Evaluating Skeletal Structure When Purchasing Your Next Replacement Bull

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Even high-performance bulls, those with the best expected progeny difference (EPD), numbers, are only as good as their structural soundness. Bulls represent a significant investment in the future of your herd, both in monetary terms and in the future performance of retained genetics. That makes a sound skeletal structure critically important. Cattlemen and women need to pay close attention to a bull’s conformation when selecting replacements. There are numerous causes of lameness in bulls and certain elements of conformation are heritable. If a bull shows straight legs and badly grown dew claws, any sons or daughters kept in the herd may also be susceptible to these problems. Structural faults such as sickle-hock and post-legs are heritable and can cause lameness, even with light use. Common foot and leg problems that have a hereditary basis include corkscrew claw defect, interdigital fibromas (corns), weak pasterns, post-leggedness, and sickle hocks.

When evaluating structural soundness in a bull, many producers think in terms of leg and shoulder structure and the wear and tear on feet and joints. So, beginning with those visual evaluations, check to be certain all four legs and all joints are moving cleanly and free from any swelling or evidence of old injuries. A bull traveling on rough, hard ground will have relatively even levels of wear on each hoof and seldom will have foot problems if he is structurally correct. During the mating act, the full weight of the bull is borne on the hind legs and feet. Clearly, any unsoundness in this region will drastically interfere with breeding ability. Many producers fail to realize that although a bull with a conformation defect of the feet or legs may get by for two or three years, the more serious danger is that the defect will be passed on to offspring. Replacement heifers carrying conformational defects will propagate these problems in the cow herd, reducing longevity, increasing labor in herd management, and increasing veterinary expense.


Cumming suggests a very methodical approach for evaluation and should include the following evaluations be conducted in routine order:

1. Start with head, neck, brisket, shoulders and front legs and feet
2. Next view along the underside to the sheath, then testicles and the back legs and feet.
3. Follow your way up to the pin bones and hips, then the topline and back to the shoulders and neck.
4. The bull should be viewed from the side, from the front, and from behind.
5. He should be allowed to walk out, and again be viewed from the side, from the front and from behind to confirm any suspicions of poor leg structure.
6. Look for a free-moving gait, with the hind feet stepping into the footprints of the front feet.
7. Over-stepping or under-stepping are indications of structural problems, as are uneven footprints from the claws.
8. Uneven wearing of the two dew claws, where one grows longer than the other, is often due to a problem in the leg structure. It can be caused by an uneven distribution of weight through the foot. If the claws curl across each other without growing long, a serious genetic fault (“scissorclaw”) may be apparent. These cattle wear the back of the hoof, causing lameness and reducing mobility. Where excessive claw growth is caused by things other than structure (soft soil, heavy grain feeding, lack of exercise), extra pressure is placed on the leg joints, eventually causing lameness.

If a bull is too straight in the shoulder and pasterns, and too straight in the hind legs (post-legged) he will also have problems. This type of bull often has a short, choppy stride, carries his weight on his toes, and may have small feet. This type of conformation may make his front legs buckle at the knee. The post-legged bull also frequently suffers stifle injury or hock problems.

Many cattlemen and women are well-versed in the examination of pedigrees or performance data and many are outstanding at performing a visual evaluation to determine structural soundness. However, it is increasingly critical that bull buyers are good at evaluating both criteria when selecting herd sires. The cost in both financial and genetic terms, has become too great to ignore and mistakes can take a long time to overcome in today’s cattle business.