



Mite infestation in Cattle and Buffaloes

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Mites are small obligate permanent ectoparasites measuring less than 3 mm long causing disease known as **mange**. Once infection is established, pathogenic populations can build up on an animal without further acquisition. Important parasitic mites of animals belong to the genera of *Sarcoptes*, *Demodex*, *Psooptes* and *Chorioptes*. Though different hosts harbor, morphologically identical species of mites which can be experimentally transferred between hosts, in neither animal the heterologous strain persist for more than a week. It would appear that, biological adaptation has resulted in restriction of host range. Being permanent parasites, transmission between hosts takes place mainly through close contact and sometimes through fomites. Based on their location on the body, the parasitic mites are classified as burrowing and non-burrowing type.

I. Burrowing Mites

a) **Sarcoptic mange**. The mites coming under the genus *Sarcoptes* create winding burrows or tunnels on the upper layers of the epidermis, lay eggs and develop there. Sarcoptic mange is

potentially the most severe of cattle manges, although many cases are mild. They have partial site preferences, which has given it the common name '**neck and tail mange**' but may occur on any part of the body. Mild infections show merely scaly skin becomes thickened with marked loss of hair and crusts form on the less haired parts of the body. There is intense pruritis leading to loss of meat and milk production and the hides are downgraded because of damage by scratching and rubbing.

b) **Demodectic mange** is caused by cigar shaped mites occurring in the hair follicles and sebaceous glands. They live as commensals in the skin of most mammals, going much deeper into the dermis and hence being much less accessible to surface acting acaricides. Because of its location deep into the dermis, transmission between hosts occurs when there is prolonged contact. In nature such contact occurs during suckling and the infections are acquired during the early weeks of life to the incontact areas such as muzzle, neck, withers and back. The most important effects of bovine demodicosis are the formation of pea sized nodules each containing myriad of mites, which cause hide damage and economic loss. Though these nodules can be seen in smooth coated animals, they are often detected on rough-coated animals on palpation or at hide dressing. A notable feature of demodectic mange is the absence of pruritis. Immune factors appear to play a large part in severity. Certain animals carry a genetically transmitted factor, which results in immunodeficiency in their offspring, making them more susceptible to invasion. If a fresh nodule is nicked with a sharp scalpel, a thick toothpaste like pus can be expressed, which contains masses of mites, but older lesions consist only of scar tissue and are devoid of mites. Bovine demodectic mange is practically incurable, even though individual lesions may regress, because new nodules form to take their place.

II. Non burrowing mites

These mites do not burrow in to the dermis, but feed superficially

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