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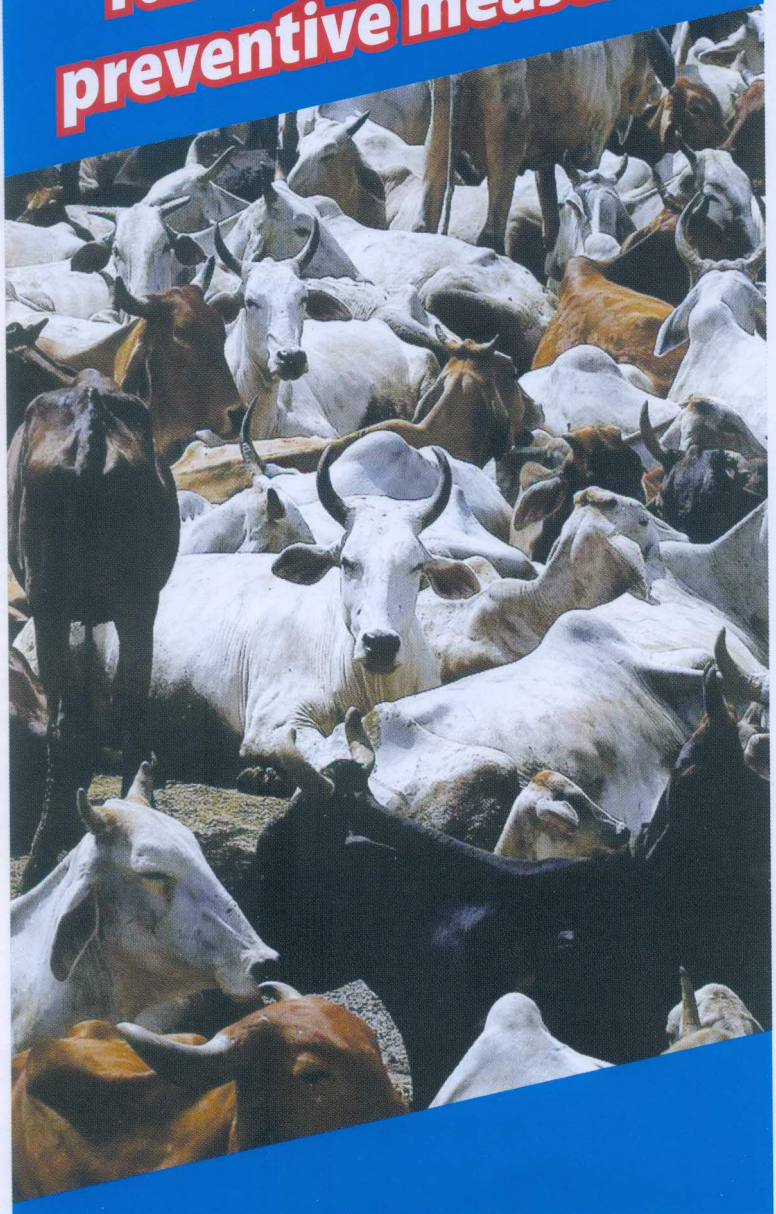
Important diseases of ruminants & their preventive measures



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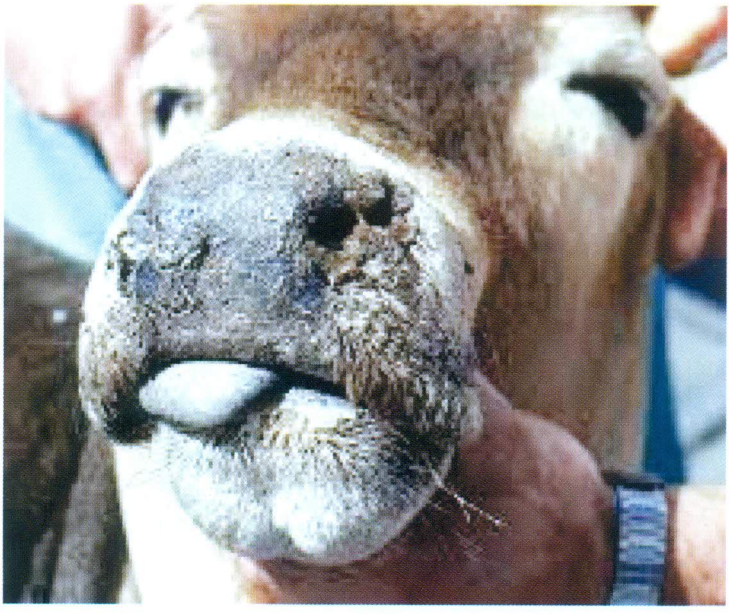
Introduction

