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# DAIRY GOAT CONFERENCE

Dairy Goat Conference proceedings edited and assembled by: Carol Wagner and June Rogers

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The University of Minnesota  
and  
Minnesota Farm Family Institute in  
cooperation with the Minnesota Dairy Goat Association

McNeal Hall  
University of Minnesota  
St. Paul Campus

November 11, 1989

STP  
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MN2000  
DGC  
10th\*

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## **ACKNOWLEDGEMENT**

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MANAGEMENT AND DISEASES  
OF THE DAIRY GOAT:  
BIRTH TO WEANING

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## REVIEW OF CAE

<u>Epidemiology</u>	Disease discovered in 1974 Seen worldwide, mostly in dairy goats Seroprevalence as high as 80% in herds
<u>Etiology</u>	Retrovirus Antigenically related to OPP Persistent infection for life Virus incorporated into blood monocytes
<u>Transmission</u>	Primarily via colostrum and milk to kids Rarely in utero Possibly by needle transfer Probably by aerosol or saliva between adults
<u>Clinical signs</u>	Numerous syndromes Neurologic form in young kids Arthritic form in adults Mastitic form in post partum does Pneumonic form in adults Wasting form
<u>Diagnosis</u>	Antibody detection by AGID, ELISA Post mortem exam Mononuclear interstitial infiltrates
<u>Control</u>	No treatment available Serologic testing and culling of positive animals Repeated testing on regular basis Segregation of positive and negative animals Observe births Raise kids on colostrum and milk free of CAE virus Raise away from dams Maintain these kids as separate herd

