



## WHAT IS NORMAL?

### • GOATS

- Normal rectal temp
  - 101-103
- Estrus cycle
  - 18-21 days
- Gestation Length
  - 150 days +/- 5 days
- Physical appearance of healthy/sick animal



### • SHEEP

- Normal rectal temp
  - 101-103
- Estrus cycle
  - 16-21 days
- Gestation Length
  - 150 days +/- 5 days
- Physical appearance of healthy/sick animal



## DISEASE PREVENTION

- **Vaccination**
- **Nutrition**
- **Environment**

## Vaccinations

### □ Sheep & Goats:

- Clostridium perfringens Type C&D
- Tetanus
- Soremouth
- Pneumonia
  - Inforce-3 or TSV-2 intranasal
- Abscesses
  - Corynebacterium pseudotuberculosis – Texas Vet Lab, Inc.
  - Case-bac® or Caseous D-T® – Sheep only

## Common Diseases

- Tetanus
- Enterotoxemia – “Overeating Disease”
- Pneumonia
- Abscesses (Corynebacterium pseudotuberculosis)
- Foot Diseases (Footrot, Interdigital dermatitis)
- Parasitism
- Polioencephalomalacia - “Thiamine Deficiency”
- Urinary Calculi
- Johne’s Disease

## TETANUS

### Treatment

#### Unrewarding

### Prevention (Disbudding, dehorning, tail docking, castration)

#### Tetanus Antitoxin

150 units IM

Cl. perfringens Type CD&T Toxoid

Remember to booster



## Enterotoxemia "Overeating disease"

- Caused by *Clostridium perfringens* Type C or D
- Usually induced by sudden change in gut flora by overconsumption of grain or stress.
- Easily prevented by vaccination
- Treatment usually unrewarding
- Results in Death!!!!

## Pneumonia

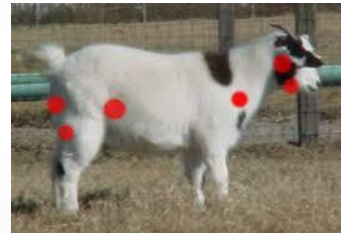
- Sudden Death – usually caused by *Pasteurella* sp.
- Verminous pneumonia (Coccidia, lungworms, etc.)
- Usually have elevated temperature (105-106)
- Chronic (Poor-doer)
  - Chronic cough
  - Unthrifty
- Treatment
  - Antibiotics (Extralabel use requires VPCR)
  - Antiinflammatories
  - Supportive

## Abscesses

- Contagious abscesses is caused by *Corynebacterium pseudotuberculosis*
- Draining abscesses is source of infection, contamination of feeding equipment and environment
- Bacteria "set up shop" in regional lymph nodes
  - Most common site is mandibular region (lower jaw)
  - Can occur in any lymph node of body; therefore, can have internal or external abscesses
- Treatment:
  - Isolate, lance abscess, flush and keep isolated until healed.
  - Cull affected animals
  - Vaccinate herd
- Diagnosis:
  - Culture exudate
  - Serological test

**Do not test if vaccinated.**

## Location of External Abscesses in Sheep & Goats



## Foot Care

- Footrot
  - Caused by bacteria that invades the tissue between the hoof wall and sole of the foot
  - Causes lameness
  - Prevention:
    - Hoof Trimming
    - Control environment
    - Foot baths
    - Vaccine
    - Genetic selection



## Severe Foot Rot Lesions



## Interdigital Dermatitis

- Caused by bacterial infection between the claws
- Can cause severe lameness
- Increased incidence in moist conditions, i.e. winter and spring. Provide clean, dry environment to minimize infection
- Treat with topical and systemic antibiotics



## Polioencephalomalacia "Thiamine Deficiency"

- ❑ Reduction of thiamine in rumen resulting in reduced thiamine in bloodstream which then results in reduced level of thiamine in white matter of brain.
  - Causes:
    - Poisonous plants – thiaminase enzyme
    - Stress – ruminal microflora change to bacteria that produce thiaminase enzyme
    - Sudden Diet Change
- ❑ Acute onset: Initial stages – "stargazing"
  - Progresses to blindness which then progresses to incumency, seizure then death.
  - From initial stage to death can occur within 24 hours.



## Urolithiasis "Urinary Calculi"

- Major cause of heartbreak in 4-H/FFA projects.
- Most common presentation is owner calls with "constipated" wether. Sheep and goats do not get constipated! They are straining to urinate.
- Sedate with Acepromazine - 2-5mg IM
- Sit animal on rump and exteriorize penis. Calculi is usually identified in urethral process on end of penis which is then removed by excision. If wether is able to urinate, yahoo!! If not, very difficult to remove calculi higher up without performing perineal urethrostomy.
- Put wether on Ammonium chloride drench. Mix 1 tsp NH<sub>3</sub>Cl crystals with small amount of warm water and give orally once daily for 7 days then biweekly for control.
- Be sure animal has proper amounts of Ammonium Chloride in ration.
- Treat with antibiotics and anti-inflammatories.
- Major concern – ruptured bladder. Perform abdominocentesis to DX.

