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DIVISION OF AGRICULTURE
RESEARCH & EXTENSION

University of Arkansas System

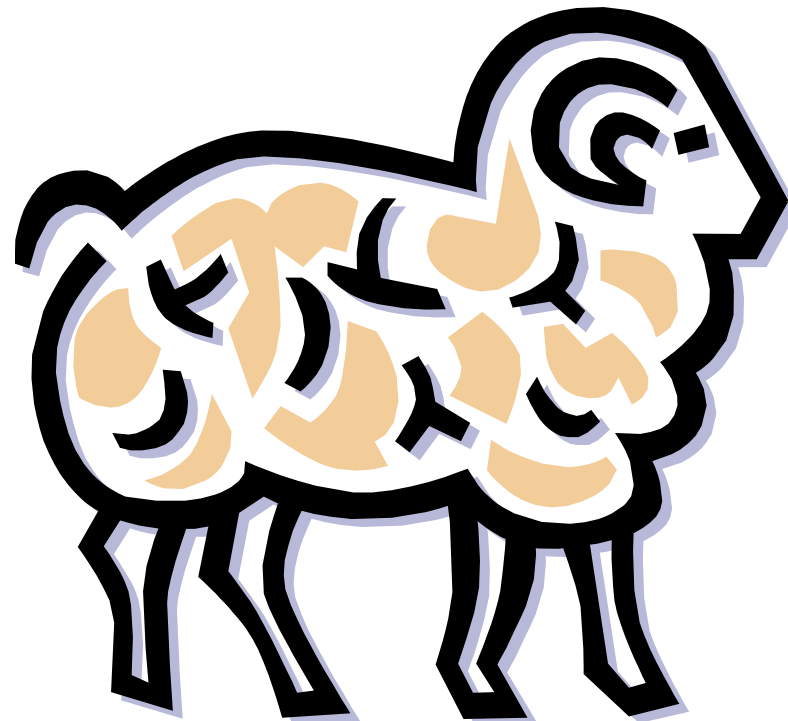
Diseases of Small Ruminants

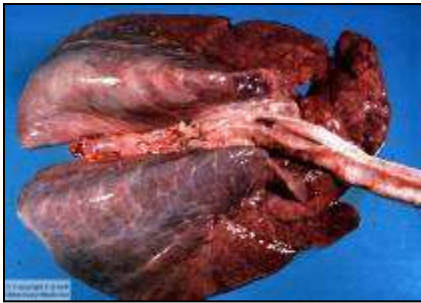
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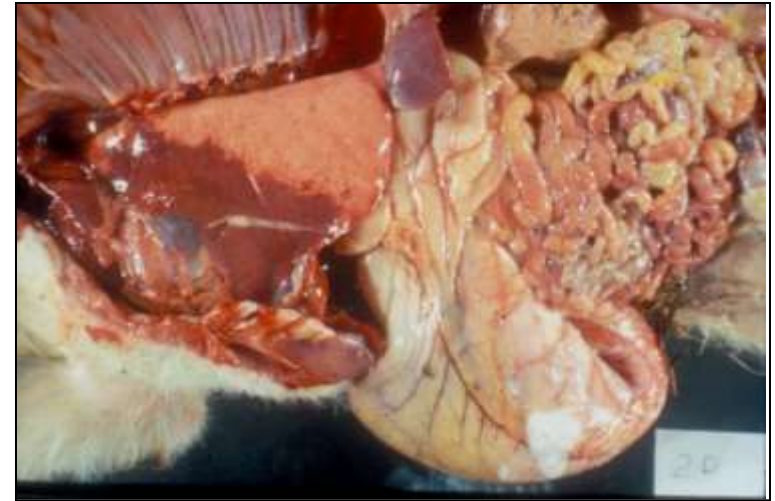
Respiratory Disease