## NEWBORN KIDS

### GENERAL CONSIDERATIONS

#### PERINATAL PERIOD

Preparations for birth

Synchronization of births

Assisting births

Managing newborn kids

#### PREPARATIONS FOR BIRTH

Vaccination and Worming of Does

Establishment of kidding area

Decision on CAE control

Colostrum bank

Identification of kid rearing area

#### SYNCHRONIZATION OF BIRTHS

Convenience to owner

Disease control measure

Prostaglandin F<sub>2</sub> alpha 10 mg IM

Cloprostenol 125 mcg IM

Know breeding dates

Inject on days 143, 144 or 145

Peak births 30 - 35 hours post injection

Range of births 27 - 60 hours

## ASSISTING BIRTHS

Identifying dystocias

Intervening in dystocias

Getting kids started

Airway/breathing/circulation

Resuscitation

## MANAGING NEWBORN KIDS

Dry off and keep warm

Pull or scrape umbilical cords

Dip navels in tincture of iodine

House in clean, protected area

Avoid hypothermia and hypoglycemia

## MANAGING NEWBORN KIDS

### Check for Congenital Defects

Cleft palate

Brachygnathism

Genital disorders

Atresia ani or coli

Rectovaginal fistula

Neurologic disorders  
Mannosidosis, Hydrocephalus

Cardiac anomalies

Weak pasterns and ankles

## MANAGING NEWBORN KIDS

### Colostrum Intake

Immunoglobulins/ Vitamins & Minerals/ Lipids

125 ml/kg body weight in first 24 hours of life

Check colostrum quality sp. gr. > 1.040

Failure of passive transfer  $\leq$  800 mg/dl serum

## MANAGING CAE TRANSMISSION

Colostrum Deprivation

Colostrum Substitutes

Bovine Colostrum

Pasteurized Goat Colostrum

130° F for 1 hour in thermos



## MANAGING NURSING KIDS

Housing

Feeding

Routine Procedures

Identification

Vaccination

Disbudding

## MANAGING NURSING KIDS

Housing

Avoid overcrowding

Segregate by size

Keep bedding dry

Separate from adults

## MANAGING NURSING KIDS

Feeding

Nutritional requirements

Substances to be fed

Frequency of feeding

Feeding systems

## MANAGING NURSING KIDS

### Feeding

#### Nutritional requirements

Fat	20 % (16 - 24)
Protein	22 % (20 - 28)
Energy	95 % TDN
Fiber	<1 %

Higher protein levels associated with diarrhea

#### Substances to be Fed

Colostrum

Goat milk

Cow milk

Goat milk replacer

Lamb milk replacer

Solid feeds

#### Frequency and volume of feeding

##### Birth to 3 days

20% of body weight

Divided into 4 feedings

##### 3 days to weaning

12% of body weight

Divided into two feedings

##### Ad libitum feeding

## MANAGING NURSING KIDS

### Feeding

#### Feeding systems

Individual nipple bottle

Group nipple buckets

Pails or troughs

Automatic feeders

## MANAGING NURSING KIDS

### Routine Procedures

#### Identification

Registration

Tattooing

Ear and tail

Neck Chains

## MANAGING NURSING KIDS

### Routine Procedures

#### Vaccination and Treatments

Clostridium perfringens Type C and D

Tetanus

Vitamin E/Selenium

Others

## Practical Concerns About Vaccination

Separate needles

Injection site abscesses

## MANAGING NURSING KIDS

### Routine Procedures

#### Disbudding

Definitely preferred to dehorning

Perform between 4 and 10 days of age

Physical or chemical restraint - Xylazine 1-2mg SQ

Electric disbudding iron - Avoid overapplication

Take care to avoid scars

Do not remove scent glands in bucks

## MANAGING NURSING KIDS

### Routine Procedures

#### Descenting

Do only to pet goats at time of castration

#### Castration

Open castration on young wethers

Avoid use of elastrator bands

Give tetanus antitoxin

## DISEASES OF NEWBORN AND NURSING KIDS

Omphalophlebitis

Septicemia

Polyarthrits

Enterotoxemia

Diarrhea and other digestive upsets

Soremouth

Pneumonia

Tetanus

Ectoparasites

## DISEASES OF NEWBORN AND NURSING KIDS

### Factors Contributing to Neonatal Disease

Failure of Passive Transfer of Antibody

Poor Hygiene

Overcrowding

Improper Feeding

Lack of Preventive Measures

## DISEASES OF NEWBORN AND NURSING KIDS

### Enterotoxemia

Clostridium perfringens Types C & D

Type C Disease - hemorrhagic enteritis

beta toxin - trypsin inactivated

Seen in kids under 3 weeks

Type D Disease - pulpy kidney disease

epsilon toxin - trypsin activated

Seen in kids over 3 weeks

### Clinical signs

Type C - intense abdominal pain, bleating  
bloody diarrhea  
sudden death

Type D - sudden death  
convulsions  
milder CNS signs  
diarrhea

Antemortem diagnosis - Fecal smears  
Hyperglycemia, glucosuria  
Response to antitoxin

Post mortem diagnosis - Hemorrhagic enteritis  
Pericardial effusion  
Serosal ecchymoses  
Pulpy kidney  
Toxin assays

Treatment - Antiserum 50 ml IV initially  
50 ml SQ 6 - 12 hrs later

Sulfa drugs orally

Vaccination - Twice a year minimum  
Time to late gestation  
Start kids at 5 weeks and booster  
Local reactions common

## DISEASES OF NEWBORN AND NURSING KIDS

### Tetanus

Associated with castration, disbudding

Signs the same as in other species

Give tetanus antitoxin at time of procedure

Vaccinate dams in late gestation

## DISEASES OF NEWBORN AND NURSING KIDS

### Diarrhea - Under 3 weeks of age

Cryptosporidiosis	Enterotoxemia
Rotavirus/Coronavirus	Nutritional
Enterotoxigenic <u>E. coli</u>	Miscellaneous
Salmonellosis	Undiagnosed

### Diarrhea - Over 3 weeks of age

All of the above	Coccidiosis
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## DISEASES OF NEWBORN AND NURSING KIDS

