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## G86-815 Reproductive Problems in Rams

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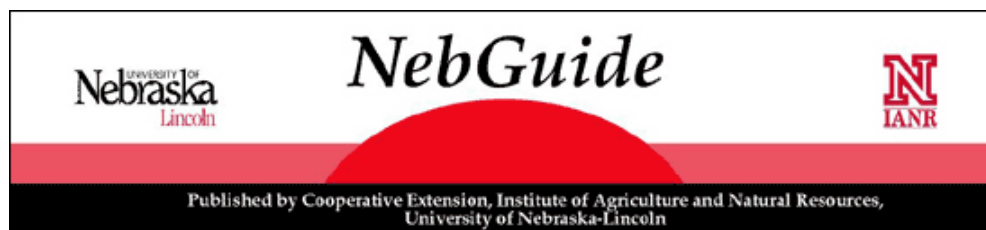
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## Reproductive Problems in Rams

Systematic examination of all males to be used for breeding can prevent reproductive failure, minimize nonpregnant ewes, and increase numbers of lambs born early during lambing season.

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- [Causes of Decreased Reproductive Efficiency](#)
- [Prevention of Reproductive Problems](#)
- [Conclusion](#)

The importance of using only highly fertile, healthy rams in breeding programs cannot be overemphasized. This is especially true in the case of small producers where only one ram is required. The ram represents an often neglected part of sheep production.

Most range flocks average 3-3.5 males per 100 ewes. As various management systems are implemented, fewer rams may be employed. Yearling and mature rams usually can mate efficiently with 35-50 ewes whereas ram lambs can service only 15-25 ewes effectively. Gradual introduction of young rams into the flock is preferred. Avoid placing ram lambs in the same breeding pen as mature rams.

Culling poor breeders prevents them from interfering with good, fertile rams. Animals which are sterile or have reduced fertility contribute to decreased numbers of pregnant ewes and to a prolonged lambing season. Also, fewer lambs are born early in the lambing season, reducing weaning weights. Sheep producers will be rewarded for applying a few simple techniques to improve the breeding ability of their rams.

### Causes of Decreased Reproductive Efficiency

Several diseases or syndromes produce lowered fertility or sterility in rams. They range from structural defects of the reproductive system, sometimes readily visible on physical examination, to problems which require semen evaluation by a qualified technician or veterinarian. Some conditions alter the quality of semen, while others interfere with the ram's physical ability to breed.

#### Physical defects, poor nutrition, and other health problems

Physical defects, poor nutrition, and other health problems must be taken care of well in advance of the breeding season. Proper nutrition and management must be maintained before and during the breeding season for maximum benefits. Select rams with sound feet and legs. Trim hooves, when necessary, well in advance of the start of the breeding season. Improper nutrition can contribute to poor or reduced semen production and a decreased ability to mate. This is true also of overly fat rams. Treat rams for external parasites such as lice and internal parasites such as stomach and/or intestinal worms before the breeding season. Shear rams 6-8 weeks before breeding season for

maximum performance. Rams with health problems, such as pneumonia, should not be used for breeding.

### **Epididymitis**

Epididymitis is the most common cause of reduced fertility and sterility in rams. The bacterium *Brucella ovis* is the primary cause of this condition. Occasionally, other bacteria, including *Actinobacillus ovis*, may be involved. Affected flocks tend to have lowered conception rates due to lowered fertility of the rams.

Diagnosis of epididymitis can often be made by close manual examination. The epididymis, located near the bottom of the scrotum, can be palpated as a knob-like structure at the end of each testicle. Severely affected rams will often have at least one enlarged epididymis and may show pain when the testicle is manipulated. A thorough fertility evaluation is the best method of diagnosis. Poor quality semen and white blood cells (pus cells) are often detected during a semen evaluation. Culturing of semen and blood testing are methods used to diagnose the specific cause of epididymitis as produced by *Brucella ovis*.

Prevention of epididymitis can be accomplished by subjecting all new rams to diagnostic tests, including a fertility evaluation, before or at the time of purchase. This insures that incoming rams are not affected with epididymitis and that they are fertile and capable of mating successfully. Stringent testing in affected flocks can eliminate infected rams and increase reproductive efficiency. Elimination of epididymitis increases economic return.

Treatment of epididymitis rarely works, and damage is usually permanent.

