

Characteristics of infectuious diseases of cattle, buffaloes, sheep and goats

1. **Bovine viral diarrhea-mucosal disease complex (BVD-MD)** : It is an acute or chronic highly infectious contagious disease of cattle & buffaloes, caused by virus, characterized by high fever, salivation (erosive stomatitis), diarrhea (gastro-enteritis), respiratory signs (rhinitis), leukopenia, persistent infection of fetus infected during 40-125 days of gestation, congenital anomalies of fetus infected during 75-150 days of gestation and abortion or reproductive failure.

Its sporadic in occurrence in endemic areas with high infection rate and low clinical cases. BVDV is incriminated as one of etiology in chronic respiratory disease of cattle (CRD) and neonatal calves diarrhea.

2. **Malignant catarrhal fever (MCF)** : It is an acute highly fatal pansystemic, probably non contagious infectious disease of cattle and buffaloes, caused by virus, characterized by persistent fever, erosive stomatitis, gastroenteritis, erosions in upper respiratory tract, keratoconjunctiv-itis, cutaneous exanthema, lymph nodes enlargement (lymphadenopathy) and terminal encephalitis. MCF occur commonly as sporadic or isolated cases in individual herds but may occur in explosive outbreaks .

3. **Infectious bovine rhinotracheitis (IBR)** : It is not highly fatal infectious disease of upper respiratory tract and trachea of ruminant, caused by virus, characterized by fever, rhinotracheitis, conjunctivitis, abortion, encephalitis, systemic form in new born calves, infectious pustular vulvovaginitis in female and infectious balanoposthitis in male and a short course with a high recovery rate.

The virus is isolate from aborted fetus, cases of dermatitis, mastitis, encephalomyelitis, conjunctivitis, enteritis and lesions of interdigital space. All different manifestation of the disease are due to strains with different tissues affinities

4. **Cattle plague (CP)** : It is an acute or subacute highly fatal contagious viral disease of cattle & buffaloes, characterized by high fever, focal erosive lesions (shallow erosions) which confined largely to mucosa of gastrointestinal tract, diarrhea and destruction of lymphocyte.

5. **Peste des petits ruminants (PPR)** : It is acute contagious disease of goats and less commonly sheep, caused by virus, characterized by fever, nasal and ocular discharge and mucosal erosions (stomatitis) followed by sever

enteritis (diarrhea) and pneumonia. The disease is quickly spread within a flock

NB : Gastrointestinal signs may be predominate in rinderpest infected sheep and goats while in PPR generally occurs in form of pneumoenteritis.

6. **Foot and mouth diseases (FMD) :** It is a infectious highly contagious, vesicular disease of cloven footed animals, caused by virus, characterized by fever, salivation and vesicular eruptions in the oral cavity and on the feet or udder and teats.
7. **Vesicular stomatitis (VS) :** It is an acute infectious, mildly contagious disease, affect mainly horses, cattle and pigs, characterized by the development of vesicles in the oral cavity and on feet.
8. **Bluetongue (BT) :** It is an infectious non contagious insect born disease of sheep primarily and cattle occasionally, caused by virus, characterized by fever, ulcerative stomatitis, rhinitis, enteritis and lameness due to inflammation of coronary band and sensitive laminae of the foot. The disease is slow in spread and seasonal in occurrence.
9. **Rift valley fever (RVF) :** It is an acute febrile arthropod borne disease of ruminants and humans, caused by virus, characterized by necrotic hepatitis and high mortality in lambs and calves and abortion in adult sheep and cattle and in humans by an influenza like disease. The disease is rapid in onset with short course.
10. **Bovine ephemeral fever (BEF) :** It is an acute non contagious arthropod born viral disease of cattle, characterized by inflammation of mesodermal tissues, sudden onset of transient fluctuating fever, shifting muscular shivering, stiffness, lameness, enlargement of peripheral lymph nodes and short course usually followed by rapid spontaneous recovery.
11. **Lumpy skin disease (LSD) :** It is a highly infectious insect born skin disease of cattle, caused by neethling virus, characterized by fever, rapid or sudden appearance of multiple well demarcated painful nodules on all parts of skin, lymphadenitis of regional lymph nodes and edema of legs or dewlaps. The disease occurs as sporadic cases or in epidemics.
12. **Contagious pustular dermatitis (CPD) :** It is highly infectious viral disease of sheep and goats, characterized by pustules and scab formation on the muzzle and lips. The virus also produce lesions on cattle teats.
13. **Ulcerative dermatosis (UD) :** It is a infectious disease of sheep, caused by virus, characterized by destruction of epidermal and subcutaneous tissues with development of raw granulating ulcers on the skin, nares, feet, legs and

external genital organs as vulva, glans penis and external opening of prepuce.

14. Sheep & goat pox (SGP) : It is a highly contagious disease of all ages of sheep, and goats caused by pox virus, characterized by fever, formation of cutaneous lesions and high mortality of lambs & kids. It is the most serious of all the pox in animals.

15. Cow and buffalo pox : It is a benign, contagious skin disease, caused by virus, characterized by appearance of typical pox lesions on teats and udders mainly and around the lips and muzzles of suckling calves. The disease is sporadic and rare in occurrence and is rapidly spread within the herds followed by solid immunity. Latent affected animals are changed to clinical cases on exposure to stress or other infections as rinderpest infection.

16. Akabane disease (AKA) : It is an infectious, insect born disease, caused by virus, characterized by congenital anomalies as production of calves, kids and lambs with arthrogryposis (joint immobility or ankylosed), hydranencephaly (absence of cerebral hemisphere), abortion and mummification, stillbirth or premature birth and dystocia.

17. Bovine spongiform encephalopathy (BSE) : It is a non febrile sporadic degenerative neurological progressive fatal disease, affect nervous system of adult cattle, caused by scrapie like-agent, characterized by progressive neurological fatal signs as changes in mental state and abnormalities of posture, movement and sensation.

18. Papillomatosis : It is an infectious disease of cattle and horse, caused by virus, characterized by formation of fibropapilloma outgrowths in form of fleshy lumps or large pendulous warts on different parts of the body. Typically the disease is resolve spontaneously following development of viral immunity.