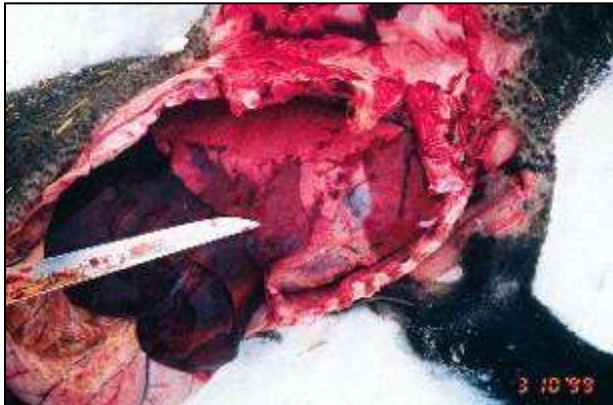
Respiratory Disease

- Pneumonia
- Agents involved
 - *Mannheimia haemolytica*
 - *Pasteurella multocida*
 - *Mycoplasma sp*
 - *Chlamydia*
- Usu occurs in young weaned lambs/kids
- May carry these organisms without problem
- Precipitated by lowered resistance & stress



Predisposing Factors

- Dust
- Poor Nutrition
- Commingling & crowding
- Low or poor quality colostrum intake



Clinical Signs

- DART
- Weakness/Lethargy
- Increased RR
- Fever (>104)
- Nasal discharge
- Poor appetite
- Coughing
- Death

