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SHEEP ABORTION: AN OUNCE OF PREVENTION IS WORTH A POUND OF CURE.

Why?

Number 1 phone call about sheep

Sheep Abortion

Approx. 80% due to infectious agents
Higher than other species

Diagnosis is relatively easy

Catastrophic outbreaks possible

Overview

1. What can we do to prevent abortions?

2. What do you do when they occur?

Preventing abortions

- Keep the bad bugs out
- Be aware of where replacements come from

BIOSECURITY

Look after feed

Causes of Abortion

- Chlamydiophila
- Campylobacter
- Q fever
- Toxoplasmosis

Salmonella
Brucella ovis
Border Disease
Listeria

All are zoonotic except border disease and Brucella

Enzootic Abortion of Ewes (EAE)

- Chlamydiophila abortus
- Abortion in last 2 weeks
 - Ewe normal
 - Fetus normal
 - Intercoteledonary necrosis
 - Lambs may be alive



EAE

Diagnosis

- Placenta –ZN stain
 - Histology
 - IHC
- Epidemiology
 - Complex
 - Infected one year, abort the next
 - Ewe lambs



EAE control

- Biosecurity
- Vaccination
 - Be aware of limitations
- Oxytetracycline
 - LA q 5 days
 - In feed



EAE significance

1st year

• 30%

Subsequent years
 <u>5</u>-10%

EWE – zoonotic risk

- Pregnant women
 - Risk of abortion

Campylobacter

- Campylobacter fetus subsp. fetus (intestinalis)
- Campylobacter jejuni
- Abortion in late pregnancy
 - Fetus often autolysed
 - Sheep may appear sick
- Fluid in lamb body cavities culture
- Necrotic foci in liver



Campylobacter

Really a GI bacteria

- Infection of naive animals in late pregnancy can cause abortion
 - Incubation period 7-25 days



Campylobacter

- Control
 - Problematic
- Vaccines
- Natural exposure
- Biosecurity
- Oxytetracycline
 - May not be economic

Campylobacter-zoonotic risk

 Essentially food poisoning from ingestion

Toxoplasmosis

- *Toxoplasma gondii*Complex life cycle
- Problem of naive infection in pregnancy
 - Effect depends on stage of pregnancy
 - Early reabsorption
 - Mid fetal death
 - Abort late
 - Late no effect



Toxoplasmosis

- Typical focal necrosis on cotyledons
 - White spot
 - IHC for dx
- Control
 - Cats
 - Deccox 2mg/kg daily
 - Monensin 15mg/head
 - Vaccines not Canada



Toxoplasmosis - zoonosis

- Risk to pregnant women and immunosuppressed individuals
- Risk is probably less than a litterbox



Q-fever

- Coxiella burnetii
- Minor cause of abortion
- Little published information
- Seems to be associated with ticks
- Inhalation
- Localization in uterus and mammary gland



Q fever

Late term abortions

- Determine presence with ZN stain
 - Organisms is commonly found in fetal stomach unlike EAE
- Also serology



Q-fever zoonosis

- Listed by the US government as a bioterrorism agent
- Most individuals mild flu
- Occasional severe problems

Brucella

Brucella ovis

- (Brucella melitensis goats, reportable, zoonotic but can effect sheep)
- B. Ovis
 - Cause orchitis in rams
 - Metritis after breeding
 - Low conception rates
 - Ram BSE



Ovine epididymitis

Not zoonotic



Listeria

- Listeria monocytogenes
- Typically from feed causing bacteremia
 - Sickness
 - Head tilt
 - Different signs in different ewes
- Some placentitis and abortion
 - Brown vaginal discharge



Border Disease

- Pestivirus
- Closely related to BVD
 - Viruses can cross the species barrier
- Epidemiology and effects similar to BVD



Salmonella

- Salmonella abortus ovis
- Salmonella spp.
 - montevideo
- Signs
 - Sheep typically very sick
- O Diagnosis
 - Clinical signs in ewes
 - Culture of aborted material



Salmonella

Control

- Strict separation
- Culture and sensitivity
- Appropriate antimicrobial use
- Biosecurity

Zoonotic risks

- With the exception of *B. ovis* and BDV infectious abortion in sheep is zoonotic
- Risk is very low to healthy males
- Problems with immunosuppression and pregnant females



Prevention

- Biosecurity
- Biosecurity
- Biosecurity
- Biosecurity
- Biosecurity
 - Purchases
 - Vaccines
 - Feed control
 - Separate lambing

In case of emergency.....

- All sheep farms need a plan
- Isolate affected animals
- Remove material and disinfect
- Keep placenta and fetus
- Have a submission plan