### Diarrhea - Treatment

Attempt etiologic diagnosis

Withhold milk - Oral electrolytes - Parenteral fluids

### Cryptosporidiosis

Halofuginone lactate - 0.5mg/kg orally for 1-3 days

Extremely toxic - do not overdose

Dilute extensively

### Coccidiosis

Sulfadimethoxine - 75mg/kg orally for 5 days

Amprolium - 25mg/kg orally for 5 days

### Diarrhea - Prevention

Separate kids from adults

Do not overcrowd

Avoid wet bedding

Provide sunlight

Good sanitation in feeding and housing

Feed coccidiostats

Vaccination if appropriate



## DISEASES OF NEWBORN AND NURSING KIDS

Conditions Associated with  
Poor Hygiene and Failure of Passive Transfer

Omphalophlebitis

Septicemia

Meningitis

Polyarthritis

When pneumonia and mastitis accompany polyarthritis  
Mycoplasma infections must be considered

Soremouth

Parapoxvirus

Direct and indirect contact transmission

Oral lesions and teat lesions

Occasionally generalized

Scabs persist for 1 - 4 weeks

Diagnosis by VI, FA, EM, histopathology

Vaccination effective for 2 years

Zoonotic disease

## DISEASES OF NEWBORN AND NURSING KIDS

### Other Digestive Diseases

Bloat - Overfeeding  
Pail and bucket feeding  
Soiled bedding

Colic - Overfeeding  
Intestinal accidents  
Congenital deformities

Abomasal ulcers - Overfeeding

Constipation - Meconium impaction  
Atresia  
Dehydration  
Coccidiosis

## DISEASES OF NEWBORN AND NURSING KIDS

### Ectoparasites

Lice and Ear Mites

Biting lice - Damalina caprae

Sucking lice - Linognathus stenopsis

For kids, dust rather than dip, weekly for 3 weeks

For safety, use products approved for cats

1.0% Rotenone, 0.5% Coumaphos, 4.0% malathion

For sucking lice use ivermectin at 200 mcg/kg SQ

Ear mites - Psoroptes cuniculi

Use canine ear mite medications

MANAGEMENT AND DISEASES  
OF THE DAIRY GOAT:  
MILKING DOES

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## MANAGEMENT OF MILKING DOES

### General Considerations

Housing

Nutrition and Feeding

Milking Related Issues

Preventive Medicine Procedures

### General Considerations

Housing

Tie Stall

Free Stall

Loose Housing

Separate Quarters for Milking

### General Considerations

#### Nutrition and Feeding

Good Quality Hay

Up to 3 pounds per head per day

Concentrate

12-14% protein with alfalfa hay

16-18% protein with a grass hay

Feed 0.5 lb grain per lb of milk in early lactation

Feed 0.5 lb of grain per 2-3 lb milk in late lactation

Silage feeding

1 lb hay = 2.5 lb silage

## MANAGEMENT OF MILKING DOES

### General Considerations

### Milking Related Issues

Use of milk

### Milk Transmitted Diseases

Q Fever	Salmonellosis
Listeriosis	Cryptosporidiosis
Toxoplasmosis	Brucellosis/TB
Pasteurization 145° for 30 minutes	

### General Considerations

### Milk Production

305 day lactation

1400-1600 pounds typical

2200-2400 pounds attainable

4500 pounds seen in individuals  
in non commercial settings

Peak lactation

Temperament

Fat and volume production

## MANAGEMENT OF MILKING DOES

### General Considerations

### Milking Related Issues

### Somatic Cell Counts

Normal Bovine Counts 100,000 to 250,000

Normal Caprine Counts 700,000 to 1,000,000

### Seasonal Patterns

Apocrine vs Merocrine Secretion

DNA Stains - Pyronin Y stain

California Mastitis Test/Coulter/Fossomatic

Correlation with Bacterial Infections

Correlation with CAE Infections

### General Considerations

### Milking Related Issues

### Milking Systems

Hand Milking

Machine Milking

Parlor Milking

## MANAGEMENT OF MILKING DOES

### Milking Related Issues

#### System Specifications

Low line systems preferred

Teat end vacuum 11.5 to 12 inches Hg

(High lines should have 13 to 14 inches Hg)

