

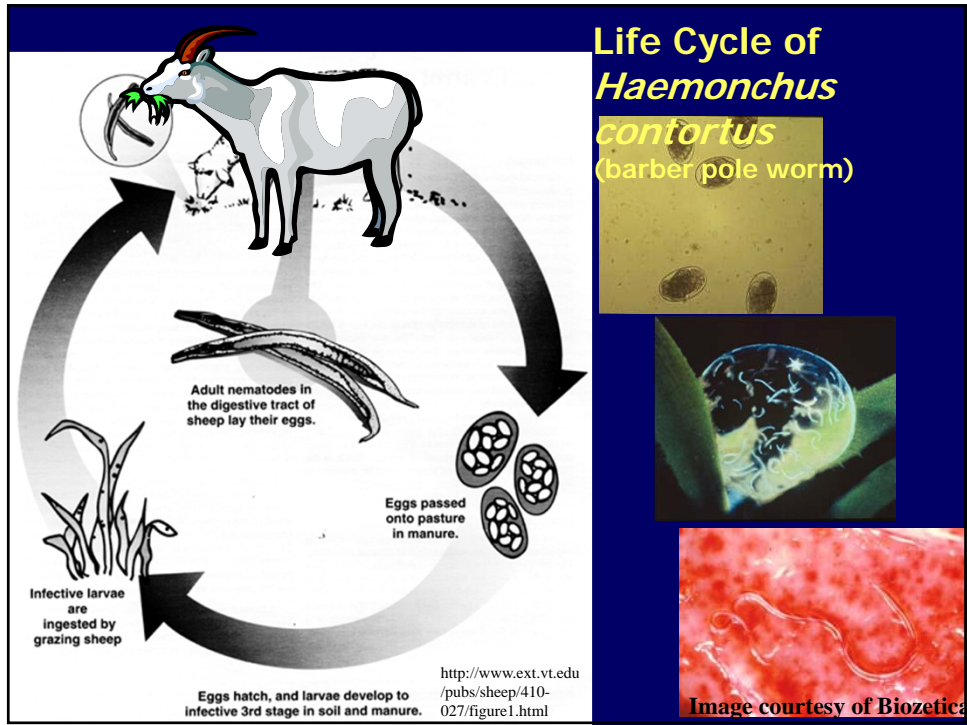
Small Ruminant Problems to Avoid

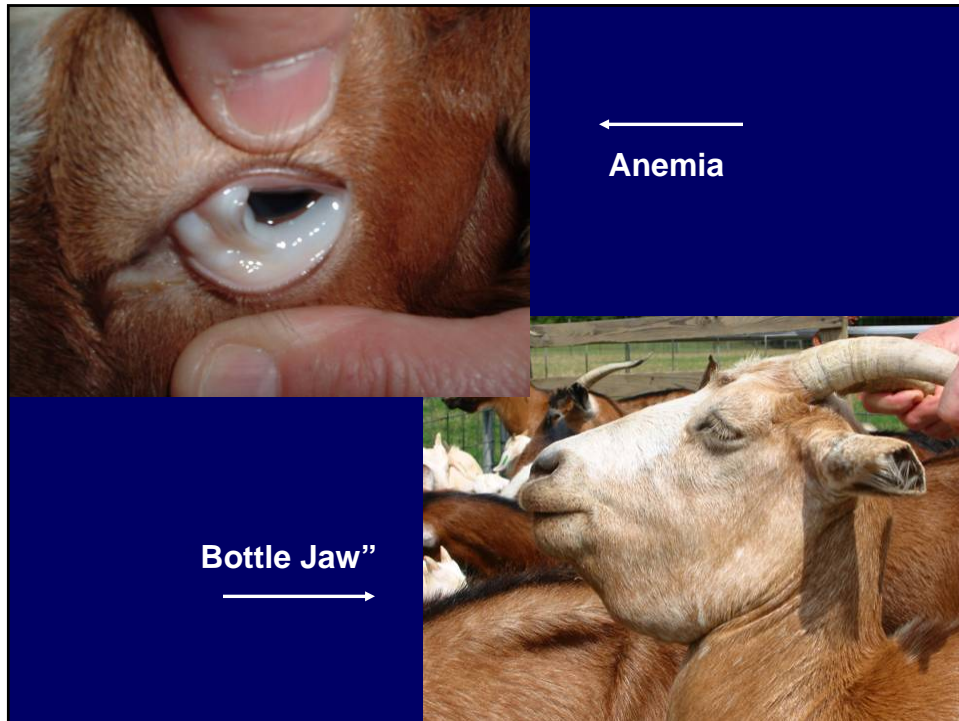
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Problem #1 Internal Parasites

