

Brucella ovis (Ovine Epididymitis) in Sheep

Brucella ovis, the cause of ovine epididymitis, is a bacteria that infects the reproductive system of rams and can cause severe financial losses due to decreased fertility, abortions, and culling. *B. ovis* is not known to infect people, and infection in other species is rare. Ovine epididymitis is a reportable disease, which means that any person who suspects that a ram is infected with *B. ovis* must report it to the Utah State Veterinarian's Office.

Rams

B. ovis causes inflammation of the epididymis (the tube that carries sperm away from the testicles) and testicles of rams. Infected rams have poor quality semen with reduced motility, reduced concentration or volume, and an increased number of abnormal sperm. Inflammation of the epididymis may cause swelling or hardening that can be felt through the scrotum, and the ram may look painful or uncomfortable. The inflammation can cause adhesions or scar tissue to develop.

B. ovis is usually transmitted from ram to ram when an uninfected ram breeds a ewe that was recently bred by an infected ram. Direct ram-to-ram transmission is also possible if the bacteria come in contact with the mouth, nose, eyes, or prepuce. Young rams are more likely to mount each other and may spread the infection.



Ewes

A ewe becomes infected from breeding by an infected ram. Ewes can carry the bacteria in their vagina for up to two months but rarely show signs of disease. A pregnant ewe that becomes infected may develop inflammation of the placenta, leading to abortion, stillbirth, or weak lambs. Most abortions are so early that there are no outward signs of pregnancy loss. Ewes that abort will often breed back normally in subsequent cycles or breeding seasons.

Diagnosis and Control

A *B. ovis* outbreak in a herd can be devastating financially due to a reduced lamb crop and extended lambing season due to decreased conceptions and increased abortions, high ram culling rates, and spread of infection to other rams.

There are 3 main methods to diagnose *B. ovis* in a flock:

- Manual palpation of the scrotum and testes. Feel the scrotum and each testicle for swelling above or below the testicle, symmetry, free movement, and for lumps or nodules. Only 30-50% of infected rams have abnormalities that can be felt, and not all abnormalities are caused by *B. ovis*, so additional testing may be necessary.
- Semen examination. Semen may be examined for volume, motility (movement), and sperm abnormalities.
- Blood tests. Blood tests, such as the *B. ovis* ELISA can be used to look for antibodies that indicate that the ram was exposed to *B. ovis*. Antibodies may not be detected for up to 7 weeks after infection, so a second test may be advisable after positive animals are culled.



Flocks that are concerned about *B. ovis* should examine all rams prior to the breeding season by performing manual palpation and blood testing on every ram. Infected rams should be culled as soon as possible and kept away from non-infected rams.