19. Bovine leukosis (BL) : It is a highly fatal systemic malignant neoplasm of the reticulo-endothelial system of cattle (lymphoid cancer of cattle), caused by virus, characterized by generalized lymphadenopathy (symmetrical enlargement of most peripheral lymph nodes) and often with other signs as sudden death, digestive, cardiac and nervous signs due to development of aggregations of neoplastic lymphocytes in almost any organ with corresponding variety of signs.

The disease may be subclinical and may result in either persistent lymphocytosis or lymphosarcoma and only small percentage of infected cattle reveal persistent lymphocytosis. Infected animals remain infected for

- life and carrying the virus in B-lymphocyte or infection of cattle with the virus is permanent and spontaneous recovery has not been demonstrated
20. **Parasitic abomasitis (Gastritis)** : It is a parasitic disease of ruminants, caused by many types of parasite, characterized by digestive disturbance, progressive loss of weight and anemia.
 21. **Parasitic enteritis** : It is a parasitic disease of ruminants, caused by different species of nematodes living in small or large intestine, characterized by diarrhea, loss of weight or failure to gain properly and anemia.
 22. **Ascariasis** : It is a parasitic disease of young animals mainly, caused by heavy infestation of small intestine by *Ascaris* worms, characterized by digestive disturbance, poor growth and other acute signs caused by migration of immature worm through liver, lung and occasionally other organs.
 23. **Fascioliasis** : It is an acute or chronic infectious disease of ruminants mainly, caused by *fasciola* spp, characterized by sudden death, bottle jaw, emaciation, chronic digestive and nutritional disturbance.
 24. **Paramphistomiasis** : It is a parasitic disease of cattle & buffaloes and to a lesser extent of sheep, caused by several species of *paramphistomum* sp, characterized by severe enteritis.
 25. **Schistosomiasis** : It is a parasitic disease infect animals and humans, caused by *schistosoma*. sp, characterized by nasal granuloma and rhinitis or diarrhea, anemia, ascites and decrease of growth rate.
 26. **Cestode or tape worm infestation** : It is parasitic disease of young ruminants particularly, caused by tape worms, characterized by digestive disturbance as diarrhea, retardation of the growth and unthriftiness.
 27. **Cryptosporidiosis** : It is protozoal disease of neonates mainly, caused by *cryptosporidia* sp, characterized by diarrhea, growth retardation, emaciation and poor general condition of animals.
 28. **Coccidiosis** : It is an contagious enteritis of all domestic animals caused by different type of *Eimeria* species, characterized clinically by bloody diarrhea, dysentery, anemia and emaciation.
 29. **Anaplasmosis** : It is an arthropod born protozoal disease, caused by *anaplasma* sp, transmitted by ticks, characterized by fever, progressive hemolytic anemia, hyperbilirubinemia, jaundice, progressive weakness and emaciation.
 30. **Babesiosis** : It is an acute or chronic protozoal disease of animals, caused by *babasis*.sp, transmitted by ticks, characterized by fever, emaciation,

intravascular hemolysis resulting in hemolytic anemia, hemoglobinemia, hemoglobinuria and icterus.

31. **Theileriosis** : It is an acute or chronic protozoal disease of animals, caused by theileria sp, transmitted by ticks, characterized by fever, progressive anemia, jaundice, ketonuria, wasting and enlargement (hyperplasia) of superficial lymph nodes
32. **Toxoplasmosis** : It is a contagious disease of all warm blooded animals species even human, caused by toxoplasma. sp, characterized clinically by abortion and still births in ewes and in all species by encephalitis, pneumonia and neonatal mortalities.
33. **Filariasis** : It is a chronic parasitic disease of numerous domestic and wild animals as well as humans, caused by nematodes of the family Filariodidae characterized by skin lesions.
34. **Dermatophytosis** : It is a highly infectious contagious fungal disease of superficial dead keratinized tissues of the hair and skin of all animal species and humans, caused by dermatophyte, characterized clinically by alopecia and circular elevated itching plaques on the skin.
35. **Mange** : It is a highly infectious and contagious skin disease of all domestic animals, man and birds, caused by different species of mites, characterized by alopecia, scale formation and severe itching dermatitis.
36. **Parasitic pneumonia** : It is a parasitic disease of lungs of ruminants, caused by invasion of lungs by lung worm. sp, characterized by respiratory signs, diarrhea, sudden death in non immune young animals and non clinical infection in aged carrier cattle. Self cure phenomena occurs due to sudden disappearance of adults worms upon invasion of new generation of larvae.
37. **Estrus ovis infestation** : It is a chronic parasitic disease of sheep and occasionally goats, caused by arthropod (estrus ovis fly), characterized by sheep annoy, rhinitis, sinusitis, nasal discharges and snoring respiration.
38. **Hypoderma infestation** : It is a chronic parasitic disease of cattle, caused by larvae of hypoderma. sp, characterized by hides damage, damage of spinal cord (posterior paralysis) & esophagus and occasional deaths due to toxemia or anaphylactic shock.
39. **Screw-worm infestation** : It is a chronic parasitic disease of all domestic animals, caused by invasions of wounds by screw-worms, characterized by pours of profuse brownish exudate from the wounds with objectionable odor.
40. **Kids and louse infestation** : Infestations with these insects cause blood loss and irritation which results in skin or wool damage and poor growth, treated by local application of coumaphos and diazinon.