### **Poor semen production characteristics**

Poor semen production characteristics, as determined by a fertility evaluation, contribute to reduced reproductive efficiency in flocks. Scrotal circumference, sperm motility, sperm morphology (appearance or quality), and presence of white blood cells are factors which affect fertility levels. Causes of these conditions are often difficult to establish after detection, but may be infectious (as in the case of epididymitis), traumatic, or hereditary. The only way to identify these rams is a thorough fertility evaluation.

### **Other causes**

Other causes of reduced fertility or breeding capacity in rams include conditions such as varicocele, urinary calculi, sperm granulomas, ulcerative posthitis, and ulcerative dermatosis.

Varicocele is a sac-like dilation of the main vein returning from the testicle. The cause is not known, although an inherited defect is suspected. This condition occurs primarily in older rams and can lead to secondary complications and death. There is no treatment for varicocele.

Urethral calculi (small urinary stones) lodge in the sigmoid flexure or urethral process of the penis and may impede breeding. Excision just proximal to the calculus is usually performed. Affected rams are in pain, often cannot urinate, and will not perform reproductively.

Sperm granulomas (sperm stones) may result in epididymitis. Sperm released into the epididymal tissues are a result of a congenital defect, injury, or infection and form a hard knot as a result of scarring. Obstruction of spermatic flow can often occur, resulting in sterility.

Ulcerative posthitis (sheath-rot, pizzle-rot) is a moderately contagious disease associated with high protein diets and a concurrent *Corynebacterium renale* bacterial infection of the prepuce. A diet of 18 percent or more protein results in alkaline urine containing large amounts of urea. *Corynebacterium renale* converts urea to ammonia in the sheath, which irritates the tissues. Ulcers or sores form, usually at the prepuce opening. Scarring of the prepuce can result from prolonged infections. The infection can be spread to ewes at breeding. Treatment of this condition can be accomplished either medically or surgically. Affected animals need to be identified before the breeding season, so that either treatment and control regimes can be implemented or new breeding animals obtained.

*Ulcerative dermatosis* (balanoposthitis, ovine venereal disease) is a contagious viral disease which produces crusted

ulcers in the skin of the face, feet, prepuce, penis, and vulva. Reproductive loss results from incapacitation of rams and interference with feeding and breeding. The length of the disease varies from two to six weeks with the reproductive form affecting up to 80 percent of breeding ewes and rams.

Reproductive lesions produced by this disease can be identified on examination of the penis and prepuce of rams intended for breeding. Medical treatment is possible, but not all rams may be able to mate effectively following healing if a scarred, deformed penis or prepuce occurs. Infected rams and ewes must be identified before the breeding season and must not be introduced into the breeding flock.

## Vibriosis

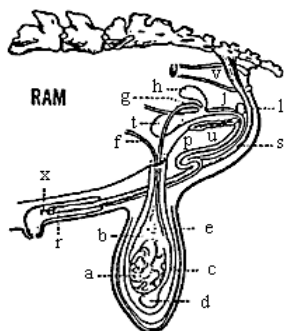
Vibriosis (caused by *Campylobacter fetus* var *intestinalis*) in sheep is not a venereal disease. The ram is not important in the transmission of the organism except as an intestinal carrier. Infertility and abortion are due to infection of susceptible ewes by consuming feed or water contaminated with intestinal contents or uterine fluids from other aborting ewes. Prebreeding vaccination is recommended to control the disease.

## Prevention of Reproductive Problems

Prevention of reproductive problems in rams is possible with a thorough and systematic examination of all males to be used for breeding. A fertility evaluation involving palpation and examination of reproductive organs and a thorough semen analysis can help maintain or improve reproductive capacity.

Blood tests, cultures, and other diagnostic aids can be used when needed. If a fertility evaluation cannot be obtained, physically examine and palpate all rams. Eliminating rams with defects that can be readily seen or felt can improve reproductive capacity.

## Conclusion



Improving reproductive efficiency in flocks will provide high economic return to sheep producers. It is important to minimize nonpregnant ewes and increase the number of lambs born early in the breeding season. The ram provides half of the input into the breeding program and must not be neglected.

**Ram reproductive system: a. left testis; b. head of epididymis; c. body of epididymis; d. tail of epididymis; e. deferent duct; f. spermatic vessels and nerves; g. ampulla deferent duct; h. vesicular gland; j. prostate disseminate (body is missing); l. cowper's gland; p. penis; r. free part of the penis; s. retractor penis muscle; t. bladder; u. symphysis of pubis; v. rectum; x. the urethral process.**

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**B-2, Breeding and Reproduction**

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