IOWA STATE UNIVERSITY

Veterinary Diagnostic Laboratory

Pathology Submission Guide

OVINE ABORTION

Specimens to submit: Entire fetus and placenta are the preferred specimens. Fetal tissues should include:	
Brain	1/2 of organ, formalin-fixed
Ewe serum	Optional, see notes on abortion serology. 3-5 ml ewe's serum
Heart	1/2 cm slice, formalin-fixed
Kidney	1 entire kidney, fresh/chilled
Liver	1/8-1/4 of organ, fresh/chilled 1/2 cm slice, formalin-fixed
Lung	1/8-1/4 of organ, fresh/chilled 1/2 cm slice, formalin-fixed
Placenta	3 cotyledons, fresh/chilled 2 cotyledons, formalin-fixed
Spleen	1/2 of organ, fresh/chilled
Stomach contents	1-3 ml syringe or tube, fresh/chilled
Thoracic fluid	Clear, uncontaminated, fresh/chilled
Thymus	Fresh/chilled; 1/2 cm slice formalin-fixed
Vaginal swabs	Optional, select recently aborted ewes

SAMPLING TECHNIQUES

1. Do NOT freeze tissues.
2. Submit placenta whenever possible.
3. Submit ewe's sera, retain 1/2 of sample frozen.

AGENTS DETECTED BY ROUTINE EXAMINATION	
Bacteria	*Trueperella (Arcanobacterium) pyogenes, Bacillus, Campylobacter, Chlamydia, Listeria monocytogenes*
Parasites	*Toxoplasma gondii* (see comments), *Neospora*
Viruses	Border disease virus

COMMENTS

- Diagnosis of toxoplasmal abortion can be accomplished through detection of characteristic lesions in placenta and brain and/or detection of antibody in fetal thoracic fluid. Detection of antibody in ewe serum is not evidence for abortion, only infection at some time; antibody titers persist for months. Absence of antibody in the ewe would rule out toxoplasmosis.
- Diagnosis of *Chlamydial* abortion is most readily accomplished through an ELISA test conducted on fresh placenta. The ELISA can also be conducted on swabs of fetal fluids or liver or vaginal swabs from affected ewes (within 5 days after abortion). Histopathology is also useful.
- Cache Valley virus infection can only be identified by serological studies conducted at a reference laboratory. Fetal fluids or precolostral serum from live-born affected lambs can be examined. Analysis of serological results from paired ewes (affected/unaffected) also may be helpful.
- *Chlamydia* and *Toxoplasma gondii* are 2 of the 3 most common infectious causes of ovine abortion. Without placenta, brain, and/or fetal thoracic fluid, we cannot properly address the primary differentials.