41. **Tick infestation** : The tick may be of one (*Boophilus. sp*), two (*Hyalomma. sp* & *Rhipicephalus. sp*) or three host (*Ixodes. sp*) ticks, ticks infestation are of great importance in the animals production, apart from their role as vector feed on animals blood resulting in anemia, emaciation and decrease in production, also during feeding transmit many protozoa, bacterial, rickettsial and viral diseases, this beside ticks causing paralysis in heavy infestation of young animals.
42. **Lamb dysentery (LD)** : It is a highly fatal intoxication of young lambs, caused by toxins of *CL. perfringens* type B, characterized by sudden death without premonitory signs, intestinal ulceration and death.
43. **Calf enterotoxemia (CE)** : It is a non contagious acute intoxication of young calves, caused by toxins of *CL. perfringens* type B & C, characterized by diarrhea, dysentery and sudden death.
44. **Struck** : It is a highly fatal toxemic disease of adult sheep, caused by *CL. perfringens* type C toxins, characterized by sudden death, hemorrhagic enteritis and peritonitis.
45. **Pulpy kidney (PK)** : It is an acute non contagious fatal toxemic disease of ruminants, caused by toxins of *CL. perfringens* type D, characterized by diarrhea, convulsions, paralysis and sudden death.
46. **Bacillary Haemoglobinuria (BH)** : It is an acute highly fatal toxemic disease of cattle and sheep, caused by toxins of *CL. hemolyticum* (*Cl. novyi*), characterized by high fever, haemoglobinuria, jaundice and necrotic infarcts in the liver. The disease is most frequently seen in areas endemic with fascioliasis and is usually sporadic, sudden in onset and of short duration.
47. **Black leg** : It is an acute infectious soil born toxemic disease of cattle and sheep, caused by *CL. chauvoei* toxins, characterized by necrotizing emphysematous myositis, severe toxemia and high mortality (most cases end fatally after signs of acute depression and lameness). The disease is develop spontaneously without history of open wounds.
48. **Black disease (BD)** : It is a fatal peracute infectious toxemic disease, affect most usually good conditioned mature sheep and sometimes cattle, caused by toxins of *CL. Novyi* type B which elaborated in damaged liver tissue, characterized by sudden onset and death. Under field condition BD is usually associated with fascioliasis.
49. **Swelled head (SH)** : It is an acute wound infection of rams, caused by *CL. noveyi* type A toxins, characterized by acute inflammation and edema at the head and profound toxemia with short course.

- 50. Malignant edema (ME) :** It is an acute febrile rapidly fatal wound infection, toxemic disease of ruminants, caused mainly by CL. septicum toxins, characterized by inflammation at site of infection with marked edema, emphysema, necrosis and gangrene and profound systemic toxemia. The disease is sporadic in occurrence.
- 51. Braxy (BR) :** It is an acute infectious disease of sheep, caused by CL. Septicum toxins, characterized by inflammation of the abomasal wall, toxemia and sudden death of high number of infected animals.
- 52. Listeriosis :** It is an acute infectious disease of domestic animals, caused by listeria monocytogens, characterized by meningo-encephalitis (circling), facial paralysis, septicemia and abortion. Not all outbreaks of listeriosis can be linked with silage feeding. The disease is sporadic in occurrence and more common under intensive rearing condition.
- 53. Anthrax :** It is peracute, acute or subacute highly fatal soil born infectious disease of all vertebrate except Algerian sheep, caused by bacillus anthracis, characterized by septicemia, rapid sudden death with exudation of tarry blood from the body orifices of cadaver, failure of blood to clot, absence of rigor mortis and spleenomegaly.
- 54. Caseous lymphadenitis (CL) :** CL is a chronic debilitating infectious disease of sheep and goats, caused by corynebacterium ovis, characterized by suppurating, necrotizing inflammation of one or more lymph nodes (abscessation of lymph nodes).
- 55. Infectious bovine keratoconjunctivitis (IBK) :** It is a highly contagious infectious disease of cattle & buffaloes, caused by Moraxella bovis mainly, characterized by conjunctivitis, keratitis and corneal ulceration (superficial or deep and typically in the center of cornea). IBK is highly spread and is consider as one of self-limiting disease.
- 56. Infectious ovine keratoconjunctivitis (IOK) :** It is a highly contagious infectious disease of sheep, caused by chlamydia psittaci and mycoplasma conjunctivae mainly, characterized by inflammation of cornea, lacrimation, conjunctivitis, corneal vascularization, opacity, ulcer and scare formation. It is self--limiting disease.
- 57. Mastitis :** Clinical mastitis is an inflammation of mammary gland regardless of the cause, characterized by pathological changes in udder glandular tissue (cardinal signs of inflammation) as heat, pain and swelling and changes in constitution of milk or physical, chemical and bacteriological changes in milk while subclinical mastitis is characterized by no apparent

clinical changes in udder or milk but there are significant increase of leukocytic content in milk.

58. Actinomycosis : LJ is a chronic infectious debilitating disease of cattle mainly, caused by actinomyces bovis, characterized by rarefying periostitis and formation of bony cavities filled with pus in head bones particularly the mandible and maxilla. It form sulfur granules of white or yellow cheese-like particles in pus or in infected tissues. It occurs sporadically in infected herd and is rarely causes granulomas in soft tissue as in trachea, testes and digestive tract.

59. Actinobacillosis : It is a chronic infectious disease of ruminants, caused by actinobacillus lignieresii, characterized by inflammation of soft tissues of the head especially tongue (localized firm swelling of dorsum), less commonly pharyngeal lymph nodes, facial skin, nares and esophageal groove. It is sporadic and self-limiting disease.

60. Johne's disease (JD) : It is a chronic, progressive irreversible enteric, wasting infectious disease of ruminants, caused by M. paratuberculosis, characterized by chronic diarrhea due to proliferative enteritis (thickening and corrugation of intestinal mucosa) and progressive weight loss leading to eventual emaciation. JD infected animals may secrete the organism in feces for up to 15-18.m before appearance of signs due to long incubation period and majority of infections is subclinical or asymptomatic.

61. Tuberculosis (TB) : It is a chronic contagious granulomatous infectious disease of all farm animals, caused by tubercles bacilli, characterized by progressive development of caseous nodules (Tuberculous granuloma or granulomatous nodules) in any of the organs in most species with signs varies according to organ involved. TB is of major importance in dairy farms, clinical signs appear after several months or years and animals during this period is consider source of infection to other animals and human.

62. Brucellosis : It is a highly contagious disease of animals, caused by brucella species, characterized by inflammation of genital organs and placenta, abortion, retention of placenta and subsequent high rate of infertility and formation of localized lesions in various tissue. Partial resistance after storm of abortion with occurrence of latent infection or carriers.