Disease defined as deviation from normal state of health. Domestic ruminant animals like Cattle, buffaloes, sheep and goats also suffer with various infectious and non-infectious diseases. The infectious agents may be bacteria, virus, protozoa, parasites and fungus. Diseases may affect immunity, production, reproduction and overall performance of the animals. In some severe and acute disease conditions, animals may die with or without showing symptoms of the diseases.

Identification of ill/diseased animals:

Diseased animals show symptoms as follows:

1. Feed and water intake is reduced or lacking.
2. Generally milk yield is decreased or stopped.
3. Rumen motility is reduced or less than normal.
4. Look of the animal becomes dull.
5. Gait become slow and animal walks with difficulty.
5. Animal keeps head downward and eyes remains closed or partially opened with dry or profuse lacrimation.
6 Bad odour and salivation comes from mouth of the animal. Muzzle becomes dry.
7. Skin coat becomes dull and rough.
8. Body temperature mostly increases.
9. Dung becomes hard or loose and urine colour changes to dark yellow, coffee coloured or pinkish.



Important Bacterial Diseases

1. **Haemorrhagic Septicaemia:** This disease is an acute infectious disease of cattle & Buffaloes caused by *Pasteurella Multocida*. Disease mainly occurs during rainy season and during extreme environmental conditions. Long distance transportation stress on animals is one of the important predisposing factors of this disease.

   This disease transmits through inhalation and ingestion of contaminated feed and water. In this disease initially animals suffer with high temperature (105-107°F).Animals doesn't take food and water. There is formation of submandibular oedema or swelling of throat region which causes disturbance in respiration and snoring sound comes out. Animals become recumbent and die within 12-72 hours.

Preventive measure: Give sufficient rest while transporting animals for long distance. Avoid overcrowding of animals in wet season. Vaccinate six month and above aged animals with HS vaccine yearly once before rainy season in endemic areas.

2. **Black –Quarter:** This disease is an acute infectious disease of cattle & Buffaloes caused by *Clostridium chauvoei*. Disease mainly occurs in young healthy cattle with good body muscles and age group between six months to two year old. This disease transmits through ingestion of contaminated feed, water and contamination of wounds. In this disease, initially animals suffer with high temperature (105-107°F). Animals don't take food and water and become lame with one or more legs.

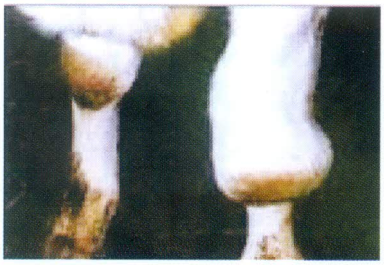
On affected leg, crepitating swelling develops mainly on hip, back and shoulders. Swelling is hot and painful in early stages later on becomes cold and painless. Animals become recumbent and die within 12-48 hours.

Preventive measure: Vaccinate six month and above aged animals with BQ vaccine yearly once before rainy season in endemic areas. Burning of upper layer of soil with straw to eliminate spores may be of help in endemic areas. Sprinkle lime over carcass at the time of burial.

3. **Brucellosis:** This is a bacterial disease caused by *Brucella abortus* in cattle and buffaloes and *B.melitensis* and *B.ovis* in sheep. Goats are also affected and the disease is transmissible from animals to man by consumption of raw milk of infected animals or contact with uterine discharges. Abortions after five month of gestation with retention of placenta in cows and second half of gestation in buffaloes is the cardinal sign of brucellosis. Orchitis with varying degree of sterility in bulls and high rate of infertility in females associated with brucellosis. No abortions may be observed after 4th calving, but dam and calf remain infected. Joint swelling and retention of placenta like symptoms are observed in Brucellosis.