- *Haemonchus contortus*

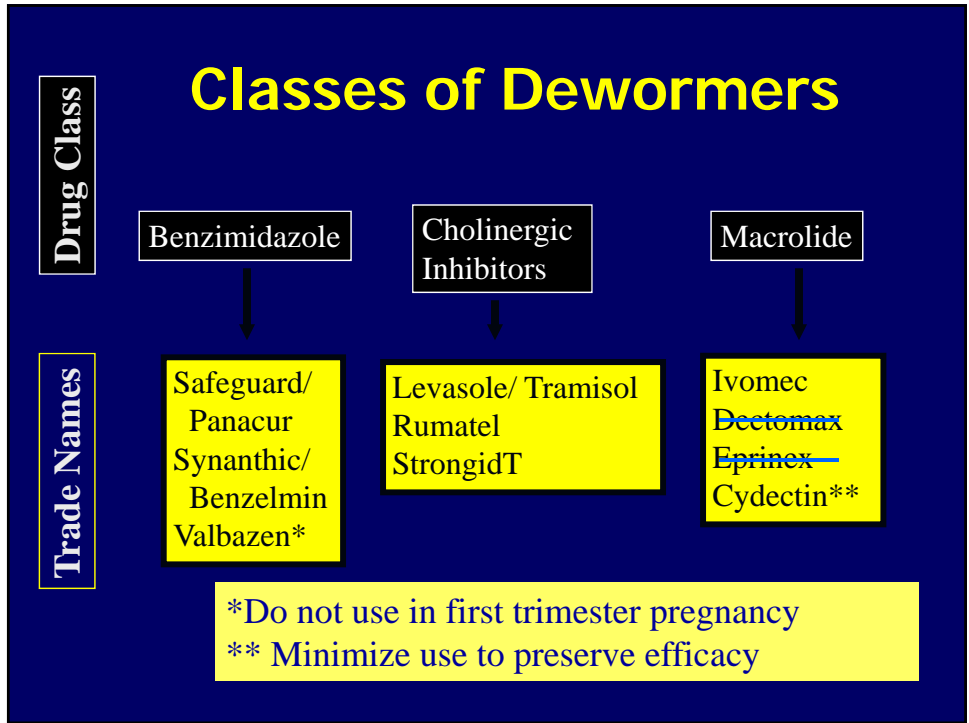





The FAMACHA[®] System





- Eye color chart with five color categories
- Compare chart with color of mucous membranes of sheep or goat
- Classification into one of five color categories:
 - 1 – not anemic
 - 5 -- severely anemic



Use Proper Technique



- Proper technique when drenching ruminants is very important
 - critical that the full dose lodges in the rumen
 - drench should be delivered over the tongue into the pharynx/esophagus
 - if drench is delivered to the mouth the esophageal groove can be stimulated to close
 - significant drench bypasses the rumen
 - faster drug absorption, shorter duration
 - efficacy is reduced



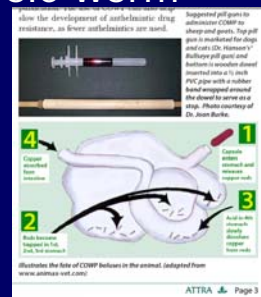
Comparison of Control Strategies: Genetic & Non-genetic

Strategy	Reduction in FEC's
Genetic Selection	69%
Protein supplementation	35%
Strategic deworming	28%
Experimental vaccine	0%

Australia, 2002

Copper Oxide Wire Particles (COWP)

- Research indicates that as effective as most dewormers in reducing fecal egg counts
- Only effective against barber pole worm
- More effective in young stock
- Mode of action is not known



"Resistant" Breeds

Some sheep and goat breeds are more resistant to worms.