63. Edematous skin disease (ESD) : It is a mildly contagious chronic infectious disease of buffaloes and cattle, caused mainly by C. ovis, characterized by cutaneous nodules, cutaneous edematous swellings, skin ulceration and lymphadenitis (suppuration of superficial lymph nodes draining the affected part).

- 64. Dermatophilosis :** It is acute or chronic contagious disease of domestic animals, caused by dermatophilus congolensis, characterized by non pruritic epidermal exudative dermatitis with formation of thick scab. The disease is self limiting.
- 65. Infectious foot rot (IFR) :** It is contagious disease of ruminants, caused by fusobacterium necrophorum, characterized by inflammation of feet sensitive tissues resulting in severe interdigital dermatitis and lameness.
- 66. Leptospirosis :** It is an acute to chronic, often inapparent contagious water born disease of all farm animals, caused by several pathogenic serovars of leptospira interrogans, characterized by septicemia, hemoglobinuria, hemolytic anemia, icterus, abortion, interstitial nephritis, uremia and atypical mastitis. The disease is sudden in onset and occurs as sporadic cases in endemic areas and the organism secreted in urine of diseased, carriers and latently infected animals.
- 67. Contagious bovine pleuro-pneumonia (CBPP) :** CBPP is a highly contagious pulmonary or severe respiratory disease of cattle and buffaloes, caused by mycoplasma mycoides, characterized by extensive fibrinous pneumonia and pleurisy with edema of interlobular septa of lung and pleurisy resulting in respiratory signs. After infection or vaccination of animals, there is life long immunity. Spread of CBPP within the herd is relatively slow.
- 68. Pneumonic Pasteurellosis (PP) :** PP is an acute or chronic infectious disease of cattle and sheep, caused mainly by pasteurella hemolytica, characterized by signs of acute bronchopneumonia and toxemia with good response to treatment in early cases.
- 69. Hemorrhagic septicemia (HS) :** HS is an acute to peracute highly fatal septicemic disease of cattle and buffaloes, caused by P. multocida, characterized by peracute septicemia, respiratory signs and a high mortality. The disease is sudden in onset and of short duration.
- 70. Colibacillosis :** It is commonest highly fatal infectious disease of new born calves, caused by pathogenic E-coli, characterized by sudden death with or without significant bacteremia and diarrhea. Multiple infections rather than monoinfections are common in calves where rotavirus, coronavirus and cryptosporidia may occurs along with enteropathogenic E-Coli.
- 71. Salmonellosis :** It is a infectious disease of all animals, caused by different species of salmonellae, characterized by peracute septicemia, acute or chronic enteritis, abortion and asymptomatic carrier state in adult.

72. Salmonellosis may be occurs sporadic or as a herd epizootic. In adults the disease is usually sporadic while in newborns the infection spread more rapidly.
73. **Viral pneumonia of calves** : It is an infectious disease of calves, caused by different viruses, characterized by respiratory signs due to varying degrees of severity of viral pneumonia with or without secondary bacterial pneumonia.
74. **Viral diarrhea of newborn** : It is an infectious disease of newborn, caused by group of viruses, characterized by acute profuse watery feces, dehydration and rapid death.
75. **Calf diphtheria** : It is a infectious disease of soft tissues in oral cavity of calves, caused by fusobacterium necrophorum, characterized by ulcerative necrosis of the cheek, tongue, pharynx and larynx with painful swallowing movement
76. **Joint ill** : It is a infectious disease of calves navel, caused by large number of bacteria characterized by swollen painful navel or abscessation of navel (creamy white pus), arthritis and lameness.

<p>Key to differential diagnosis of cattle & buffaloes diseases</p>
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Diseases characterized by diarrhea

A-Infectious causes :

***A-Bacterial causes* :**

1-Johne's disease (JD). 2-TB. 3-Coli-bacillosis or white scour. 4-Salmonellosis. 5-Necrobacillosis of liver. 6-Enterotoxemia by CL.perfringens types B, C, D and E. 7-Yersinosis 8-Anthrax. 9-Pseudomonas sp and protea spp scour.

***C-Viral causes* :**

1-Rotavirus infection 2-Coronavirus infection 3-Aenovirus scours
4-BVD. 5-MCF. 6-RP. 7-IBR (alimentary tract form). 8-Enzootic bovine leukosis.

***C-Parasitic causes* :**

1-Fascioliasis. 2-Paramphistomiasis. 3-Schistosomiasis.
4-Cryptosporidiosis. 5-Coccidiosis. 6-Parasitic gastroenteritis .

B-Non infectious causes : Nitrate poisoning, lush feed, sudden change of feed, digestive disorders, super purgation, toxic plants, mouldy feed, aflatoxicosis, dietetic scours or overfeeding, post-parturient hemoglobinuria, abomasum

impaction, copper, cobalt, zinc, selenium and Vit.A deficiency, salt poisoning, abomasal displacement, abomasal ulceration, vagus indigestion, bracken fern poisoning, bloat and ketosis

Diseases characterized by bottle jaw

1-Chronic fascioliasis. 2-Paramphistomiasis. 3-Hemonchiosis. 4-Johne's disease. 5.HS

Diseases characterized by passage of blood stained discharge from natural orifice

1-Anthrax. 2-HS. 3-Black leg. 4-Bacillary hemoglobinuria.

Diseases characterized by circling

1-Listeriosis. 2-Theileriosis. 3-Nervous form of IBR.

Diseases characterized by long IP

1-TB. 2-Leukosis. 2-Johne's disease. 3-Papillomatosis. 4-BSE. 5-Brucellosis. 6-Dermatophilosis

Diseases characterized by long course

1-TB. 2-Leukosis. 2-Johne's disease. 3-Blood parasites. 4-Actinomycosis. 5-Actinobacillosis. 6-Filariasis. 7-ESD. 8-BVD. 9-BSE. 10-LSD. 11-Pseudo-cow pox. 12-Papillomatosis. 13-Brucellosis. 14-Dermatophilosis. 15-Infectious foot rot. 16-Parasitic gastro-enteritis.. 17-Fasciolasis.