#### Single Action Pulsators

40 to 50 pulsations per minute

Pump capacity 30 CFM

1.5 CFM per unit

3 to 4 CFM reserve capacity

### Milking related issues

#### Milking Procedures

Prewash

Individual Towels

Strip cup

Teat dipping

## MANAGEMENT OF MILKING DOES

### Preventive Medicine Procedures

Foot Care

Vaccination

Worming

## DISEASES OF MILKING DOES

### Mastitis - Etiology

#### Gram Positive Organisms

Coagulase Negative Staphylococci

Staphylococcus aureus

Streptococci less common, S. agalactiae rare

Corynebacterium species

#### Gram Negative Organisms

E. coli, Proteus, Pseudomonas, Klebsiella, Pasteurella

#### Mycoplasmas

M. mycoides subsp. mycoides, M. putrefaciens

### Mastitis - Prognosis and Treatment

Gangrenous mastitis

Coliform mastitis

Mycoplasma mastitis

10 mg/kg Tylosin IM SID for 8-10 days

Staphylococcal mastitis

Corynebacterial mastitis

### Mastitis - Control measures

Clip udder hair

Wash udder with individual towels

Use strip cup

Pre - dip

Avoid vacuum fluctuations

Post - dip



Keep animals standing after milking

Milk mastitic animals last

Cull animals that do not respond to treatment

## DISEASES OF MILKING DOES

### Hard Udder

Mammary form of CAE infection

Udder parenchyma firm at parturition

Variable amount of bagging up

Small volume of normal appearing milk

Must differentiate from udder edema and mastitis

### CAE Arthritis

Swollen knees an early sign

Differentiate from "concrete pads"

Common after one year of age

Variably progressive course

Diagnosis by serology, radiology, histopathology

Rule out other causes

### Other Arthritis and Lameness Problems

Mycoplasma arthritis

Bacterial arthritis

Conformational problems

Trauma

Nutritional arthritis

Overgrown feet

Foot rot

## DISEASES OF MILKING DOES

### Caseous Lymphadenitis

Corynebacterium pseudotuberculosis

Transmission via ruptured abscesses

Superficial lymphadenopathy most common

Internal abscesses, mastitis, pneumonia also occur

Unwholesome, restricted movement, reduced sale value

Spread is rapid if uncontrolled

Control is via containment

Vaccine?

### Listeriosis

Listeria monocytogenes

Oral transmission up nerve roots

Sudden feed, weather or management changes

Poor quality silage

Role of carriers?

Septicemic, Encephalitic, and Abortion forms

### Diagnosis

Diagnosis by culture, serology, histopathology

### Treatment

Penicillin or Oxytetracycline

Dexamethasone

Supportive Care

### Control

Evaluate silage

Fecal cultures and culling

Zoonotic Potential

## DISEASES OF MILKING DOES

### Other Disease Problems

Abortions .