## Johne's Disease

- Chronic debilitating disease affecting mature sheep, goats, cattle
- Caused by *Mycobacteria paratuberculosis*
- Transmitted by fecal-oral route
- Offspring from infected dam at more risk of contracting disease.
- No treatment available
- Remove affected animal from herd immediately
- Serological and fecal testing available but false negatives occur



## Reproductive Diseases

- Pregnancy Toxemia
- Mastitis
- Cystic Follicles/Corpus luteum
- Nonbreeders
- Caprine Arthritis Encephalitis/Ovine Progressive Pneumonia
- Retained placenta
- ABORTIONS (Campylobacter, Chlamydia, Q-fever, Toxoplasmosis, Blue Tongue)
- Abnormal fetal developmental diseases: Cache Valley

## Pregnancy Toxemia

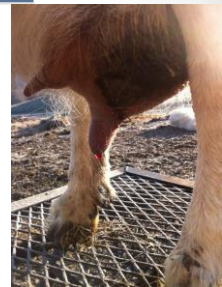
- Usually occurs in obese animals carrying multiple fetuses
- Can occur as early as 6 weeks before kidding/lambing date
- Clinical signs:
  - Decreased appetite
  - Swollen Legs
  - Lethargy
  - Unwillingness to stand due to pain &/or weakness
  - Moist, nonproductive cough

## Pregnancy Toxemia (Cont'd)

- Treatment
  - Place in area where food and water easily accessible
  - Vitamin B-complex (B12)
  - Propylene Glycol drench
  - Antibiotics if indicated
  - Probiotics
  - Calcium/Dextrose
  - Termination of pregnancy
- Prevention
  - Place animals in separate groups based on fetal numbers
  - Place animals in separate groups based on body condition
  - Prevent obesity
  - Have food available in adequate quantities

## Mastitis

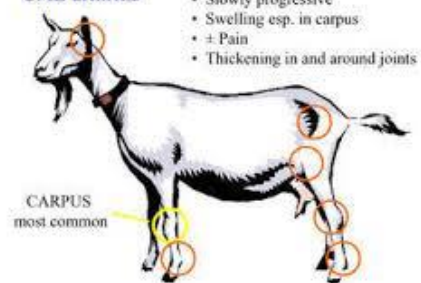
- Environmental causes - Coliform Gangrenous
- Contagious mastitis - Staph, Strep
- Treatment
  - Systemic antibiotics
  - Intramammary infusions
  - Anti-inflammatories
  - IV Fluids
- Prevention
  - Reduce environment contamination
  - Dairy sheep/goats - proper sanitation during milking procedure
  - Use of "dry cow" intramammary infusions



## Caprine Arthritis Encephalitis "CAE"

- Seen primarily in dairy goats
- Viral disease primarily transmitted in milk, especially in colostrum
- Causes swollen joints, lameness, hard udders, decreased milk production, pneumonia, shortens life span of infected animal
- Easily diagnosed through blood sample
- Test, cull positive animals, feed kids heat treated colostrum and pasteurized milk from negative does.
- Be sure all recipient does are tested for CAE!

### CAE arthritis



## Maedi-Visna Ovine Progressive Pneumonia "OPP"

- Viral disease primarily affecting respiratory system of sheep
- Can cause progressive paralysis, wasting, arthritis and chronic mastitis
- Transmitted in colostrum, milk, fecal contamination, respiratory secretions
- Related to CAE virus of goats.
- Serologic test to identify carrier sheep, cull

## Abortions

### Causes:

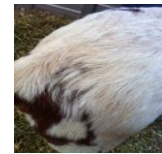
- **Campylobacter** (vaccine available)
- **Toxoplasmosis**
- **Chlamydia** (vaccine available)
- **Coxiella burnetti** – "Q-fever"
- **Neospora**
- **Blue Tongue Virus**
- **Cache Valley virus** (Usually congenital deformities associated with this virus)
- **Other bacterial causes**
- **Utilize diagnostic lab to confirm diagnosis!!!!**

## Tools to Utilize

- **Veterinary Services:**
  - Pregnancy testing (ultrasound, blood)
  - Necropsy results (extremely important for mineral analysis of herd)
  - Fecal Examination
  - Veterinary Client Patient Relationship (VCPR) is a must for the future (i.e. Veterinary Feed Directive (VFD))

## Skin Diseases

- Ringworm
- Zinc Deficiency
- Soremouth



## Zoonotic Diseases

- Abortion diseases
  - Toxoplasmosis
  - Coxiella burnetti ("Q-fever")
- Soremouth
- Ringworm

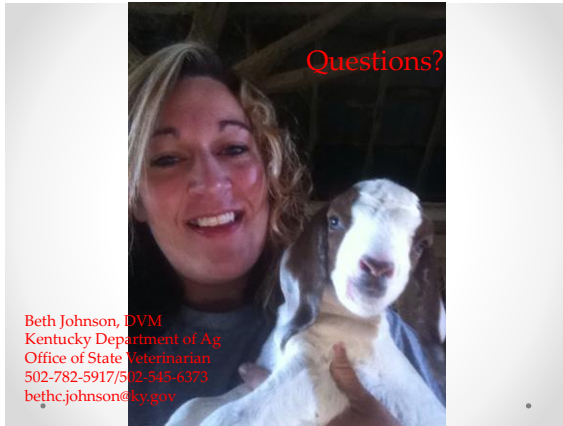


## Zoonotic Diseases, Cont'd Causes of Abortions

- **Coxiella burnetti** – "Q-Fever"
  - Organisms shed in feces, urine, milk and
  - highest numbers are shed in vaginal secretions and uterine fluids during abortion
  - Immunocompromised individuals should avoid contact
  - Flu-like symptoms
- **Toxoplasmosis**
  - Newborns may be weak or born dead
  - Avoid fecal contamination of feed sources/troughs by "barn cats"







Questions?

Beth Johnson, DVM  
Kentucky Department of Ag  
Office of State Veterinarian  
502-782-5917/502-545-6373  
bethc.johnson@ky.gov