

LIVESTOCK DISEASES: CAUSES, EFFECTS AND CURES

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ABSTRACT

In the state several levels of husbandry often exist side by side, varying from primitive methods based on a subsistence economy to those found on farms and commercial undertaking that may be sophisticated and efficient. The pattern of husbandry are naturally associated with different attitudes to animal health and sickness and are influenced not only by economical but also by educational and social factors. Treatment and nursing of animals is a matter of cost as well as of experience and training, so that any policy of disease control must be related to the economic level of the animal husbandry. It is always advisable to consider the timely and prudent culling of chronically sick animals rather than embark on long period of cure. The action taken for cure depend upon the nature of the disease.

Keywords: Husbandry, Primitive Methods, Subsistence Economy, Animal Health, Disease Control.

Introduction

The maintenance of health and avoidance of disease owners should do everything in their power, using all available sources of information and expertise to keep their animal healthy. To preserve the livestock wealth of the country, government services are available to maintain the animal health as it is in the national interest. State animal health services are also organized to combat certain, contagious diseases including those which are notifiable. There is also government animal health and production advisory or extension service. Stock owner are strongly advised to acquaint themselves with the local representatives of these bodies and to use their services and advices as far as is practicable. For advice on general animal health matters, owners may consult a private veterinarian. An animal which is well fed and watered and in good condition will resist disease better than one that is under nourished or suffering from a mineral deficiency, climate stress or parasitic infection.

The classification of animal diseases is as follows:

Viruses

It is a foot and mouth diseases of cattle caused by a virus. In case of certain diseases such as fowl- pox and encephalomyelitis in poultry and infectious bovine rhinotracheitis and foot and mouth diseases in bovines, there are true 'carriers' which having recovered from the diseases, harbour the virus in their system without showing any symptoms, but act as sources from spread of the diseases under favourable conditions. Some methods like serological surveys employing modern techniques such as enzyme-linked immunosorbent assay, radioimmunoassay and fluorescent antibody technique have proved useful in diagnosing virus diseases.

- **Foot and Mouth Diseases**

This is a highly communicable disease affecting cloven-footed animals. It is characterized by fever formation of vesicles and blisters in the mouth, udder, teats and on the skin between the toes and above the hoofs. The disease affects mostly cattle of all breeds and ages. Buffaloes, sheep and goats are also susceptible to the disease, they are seldom affected. The disease spreads by direct contact or indirectly through infected water, manure, hay and pastures. Improperly sterilized canned meat may also be the vehicle of infection.

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The virus gains entry into the blood stream of animals through injury to the living membrane of the mouth tongue, intestine, clefts of hooves and other similar parts. Due to this disease the animal loses appetite and body weight, the milk production stops completely or is considerably reduced. The virus also attacks some of the internal organs such as stomach, heart and endocrine glands. The use of drugs by workers is resorted to only as a measure of aiding in the natural process of recovery. The external application of antiseptics contributes to the healing of the ulcers and wards off attacks by flies. No therapeutic agent has been found till now to cure foot and mouth diseases.

- **Rinderpest**

Rinderpest is the most destructive of the virus diseases of animals. The rinderpest virus shares a common antigen with measles and distemper viruses. It lives in the white blood cells of affected animals in later stages of its growth and existence. It can be propagated in cattle or buffaloes in which the virus maintain. Its full virulences cattle of pure breeds or those with an admixture of foreign blood and buffaloes are more susceptible than the indigenous cattle. This virus is found in the saliva, discharged from eyes nostril and in the urine. The virus is spreaded by contaminated feed and water.

Diagnosis can be made by using serumneutralisation in cell-culture and by immnodiffusion tests. Symptomatic treatment with penicillin, streptomycin, sulphadimidine and intestinal antiseptics has no action on the virus, but may help in the recovery of less severe cases of rinderpest.

