Managing Diet Transitions for Breeding Bulls

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Photo: David Hansen, University of Minnesota

Just prior to the breeding season is a critical time nutritionally for beef breeding bulls as viable semen is produced which will be needed at the onset of breeding. Therefore, proper and adequate nutritional management of herd bulls, as well as an annual breeding soundness evaluation prior to the breeding season, are paramount to a successful breeding season and the economic viability of your beef enterprise.

The conditioning period prior to the breeding season is very important for both growing and mature bulls. Sales of yearling bulls have been robust in the Midwest, but remember, these bulls generally have gone through the growth development phase consisting of a high-energy, concentrate-based diet. These bulls will need to be transitioned from a test or development diet to a conditioning or maintenance diet that is often forage-based. Keep in mind these bulls will be stressed during the diet transition period. Similarly, yearlings and aged bulls will be coming off diets that are generally low to moderate in protein and will be turned out on grass which will be very green, lush, and high in protein. The shock of a sudden diet change can cause digestive upsets that can lead to poor semen development.

The transition/conditioning period for yearling and aged bulls should include high levels of roughage and medium to high levels of dietary protein to acclimate them to the dietary concentrations they can expect when they hit grass. This transition/conditioning period should be ~60 days. This time frame should allow a sufficient amount of time for the bulls to adjust to the new diet. Bulls in good condition during this time period will reduce their fat cover and "harden up." This will also provide thin bulls with an opportunity to increase their body condition.

At the end of the transitioning period, the herd bull should enter the breeding season with a body condition score between 5.5 and 6.5. This score will provide the bull adequate body reserves to utilize during the breeding season since nutritional attention to bulls during this time is nearly impossible.

Bulls can easily lose 100-400 lbs of body weight – equivalent to the loss of 1-4 units of body condition. The amount of bodyweight and body condition loss will be influenced by the age of the bull, prior body condition, length of the breeding season, level of activity experienced by the bull, and bull breed type.

It is advisable to conduct a breeding soundness evaluation (BSE) of your herd bulls before the breeding season. Very few bulls are "sterile" and unable to produce any offspring. But, 10-25% of bulls have reduced fertility or possess physical problems which reduce their ability to sire calves. The BSE is a useful tool in identifying these bulls. Eliminating bulls with physical problems or reduced fertility will improve overall reproductive efficiency of the herd.

Farmers need to recognize a BSE does not evaluate a bull's breeding drive or ability. The farmer should ensure that bulls, especially yearlings, are observed during the breeding process and that they are interested and able to mount and inseminate females.

Remember, ~75 days are required for the bull to produce semen. Sperm production requires ~60 days, with an additional 15 days required for transport through the system, during which further sperm maturation occurs. If the BSE is conducted 60 days before the start of the breeding season, then you have an opportunity to retest the bull or find a replacement bull.

During the calving season, begin to assess your herd bulls or newly purchased bulls. Provide the bulls with an appropriate transition/conditioning period and conduct a BSE and assess the bull's breeding drive or ability to ensure they can get cows bred. By assessing a bull's breeding potential early, you will give yourself an opportunity to find a replacement, if necessary.