

## Breeding Soundness Exams



by Dr. Brett Kroeze

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**B**reeding soundness exams (BSEs) are a very useful tool in today's sheep industry. It allows you to differentiate between the fertile rams and the sterile rams before you put them out with the ewes. There is nothing more devastating than having a ram mark ewes and then finding them all re-cycling back later. BSEs are even more useful when trying to push the breeding season up. Rams, depending on the breed, will have seasonal infertility during the summer months where their sperm production is extremely low or nonexistent. There can also be heat induced infertility where there is sperm present but they are all dead. BSEs allow you to determine if the ram will be capable of settling ewes. BSEs do not give you an indication of libido and physical ability to mate. This is something that the client must observe in the first part of the breeding season.

### Steps of a Breeding Soundness Exam (BSE)

**Step One:** When doing a BSE we first look at the ram and ensure he is in good body condition and good physical health through a thorough physical exam. We make sure that he is going to have enough body reserves to be able to make it through a breeding season. We look at the feet and legs to ensure that they are sound, free of signs of foot rot or foot scald, and well trimmed. We also look to make sure there are no injuries present.



**An excellent buck with ideal body condition and structurally sound going into breeding season.**

**Step Two:** The next step is to palpate both testicles to make sure that their size and shape is symmetrical and normal. We make sure there are no soft spots, hard spots, or enlargements on either testicle. A measurement is taken of the testicles to ensure that their size is up to par.

**Step Three:** The next part of a BSE is to get a semen sample. We do this by first putting the ram on his rear end. This makes it easier to exteriorize the penis. We look for any active lesions or old scars in the prepuce and penis. One of the most common abnormalities would be pizzle rot. Next we wrap the end of the penis with a gauze cloth to keep the penis exteriorized. We place the ram on its side and then use an electro-ejaculator to get a semen sample.

**Step Four:** Finally we look at the sample under a microscope. First, we determine the swirling effect of the sperm, which is an indication of the motility and concentration. Then, we look at the individual sperm cells to make sure that the morphology is normal. We also look for white blood cells which is an indication of inflammation and/or an infection.

	<u>Excellent</u>	<u>Very Good</u>	<u>Good</u>	<u>Satisfactory</u>	<u>Unsatisfactory</u>
Gross motility	Rapid Swirl	Fast Swirl	Slow Swirl	Generalized Oscillation	Poor Oscillation
Motility	> 70%	> 60%	>40%	> 30%	Less than 30%
Morphology	> 90%	> 80%	>60%	> 50%	Less than 50%

### Microscopic exam comparison chart for sperm sample motility and morphology

**Results** – Upon completion of the exam, we classify him as excellent, very good, good, or satisfactory. If there are any abnormalities on palpation or in the microscopic evaluation of the sperm we classify him as unsatisfactory. If there is inflammation or infection we will treat with an anti-inflammatory and antibiotic, and suggest retesting in 30-60 days. If there is low sperm concentration or poor motility we suggest retesting in 30-60 days. Re-testing in 30-60 days is based on the time it takes for the sperm cell to develop through the entire process. This allows time for healing or full development if it is early in the season. At the re-check we will look for improvement, if there is no improvement it could be that the ram is sterile.

**Summary** – A good sound mature ram can breed between 50-100 ewes in a 60 day breeding season. A good ram lamb can breed up to 25 ewes in a breeding season. It is important that you measure the scrotal

circumference, as this is an indication of the ram's capacity. A ram lamb 8 to 14 months

8 to 14 Months	
<u>Size</u>	<u>Rating</u>
Smaller than 28 cm	Questionable
28 to 36 cm	Satisfactory
Larger than 36 cm	Exceptional
Older than 14 Months	
<u>Size</u>	<u>Rating</u>
Smaller than 32 cm	Questionable
32 to 40 cm	Satisfactory
Larger than 40 cm	Exceptional

Testicles may be 2 to 3 cm smaller in the off season

should be greater than 28cm and a ram older than 14 months should be greater than 32cm.

In summary the BSE is an exam to determine if the ram is a good potential breeder. It is something you want to do prior to breeding season and not immediately before. This will allow time to re-test or find a different ram. It is a good idea to use a marking system to ensure that the ram is capable of physically breeding ewes. The BSE does not guarantee you will get lambs on the ground, but is useful management tool in selecting which rams to use.

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# Breeding Soundness Exam on Bucks

by Dr. Beth Johnson, DVM

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As described in the preceding article, a breeding soundness exam should be performed on your buck preferably 30 days prior to breeding season or prior to purchasing a breeding age buck.

### The parameters used for evaluating a buck are:

- 1. Scrotal Circumference measurement:** Scrotal circumferences in bucks have not been published but it is recommended that the scrotum should measure at least 26cm in yearling bucks and a measurement of 29-32 cm is desirable.

- 2. Palpation of the testicles**

- 3. Lameness score**

- 4. Body condition assessment:**

It is very important that the buck not be too fat as this may lead to higher body temperatures and decreased fertility. Also avoid poor body condition due to parasitism or abnormal testicles.

- 5. Presence/absence of disease:**

Bucks should not be exhibiting signs of disease such as "abscesses", foot rot, and/or interdigital dermatitis.

- 6. Semen evaluation:**

To collect semen in bucks one can use a teaser doe and collect the buck with an artificial vagina or you can use an

electroejaculator designed for bucks/rams. With goats, the buck is usually tied up with a halter or collar and the procedure performed. If available a chute with a head catch can also be used for electroejaculating. Once a sample is obtained it is extremely important to keep the semen warm and protected from light and perform a microscopic exam immediately after collection.

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