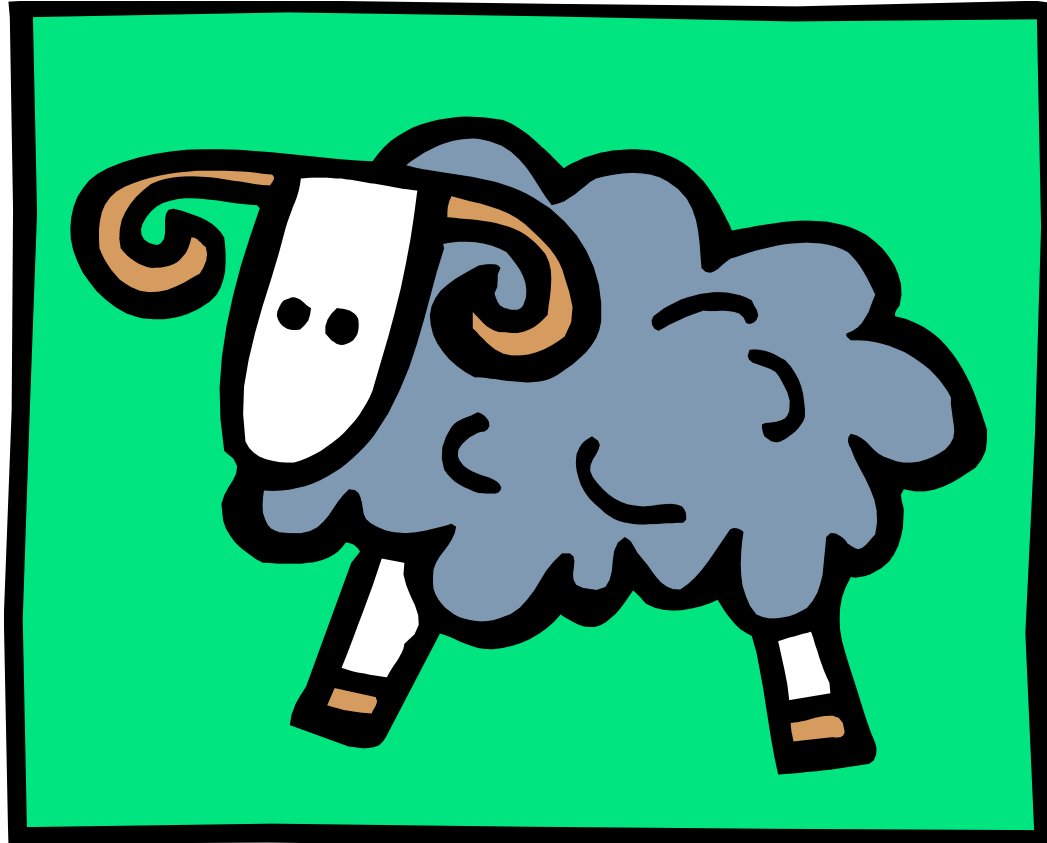


Treatment

- Discuss treatment with a veterinarian
- Culture & antibiotic sensitivity
- Vaccine available
- Antibiotics - Most are Extra-Label
 - Naxcel[®], Zoetis (Ceftiofur) – only approv. drug for goats
 - Micotil[®], Elanco (Tilmicosin) – approved for sheep
 - Others: Nuflor[®], Draxxin[®]



Clostridial Diseases



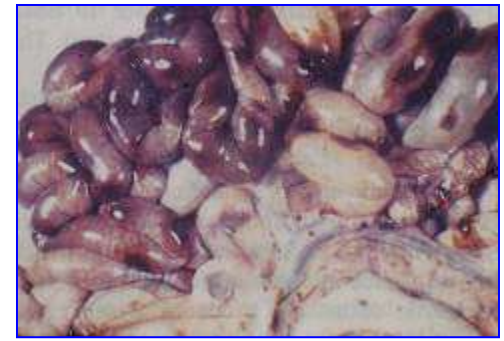
Clostridium perfringens type C

- Enterotoxemia, Purple Gut
- First few weeks of life
- Changes in feed (creep feed) or amount of milk received can be a predisposing factor
- Sudden death, abdominal pain, bloody diarrhea



C. perfringens type D

- “Overeating disease”
- “Pulpy kidney disease”
- Kids over one month of age
- Precipitated by abrupt changes in feed, especially high concentrate diets
- Accidental access to more feed than usual
- Disease is very rapid, & results in death



Clostridium tetani

- Predisposing Factor - injury or surgery
 - Devitalized tissue
- Toxin is very potent
- Signs occur 1-2 weeks after wound
 - Stiffness of limbs
 - Sawhorse stance
 - Difficult eating (lock jaw)
 - Death occurs when respiratory muscles become paralyzed



C,D & T Control

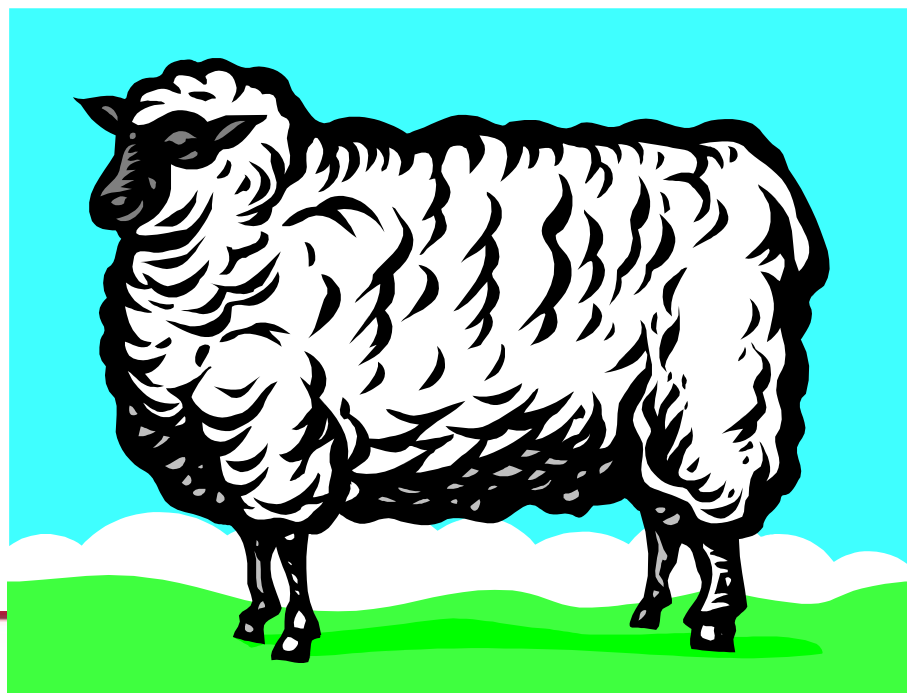
- Immunization of pregnant does or ewes 30 days prior to kidding
- Can immunize lambs/kids prior to weaning



Vaccinate females to pass antibodies in colostrum to their newborn kids.