- **Cow-Pox or Vaccinia**

This infection is mostly occurring in cows and also occurs in buffaloes. Cow- pox has been transmitted through the milkers. The affected animal should be isolated and milked by separate milkers. Milk from affected animal should be boiled before use.

- **Buffalo-Pox**

It commonly affected teats, udder, inner thigh, lips and nostrils. The disease is of zoonotic importance manifesting lesions on the hands and fingers of milkers. The methods of treatment and prevention are similar to those recommended for cow-pox.

- **Contagious Ecthyma**

Contagious ecthyma is a highly infectious viral disease of lambs and kids. It is of considerable economic importance on account of the loss in weight and condition that it causes in affected animals. The disease is transmitted to human beings through handling of affected sheep and goats. The spread of this disease in a flock, is very rapid and is through contact with affected animals or through inanimate objects. The disease is common during dry seasons. The treatment of this is removal of the scabs and application of ointments or astringent lotions. The provision of soft, palatable food is recommended.

- **Bovine Leukemia**

The disease is characterized by persistent lymphocytosis, Leukemia and or lymphosarcoma in cattle. There have been serological and epidemiological evidences for the occurrence of bovine leukemia in endemic form in cattle and buffaloes. Identification of the affected animal and its culling is the only available method of controlling this diseases.

Bacteria and Fungi

The following are the diseases caused by bacteria and fungi.

- **Actinobacillosis Disease**

Actinobacillosis disease is also known as wooden tongue and is similar to lumpy jaw or actinomycosis caused by fungus. It affects soft tissues including glands, lungs and subcutaneous tissues but not bone. It occurs most frequently in cattle and sheep. The disease appears under the skin in the form of a hard nodule. The disease is amenable to treatment with iodine.

- **Anthrax**

Anthrax is a peracute disease affecting cattle sheep and other species of domesticated animals. The disease is characterized by septicaemia and sudden death with the exudation of tarry blood from natural orifices of the dead animals. The animals get infection by ingestion of food and water contaminated with spores. It rarely spread directly from animal to animal. Hygiene is the most important single factor in the prevention of spread of diseases.

- **Tuberculosis**

The disease has been eliminated from many advanced countries but it is still of great economic importance in livestock in some parts of the tropics. It is an infectious disease, characterized by slow development of tubercles in almost any organ of the body except the skeletal muscles. The bovine type causes disease in cattle. The affected animals become docile and sluggish, but eyes remain bright and alert. Tuberculin test is used through out the world for the control of bovine tuberculosis.

- **Pasteurellosis**

The causal organism *Pasteurella multocida* is responsible for a number of disease in cattle, buffaloes, sheep and goats. Of these haemorrhagic septicaemia is a form of acute pasteurellosis in cattle buffaloes.

- **Haemorrhagic Septicaemia**

The disease is widely prevalent in India among cattle and buffaloes and occurs mostly in acute septicaemic form. It occurs generally in low lying humid areas and is often seasonal. Sulphadimidine and broad spectrum antibiotics are effective.

- **Brucellosis**

Brucellosis among cattle and buffaloes produces heavy economic losses due to abortions in late pregnancy, infertility and reduction in milk production. The antibiotics are effective in making the organisms disappear.

- **Leptospirosis**

In tropical countries the disease is prevalent in one or more of domestic animals. The disease may be acute or chronic in cattle. The chronic form may produce a few obvious symptoms other than abortions in infected animals. The acute form is characterized by rise in temperature, depression, diarrhoea, jaundice and dark urine. The abortions are common and occurs as epidemics. The mortality rate in acute cases is high dihydrostreptomycin and tetracyclines are more effective against leptospire.

- **Bovine Mastitis**

It refers to the inflammation of udder and is characterized by physical and chemical changes in the milk which include discolouration. Clots and a large number of leucocytes are found in the milk. The disease is reported from bovines from almost all over the region. The disease cause major economic loss in dairy industry. The loss is due to reduction in milk production. Mastitis is due to various bacteria infecting the udder tissue. Parenteral treatment is advisable in all cases of mastitis. Antibiotics and sulphonamides are used to control the reaction. Mastitis caused by streptococcus strains responds well to penicillin treatment.

