linked to the stage of gestation when the toxin was consumed. Relatively minor cases of stress can result in an increase in sperm midpiece defects; specifically, the distal midpiece defect. The spermatogenic response to stress varies between bulls with some showing the defect and others not, but we do know that it is usually short-lived with many showing a full recovery in as little as 7 to 10 days.

We recommend 1 yearling to be placed with 15 to 20 cycling cows. "Yearling" is loosely used when referring to bulls 12 to 18 months of age. Two-year olds and older - 1 bull per 25 to 30 cows. Individuals in both age groups can handle more cows, but management must watch closely to ensure that cows are getting pregnant in a timely fashion and that the bull(s) do not lose excess condition or get injured. Bulls with larger scrotal circumferences produce more sperm and are more likely to settle more cows in a shorter time-frame than smaller scrotalled bulls.

Yearling bulls are commonly fed grain-based concentrate diets to grow them prior to sale. The more fleshy bulls are typically the best fed and can often have a hard time adapting to a forage-based diet at the same time that they are supposed to be breeding cows – hence the so-called "melting" phenomenon. When your bull is delivered ask what he has been fed and try to feed him similarly. If the breeder has moved him to a largely forage ration then great. Hopefully, it wasn't just the day before! If concentrate was being fed, try your best to pick up the same or similar feed and continue feeding him at about 50 to 70% of what he was being fed and reduce the amount gradually until the desired amount is reached. The remainder of the ration should be good quality hay with a total ration protein content of at least 12%.

Hard working bulls usually lose some condition throughout the breeding season, but excessive weight loss should be avoided. It is common for yearling bulls to lose up to 2 cm in scrotal circumference between the beginning and end of breeding season. Yearling bulls are still growing and will serve a single cow many more times than a mature bull; usually at the expense of their own appearance. Inexperienced bulls are also more prone to breeding injuries; therefore, overuse should be avoided otherwise his first breeding season could be his last. Yearling and two-year old bulls should be pulled from the breeding field long before the cows come home and fed carefully to restore them to breeding condition for next year. Always vaccinate your bulls with the same vaccines used in the cow herd and consider employing a footrot vaccine.