Reproductive Diseases



Pregnancy Toxemia

- Last 6 wks of gestation
- The female's rumen capacity is decreasing
- Multiple fetuses
- Other stress: transport, weather, thin doe, etc.
- Clinical Signs:
 - Poor appetite, lethargy
 - Neurologic: aimless walking
 - Recumbency and death



Pregnancy Toxemia

- Rx: Oral propylene glycol (2 oz. TID)
 - Induce parturition
- Prevention best accomplished by supplying adequate E to ewes diet last 4-6 wks.



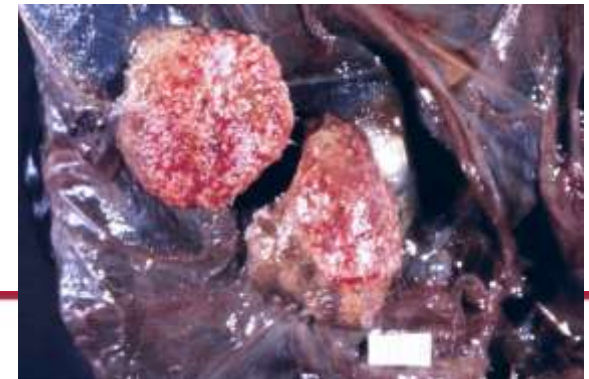
Enzootic abortion



- Enzootic abortion of ewes
- *Chlamydophila abortus* (*Chlamydia psittaci*)
- Transmission is oral, organisms shed in placenta & aborted fetuses
- Necrotic, gray-brown cotyledons
- Later stages of gestation (generally)
- 25% or more of the flock can abort
- Mainly affects yearlings & younger ewes

Toxoplasmosis

- Cats are definitive host
- Immune & will not abort again
- Lesions in the placenta are highly characteristic – gray/white foci
- No gross lesions on fetus
- No effective treatment – control cats