Sheep

Hair sheep

- St. Croix
- Barbados
- Blackbelly
- Katahdin

Gulf Coast Native

NOT

- Traditional wool breeds
- Dorper (? maybe resilient)



St. Croix- most resistant breed in US

Goats

- Kiko
- Spanish/Brush
- Myotonic/Tennessee

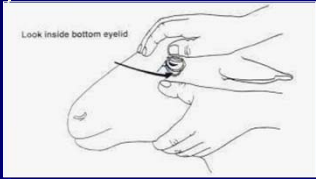
NOT

- Boer goats
- Dairy goats
- Angora goats
- Savanna?

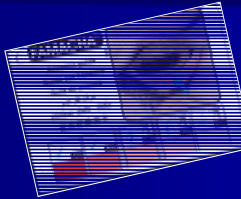


The FAMACHA[®] System

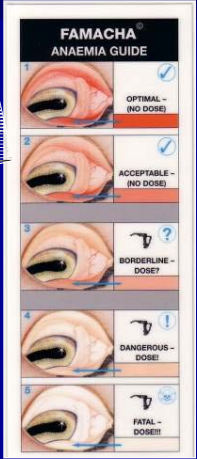
for assessing anemia and barber pole worm infection in small ruminants



Look inside bottom eyelid



Clinical Category	Color	PCV	Deworm?
1	Red	≥ 28	No
2	Red-Pink	23-27	No
3	Pink	18-22	?
4	Pink-White	13-17	Yes
5	White	≤ 12	Yes



Important Periods For Targeting Parasite Control

- Peri-parturient period
- Weaning period




Problem #1 Internal Parasites

- *Haemonchus contortus*
- Coccidia



Coccidiosis

- See at the time of weaning
- Species specific
- Clinical signs
 - Diarrhea without blood
 - Wasting away
- Treatment- give **oral** for **5 days**
 - Corid (amprolium)
 - Corid 9.6%- give liquid straight from container, at 1 ml/ 5 lbs of body weight
 - Sulfadimethoxine
 - Di-Methox[®] or Albon[®] (Rx)
 - 25 mg/lb
- Prevention
 - Clean environment around feeders and waterers



Courtesy of Dr. Kevin Pelzer, Virginia-Maryland
Regional College of Veterinary Medicine

Coccidiosis

■ Prevention

- Clean environment around feeders and waterers
- Lasalocid or Monensin 1mg/kg/day
- Decoquinate 0.5 mg/kg

Management of Coccidia

No feet in the feeder

Good nutrition, especially copper

Dry environment

Fix leaking waterers



Problem #2

Caseous lymphadenitis (CL)

❖ Clinical signs

- ❖ Internal and external lymph nodes enlarged, full of pus
- ❖ Mild Bloat
- ❖ Persistent Coughing
- ❖ Chronic weight loss
 - ❖ hepatic and renal involvement



Courtesy of Dr. Kevin Pelzer, Virginia-Maryland
Regional College of Veterinary Medicine



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Caseous lymphadenitis (CL)

- ❖ Organism
 - ❖ *Corynebacterium pseudotuberculosis*
- ❖ Drains 9 to 37 days once abscess opens
- ❖ Incubation period
 - ❖ 41 – 47 days
 - ❖ 2-6 months for abscess formation
- ❖ Acquired
 - ❖ Ingestion from contaminated feed and water
 - ❖ Inhalation
 - ❖ Broken or intact skin
 - ❖ Contamination of wounds from feeders, bedding and fences.
 - ❖ Ectoparasites- lice

Caseous lymphadenitis (CL)

❖ Diagnostics

- ❖ Culture
- ❖ Blood test
 - ❖ Synergistic Hemolysis Inhibition Test, SHI
 - ❖ Sensitivity 95%, Specificity 98%