Diseases characterized by abortion

I. Infectious causes :

A-Bacterial agents :

1-Brucellosis. 2-leptospirosis. 3-listeriosis. 4-Chalmydiosis. 5-Salmonellosis.

6-Mycoplasmosis and haemophilus somnus infection. 7-Bacillary hemoglobinuria. 8-C.pyogens. 9-Neisseria catarrhalis & streptococcal infections.

B-Viral agents :

1-IBR. 2-RVF. 3-BT. 4-AKA disease. 5-BVD. 6-FMD & PI3.
7-Bovine ephemeral fever

C-Fungal and protozoal :

1-Trichomoniasis. 2-Vibriosis. 3-Aspergillosis. 4-Toxoplasmosis.
5-Babesiosis. 6-Anaplasmosis.

II. Non infectious causes : Feeding of estrogenic food, trauma or mechanical injury, ovarian infections, deficiency diseases as selenium, copper, cobalt, iodine and Vit.A, genetic factors, toxic agents or plants as nitrite or nitrate poisoning, drugs as carbachol and purgatives, death of fetus due to any cause, post vaccinal reaction and fever due to any cause.

Diseases characterized by vaginal discharges

Infectious causes :

1-Mycotic abortion. 2-Tichomoniasis. 3-Vibriosis or campylobacter infection. 4-Brucellosis. 5-Tuberculosis. 6-Hemophilus somnus infection. 7-Mycoplasmosis. 8-IBR. 9-Variou genital tract infections as placenitis and septic metritis.

Diseases characterized by anemia

A-Infectious causes :

1-Worm infestation. 2-Fascioliasis 3-Acute parmphistomiasis. 4-Hookworm infestation. 5-Heavy tick and mosquito infestations. 6-Coccidiosis.
7-Babesiosis. 8-Anaplasmosis. 9-Bacillary hemoglobinuria. 10-Leptospirosis.

B-Non infectious causes : Copper, iron and cobalt deficiency, hemorrhage, rupture of the uterus, certain plant poisoning, post-parturient hemoglobinuria, bracken fern poisoning and mycotoxycosis.

Diseases characterized by jaundice or ictrus

A-Infectious causes :

1-Babesiosis. 2-Anaplasmosis. 3-Theileriosis. 4-Leptospirosis.
5-Bacillary hemoglobinuria.

B-Non infectious causes : Liver damage or obstruction, extreme cases of photosensitization, nutritional hemoglobinuria due to feeding of rape or turnips, post-parturient hemoglobinuria, bracken fern and algal poisoning

Diseases characterized by wasting or emaciation and failure to thrive

A-Infectious causes :

1-TB. 2-Johne's disease. 3-Parasitic infestation. 4-Actinobacillosis. 5-Tick & lice infestation. 6-Coccidiosis. 7-Septic conditions. 8-Blood parasites as theileriosis. 9-ESD. 10-Bovine leukosis

B-Non infectious causes : Foreign, pharyngeal obstruction, abomasum displacement, abomasal ulcers, abomasum impaction, malnutrition copper, phosphorus, zinc and Vit.E deficiency, mouth conditions, arthritis, mycotoxicosis and ergot toxicity

Diseases characterized by bloody urine

A-Infectious causes :

1-Babesiosis. 2-Leptospirosis. 3-Anthrax . 4-Bacillary hemoglobinuria. 5-MCF. 6-Staphylococcal mastitis. 7-Enterotoxemia.

B-Non infectious causes : Post-parturient hemoglobinuria, nutritional hemoglobinuria, uterine conditions, ketosis, pyelonephritis, urinary calculi, facial eczema, mycotoxicosis, bracken fern, chlorate and copper poisoning, cold water hemolytic anemia, disseminated intravascular coagulation and feeding of toxic plants

Diseases characterized by blindness

A-Infectious causes :

1-Enterotoxemia. 2-Hemophilus infection. 3-Brain abscess. 4-IBK. 5-TB. 6-Leukosis. 7-BVD. 8-SBE (sporadic bovine encephalomyelitis). 9-Listeriosis. 10-IBR (nervous form).

B-Non infectious causes : Lead, mercury, selenium and some of plant poisoning, polioencephalomalacia, cancer, rape blindness, hemorrhagic conditions, snake bite, disseminated intravascular coagulation and heritable defects

Diseases characterized by fever

A-Infectious causes : Majority of infectious diseases characterized by fever
1-All septicemic diseases. 2-Three day sickness. 3-Black leg. 4-Anthrax. 5-Anthrax. 6-Blood parasites. 7-CBPP. 8-Peracute and acute mastitis. 9-Listeriosis. 10-Leptospirosis. 11-RP and like diseases. 12-Bacillary hemoglobinuria. 13-Salmonellosis. 14-Colibacillosis. 15-Leukosis. 16-Infectious foot rot. 17-Mycoplasmosis. 18-tetanus. 19-Toxoplasmosis. 20-HS & PP. 21-Calf diphtheria. 22-Infectious pneumonia.

B-Non infectious causes : Hypomagnesemia, foreign bodies, allergic rhinitis, heat prostration, bracken fern poisoning and sinusitis or nasal granuloma

Diseases characterized by no fever

Actinomycosis, actinobacillosis, johne's disease, chronic mastitis, mange, ring worm, dermatophilosis, parasitic gastroenteritis, ascariasis, coccidiosis, cryptosporidiosis and fascioliasis

Diseases characterized by cough

A-Infectious causes :

1-Contagious bovine pleuro-pneumonia (CBPP). 2-Pneumonic Pasteurellosis (PP). 3-Hemorrhagic septicemia (HS). 4-Parasitic or verminous pneumonia or Lung worm infestation 5-TB. 6- BVD. 7-MCV. 8-IBR. 9-Salmonellosis. 10-Lung abscess. 11-Mycotic pneumonia. 11-Calf diphtheria. 12-PI3, rhinovirus and adenovirus infection. 13-Leukosis. 14-Piroplasmosis

B-Non infectious causes : Foreign body as in traumatic reticulitis, inhalation pneumonia, cardiac and gastric cough, obstruction of the throat by any food, Vit.A deficiency, impaction of omasum, heart condition, neoplasm, laryngitis, pharyngitis and tracheitis, nasal granuloma and allergic rhinitis.

