Abortions Storms of Unknown Etiology in Livestock

Abortion is the expulsion of a fetus after organ development (organogenesis), but before fetal survival is possible. Abortion or reproductive failure may be the main clinical manifestation of a disease (e.g. Rift Valley Fever) or an infrequent occurrence (e.g. Lumpy Skin Disease). While many bacterial, viral, mycotic, and parasitic organisms known to cause abortions are not reportable conditions, an increased incidence of abortions is reportable. Abortion storms warrant an in-depth examination to minimize the potential spread of contagious organisms. Many etiologies of abortion also cause stillbirths, mummification, and/ or other neonatal abnormalities.

Differential Diagnoses: The following diseases have been associated with livestock abortion:

- African Swine Fever
- Akabane Virus Disease
- Aujeszky's Disease (Pseudorabies)
- Anthrax
- Bluetongue
- Brucellosis
- Caseous Lymphadenitis
- Classical Swine Fever (Hog Cholera)
- Contagious Agalactia
- Contagious Caprine Pleuropneumonia
- Contagious Equine Metritis
- Dourine
- Ephemeral Fever
- Equine Rhinopneumonitis
- Equine Viral Arteritis
- Japanese Encephalitis Virus
- Lumpy Skin Disease
- Menangle Virus
- Nairobi Sheep Disease
- Peste des Petits Ruminants
- Q fever
- Rift Valley Fever
- Salmonellosis
- Trypanosomiasis
- Wesselsbron Disease

Diagnosis: The fetus and placenta should be cleaned if grossly contaminated using water or saline, placed in clean plastic bags, and chilled but not frozen. If transportation to the laboratory within a few hours is not possible, then a field necropsy should be performed. Fresh tissue or swabs should be submitted for virology and microbiology. Liver, lung, kidney, and brain should be fixed in 10% formalin for histopathology. Since most infectious causes of abortion result in a placentitis, the placenta (including the cotyledons and intercotyledonary area in ruminants and a few placental units in swine) should be submitted. Aseptically aspirated stomach contents should be sent in a sterile, chilled container. Maternal serology should be sent along with a repeat serological sample in 3-4 weeks for comparison.

Suggestive Necropsy Findings: Gross hepatic lesions may be seen with *Listeria* or *Campylobacter*. Fetal pneumonia may be seen with *Actinomyces pyogenes*, *Campylobacter*, and *Brucella*. Meconium staining of skin and lung are associated with fetal distress and should be differentiated from pneumonia.

Zoonotic Risk: Appropriate protective gear should be used when extracting specimens for laboratory submission to reduce exposure to potentially infectious material.

Reporting Requirements:
Any person who reasonably suspects the presence or occurrence of suspicious disease conditions including abortion storms of unknown etiology in livestock shall report it immediately to the State Veterinarian's office at (404) 656-3667 or (404) 656-3671 in Atlanta, or 1-800-282-5852 outside of Atlanta, or to the USDA Area Veterinarian in Charge at (770) 922-7860.

Electronic References:
The Merck Veterinary Manual, 50th Anniversary edition.
http://www.merckvetmanual.com/mvm/index.jsp?cfile=htm/bc/110300.htm

World Organisation for Animal Health
http://www.oie.int/eng/en_index.htm

Last Edited 5/25/2006