



Bull Fertility and Culling Decisions

Bethany Lovaas, DVM
University of Minnesota Beef Team

You've been using that same old bull, year after year, and he's done a great job for you. His calves are born easy, they perform well, but you just don't know how long the old guy is going to last. Here are some things to take into consideration about your bulls continued breeding success, old and young.

If you've wintered over your bull or have a fall breeding season, one major issue you have to be aware of is cold injury. As is typical of northern US winters, we experienced some severely cold weather. This has an especially significant impact on the bulls. If they don't have adequate shelter or bedding, there is a good chance that they may have experienced some cold damage to their testicles. If you've ever watched cattle standing in a wind, you will notice that they always put their backs to the wind. In the case of the bull, that puts his testicles directly at the mercy of the wind. There are natural mechanisms in place that help protect the precious jewels, such as the cremaster muscle and the dartos muscle that pull the testicles closer to the body to keep them warm. There is also a very intricate process of heat exchange from the blood going to the testicles with the blood leaving the testicles. This process of heat exchange is probably more important for cooling of the testicle in hot weather. But even with all of these natural mechanisms, in place, the body can not combat -40° F wind chill.

If a bull, any bull, has sustained cold injury, he will likely need at least 45 days to recover, because the process of

sperm cell development and maturation takes that long. One also must be aware of potential scarring that may result in permanently decreased fertility, such as adhesions of the testicles or epididymis to the bottom of the scrotum. This will restrict the necessary heating and cooling mechanisms that the testicles require for maximum function, and therefore result in infertility. If you notice some scabbing or bleeding at the bottom of the scrotum of your bulls, move them to a location where they will have better shelter, or increase the bedding they have available. If the testicles are adhered to the bottom of the scrotum, the bull should seriously be considered for culling.

Often, in cases of thermal injury, you would likely never know that there was a problem at turn

Depending on the age of the bull, and his lifetime workload, lameness should be a major consideration. Any bull can go lame at any age, but older bulls are much more prone to lameness associated with arthritis. Arthritis can strike any of his joints, even those in his spine. A simple evaluation of a bull's mobility will tell you if you should be concerned. A bull with no other lameness issues and good footing should move fluidly, and take a long athletic stride. If he seems short strided and stiff, and you can locate no other lameness anywhere else, he likely has a stiff back, and won't be very aggressive breeding cows.

Aside from the fact that a lame bull likely won't mount

cows, lameness also has other effects on fertility. A lame bull will spend a lot of time lying down, and while he's lying down, he won't be able to thermoregulate his testicles. Therefore, there will be heat injury to the testicles and the developing sperm cells. If a bull is chronically lame, his semen quality will continue to deteriorate over time and should be considered for culling. A bull that has been acutely lame, and has recovered, may need a period of sexual rest (45 days) before he will be able to breed cows again, because, as with cold injury, he will need to be allowed some time for the development and maturation of normal sperm cells, after the injury or insult has been resolved.

Other factors that require consideration are eye health, libido, and anticipated work load.

Good eyes are very important for a bull. Typically, a bull will find cows in heat, because they are starting to mount each other. If he can't see that activity, the cows will have to come to him and start harassing him, or he won't get them bred. This often happens, as well. Often times, the cow in estrus will seek out the herd bull, rather than vice versa.

Libido is also very important for getting cows bred, and should always be assessed and monitored by the herd manager/owner. Libido is a psychological trait that can be altered based on a bull's breeding experiences. For example, if a bull is breeding cows on rough footing and falls or injures himself, he is likely to be less aggressive the next time he breeds a cow. Also, if a young, or less dominant bull has been turned out to pasture with an older, or more aggressive bull, the less aggressive bull will likely get knocked around, and will not be interested in breeding cows, even if he's the only bull in the pasture.

The ultimate factors that determine whether or not a bull should be culled are 1) Is he fertile (BSE annually), 2) Is he capable of breeding cows, 3) How many cows can he service, 4) How valuable is the bull (a high dollar, sub-fertile bull may get some extra chances if his decreased fertility is due to age related factors). These factors all weigh in when a producer is deciding to keep or cull a bull.

For any additional information, questions, or concerns, please visit the Beef Team website at www.extension.umn.edu/beef.