Diseases characterized by eye lesions or ocular secretions

A-Infectious causes :

1-Infectious bovine keratoconjunctivitis (IBK) 2-MCF. 3-BVD. 4-RP. 5-IBR. 6-Eye worm or Thelazia sp

B-Non infectious causes : Trauma of eye, cancer, photosensitization, phenothiazine sensitization, dermoid cyst, hyperkeratosis, and Vit.A deficiency.

Diseases characterized by blindness

A-Infectious causes :

1-Pink eyes. 2-Hemophilus somnus infection. 3-Brain abscess.
4-Enterotoxemia. 5-TB. 6-Leukosis. 7-BVD. 8-SBE. 9-Listeriosis

B-Non infectious causes : Magnesium, thiamine & Vit.A deficiency, mercury, lead, selenium and plant poisoning, hemorrhagic conditions, heritable defects, neoplasm or cancer, snake bite and disseminated intravascular coagulation.

Diseases characterized by sudden death

A-Infectious causes :

1-Anthrax. 2-Black leg. 3- Malignant edema. 4-Enterotoxemia.
5-Black disease. 6-Bovine bacillary hemoglobinuria 7-HS & PP. 8-CBPP.
9-Parasitic & mycotic pneumonia. 10-Anaplasmosis & Babesiosis.
11-Salmonellosis. 12-Leptospirosis. 13-IBR. 14-Coliform mastitis or other peracute toxigenic mastitis. 15-Acute paramphostimiasis. 16-Yerisinosis.

B-Non infectious causes : Poisoning, milk fever, grass tetany or hypomagnesemia, bloat, traumatic pericarditis or reticulitis, snake bite, lightning strike, copper deficiency, manganese, magnesium and Vit.A deficiency, hepatitis, aspiration pneumonia, pulmonary abscess, salt deficiency, urea poisoning and thrombosis of the posterior vena cava

Diseases characterized by lameness

A-Infectious causes :

1-Bovine ephemeral fever (BEF). 2-Infectious foot rot (IFR). 3-Chronic BVD. 4-BT. 5-FMD & VS. 6-ESD. 7-Filariasis

B-Non infectious causes : Mechanical injuries, arthritis, laminitis, fluoride poisoning, pus under the sole, nutritional arthritis and zinc deficiency.

Diseases characterized by nervous signs

A-Infectious causes :

1-Listeriosis 2-Bovine spongiform encephalopathy (BSE) 3-Rabies. 4-SBE. 5-IBR. 6-MCF. 7-Viral encephalomyelitis of calves. 8-Tetanus. 9-Septic or purulent meningitis. 10-Cerebral babesiosis. 11-Theileriosis due to theileria parva. 12-Akabane disease. 13-Leptospirosis. 14-Brain and pituitary abscess.

B-Non infectious causes : Lead, nitrate, strychnine, fungus, ergot, some plants and urea poisoning, grass tetany, ketosis, cerebellar hematoma, polioencephalomalacia, Vit.A deficiency, mellodiosis, heat stroke or heat collapse, mycotoxicosis, neurofibroma and neuraxial edema

Diseases characterized by paralysis, staggering or inability to stand or walk

A-Infectious causes :

1-Three day sickness. 2-Black leg. 3-Infectious foot rot. 4-Toxemic conditions. 5-Babesiosis. 6-Setaria sp infestation. 7-Listeriosis. 8-Coccidiosis. 9-Rabies. 10-Tick paralysis. 11-Septicemia following calving 12-SBE. 13-Acute mastitis.

B-Non infectious causes : Milk fever, grass tetany, mechanical injury, ergot, lead and algal poisoning, fracture pelvis, inflammation of hip joint, obturator, radial and brachial paralysis, ketosis, botulism, foreign bodies, indigestion with toxemia, starvation, ruminal impaction, osteoporosis, osteomalacia, abscess of the vertebral column, rupture of tendons or muscles, muscular cramps, Vit.A & E deficiency, laminitis, nitrite, nitrate, lead and strychnine poisoning, downer cow syndrome and pregnancy toxemia

Diseases characterized by cutaneous swellings or lumps

A-Infectious causes :

1-Actinobacillosis. 2-Actinomycosis. 3-TB. 4-Leukosis. 5-Infectious papillomatosis or warts. 6-Theileriosis. 7-LSD & PLSD 8-Pox and pseudo-cow pox. 9-Insect bites. 10-ESD. 11-Filariasis. 12-Bovine farcy. 13-HS. 14-Three day sickness

B-Non infectious causes : Cancer or neoplastic growths, foreign body, adenitis, photosensitization, allergic reaction, drug eruption, food sensitization, urticaria, goiter and snake bite,

Diseases characterized by mucosal lesions, oral lesions or salivation

A-Infectious causes :

1-Rinderpest (RP) or Cattle plague (CP). 2-Malignant catarrhal fever (MCF)
3-Infectious bovine rhinotracheitis (IBR). 4-Foot and mouth diseases (FMD).
5-Vesicular stomatitis (VS). 6-Papular stomatitis. 7-Calf diphtheria.
8-Actinobacillosis.

B-Non infectious causes : Zinc deficiency, bracken fern poisoning and various physical or chemical stomatitis.

Diseases characterized by lymph nodes enlargement

Infectious causes :

1-Bovine leukosis (BL). 2-Theileriosis 3-Anaplasmosis 4-Tuberculosis (TB)
4-Actinobacillosis. 5-Actinomycosis. 6-ESD. 7-LSD. 8-Three day sickness

Diseases characterized by udder lesions

A-Infectious causes :

1-Mastitis 2-Cow and buffalo pox 3-Pseudo cow pox . 4-Bovine ulcerative
mammilitis. 5-Udder impetigo. 6-Black pox. 7-Teat fibropapilloma
8-Mammary pustular dermatitis 9-FMD 10-Lumpy and pseudo lumpy skin
disease. 11-Other infectious diseases as Vesicular stomatitis, BT, BVD, MCF.