- **Dermatophytoses (Ringworm)**

This disease is a cosmopolitan superficial and highly contagious disease of animals. The infection is caused by fungi. The affected animals cause great damages to hides skin, wool, and hair besides causing decrease in milk production and loss of condition. The disease is contagious therefore to isolate the affected animals from the healthy animals and looked after separately. Affected animal treated by zole ointment, clotazole ointment, Jagit ointment, tineaserm liquid, himax, betadine and multifungin.

- **Actinomycosis**

It is a chronic granulomatous, suppurative and sporadic infection of cattle and other animals. Cattle are the most commonly affected mammals and involvement of Jaw bone is frequent. The iodine ointment may be applied on the hard swelling to make it soft.

- **Nocardiosis**

This disease is also a chronic, granulomatous, suppurative infectious disease caused by *Nocardia asteroides* which occurs as saprobe in soil. The infection in cattle is acquired through the inhalation of infectious organisms from the soil. The affected animals show swelling of mammary gland, reduce milk yield, anorexia and mild temperature. It may be cured with intramammary infusion of antibiotics such as tetracycline, chloramphenicol or penicillin.

Inorganic Poisoning

- **Fluorosis**

Fluorosis is a chronic and insidious disease of cattle. The disease is characterized by stunted growth, lameness mottled and irregular teeth and thickenings of Jaws, ribs and limbs. Cereal or non-roughage crops should be planted on soils high in fluoride content, because grains compared with forage crops, do not readily accumulate fluoride from the soil.

Nutritional Deficiency Diseases**• Iodine Deficiency**

Iodine is necessary for the proper functioning of the thyroid gland which produces the iodine-containing hormone known as thyroxine. Iodine deficiency may be caused the thyroid gland to become requisite quantity of the hormone. Iodine can be provided as a fertilizer in salt incorporated in mineral mixture.

• Cobalt Deficiency

The deficiency of this mineral in ration leads to gradual loss of appetite and progressive emaciation. The feeding of cobalt in the form of its sulphate or chloride results in improved appetite.

• Phosphorus and Calcium Deficiency

These minerals of vital importance to cattle. Their deficiency is the principal cause of osteodystrophy. Phosphorus is needed for the formation of bones and teeth. Calcium plays an important physiological role in bone and milk formation, clotting of blood and neuro-muscular excitability. It occurs in cattle when the roughage consumed by them is from soil highly deficient in calcium. Phosphorus deficiency occurs in cattle fed largely on roughages such as hay, straw, corn silage, beet pulp and molasses. To overcome the deficiency symptoms adequate quantities of the deficient minerals should be supplied either in the ration or in the form of special preparation containing calcium or phosphorus. Its satisfactory results can be obtained by supplementing the ration with bone-meal, oat, cotton seed -meal and cereals, such as wheat and wheat bran. Wheat bran is particularly useful for dairy cows. Calcium phosphorus, iron, cobalt zinc are the important micro nutrients playing important role in animal production.

In the drought stricken areas of western Rajasthan where deficiency diseases are recorded which cause abortions in cattle due to vitamin A deficiency. Severe calcium and phosphorus deficiencies are also recorded in the animals in such areas. Infection of pasteurella is also found in some parts of western Rajasthan.

In the mortalities being encountered in the drought affected western part of state was diagnosed as botulism caused due to eating of dead animals. Mortality in Tharpurkar cattle was diagnosed due to overfeeding of chinese cabbage. In vitro and in vivo testing are being carried out for various infectious diseases prevalent in the herd like tuberculosis, Jone's disease Brucellos's etc. These three diseases are very much prevalent among the livestock and there is need to eradicate such infections from the livestock by adopting some strict and prompt measures.

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