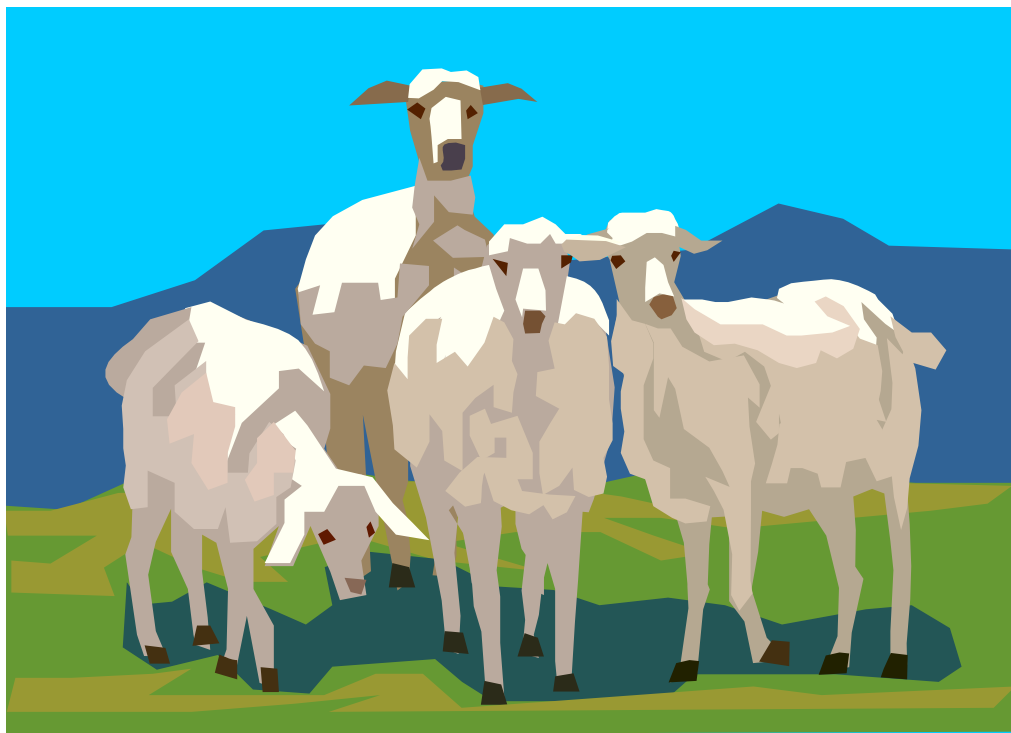


Campylobacteriosis

- Later abortions, premature births, stillbirths, weak lambs
- Aborted fetuses die 1-2 days before they are aborted, usually autolyzed
- Ewes develop metritis post abortion
- Killed vaccine available
- Tetracyclines are effective



Other Diseases





Footrot

- *Fusobacterium* or *Dichelobacter* (*Bacteroides*)
 - Acute lameness
 - Usually only one foot is affected
 - Break in the skin between the claws
 - Swollen foot
 - Antibiotics
 - Foot baths



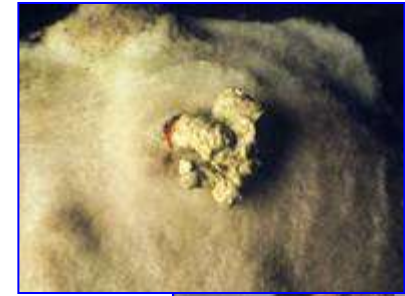
Caseous Lymphadenitis

- *Corynebacterium pseudotuberculosis*
- Contagious, infectious, chronic
- Mortality is very low, but morbidity & production losses may be significant
- LNs near head & neck
- Thick, greenish pus
- Abscesses rupture
 - Contaminate herd mates, pens, water, & barn
- Cannot see the effect on the LNs internally

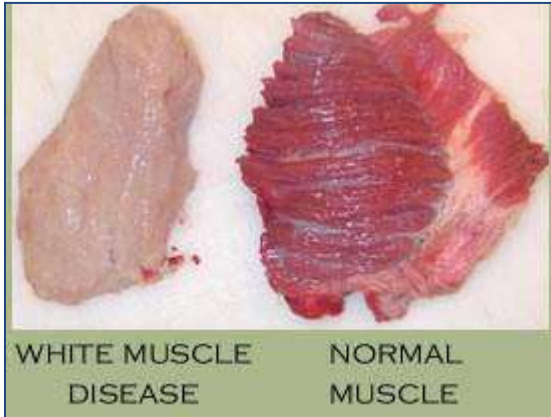


Treatment

- Culling best way to control disease
- Surgically drain & flush abscesses
 - risk releasing organism
- Can flush the area & pack it with gauze soaked in iodine
- Usually not 100% effective, especially if there are internal organs involved
- Vaccines are available