❖ Treatment

- ❖ Surgical removal
- ❖ Drain abscess
 - ❖ Flush with hydrogen peroxide and pack with inorganic iodine
- ❖ Formaldehyde????
- ❖ Tulathromycin (Draxxin®)

CL Study with Draxxin®

Treatment Group	Resolution of infection 30 days later**
Lanced, flushed with betadine solution, and 10,000 IU/lb Procaine Penicillin G- SubQ	93%
Flushed with saline, 16 g needle, 1.14 mg/lb Draxxin®* into cavity	83%
Flushed with saline, 1.14 mg/lb Draxxin® SubQ	82%

* Extralabel drug use: 45 day milk withdrawal, 36 day meat

** No statistical difference between groups

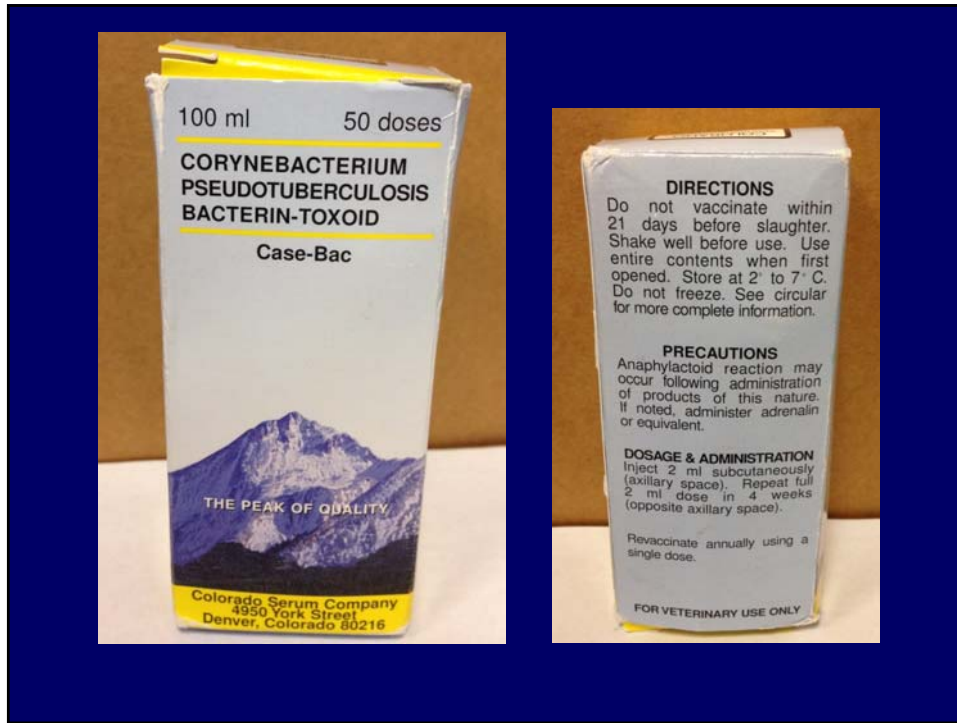
Washburn KE, et al. JAVMA Vol 234, No.9, May 1, 2009

Caseous lymphadenitis (CL)

- Prevention
 - Cull infected animals
 - Inspect new purchases monthly for a year
 - Vaccinate at 2 - 3 months of age
 - Vaccines:
 - Case-Bac – sheep
 - 2 ml , booster in 4 weeks – 21 day withdrawal
 - CL Bacterin Vaccine – goats
 - 1 ml at 3 months of age , booster 14 days
 - 60 day withdrawal
 - Don't track it back!

**Don't track it
back...**



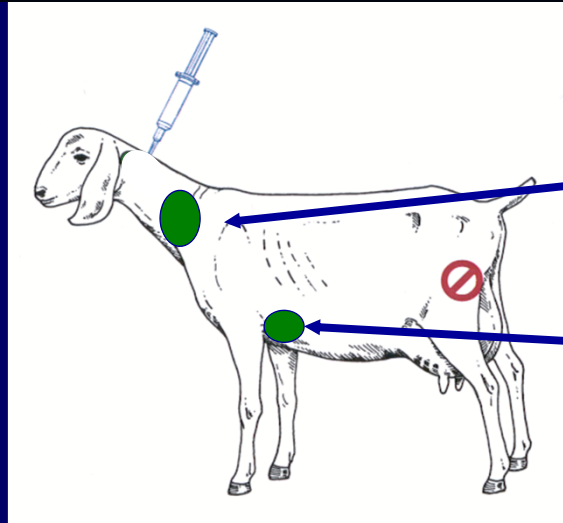


For use in healthy goats, 3 months of age or older, as an aid in the prevention of Pyogranulomas/Caseous Lymphadenitis caused by *Corynebacterium Pseudotuberculosis*.

