Common Sheep & Goat Diseases
Signs, Prevention, and Treatment

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Classification of common diseases

Contageous

A) Bacterial diseases-
1. Anthrax
2. Enterotoximia
3. H.S.
4. Black Quarter
5. Mastitis

6. Constipation
7. Manage

B) Viral Diseases-
1. Rinderpest
2. FMD
3. Contagious Caprine Pleuro Pneumonia(CCP)
4. Sheep & Goat Pox
5. Blue tongue

Non Contageous
1. Mastitis
2. Diarrheae
3. Goiter
4. Tympanitis
5. Grass Tetany
6. Constipation
7. Manage
ANTHRAX

- A highly fatal bacterial disease affecting all farm animals
- **Etiology:** *Bacillus anthracis*

**Transmission:**

Infection is due to ingestion of contaminated soil, feed and fodder with spores of the bacteria, which can survive for up to 30 years in the soil.

- Humans get infection by eating infected raw meat, contact with infected animals or by inhalation of spores.
Symptoms

- Disease is characterized by high fever, respiratory distress, bleeding from orifices and sudden death.
- Occasionally some animals may show trembling, a high temperature, difficulty breathing, collapse and convulsions before death.

Anthrax bacilli in sheep blood
Prevention and control

- Regular annual vaccination of animals in endemic areas
- Carcass of an animal suspected to have died from Anthrax should not be opened
- Disposal of carcass by deep burial with lime or incineration
Enterotoxaemia

- Also known as overeating disease.
- Clostridium perfringens type C & D, primarily type D.
- Associated with change in quality and quantity of feed. Clostridium perfringens type D bacteria produce poisons when digestive tract deprives them of oxygen.
- Vaccination at weaning and a yearly booster will help in prevention.
Enterotoxemia

- **Symptoms**: loss of appetite, depressed, high temperature, and watery diarrhea; as enterotoxemia progresses, the goat is unable to stand & will lie on its side making paddling motions. Watery diarrhea, depression, convulsions, or death.

- **Treatment**: Commercially available type C & D antitoxins should be given, plus treatment of acidosis.
BLACK QUARTER (BQ)

- **Etiology**: *Clostridium chauvoei*

- **Transmission**:
  - Ingestion of contaminated feed
  - Contamination of wounds
**Blackleg**

- **Cause:** soil-borne bacterium, *Clostridium chauvei*.

- **Symptoms:** This disease occurs rapidly in affected animals and can cause death before the owner notices any sickness. May cause high fever, depressed appetite, depression, lameness, and swelling of the head and in the muscle on various parts of the body.

- **Treatment:** Treat with penicillin or other antibiotics in large doses. Have a veterinarian drain the affected area of the swelled head.
HAEMORRHAGIC SEPTICAEMIA (HS)

**Etiology:** *Pasteurella multocida*
- Usually occurs during monsoon.
- Mortality rate may be as high as 80%.
- In endemic areas, most deaths seen in older calves and young adults.

**Transmission:**
- The organism is a commensal of nasal cavity.
- Common stressors associated with outbreaks include high temperature and humidity, concurrent infection (blood parasites or foot and mouth disease), poor nutrition, or work stress.
- Infection occurs by contact with infected oral or nasal secretions or by ingestion of contaminated feed or water.
- Increased outbreaks associated with high rainfall are most likely due to the multiple stressors.
Symptoms:

- Many cases of HS are preacute and result in death within 8–24 hr.
- High fever,
- Hypersalivation
- Difficult respiration and nasal discharge,
- Recumbency
- Subcutaneous swelling in the pharyngeal region that extends to the ventral neck and brisket.
Treatment and control:

- Segregate the sick animal from healthy ones and avoid contamination of feed, fodder and water.
- Avoid crowding especially during wet seasons.
- Vaccinate all animals which are 6 months and above of age annually before the onset of monsoon in endemic areas (April/ May).
- Inj. Of procaine penicillin and sulphadimidin (33.3%) useful.
- Broad spectrum antibiotics be tried
Mastitis

- **Cause**: inflammation of the udder; associated with germs
- **Symptoms**: udder is hot, hard and tender, loss of appetite, bruised looking udder
- **Treatment**: Antibiotics
  - CD antitoxin, Poly Serum, Penicillin, Banamine, and Nuflor
VIRAL DISEASES
Foot and Mouth

- Viral disease of cloven-hoofed animals.