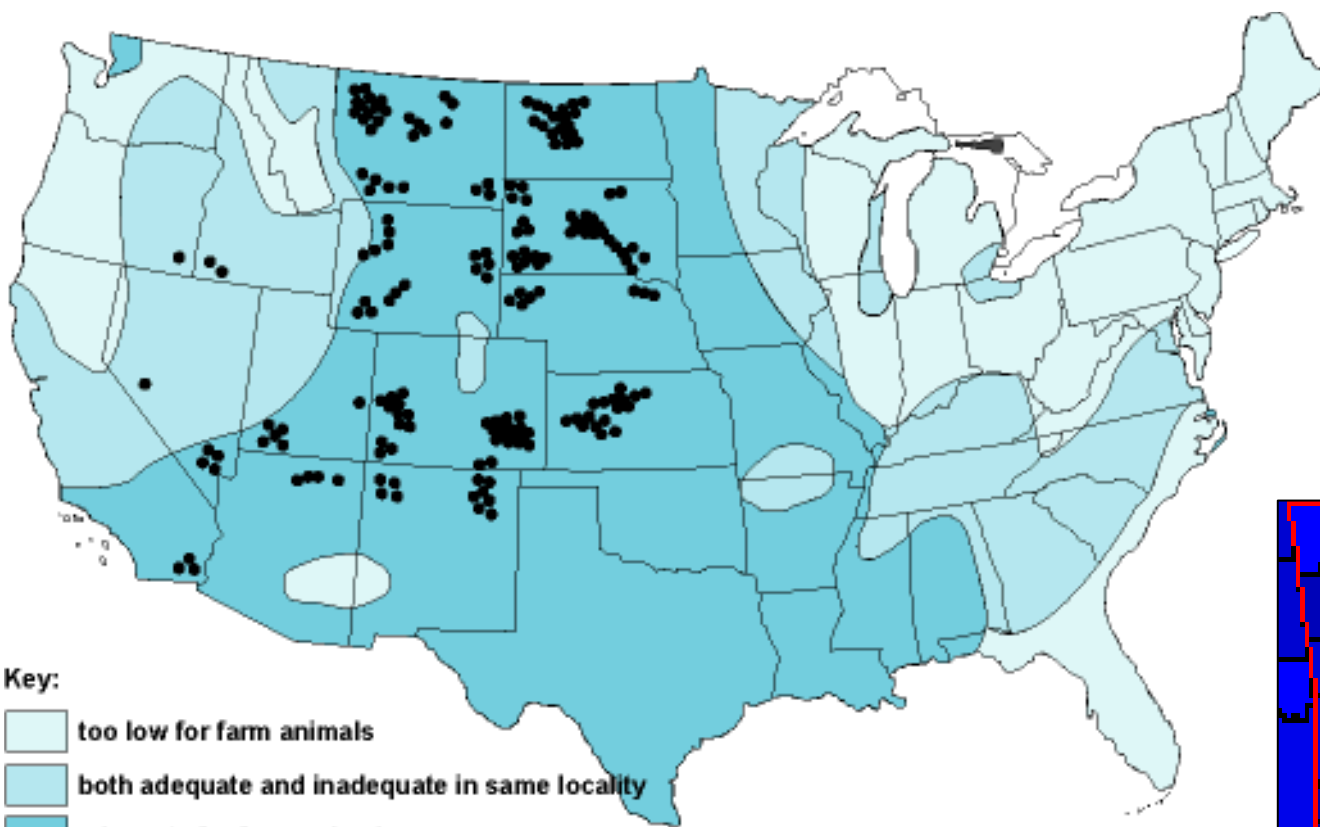


White Muscle Disease



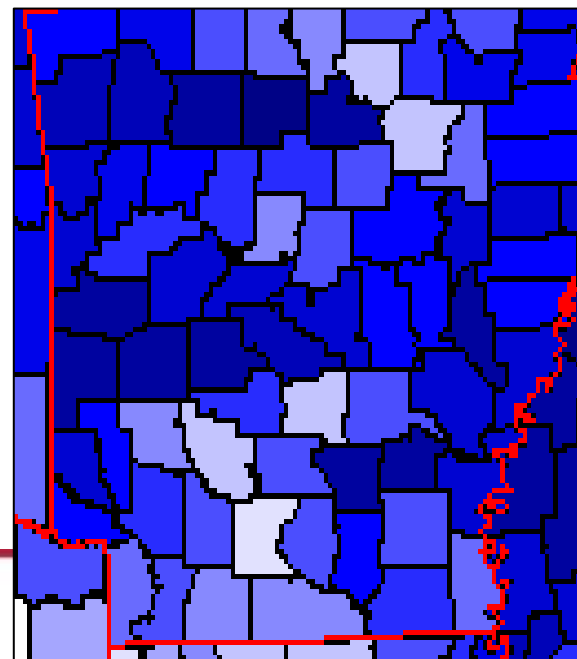
- Se passed from placenta to fetus during late gestation
- Seen in rapidly growing, heavily-muscled kids
- Clinical signs:
 - Weak, poor suckle reflex, stiffness, Arched back, sawhorse stance
 - ↓ Se also assoc w/ ↓ repro performance & retained placentas
 - Necropsy reveals degeneration of heart & skeletal muscle

