Bull Development & Selection
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There's an old saying. "If you're a hammer, every problem is a nail". In my case since I'm a veterinarian that works with and whose focus is cattle reproductive problems, I tend to zero in on all things reproduction with respect to cattle production. Now, I have plenty of ammunition to validate the paramount importance of enhancing fertility in every aspect possible for your cattle herd, but I'm going to focus on the bull and the crucial role his early development plays in his fertility and his ability to remain sound and functional for a useful lifetime.

First, let's think about what we want from our bull(s). We need an individual that will identify cows in heat and efficiently breed them. Because we know that fertility is genetically based (passed on to off-spring), we want our bull(s) to be above average in fertility. We also need our bull(s) to be structurally sound so that he will last at least 5 years or more, allowing us to get a full return on our investment. Now if you are on the commercial end of this you can help insure all of this by making sure that the bull(s) you purchase has a proper (real) Breeding Soundness Exam (BSE) performed. This means that a veterinarian examined the bull completely, which includes a physical exam, reproductive tract exam, and finally examination of the bull's semen. You will receive a form that includes information that gives you assurances that on the date of examination the bull appeared free of structural defects (screw claw, boggy hocks, etc), testicular abnormalities, and was subject to a morphologic exam of his semen (this indicating that the number of sperm abnormalities in his semen are within a threshold for fertility).

Back to the point, which is how do producers, seedstock operators if you will, more consistently produce the young bull that will pass a rigid fertility exam (BSE) and likewise meet the needs of his commercial clients. First let's look at a common bull development paradigm. First of all, creep feeding is frowned on in some circles with breeders preferring to evaluate potential breeding stock from the standpoint of "what they did on their dam". So the calf is weaned and then after a backgrounding (warm-up) period put on full feed for anywhere from 84-140 days for performance testing. After this they are often continued on full feed until sale. This or aspects of this are certainly not universal, but many are and I will explain the detrimental results to the young bull.

So, what are the critical time frames in a bull's reproductive development? Well, some of this is actually occurring while he is a developing fetus. We are still in the infancy of research in the area that is referred to as "Fetal Programming", and while a lot is not known, it is safe to say that the provision of balanced nutrition and minerals is beneficial during late pregnancy. Next and perhaps the most crucial time frame is birth to 24 weeks. This is the time that increased energy intake will positively impact testicular development (So, maybe we need to re-visit creep feeding). Conversely, the high energy diet many bulls are placed on when they reach 8-9 months of age and then maintained on for the next 3-12 months, results in fat deposition around the scrotum. This serves to insulate (warm) the scrotum and since most bulls are entering puberty during this time, development is actually hampered. We all have known for years that show heifers never seem to milk well and in fact dairymen when developing heifers make sure that they don't gain more than 2 pounds/day. Just as excess fat hampers mammary development in the heifer, it hurts testicular development in bulls.

Although most young bulls, especially those that go back on a lower nutritional plane following a Gain Test, will when turned out on pasture usually get over most of the damage caused to their fertility, this isn't possible for bulls that are on full feed until 2 years of age. Also what all young bulls that have been on some period of high feed intake don't seem to get over are some of the structural problems that resulted from prolonged high energy intake. These include laminitis (founder) and OCD lesions of the hock and stifle. OCD? Well 40 years ago when I was in Vet School we learned about OCD (Osteochondritis dessicans) as a disease that dogs like Great Danes got because they grew too fast. Soon it became common in horses and now beef bulls. Now sore, arthritic knees are not such a bad deal for me- it provides a good excuse not to jog 2-3 miles a day, but we actually need our bulls to maintain a level of athleticism for their job. A bull that has lameness issues as a 2-year old is certainly not going to be around for his 7th or 8th birthday.

Now what's next? How does the industry change? How do we respond to information like this? This isn't the musing of a university veterinarian with too much time on his hands. The problems I have mentioned are real and have real implications on cowherd profitability. Well, Seed stock producers are very attune to meeting market demand. They want to produce the bulls that their customers want. Commercial cattlemen you certainly don't need a bull that has been developed like a feedlot steer and you do hold the keys. Don't purchase over-fitted bulls. Scrutinize the BSE that was performed prior to sale. Visit your bull provider during the off-season and see how bulls are developed.