- NOTE: If foot and mouth disease is suspected contact a veterinarian immediately.
Foot & Mouth Disease

**Symptoms:** blisters on the lips, tongue, teats, or the coronary band of the hoof; can become lame and have excessive salivation.

**Treatment:** Prevent this before it occurs; destroy any animal that is exposed. Treatment – NONE; Animals exposed to the disease are destroyed.
Contagious Caprine Pleuro Pneumonia

- **Cause**: infection of the lung
- **Respiratory Problem**
- **Prevention** – decrease stress by providing dry, well-ventilated housing with adequate space.
- **Symptoms** – unthriftiness, runny nose, loss of appetite and high temp.
Pneumonia

- **Symptoms cont.**: stops eating, hangs head, sounds congested, rapid or difficulty coughing and breathing

- **Treatment** – Antibiotics and correction of predisposing factors with environmental conditions. Oxytetrocycline; if severe, may require veterinary-only drugs
Sheep and goat pox

* Family: Poxviridae
* Genus: *Capripoxvirus*

Sheep pox and goat pox viruses distinct
  - But hard to differentiate
  - Recombination can occur

* One serotype, multiple strains
* Prolonged survival in environment

*History & Geographical distribution:*
  1879: Goat pox
  Norway

  2nd Century AD:
  Sheep pox
  Central and North Africa
  Central Asia
  The Middle East
  Portions of India
Animal Transmission

- Close contact
- Inhalation of aerosols
- Abraded skin
- Fomites
- Insects (mechanical)
- Infectious virus present in all secretions, excretions, and scabs
Clinical Sign & Symptoms

- Incubation period: 4 to 21 days
  - Fever
  - Conjunctivitis
  - Depression, anorexia
  - Dyspnea, nasal or ocular discharge
  - Secondary bacterial infections are common

- Papules forming into hard scabs
- Lesions may cover body or be restricted to axilla, perineum and groin, ears, or tail
- Death may occur at any stage
Treatment & Control

**Disinfectant**

* Sodium hypochlorite
* Phenol 2% for 15 minutes
* Detergents

* Virus can survive
  - For 3 months in wool
  - For 6 months in the environment
  - For many years in dried scabs

* Vaccination can provide effective control in endemic areas.
* Killed vaccines do not provide long lasting immunity.
* Attenuated virus vaccines give immunity up to 2 years
Blue Toung

Bluetongue (BTV) is an insect borne viral disease of domestic and wild ruminants, especially sheep.

- The name refers to the blue discoloration of the tongue and mucous membranes, due to cyanosis, which is sometimes seen in cases of the disease.

Epidemiology

Morbidity ~100% ; Mortality - 0 to 50%

- BT was first reported in India in 1961 in the state of Maharashtra. Since then, the disease has been recorded in 11 states in India.

- BT is endemic in many parts of India and its outbreak in Tamil Nadu during the monsoon season of 1997-98 caused the death of 300 000 sheep and goats.
Clinical Signs

* Incubation period: 5-20 days
  – Fever, depression, salivation
  – Facial swelling, dyspnea, panting, nasal discharge
  – Hyperemia of muzzle, lips, ears
  – Pregnancy: Reabsorption, abortion, “dummy” lambs

Oral erosions and ulcerations
  • Tongue – Swollen, protuding
    – Cyanotic = “blue-tongue”
  • Feet – Sore hooves, lameness
    – Coronitis
Symptoms:

- Salivation
- Nasal discharge
- Facial swelling
Treatment

- No specific treatment

- Supportive therapy
  - Protection from the elements
  - Fluids and electrolytes given
  - Antibiotics for prevention of secondary infection

- Control of vectors by insecticide
  - Reduce transmission
  - Protect susceptible animals
Prevention and Control

- Quarantine and movement controls – Prevent spread of virus
  - Animals confined indoors (i.e., barn) – When vectors are active
  - Disinfection
    - Does not stop virus transmission – Cleaning the premises
  - Sodium hypochlorite (bleach)
  - 3% Sodium hydroxide (lye)
  - Insect control
  - Vaccination
  - Notification to authorities.
Rinderpest

**Etiology:**
- It is an acute contagious disease caused by a filterable virus.
- The spread of the disease is through direct contact, air, water, feed etc.

**Symptom:**
- Initially there is rise in temperature.
- The animal show reddening of visible mucus membranes with discharge from eyes and nose.
- After 3 days temperature falls with foul smelling shooting diarrhea.
- The animals die because of dehydration.
- There are ulcers in mouth.
**Treatment:**
- Checking dehydration with Inj. Of normal saline or glucose.
- Symptomatic treatment of diarrhea with astringent mixture is line of treatment supportive therapy of antibiotics, vitamins and level extract is given.

**Preventive measure:**
- All hygienic measures are observed during outbreaks.
- Vaccination with tissue culture vaccine is done in the month of May in endemic areas.
FUNGAL DISEASES
Foot Rot

- **Signs** – lameness
- **Prevention** – fence goats out of wet, marshy areas where organisms causing foot rot more likely grow and keep hooves trimmed to proper length.
- **Treatment** – copper sulfate foot bath and antibiotics.
Common hoof diseases

Infection in horny tissue of hoof Strong odor

Infection in skin between claws
Foot Rot

**Cause:** Flusiformis nodosus infection enters the hoof & causes inflammation of the sensitive laminae

**Symptoms:** mild to severe lameness, animals are reluctant to walk; associated with a foul smell

**Treatment:** Hoof paring in order to remove the underrun hoof. Apply antiseptics to remove any infection.
How to Trim hooves

Easier to trim hooves when they are soft – after a rain.

- Clean out dirt and manure with tip of trimmers.
- Cut off tip of hooves.
- Trim side walls and heel so that they are flat and even with the sole of the foot.
- Stop trimming when you see pink.
- A properly-shaped hoof should be level with the hair line.
- You may have to trim “problem” hooves a few times to get them right.
Soremouth

- Contagious ecchyma
- Signs – difficulty eating, spreading lesions to the does udder
- Vaccination – use live virus by scarifying the skin and painting on the vaccine.
Contagious Pustular Dermatitis (Sore Mouth)

- **Cause**: infectious viral disease (affects animals and humans)
- **Symptoms**: Pimples around the nose, mouth, eyes, anus, and hoofs. These turn to watery blisters then to sticky, encrusted scabs. The mouth and gums swell. Can cause death if the animal is unable to eat.
Soremouth
Sore Mouth cont…

**Treatment:** Isolate the goat and use an antibiotic spray or ointment. Vaccination is not recommended. Use a medication with Cephapirin Benzathine.
NON CONTAGIOUS DISEASE
Pinkeye

- Infectious keratoconjunctivitis.
- Occurs in warm and hot weather because it is spread by flies and close contact.
- Highly contagious.
- Prevention – good sanitation, and fly control.
Pinkeye

- **Cause**: spread by flies, dust and long grass
- **Symptoms**: watery eye, red and cornea is cloudy, sensitive to light
- **Treatment**: flush eyes with penicillin or Oxytetracycline for a few days and also isolate the animal from other animals. Broad spectrum antibiotics, sprays and powders. Remove from sunlight and cover with patch.
Bloat