White Muscle Disease



Key:

- too low for farm animals
- both adequate and inadequate in same locality
- adequate for farm animals
- toxicity may be a problem



White muscle disease

- Inject does in the final month of pregnancy with approved vitamin E & selenium combination (Bo-Se)
 - 1cc per 40 lbs.
- Can treat kids at birth
- Feed supplementation with selenium in se-deficient areas



BLUETONGUE

- Viral disease of goats/sheep, cattle, deer, camels
- Transmitted - Culicoides fly (biting midge)
- Clinical signs:
 - Lameness
 - Oral erosions
 - Stiffness
 - Death



BLUETONGUE



- Clinical signs
 - Excessive drooling
 - Hyperemia at coronary band, reluctant to move
 - May see abortion, Morbidity can be high
- Diagnosis from clinical signs
- Treatment is supportive care
- Prevention
 - Vaccination
 - Control vector



Infectious/Contagious Diseases

- Club Lamb Fungus (woolrot, woolfungus)
 - *Trichophyton verrucosum*
 - Attack hair shafts & surface of skin
 - Circular lesion
 - Frequent shearing contributes
 - Raised-plaque or “scaly” lesions



Club Lamb fungus

- Spread from animal to animal or contaminated equipment
- Same treatment options as ringworm in cattle
- 2-4 months for untreated recovery



Treatments

• 1.



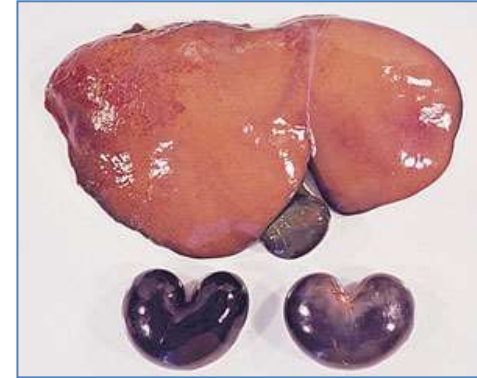
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• 3.



Copper Toxicity



- Sheep very sensitive to Cu
- Acute hemolytic crisis occurs – intravascular hemolysis
- Can be precipitated by stress – lactation, pregnancy, exercise, transportation, nutrition
- Diagnosis by Cu levels in blood & kidney
- Best control is prevention – NEVER FEED PIG OR CATTLE MINERAL TO SHEEP

Contagious ecthyma

- Soremouth
- Pox virus
- Highly contagious to goats and sheep
- Survives for long periods of time in the environment in dried scabs
- First appears as tiny red nodules at junction of the lips