B-Non infectious causes : Photosensitization, chemical and traumatic mastitis,
udder trauma & injury due to any cause, udder hematoma & edema

Diseases characterized by skin lesions

A-Infectious causes :

1-Kids and louse infestation. 2-Tick infestation. 3-Screw-worm infestation
4-Hypoderma infestation 5-Estrus ovis infestation. 6-Filariasis 7-
Dermatophytosis. 8-Mange. 9-Dermatophilosis. 10-Papillomatosis
11-Edematous skin disease (ESD) 12-Bovine leukosis. 13-LSD & PLSD. 14-
Pox and pseudo-cow pox. 15-Theileriosis. 16-RP, FMD, BVD, bovine papular
stomatitis & MCF. 17-Actinomycosis. 18-Strongyloides dermatitis. 19-Udder
skin diseases. 20-HS & PP. 21-Fascioliasis, hemonchiosis and
paramphstomiasis.

2-Non infectious causes : Hyperkeratosis, photosensitization, allergic
reactions, urticaria, eczema, irritation, drug eruptions, serum sickness,
dermatitis of non infectious origin, zinc, Vit.A, riboflavin and iodine

deficiency, lead, arsenic and iodine poisoning, angioneurotic edema, pityriasis, seborrhoea, heritable defects of skin, hypertrichosis and verrucose dermatitis.

Diseases characterized by long hairs

Infectious causes : Johne's disease, chronic BVD, dermatophilosis and FMD complication

Diseases characterized by secretions of the causative agent before onset of clinical signs

Johne's disease, FMD, RP and Rabies.

Key to differential diagnosis of sheep & goats diseases

Diseases characterized by sudden death with few or no premonitory signs

A-Infectious causes :

1-Anthrax. 2-Enterotoxemia. 3-Black disease. 4-Black leg. 5-Swelled head. 6-Malignant edema. 7-Tetanus. 8-Braxy. 9-Bacillary hemoglobinuria. 10-Lamb dysentery. 11-Acute fascioliasis. 12- Heavy hemonchiosis. 13-Salmonellosis. 14-Pasteurellosis. 15-Peracute mastitis due to staph.aureus. 16-Leptospirosis. 17-RVF.

2-Non infectious causes : Hypocalcemia, hypomagnesemia, phosphorus, chronic copper, arsenic, urea, plant & algal poisoning, acute pneumonia, bloat, snake bite, ruminitis, heat stroke, intussusception and nutritional hemoglobinuria

Diseases characterized by sudden death after lingering for some days

A-Infectious causes :

1-Enterotoxemia. 3-Black disease. 4-Black leg. 5-Swelled head. 6-Malignant edema. 7-Tetanus. 8-Braxy. 9-Lamb dysentery. 11- worm and fluke infestation.. 13-Coccidiosis. 14-Salmonellosis. 14-Pasteurellosis. 15-Acute mastitis. 16-Listeriosis. 17-Johne's disease. 18-Blue tongue.

B-Non infectious causes : Toxemia of pregnancy, pneumonia, carbon tetrachloride & plant poisoning, chronic fluriosis, rickets, combined cobalt and copper deficiency, Vit.A deficiency, prolapse of uterus, facial eczema, posithis, urinary calculi, impaction, cancer, white liver disease, nephrosis, white muscle disease & nephritis,

Diseases characterized by swellings around the head

A-Infectious causes :

1-Swelled head in rams. 2-Bottle jaw as in heavy worm infestation. 3-Actinomycosis & actinobacillosis. 4-Black leg. 5-Malignant edema. 6-Caseous lymphadenitis. 7-Corynebacterium abscesses. 8-BT

B-Non infectious causes : Photosensitization, facial eczema, cancers, drenching injury, goiter, allergies and phosphorus poisoning.

Diseases characterized by swellings on other parts of the body

A-Infectious causes :

1-Caseous lymphadenitis. 2-Abscesses. 3-Actinomycosis. 4-Acute mastitis. 5-Ovine posithitis. 6-Navel ill. 7-Orchitis due to infectious causes

B-Non infectious causes : Cancers, ruptures, bloats, zinc deficiency and edema due to toxic agents.

Diseases characterized by deaths in young lambs

A-Infectious causes :

1-Vibriosis. 2-Listeriosis. 3-Brucellosis. 4-Toxoplasmosis. 5-Salmonella abortion. 6-Malignant edema. 7-Enterotoxemia. 8-Black leg. 9-Colibacillosis. 10-Tetanus. 11-Chlamydia sp. 12-Navel ill. 13-Necrobacillosis. 14-Coccidiosis. 15-Lamb dysentery. 16-Bacterial abscess. 17-Leptospirosis. 18-Tick paralysis. 19-Streptococcal infection. 20-Rotavirus. 21-RVF. 22-FMD. 23-PI3.

B-Non infectious causes : Abomasal bloat, white liver disease, hemorrhage, uncomplicated or complicated starvation, CNS diseases, Vit.A deficiency, combined cobalt and copper deficiency, clover disease, jaundice in newborn, genetic lethal factors, injury at birth, feeding troubles, thiamin & copper deficiency, enzootic ataxia, phenothiazine poisoning, goitre, paralysis, and non suppurative arthritis.

Diseases characterized by lameness, stiffness, staggering or paralysis

A-Infectious causes :

1-Foot rot. 2-Foot abscess. 3-Dermatophilosis. 4-Ovine interdigital dermatitis. 5-Suppurative arthritis. 6-Navel ill. 7-Strongyloides infestation. 8-Acute mastitis. 9-Black leg. 10-listeriosis. 11-Tetanus. 12-Vertebral abscess. 13-Colibacillosis. 14-Corynebacterial encephalitis and meningitis. 15-BT. 16-Tick paralysis. 17-FMD.