- Shake well and inject 1 mL SQ in the side of the neck. Give a 2nd dose 14 days after the first on the opposite side of the neck.
- May cause local swelling
- Do not inject in the muscle, may cause carcass trim
- 60-day slaughter withdrawal
- NOT approved for lactating goats
- NOTE: This vaccine is temperature sensitive and MUST be shipped Next Day Air

Restricted States: AK, CT, DE, FL, IL, GA, HI, IN, ME, MA, MN, MT, ND, NH, NJ, NM, NV, RI, VT, WA, WI

Site of administration



Recommended
injection site

Show or
purebred

Caseous lymphadenitis (CL) Caution

- Zoonotic disease
 - Transmissible to humans
- Cultured in milk in affected does
 - Pasteurization works!
- Wear gloves when handling abscesses

BCS 5.0



Problem #3 Pregnancy Toxemia

- Occurs during the last 6 weeks of gestation

- Clinical signs
 - vague, dull in the eyes
 - develop over 3 to 10 days
 - slow to get up, lags behind flock, grinding teeth
 - generalized weakness to incoordination
 - blind, muscle twitching, coma, death

Pregnancy Toxemia

■ Cause

- Energy problem
- Dams with twins require 180% more energy
- Dams with triplets require 230% more energy

Pregnancy Toxemia Causes

■ Overnutrition

- Ewe or doe is in excess body condition
- Limited space in the abdomen
- Dry matter intake is reduced
- Poor quality feed increases the problem

■ Undernutrition

- Poor quality feed
- Ration is not energy dense
- Inadequate amounts fed
- Ewe or doe has limited access to feed

Pregnancy Toxemia Causes

- Secondary to complicating disease
 - Foot rot
 - Hypocalcemia
 - Pneumonia
 - Post vaccine reaction
 - Management activities - shearing, movement

Predisposing factors

- Dental Disease
- Old age
- Smaller than average body size
- Multiple fetuses
- Does/ewes less than 2.5 or more than 4.0 BCS
- Parasitism
- Any condition resulting in pain or fever

Feed Intake

- Inclement weather - rain , extreme heat
- Inadequate feeder space
- Restricted water intake
- Shearing, crutching, vaccination
- Lack of exercise

Treatment

- 1 oz of Propylene glycol 2 or 3 times a day
- IV glucose - 100-250 ml of 50% dextrose
 - 5% glucose drip
- B complex vitamins
- Offer palatable browsing forbes
- 60 ml of calcium borogluconate
- Yogurt - 1 quart, 2 to 3 times a day
- Fluids

Treatment

- C-section
- Induce parturition
 - Does
 - 2.5 - 10 mg PGF_{2a}
 - 125 mcg Cloprostenol (Estrumate®)
 - Ewes
 - 15 - 20 mg dexamethasone

Pregnancy Toxemia



Photos courtesy of Dr. Laura Kennedy,
University of Kentucky Veterinary Diagnostic Laboratory

Prevention

- Increase exercise
- Increase grain from 1/2 to 2 lbs
- Avoid abrupt feed changes
- Have forages analyzed
- Avoid stresses
- 30 mg/hd/day of Monensin - Does
- Niacin 1 g/hd/day
- Monitor body condition



Problem #4 Lameness



Overgrown Hoof Wall



Trim every 4-6 months, as needed



Foot Scald

- COMMON foot problem
- *Fusobacterium necrophorum*
- Remains interdigital
- Severely lame
- Less virulent strains
- Wet conditions
- Benign and virulent strains remain interdigital in goats