Milk Fever

Parasitism

Paratuberculosis

Pneumonia

Pinkeye

CAPRINE INFECTIOUS DISEASES:  
REPORT ON CURRENT KNOWLEDGE  
AND RECOGNITION OF FUTURE NEEDS

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# RECENT ADVANCES IN GOAT HEALTH AND PRODUCTION

## EDUCATION AND RESEARCH

International Meetings

Regional Meetings

Increased Research Activities

Increased Scientific Publication

## PRODUCTION

Improved Production Efficiency

Better Disease Recognition and Control

Better Use of Record Systems

Genetic Improvement

Development of New Industries

Fiber Production

Milk Production

## REPRODUCTION

Artificial Insemination

Out of Season Breeding

Embryo Transfer

## PARASITOLOGY

Improved understanding of caprine parasitism

Patterns of Susceptibility and Resistance

Action of Anthelmintics in Goats

## INFECTIOUS DISEASE

Recognition of new diseases

Better definition of existing diseases

Improved methods of control

COMMON CLINICAL SIGNS  
ASSOCIATED WITH INFECTIOUS DISEASE  
IN GOATS

Abortion

Anemia

Arthritis

Chronic Weight Loss

Diarrheal Disease

Mastitis

Neonatal Mortality

Pneumonia

## IMPORTANT INFECTIOUS DISEASES OF GOATS

### VIRAL

Caprine Arthritis Encephalitis

Goat Pox

Peste des Petits Ruminants

### RICKETTSIAL

Chlamydiosis

### BACTERIAL

Brucellosis

Caseous Lymphadenitis

Contagious Caprine Pleuropneumonia and  
other Mycoplasmoses

Enterotoxemia

Foot Rot

Paratuberculosis

### PROTOZOAL

Coccidiosis

Cryptosporidiosis

Toxoplasmosis

Trypanosomiasis

CAPRINE INFECTIOUS DISEASES  
OF SPECIAL INTEREST  
DURING THE 1980'S

VIRAL

Caprine Arthritis Encephalitis Virus

Capripoxvirus

Caprine Herpesvirus

BACTERIAL

Melioidosis

Mycoplasmosis

Paratuberculosis

Yersiniosis

PROTOZOAL

Cryptosporidiosis

Giardiasis

Toxoplasmosis



## ZOONOTIC DISEASES OF GOATS

### VIRAL

Contagious Ecthyma  
Foot and Mouth Disease  
Goat Pox  
Louping Ill  
Rabies

### RICKETTSIAL

Chlamydiosis  
Coxiellosis

### PROTOZOAL

Cryptosporidiosis  
Toxoplasmosis

### BACTERIAL

Anthrax  
Brucellosis  
Campylobacteriosis  
Caseous Lymphadenitis  
Listeriosis  
Melioidosis  
Salmonellosis  
Staphylococcosis  
Tuberculosis

### FUNGAL

Dermatomycosis

# FUTURE NEEDS FOR CONTROLLING CAPRINE INFECTIOUS DISEASE

## EPIZOOTIOLOGY

Improved Disease Reporting

Geopolitical Distribution of Caprine Diseases

Morbidity and Mortality Data

Host Specificity of Goats for Certain Diseases

Better Characterization of Certain Diseases in Goats

Recognition of New Disease Entities

Economic Impact of Specific Diseases

Management/Environment/Disease Interactions

Uniform Regulatory Guidelines

## IMMUNOLOGY

Basic Caprine Immunology

Local Immune Responses

Neonatal Immunity

Genetic Resistance to Diseases

## DIAGNOSIS

Application of New Methodologies

Development of Field Tests

Improved Sensitivity and Specificity

Distinguishing Exposure from Infection

Identifying the Carrier State

### GOAT DISEASES CHARACTERIZED BY CHRONIC INFECTION OR A CARRIER STATE

#### VIRAL

Caprine Arthritis Encephalitis

Foot and Mouth Disease

#### RICKETTSIAL

Chlamydiosis

Coxiellosis (Q fever)

#### BACTERIAL

Caseous Lymphadenitis

Footrot

Paratuberculosis

Salmonellosis

#### PROTOZOAL

Toxoplasmosis

## TREATMENT AND CONTROL

Caprine Pharmacokinetics

Approved Drug Use in Goats

Defined Drug Withdrawal Times

Improved Management

Enhanced Disease Resistance

Vaccine Development

## GOAT VACCINES UNDER DEVELOPMENT OR IN USE

### VIRAL

Foot and Mouth Disease

Goatpox

Peste des Petits Ruminants/Rinderpest

Rabies

Rift Valley Fever

### RICKETTSIAL

Chlamydial abortion

Coxiellosis

### BACTERIAL

Brucellosis

Caseous lymphadenitis

Contagious Caprine Pleuropneumonia

Enterotoxemia

Footrot

Leptospirosis

Paratuberculosis

Tetanus

MANAGEMENT AND DISEASES  
OF THE DAIRY GOAT:  
WEANING TO BREEDING

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## MANAGEMENT OF WEANLING GOATS