B-Non infectious causes : Stone bruises, enzootic ataxia, injuries, fractures, wounds and brushings, laminitis, after dipping lameness, lupinosis, congenital muscular dystrophy, rickets, calcium deficiency, hypocalcemia, hypomagnesemia, botulism, posterior paralysis, toxemia of pregnancy, toxemic jaundice, copper, cobalt, thiamin, selenium & Vit.D & A deficiency and post vaccinal lameness

Diseases characterized by nervous signs, convulsions and other CNS signs

A-Infectious causes :

1-Tetanus. 2-Enterotoxemia. 3-Listeriosis. 4-Lambs colibacillosis. 5-Scrapie. 6-Coenurosis. 7-Toxoplasmosis. 8-Brain abscess

B-Non infectious causes : Strychnine, urea, plant and algal poisoning, hypomagnesemia, acetonemia, hypocalcemia, copper & thiamin deficiency, cerebellar defects and hydrocephalus.

Diseases characterized by diarrhea

A-Infectious causes :

1-Parasitic gastro-enteritis. 2-Paramphostomiasis. 3-Fascioliasis. 4-Coccidiosis. 5-Salmonellosis. 6-Rota and coronaviruses. 7-Vibrio infection. 8-Yersiniosis. 9-Enterotoxemia. 10-Johne's disease. 11-Lamb dysentery. 12-TB. 13-Giardiosis. 14-Staphylococcosis. 15-Colibacillosis. 16-RVF. 17-Cryptosporidiosis. 18-PPR. 19-BT.

B-Non infectious causes : Lush feed, nephrosis, salt poisoning, nitrite/nitrate, selenium, fungal & superphosphate poisoning, feeding troubles, minerals copper & zinc deficiency and imbalance, abomasal ulceration, hair-balls and Vit.A & copper deficiency

Diseases characterized by discharges from nose and/or coughing

A-Infectious causes :

1-Pasteurellosis. 2-Corynebacterium pneumonia. 3-Lung worms. 4-Nasal bots. 5-Actinomycosis and actinobacillosis. 6-BT. 7-TB. 8-RVF. 9-PPR

B-Non infectious causes : Drenching pneumonia, injury, dusty yards, laryngitis, pharyngitis and bronchitis due to non infectious causes, hypocalcemia and heart conditions

Diseases characterized by darkening of the skin

A-Infectious causes :

1-Black disease. 2-Enterotoxemia. 3-Black leg. 4-Malignant edema. 5-Acute mastitis especially pasteurella mastitis

B-Non infectious causes : Bruising, attack by predators, nephrosis and nephritis or kidney troubles.

Diseases characterized by jaundice

A-Infectious causes :

1-Leptospirosis. 2-Pyaemic hepatitis. 3-Salmonellosis. 4-RFV. 5-Parasitic infestation as fascioliasis.

B-Non infectious causes : Toxemic jaundice, copper, nitrite, phosphorous, plant & algal poisoning, lupinosis, nutritional hemoglobinuria, hepatitis, jaundice in newborn, fascial eczema and photosensitization.

Diseases characterized by abortions

A-Infectious causes :

1-Brucellosis. 2-Toxoplasmosis. 3-Campylobacter infection. 4-Sarcocystosis. 5-Listeriosis. 6-Salmonellosis. 7-Yersiniosis. 8-Leptospirosis. 9-AKA disease. 10-Tick born fever. 11-RFV. 12-BT.

13-Actinomyces pyogens, proteus, staphylococcal, actinobacillus seminis infection and bacillus sp infections. 14-Mycotic abortion. 15-Q fever. 16-Chlamydial abortion. 17-Border disease. 18-E-Coli.

B-Non infectious causes : Clover disease, plant, nitrate or nitrite and ergot poisoning, Vit.A & cobalt deficiency, trauma, pregnancy toxemia and in feverish condition

Diseases characterized by red water

A-Infectious causes :

1-Leptospirosis. 2-Bacillary hemoglobinuria.. 3-Anthrax. 4-Blood parasites as babesiosis.

B-Non infectious causes : Toxemic jaundice, white muscle disease, nutritional hemoglobinuria due to feeding of rape or turnips and plant poisoning.

Diseases characterized by abnormalities in the fleece (wool)

A-Infectious causes :

1-Cutaneous actinomycosis. 2-Mange. 3-Ring worm. 4-ked and lice infestation. 5-Sarcocystosis. 6-Dermatophillosis. 7-Blowfly strike. 8-Caseous lymphadenitis.

B-Non infectious causes : Fleece rot and cobalt and copper deficiency

Diseases characterized by anemia

A-Infectious causes :

1-Worm infestation as hemonchiosis, fasciolasis and paramphstomiasis. 2-Coccidiosis. 3-Leptospirosis. 4-Heavy external parasites. 5-Sarcocystosis. 6-Blood parasites.

B-Non infectious causes : Chronic copper poisoning, nutritional hemoglobinuria, enzootic ataxia, selenium, zinc, cobalt and copper poisoning hemorrhages, anemias and adenocarcinoma

Diseases characterized by ill thrift (wasting and stunted development)

A-Infectious causes :

1-Worm infestation. 2-Mycoplasmosis. 3-Johne's disease. 4- foot diseases as foot rot. 5-Chronic enterotoxemia. 6-Sarcocystosis. 7-Border disease. 8-TB.

9-Caseous lymphadenitis.

B-Non infectious causes : Copper, selenium, zinc and selenium deficiency, fungal intoxication, poisonings, teeth conditions, arthritis, ruminitis, abomasal ulceration, colitis, thiamin deficiency, white liver disease, osteoporosis, carcinoma of small intestine, sand impaction and Vit.E deficiency..

Diseases characterized by Blindness

A-Infectious causes :

1-Pink eye or Contagious ophthalmia. 2-Listeriosis. 3-Parapituitary abscess. .

B-Non infectious causes : Thiamin and Vit.A deficiency, bracken fern , plant and salt poisoning, pregnancy toxemia, cataract, congenital defects, white liver disease in newborn, snake bite and botulism.

Diseases characterized by bottle jaw

A-Infectious causes : Chronic fascioliasis, severe infestation of hemonchus and paramphstomiasis

B-Non infectious causes : Heart and lung conditions and poisoning

Diseases characterized by wool detachment

A-Infectious causes : Johne's disease, dermatophilosis, mange, ring worm, pox, fasciolaiasis and intestinal helminthes.

B-Non infectious causes : Nutritional deficiency