Contagious ecthyma

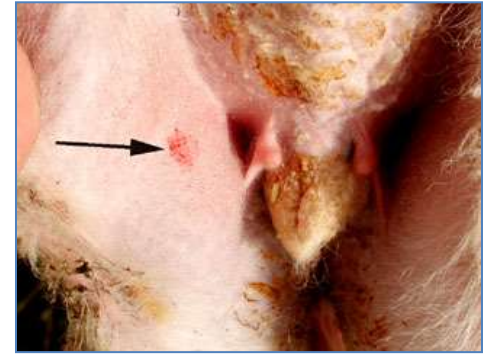


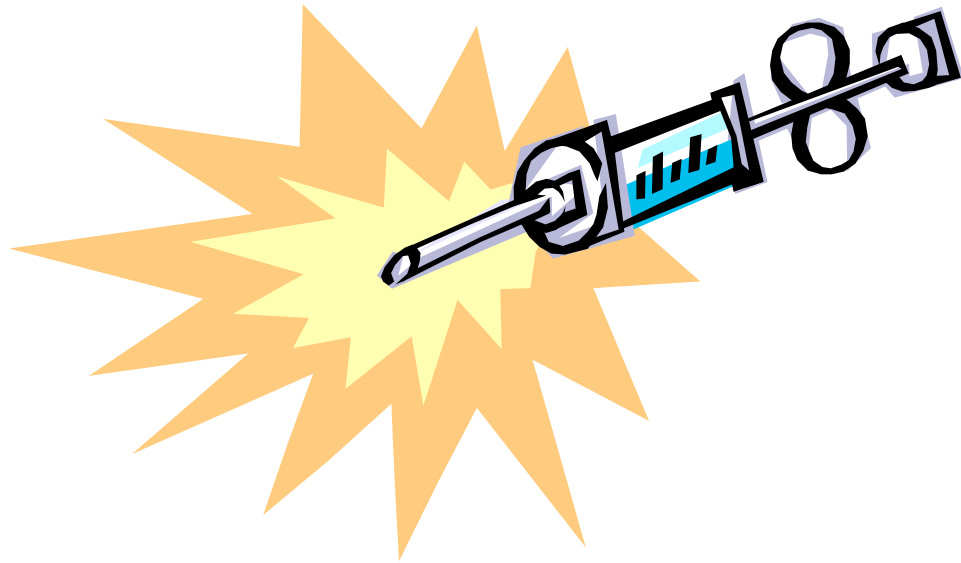
- Nodules develop into blisters
- Thick, brown scab forms, which is released in about 3-4 days (17-21 days after appearance of red nodules)
- Ewes nursing infected lambs may develop lesions on the udder may lead to mastitis
- Affected lambs may lose condition because unable to nurse effectively



Contagious ecthyma

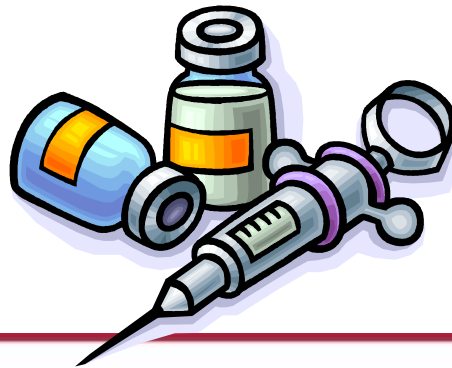
- Live vaccine
- Scarify skin on inside of thigh, apply vaccine to the area.
Usually requires 2 vaccinations.
- Give to lambs at one month of age
- Animals that have been infected are usually immune
- Separate vaccinated animals from susceptible animals until scabs fall off





Vaccinations

What vaccinations do I use?



Recommended Vaccines



- **Breeding Stock**

- Chlamydiosis/Vibriosis
- Clostridial (C,D&T/Covexin 8): 4 wks before kidding
- Leptospirosis (Optional - goats)
- 250mg VitE & 5mg Se(3-5cc Bo Se) 3wks before parturition

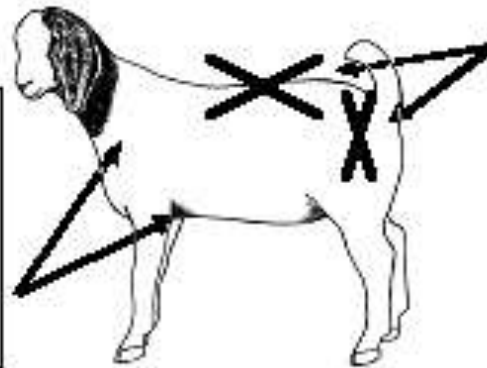


- **Lambs/Kids**

- Clostridials (C,D&T or Covexin 8) at weaning or before then follow with a booster
- 50 mg vitamin E & 1.0 mg selenium (1.0cc Bo Se)

Other Vacs to think about

- Foot Rot
- Respiratory
- *Corynebacterium*



Give subcutaneous injections under loose skin of neck or armpit. Give intramuscular injections in the neck. If label indicates a choice, use subcutaneous injections.

NEVER inject into the leg or loin area!



Thank You!



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