### GENERAL CONSIDERATIONS

Weaning

Housing

Feeding and Nutrition

Vaccination and Parasite Control

Preparations for Breeding

Precocious Milkers

## MANAGEMENT OF WEANLING GOATS

### Weaning

Successful weaning depends on good rumen development

Feed solid feed from 1 week of age

Concentrates more important than hay

Restricted milk feeding encourages solid feed intake

Weaning options vary with management systems

Set time - usually 7 to 8 weeks of age

Set intake - 45 grams (.1 lb) of solid feed per day

Set growth - 2.5 times the birth weight

Set weight - 10 kg (22 lb) body weight

## MANAGEMENT OF WEANLING GOATS

### Housing

Pneumonia and Coccidiosis

Loose housing common

Superhutches should be considered

Avoid overcrowding

Avoid wet soiled bedding

Evaluate the "cleanability" of the facility

Provide adequate ventilation - exhaust and intake

Keep air moisture content low

Goats produce 60 ml water per hour

### Feeding and Nutrition

Goal is efficient growth

From 20 pounds at 2 months to 70 pounds at 7 months

.33 pounds daily gain

Ration foundation is good quality hay

.5 to 1.5 pounds of concentrate per day  
depending on forage quality

Dicalcium phosphate/Trace mineralized salt

Avoid fecal contamination  
of feeders and waterers

### Vaccination

Clostridium perfringens Type C and D

Give initial injection before weaning

Tetanus

Vitamin E/Selenium

## MANAGEMENT OF WEANLING GOATS

### Preparations for Breeding

#### Segregation

Goats sexually mature by 3 months of age

Examine for Intersex Condition

#### Achieve Breeding Size

70 pounds at 7 months for Heavy Breeds (A,N,S)

60 pounds at 7 months for Light Breeds (LM,T)

### Intersexes

Common goat problem associated with polled trait

Polled trait dominant and completely penetrant

Intersex trait recessive, sex linked,  
incompletely penetrant

Always genetically female

Phenotypically variable

Check genitalia before breeding season

Avoid condition by use of horned buck

### Precocious milkers

Hereditary condition

Do not milk out  
Unless prepared to milk continuously

Increased mastitis risk  
Once teat canal opened



## DISEASES OF WEANLING GOATS

Coccidiosis

Gastrointestinal Helminthiasis

Pulmonary Nematodiasis

Pneumonia

Enterotoxemia

Neurologic Diseases

Pinkeye

### Coccidiosis

Resurgence of coccidiosis at weaning time

Contaminated feeders

Eating from ground

Moist bedding or standing water

Overcrowding

Acute death or diarrhea

### Coccidiostats

Rumensin	13 mg/head/day 15 grams per ton of feed
Lasalocid	1.5 mg/kg/day 25 grams per ton of feed
Decoquinat	0.5 - 1.0 mg/kg/day
Amprolium	25 mg/kg/day

## MANAGEMENT OF WEANLING GOATS

### Parasite Control

#### General Considerations

To graze or not to graze?

Adequate Pasture

Overwintering

Hypobiosis

Periparturient Egg Rise

Relatively Poor Age Related Resistance

Strategic and Tactical Use of Anthelmintics

## Gastrointestinal Helminthiasis

### Abomasal Worms

Haemonchus contortus  
Ostertagia circumcincta  
Trichostrongylus axei

### Intestinal Worms

Trichostrongylus colubriformis  
Cooperia curticei  
Nematodirus filicollis  
Bunostomum trigonocephalum  
Strongyloides papillosus  
Trichuris ovis  
Oesophogostamum columbianum  
Chabertia ovina