- **Cause**: gorging on anything unsuitable (example: wet grass pastures or raiding food bin)
- **Symptoms**: Tightly inflated flanks, collapse, and misery
- **Treatment**: Drench goat with vegetable or other oil (6-8 oz for adults & 2+ oz for kids), walk goat around, massage flanks. Contact veterinarian if this does not help.
Brucella Melitensis

- **Cause**: Organism excreted in milk, urine, and feces. Causes an infection of the placenta and udder.
- **Symptoms**: Abortion will occur in last 2 months of pregnancy
- **Treatment**: Vaccinations are available to prevent it, but generally the herd is slaughtered.
Tetanus

- **Cause**: infection of open wounds by Clostridium tetani
- **Symptoms**: muscle stiffness causing an unsteady gait, animal looks anxious, convulsions, death results due to the animal being unable to breathe
- **Treatment**: Antibiotics- penicillin and antisera can be given but response is poor; flush wound with hydrogen peroxide and treat with penicillin
Coccidiosis

- Common in young kids.
- Flourish in pens with manure buildup.
- **Cause**: Coccidia parasites
- Eradication is difficult once the facilities are infected.
- Signs – diarrhea, loss of condition, general unthriftness, poor growth, dehydration, blood in diarrhea, off feed, rapid weight loss, and fever
Coccidiosis

- Treatment – coccidiostats added to water and feed and strict sanitation.

- **Treatment**: Treat with Biosol, give orally once a day for 5-7 days. Can also treat with half Corid or Sulmet. Also, can put Decox in the mineral feed.
Urinary Calculi

- **Cause**: A hard mass of mineral salts in the urinary tract caused by a dietary mineral imbalance. Urinary calculi is usually seen in bucks.
- **Symptoms**: straining to urinate, restlessness, vocal signs of pain, pawing at the ground, and looking at its abdomen.
- **Treatment**: Consult your veterinarian.
INTERNAL PARASITES
There are two kinds of parasites.

1. Internal (endo) - a parasite that lives inside another organism.

2. External (ecto) – a parasite that lives on the blood of the host or lays eggs on their hide or in their nose.
Ringworms

- **Cause**: Fungal condition
- **Symptoms**: gray/white crusty appearance on skin, thickened skin and hairs thin or absent, enlargement of affected areas
- **Treatment**: Fungicides used as a liquid dressing. Use any of the following:
  - 0.5% Lime sulfur
  - 1:10 bleach
  - 1:300 Captan
  - 1% Betadine

Use these daily for 5 days and then weekly.
Ringworm
Bottle Jaw

- **Cause**: blood-sucking worms
- **Symptoms**: lower face and jaw swell and gums may not be normal in color
- **Treatment**: Worm the goat with strong medicine every 11 days, for 3 times. May also need to give iron and vitamins.
Lungworms

- **Cause**: worms inhabit air passage & cause inflammation

- **Symptoms**: chronic cough

- **Treatment**: drench with dewormer
Gastro-intestinal roundworms

- Infests stomach and intestines
- **Symptoms:** diarrhea, weight loss, & anemia
- **Treatment:** drench with dewormer
Tapeworms

- **Cause:** inhabits the small intestine
- **Symptoms:** Passing of tapeworm segments in feces in young goats during the summer months
- **Treatment:** anthelmintic-albendazole can be used; oral niclosamide is highly effective
LIFE CYCLE

Internal Parasites – Nematode Cycle

- Adult nematodes in the digestive tract of sheep lay their eggs.
- Eggs passed onto pasture in manure.
- Eggs hatch, and larvae develop to infective 3rd stage in soil and manure.
- Infective larvae are ingested by grazing sheep.
Conclusion

Strict sanitation is necessary to prevent diseases. Although sanitation requires time and money, it is time and money well spent since prevention of the diseases is more economical than treatment. The housing for goats plus their food and water must be kept clean and dry.