Preventive measure: Vaccinate female calves (not male calves) between 4-8 months of age. only one vaccination is required in its lifetime to protect it from brucellosis . Any abortion from 5th month onwards should be suspected for brucellosis .Ideally such animals should be culled and if culling is not possible, isolate the animal immediately for a minimum of 20 days after calving / abortion. The aborted foetus, placenta, contaminated bedding, feed etc. should be buried (at least 4 feet deep) after a liberal sprinkling of lime. These materials

contain very high bacterial loads and if disposed improperly cause the spread of disease by contaminating food sources (pasture, feed, water etc.) Disinfect the shed after isolating the aborted animal. When the animal is in isolation, disinfect the lochial discharges (which also contain high bacterial loads) daily with 1-2% NaOH or 5 % sodium hypochlorite (bleach) solution till the discharges cease (usually by 10-15 days). Do not handle infected material with bare hands since the disease is zoonotic.



Joint swelling

Retention of placenta

4. **Enterotoxaemia :** Different types of *Clostridium perfringens* bacteria are responsible for enterotoxaemia. The infection is manifested by severe diarrhoea and dysentery in lambs, kids, calves within first few days to 3 weeks age. Severe abdominal pain with bloating, stretching and looking at abdomen followed by diarrhoea or dysentery are seen in lambs. In calves, disease occurs in form of severe dysentery with abdominal pain evinced by violent bellowing. In this disease, healthy kids die suddenly without showing any symptoms.

Preventive Measures: Don't feed excess milk to kids and don't allow eating much green leafy fodder to kids especially in early rainy season. Don't feed excess concentrates in adult goats to prevent this disease.

Vaccinate three month and above aged kids with Enterotoxaemia vaccine and booster dose after 15 days yearly twice in endemic areas.

5. **Colibacillosis:** New-born animals, receiving inadequate quantity of colostrum often suffer from colibacillosis caused by *Ercherichia coli.* Calf, lamb and kid mostly below 3 days age suffer from this infection. Septicaemic colibacillosis is an acute illness in calves manifested by depression, anorexia, fever, diarrhoea, dysentery and death within 24-96 hours. In more common form there is profuse foul smelling watery diarrhoea with pale yellow to white faeces, sometimes streaked with blood.

Preventive measure: Feed colostrum within half an hour immediately after birth to develop immunity. Feed colostrum three to four times @ $1/10^{th}$ of body weight of calf in a day for first 3- 5 days. Immediate treatment of affected calves with antibiotics is required along with intravenous fluid and oral rehydration solution.

Important Viral Disease

1. **Foot and Mouth Disease (FMD) :** This is the most important viral disease of cloven footed animals in our country causing enormous economic losses. This disease occurs in cattle especially in exotic breeds, buffaloes, sheep and goat. This disease is caused by *Picorna virus*. Onset of disease in cattle and buffaloes is characterised by drastic decrease in milk yield followed by loss of appetite, high fever

(40-41°C) and painful vesicles on tongue, gums and mouth, between claws and sometimes udder. There is drooling of saliva with lameness, pregnant animals may abort. The disease is less severe in sheep and goats.

Preventive measure: Vaccinate four month and above aged animals with FMD vaccine twice / yearly. Infected animals should be immediately separated since all excretions and secretions from infected animals contain virus. All feed and fodder in contact with the infected animal should be destroyed.

Important Protozoan Disease

1. **Theileriosis:** This is an important protozoan disease of exotic and crossbred cattle. This disease is caused by *Theileria annulata* or *Theileria Parva* and transmitted by ticks. Animals show symptoms of high fever, swollen peripheral lymph nodes, pale mucous membranes, anaemia, nasal discharge, jaundice, salivation, rapid and shallow breathing, watery eyes etc. if not treated may lead to death of animal.

Preventive measure: Regular tick control is the most effective way to keep these infections in check. Immediate treatment is required (Inj. Buparvaquone). For control of Theileriosis, vaccinate all exotic and crossbred animals aged 3 months and above once in its lifetime.

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