Foot Rot

- *Fusobacterium necrophorum* and *Dichelobacter (Bacteroides) nodosus*
- Spring and fall- warm wet weather
- Break in skin-horn junction axially
- Sole undermined
- Foul odor
- Misshapen foot
- Grazes on knees
 - secondary fly strike
- Resistant breeds



Clinical diagnosis

- Sheep- Tip up, trim and examine all 4 feet
- Goats- Catch, trim and examine all 4 feet



Treatment



- Foot trim
- Foot bath 10% zinc sulfate weekly
- Add wetting agent (soap, laundry detergent)
- One hour soaks
- Systemic antibiotics
- Control in wet season
- Eradicate in dry season = "trailermycin"

Vaccination?



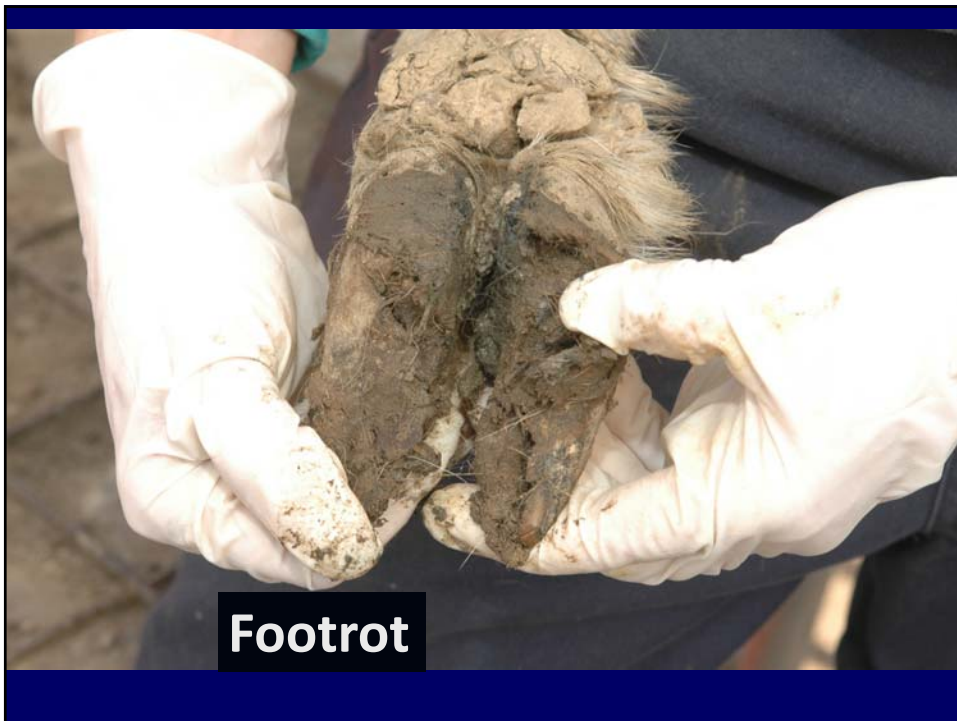




- Foot bath ZnSO₄ at 10% solution (16 lbs in 20 gal of water) plus laundry detergent (2/3 cup)











White Line Disease
Associated with laminitis



PREVENT Foot Problems

1. Check goats at least monthly and treat as needed
2. Trim feet every other month or as needed
3. Use rocks, metal grates, or other rough surfaces to wear down the hoof wall
4. Keep goats out of the mud as much as possible
5. Provide good quality minerals at all times; properly feed animals- don't over or under feed
6. Cull animals with chronic foot problems



Small livestock hoof trimmers Goats and Sheep



DISINFECT



Clean and disinfect foot
trimming equipment



Courtesy of Dr. Kevin Pelzer, Virginia-Maryland
Regional College of Veterinary Medicine

American Association of Small Ruminant Practitioners



"Making a BIG difference in small ruminant medicine."

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\$15 vet students

Wool & Wattles
4 issues per year



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- news and links
 - members only section includes
 - membership roster
 - previous newsletters
 - archives of discussion list

AASRP-L discussion list

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