

OSU Sheep Team

Supporting Ohio sheep producers by providing educational information, sheep research conducted at Ohio State, resources, and contact information for leaders in Ohio's sheep industry.

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December 2018

Infectious Causes of Abortion in Ewes

Susan Schoenian, Sheep & Goat Specialist, University of Maryland Small Ruminant Extension Program
(Previously published on the [Maryland Small Ruminant Page](#))

There are many things that can disrupt a healthy pregnancy in a ewe. While it is common for about 25% of embryos to die or be reabsorbed the first three weeks of pregnancy up to the time of implantation, these are the most crucial in establishing healthy pregnancies. The nutritional requirements of ewes during early gestation is only slightly more than maintenance requirements, but it is essential that the flock not be exposed to any undue stresses.



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It appears normal for about 1.5 to 2.0% (up to 5%) of the ewes in a flock to abort. Abortion rates significantly above this level cut into profit potentials, as what may start out as a few isolated cases can quickly escalate into an abortion “storm,” resulting in 20-30% percent abortions or as high as 80% lamb mortality.

There are several infectious agents which are known to cause late-term abortions in small ruminants. The most common are *Campylobacter fetus* (also called Vibrio), *Chlymidia psittach* (also called EAE or Enzootic Abortion in Ewes) and *Toxoplasma gondii*. Less common causes include Leptospirosis, *Brucella ovis* (related to epididymitis in rams) , Q-fever, Border disease (related to BVD in cattle) and Bluetongue virus. Non-infectious causes of abortion include rough handling, fighting among animals, inadequate nutrition, and plant poisons.

Ewes infected with Vibrio typically abort during the last 6-8 weeks of pregnancy or give birth to weak or dead lambs. Once a ewe aborts, she is immune to the disease. Vibrio abortions are usually introduced into a flock via a carrier animal. A carrier is an animal that has aborted, but carries the infectious bacteria. It is important to note that the bacterium that causes Vibrio in cattle is different from the one that causes it in sheep.

Chlamydia abortions also occur during late pregnancy and may result in stillborns or weak lambs that die shortly after birth. Chylamydia is also associated with pinkeye, polyarthritis, and pneumonia. The spread of enzootic abortion is believed to be primarily through contact with infected fetuses, placenta or vaginal discharges, though there is evidence to suggest that some “carrier” ewes may constantly shed the organism in their feces or from their lungs.

Vaccines are available for both Vibrio and Chlamydia, often in the same injection. They are designed for use at the beginning of the breeding season. They are killed vaccines, thus two shots are required the first year. After a ewe has received her initial two-vaccination series, only a single vaccination needs to be given in subsequent years. Some large producers have achieved good results simply by vaccinating replacement ewes.

Toxoplasmosis is a common intestinal, protozoal infection in cats. It can cause abortion in sheep at any stage of pregnancy, depending upon the stage during which the ewe was infected. It is generally accepted that ewes become infected when they ingest feed or water which has been contaminated with infected cat feces. Unfortunately, there is no vaccine available in the U.S. to prevent toxoplasmosis. The best prevention is to control cat populations by keeping cats away from pregnant ewes and/or maintain a healthy adult cat population and to prevent contamination of feed and water by nesting cats.

In order to develop a course of action and prevent abortion storms in subsequent years, the specific cause of abortion must be determined. Diagnosis is based on clinical signs and flock history, combined with laboratory diagnostics. It is crucial that the proper samples (both the fetal and

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placental tissues) be submitted to a veterinarian or state diagnostic laboratory in order to differentiate between abortion types. Tissues can be kept cold by packing in ice in a leak-proof, insulated container until they can be delivered. Blood sampling (before and after abortion) may also be warranted.

Controlling an abortion outbreak requires strict sanitation and separation of aborting ewes. Infected fetuses, placental tissues, and bedding must be properly disposed of (burned or buried). All aborting ewes or those with vaginal discharges should be immediately isolated from the main flock. Aborted ewes should not be used as foster mothers for female offspring, unless infectious causes of abortion can be eliminated. Pregnant ewes should never be fed on the ground. Breeding stock from flocks that have experienced abortion storms should not be purchased.

Immediate vaccination and the use of antibiotics may help lessen losses during an outbreak. Ewes should be injected with an antibiotic (tetracyclines), then started on a feed that contains antibiotics. Consult with a food animal veterinarian for an appropriate course of action and if using any drug extra-label.

It is important to note that humans are susceptible to many of the same abortion-causing agents as sheep. Care must be taken when assisting ewes during lambing and when caring for weak lambs. Plastic gloves and other protective clothing should be worn whenever contaminated material is handled. Unpasteurized milk or cheese should not be consumed. Pregnant women are especially susceptible to toxoplasmosis and should not handle infected cats or aborted fetuses.

Posted by [Braden Campbell](#) at 8:00am

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