



**Animal Health
Fact Sheet**



PREPARING BULLS FOR THE BREEDING SEASON WITH BREEDING SOUNDNESS EVALUATIONS AND TRICHOMONIASIS TESTING

Clell V. Bagley, DVM, Extension Veterinarian
Utah State University, Logan UT 84322-5600

July 1997

AH/Beef/06

With proper care prior to and during the breeding season, cattlemen can increase the breeding capacity of bulls. Breeding soundness evaluations and trichomoniasis testing are tools which can aid a herd manager as he makes critical decisions for next year's calf crop.

PREPARING BULLS FOR THE BREEDING SEASON

A specific breeding period of only 60–90 days would be of benefit for most beef herds. An extended breeding season usually results in poor reproductive efficiency. The managers of these herds often do not recognize when a reproductive problem exists, since it is hidden by the extended breeding and calving periods. Breeding for longer periods also favors spread of infectious reproductive diseases within the herd. The rate of calf survival tends to be decreased since the calves are born over such an extended period they cannot be carefully attended.

In preparing the bull for breeding, remember that production of sperm cells requires at least 48 days. This means that you must begin to get the bull into breeding condition at least 2–3 months ahead of the breeding season, not just the week before. Feed so the bulls are in moderate condition and provide enough exercise that they develop some physical endurance. Plan for vaccinations and general care to help prevent illness and injuries. A high fever for just a day or so can damage all the stored sperm cells. It will take at least 1 ½ months before they can be replaced. Observe for and correct any health problems well ahead of breeding.

Preparation of your bull herd really begins with selection. Bulls with a large scrotal circumference have greater breeding capacity and endurance. They also produce daughters which reach puberty at an earlier age. In young, growing bulls the scrotal circumference is closely correlated with body weight. However, a young, well conditioned bull that has a small scrotal circumference will usually grow up to be an older bull that still has a small scrotal circumference.

One guide that has been recommended follows:

Age in Months	Classification of Scrotal Circumference	
	Small	Large
12–18	32	35
19–30	33	37
Over 30	34	39

There are breed differences, as some breeds do tend to have a smaller scrotal circumference. However, in use of those breeds, selection for the individuals with a larger scrotal circumference becomes even more critical. If the chart above is too rigorous for use in some breeds then devise a similar, but appropriate, list to guide you in selection for that breed.

BREEDING SOUNDNESS EVALUATION (BSE)

A breeding soundness examination usually includes the following:

1. Observation for physical problems
2. Testicle palpation
3. Measure of scrotal circumference
4. Palpation of seminal vesicals (per rectum)
5. Observation of penis while extended
6. Classification of semen:
 - sperm motility
 - sperm morphology

The sperm motility must be evaluated on-site and maintaining the normal temperature of the semen during examination is critical. To evaluate the sperm morphology, the sperm cells are stained on a slide.

An important part of a BSE, is looking for soundness problems. This includes feet and legs, body condition, eye and mouth problems as well as lesions of the penis, prepuce or testicles. A serious case of foot rot or a severe sole abscess can be as detrimental to functional breeding as a broken leg. It is difficult to evaluate mobility if the bull is only observed while in the squeeze chute, so he needs to be observed while walking as well.

Recognize that a BSE is not a libido test nor a test of mating ability. These are best determined, at the present time, by owner observation. Also recognize that a BSE is just a “snapshot” and shows only the current condition, not the past or the future. If a bull that tests very well today becomes ill, he may be a worthless breeder within a few days. But, a breeding soundness evaluation can provide valuable information to the producer that understands its limitations. Ideally, a BSE should be performed on all bulls, every year shortly before the beginning of breeding. If that is not feasible, then at least the young, the old and the questionable (previously ill, poor condition, etc.) should be selected out and checked.

Few bulls are sterile; most produce some viable sperm and could settle a few cows. The purpose of the semen evaluation is to identify those bulls with reduced semen quality. If one sample tests poorly, it is best to collect and examine a second sample at that same time. Even if the second sample also tests poorly, the bull should be re-evaluated 3 to 6 weeks later. By that time he should have recovered, if the problem was temporary.

TRICHOMONIASIS TESTING

Trich is a common disease and has been isolated from cattle herds in all parts of Utah as well as other western states. It is a venereal disease and is spread only by the breeding process. Infected bulls or cows, especially those previously used in another herd, are the main means of spread to new herds. It doesn't matter if the cattle are purchased, are mixed as planned (on a multiple herd grazing unit), or whether they mix accidentally. When bulls and cows are together and even one animal (cow or bull) is infected, the herd has been exposed and some animals may become infected.

The trich test involves the culture (growth in special media), and identification of the specific protozoan organism. The organism is usually recovered best from bulls but can also be recovered from cows if they have pus present in the uterus (pyometra). An insemination pipette is used to scrape and collect debris from the prepuce of the bull or to collect mucus and debris from the cervix and uterus of the cow. The pipette is flushed out with a sterile saline solution and this is poured carefully on top of the culture media. The media is incubated and examined by microscope at 24 and 48 hours to observe the live, motile, trich organism. Other protozoa may occasionally be present and must be differentiated from trich.

The best time for testing is soon after the end of the active breeding season. If trich is present in the herd and all bulls are tested, usually some of them will be found positive. Since specific individuals may be missed, it is preferable to test three times to identify all infected bulls of the carriers for culling. If bulls are tested at the end of breeding (mid-summer), or even in the fall, this still allows time for further testing if some are found positive. In multiple owner grazing herds, every bull of every owner must be tested in order to eliminate the disease from the herds for future years.

Along with testing the bulls for trich, it is extremely important that all open cows be culled. Although most of them clean up with time, some may not and could infect the clean bulls.

Keeping a herd free, or to clean one up from trich infection, requires time, money and facilities. But, the disease will not just go away on its own. Some years, a herd may get by with little problem, (5-10% open) even though it is infected. But, sooner or later trich will cause serious losses (25-40%) that may well put the producer out of business.

Utah State University Extension is an affirmative action/equal employment opportunity employer and educational organization. We offer our programs to persons regardless of race, color, national origin, sex, religion, age or disability.
Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert L. Gilliland, Vice-President and Director, Cooperative Extension Service, Utah State University, Logan, Utah. (EP/DF/07-97)