



SHEEP SHEET

by Dr. Lyle G. McNeal, Executive Director, Sheep & Wool Specialist

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Ram epididymitis is a venereal disease caused by *Brucella ovis* (*B. ovis*). Epididymitis means inflammation of the epididymis. The epididymis is the tubular portion of the testicle that collects the spermatozoa produced by the testicular tissues and stores it until transport when it is mixed with the seminal fluid to produce an ejaculate. Inflammation of the epididymis causes varying degrees of damage resulting in infertility and reduced capacity to produce viable spermatozoa. *B. ovis* ram epididymitis is usually a condition of mature rams that have been exposed to a breeding flock and other older, sexually experienced rams. In a serological survey recently conducted using the **Enzyme Linked Immunosorbent Assay (ELISA)** for *B. ovis*, of 5,728 adult rams which had been exposed to multisire breeding systems 20% were positive, 5% suspects and 75% negative. Individual flocks may experience over 50% infection.

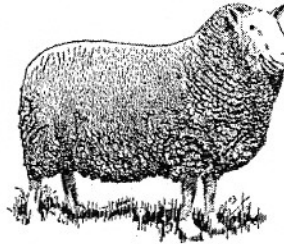
Cause and Disease Process:

Although a variety of organisms and trauma can cause inflammation of the epididymis, the cause of contagious ram epididymitis in mature rams of multisire breeding systems is *Brucella ovis*. The organism escapes from an infected ram via urine or semen and is transmitted by homosexual activities or during the breeding season via the ewe. The ewe, although not permanently infected, plays a role in the mechanical transmission. The *B. ovis* organism enters the blood stream via the mucous membranes of the penis and infects the reproductive tract and epididymis causing inflammation and scarring which results in impaired semen production and lowered quality.



Ram Epididymitis

Sheepdex R-4



Clinical Signs:

Enlargement and fibrosis (scarring) of the epididymis with wasting of the testicular tissue is the classic clinical sign. In many cases, however, the infection of the secondary sex organs (prostate, bulbourethral gland) occurs without the epididymis being infected. These rams do not exhibit palpable lesions and are detected only by semen evaluation and serology.

Diagnosis:

Diagnosis of *B. ovis* induced ram epididymitis is by palpation of the testicles and epididymides for fibrotic lesions. This method does not detect those with infection of the internal organs. These must be diagnosed by semen examination for the presence of white blood cells (WBC) and spermatozoal abnormalities, by semen culture or by serology. Currently the Enzyme Linked Immunosorbent Assay (ELISA), a type of serology test, is being used for early detection of *B. ovis* infections.

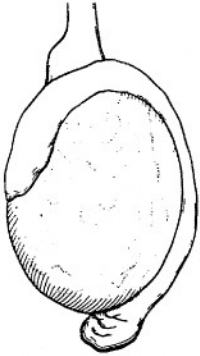
Treatment and Prevention:

Antibiotic treatment of *B. ovis* is disappointing as about half the cases will not respond.

Prevention is based on the purchase of disease free rams. One should purchase only 'virgin' lambs yearlings from flocks free of *B. ovis* or which have a negative ELISA. For infected flocks, an eradication program should be sought. All rams in the breeding flock should be ELISA tested 45-60

days following the breeding season. All positive rams should be culled and further tests should be done at 60-day intervals until all infection is eliminated. Vaccination with the 'REO' (Ram Epididymitis Organism) vaccine will interfere with the ELISA test and is not recommended.

NORMAL TESTICLE



INFECTED TESTICLE



ADDITIONAL NOTES:

*For more information write:
The Navajo Sheep Project;
Serving People, Preserving Cultures®,
P.O. Box 4454,
Logan, UT 84323-4454.
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