## Parasite Control

### Gastrointestinal Nematodes

Pharmacokinetics of some anthelmintics  
are different in goats than sheep

Few specific goat doses worked out

Ivermectin	200 mcg/kg
Levamisole	8 mg/kg
Thiabendazole	44 mg/kg
Fenbendazole	5 mg/kg
Mebendazole	25 mg/kg
Oxfendazole	10 mg/kg

## DISEASES OF WEANLING GOATS

### Gastrointestinal Helminthiasis

#### Tapeworms

Monezia expansa  
Thysanosoma actinoides

#### Liver flukes

Fascioloides magna  
Fasciola hepatica  
Dicrocoelium dendriticum

### Parasite Control

#### Flukes and Tapeworms

##### Flukes

Albendazole	7.5 mg/kg
Clorsulon	15 mg/kg

##### Tapes

Fenbendazole	15 mg/kg
Cambendazole	25 mg/kg
Oxfendazole	10 mg/kg

## DISEASES OF WEANLING GOATS

### Pulmonary Nematodiasis

#### Dictyocaulus filaria

Direct life cycle

#### Muellerius capillaris Protostrongylus rufescens

Indirect life cycle - snail intermediate

Most common in first time pasturers  
Late summer, early autumn

Cough, dyspnea, loss of condition

### Parasite Control

#### Lungworms

Dictyocaulus eliminated along with ginematodes

Muellerius capillaris requires special attention

Adults killed by single doses of

Ivermectin            200 mcg/kg

Fenbendazole        15 mg/kg

Immature larvae controlled by  
daily feeding for 2 weeks

Fenbendazole        2.5 mg/kg

Albendazole         1 mg/kg

## DISEASES OF WEANLING GOATS

### Enzootic Pneumonia

#### Etiologic Agents

Viruses ? Chlamydia?

Pasteurella hemolytica

Pasteurella multocida

Corynebacterium pseudotuberculosis

Corynebacterium pyogenes

Secondary gram negative organisms

Mycoplasma ovipneumoniae

Mycoplasma mycoides subsp. mycoides

#### Contributory factors

Waning of maternal immunity

Weaning stress

Concurrent Coccidiosis

Overcrowding

Housing with adults

Transport to shows

Wet bedding, high humidity

Poor ventilation, poor air quality

## DISEASES OF WEANLING GOATS

### Pneumonia

#### Diagnosis and Treatment

Evaluate environmental situation

Do necropsies and bacterial culture

Oxytetracycline LA 200 9 mg/lb q 48 hours

Tylosin 10 mg/kg IM

Change on the basis of sensitivity or response

### Housing

Temperature	minimum 43° F maximum 81° F optimal 50 - 65° F
Humidity	60 - 80 %
Ventilation	winter 1000 ft <sup>3</sup> /hour/animal 15 air changes per hour  summer 4000 ft <sup>3</sup> /hour/animal 30 air changes per hour
Sunlight	5% of ground surface
Space	10 sq. ft. per goat

### Enterotoxemia

Type D in older kids

Associated with heavy grain feeding

Give first vaccination before weaning

## DISEASES OF WEANLING GOATS

### Neurologic Diseases

#### CAE

Kids 2 - 4 months of age

Progressive paresis

Eventual recumbency

Remain bright and alert

May mimic listeriosis in older kids

Diagnosis by serology and histopathology

#### Polioencephalomalacia

Common problem associated with improper weaning

Inadequate development of rumen microflora

Depression, stargazing, convulsions

Treat with thiamine 10mg/kg IV

Review weaning procedures

### Neurologic Disease

#### Others

Enzootic Ataxia

Listeriosis

Brain Abscesses

Middle ear infections

Trauma



## DISEASES OF WEANLING GOATS

### Pinkeye

Dust and Flies Predispose

Multiple etiologies

Chlamydia

Mycoplasma species

M. conjunctivae, M. agalactia, M. mycoides

Moraxella sp.

Tetracycline

treatment of choice

Topical ointment for individuals

LA 200 injectable for herd problem

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