

Veterinary Link: Bulls

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Bulls play a tremendously important role on cattle ranches. They require a significant monetary investment associated with purchase price, housing costs, feed and veterinary care. They also serve as a source of risk to the ranch,

with poor reproductive performance having a great impact on percentage of the cows that become pregnant and the average calf age at weaning. In addition, poor performance of progeny due to poor genetic contribution to the herd affects

calf value and desirability of heifer offspring as replacement females.

Careful attention to selection based on predictions of genetic contribution to desirable traits, management to protect health, breeding soundness examination to remove bulls with questionable breeding ability, and appropriate bull-to-cow breeding ratios are required to optimize the investment ranchers make in their bulls.

Cost of bulls

The cost of bulls to a ranch can be calculated in several ways: total bull cost per year, bull cost per cow exposed or bull cost per calf weaned. I think the most informative measure is cost per calf weaned. This calculation includes the initial purchase price; the salvage value; and costs for feed, housing, depreciation and veterinary expenses. In addition, it considers the number of years the bulls are used, the number of cows exposed per bull (the cow-to-bull breeding ratio), and the percentage of cows exposed that wean a calf. Because many factors other than purchase price affect the cost of bulls per calf weaned, the actual cost of bulls per calf weaned can vary greatly between herds.

The primary way that bulls improve herd income is to be highly fertile so nearly all the cows become pregnant, and they become pregnant early in the breeding season so that there is a front-end-loaded age distribution at the time calves are weaned. Of secondary importance is the genetic value of the progeny for growth and carcass characteristics for feeder calves, and for longevity and fertility on the available forages for replacement females.

Selection tools such as expected progeny differences (EPDs) are used to identify new herd bulls that add value due to their genetic contribution to progeny performance, while breeding soundness examinations (sometimes referred to as a BSE) and appropriate husbandry are the tools to measure and assure fertility.

Breeding soundness exams

A breeding soundness examination of bulls is a thorough examination of the bull to estimate his ability to get a high percentage of exposed cows pregnant in a short period of time. The need for an exam is based on the fact that many prospective breeding bulls are infertile, subfertile or unable to mount and breed successfully. Examination prior to the breeding season reduces the risk of breeding failure due to bull problems. The overall effect of a breeding soundness exam is to eliminate many infertile bulls and to improve the genetic base for fertility within the herd and breed. Although individual situations vary, national reports indicate that 10%-20% of bulls will fail a thorough breeding soundness exam and another 10% that pass the exam will perform poorly in the breeding pasture.

An important reason to carefully



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examine all bulls for breeding soundness prior to every breeding season is to be able to safely expose as many cows as possible to each bull. A high cow-to-bull ratio increases the number of offspring from superior sires and decreases total bull costs per calf weaned.

The limited research that is available indicates that mature bulls with high reproductive capacity can be exposed to as many as 50-60 cycling cows in single-bull pastures, but fewer cows per bull in breeding pastures with multiple bulls. Young bulls should be exposed to fewer cows than mature bulls. For bulls less than 3 years of age, a commonly used rule of thumb is that a bull can successfully breed as many cows as his age in months (e.g., a 15-month-old bull should be exposed to no more than 15 cows).

Although a high ratio of cows to bulls helps to reduce bull costs, it also exposes the herd to risk of poor reproductive performance if the bulls fail to maintain good semen quality and quantity, or if bulls have reduced desire or ability to mate cows in heat due to injury, illness or low libido.

Regardless of how many cows are allotted to each bull, it is important to carefully monitor bulls during the breeding season. Bulls should be evaluated frequently to detect any early signs of injury, excessive weight loss, or illness; and if problems are detected, affected bulls should be replaced by fertile bulls. While many matings occur at times that are not convenient for observation, witnessing successful matings ensures that a bull is able to mount and breed cows successfully.

Bull care

During the breeding season and for the rest of the year, basic husbandry and feeding skills are important for bull care. Bulls need appropriate housing to provide protection during severely cold or hot weather — both of which can lead to temporary fertility problems. In addition, bulls should be maintained in good body condition throughout the year, becoming neither excessively thin nor fat.

Because bulls are so important for the genetic progress and reproductive efficiency of cattle herds, and because bulls account for a significant expense, excellent bull selection and care are critically important for optimum herd management. Bulls should be selected based on their ability to get a lot of cows pregnant early in the breeding season that will result in the birth of calves that will be high-value when they are sold. Once bulls are selected for the herd, they need to be fed to maintain good body condition and housed to protect them from injury risk. In addition, bull fertility and mating ability should be evaluated prior to each breeding season and monitored throughout breeding.

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