The European Agricultural Fund for Rural Development: Europe investing in rural areas

Skin Conditions in Cattle - Ectoparasites

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Lice (Pediculosis)

Infestations with lice can cause production losses due to reduced feeding time and damaged hides. Louse populations are highest in cattle kept indoors during the winter months and those in poor body condition rather than the reverse situation where lice cause debility.

Five species of louse infest cattle. They are classified as either biting lice of which there is only one species or sucking lice of which there are four species. Spread occurs by direct contact with increases in population size during housing and cooler weather. The life cycle, egg, three nymph stages, and adult, is three weeks and all are spent on the host.

Clinical presentation

Heavy infestations cause irritation leading to rubbing against feed barriers etc. resulting in hair loss most often over the neck and shoulders and disrupted feeding patterns.

Fig 1: Heavy louse infestations cause irritation leading to rubbing against feed barriers and hair loss most often over neck and shoulders.

Fig 2: Heavy louse infestation present at pasture in the spring – this calf should have been treated at turnout.

Fig 3: Severe louse infestation in a Limousin bull.

Careful inspection of the skin using a magnifying glass will identify adult louse populations and eggs adherent to hairs. Further examination under a microscope at x100 will differentiate the particular lice species present.

Fig 4: Careful inspection of the skin will identify adult louse populations and eggs adherent to hairs.

Treatment/Control

Treatment uses a pour-on synthetic pyrethroid preparation such as deltamethrin. Injectable group III anthelmintics (ivermectin, doramectin and eprinomectin) will remove all sucking lice and >98 per cent of biting lice, and all lice when used as pour-on preparations. All cattle in direct contact must be treated.

Fig 5: Treatment of the louse infestation using a pour-on synthetic preparation.

Sarcoptic mange

Sarcoptic mange occurs worldwide but is rare in the UK. Infestation causes severe pruritus with serum exudation and gross thickening of the skin particularly over the neck.

Sarcoptic mange can be transferred to human beings.

The intense pruritus can lead to disrupted feeding patterns, and weight loss progressing to debility in neglected cattle.

Diagnosis

Skin scrapings with microscopic demonstration of mites.

Treatment

Potential treatments include a pour-on synthetic pyrethroid preparation, and injectable or pour-on group III anthelmintics (ivermectin, doramectin and eprinomectin).

Biosecurity measures should prevent introduction of infested cattle.

Psoroptic mange

Psoroptic mange occurs worldwide but since October 2007 there are very occasional reports of disease in the UK caused by infestation with *Psoroptes ovis* thought to have arisen following the importation of infested cattle.

There is no reported association with sheep scab but the bull in Fig 6 developed psoroptic mange after being housed in a barn which previously housed sheep with sheep scab. Further studies are required to clarify the relationship between disease in cattle and sheep.

Clinical presentation

Serum exudation and thickening of the skin particularly over the neck and over the dorsal midline is reported in UK. In some cattle psoroptic mange can cause severe clinical signs with adverse health and welfare.

Fig 6: The Simmental bull above developed psoroptic mange after being housed in a barn which had recently housed scabby sheep. *Photo: Andrew White*

Treatment

See sarcoptic mange. However there have been several confirmed reports that cattle have failed to respond to macrocyclic lactones and synthetic pyrethroids. Strict biosecurity is therefore essential for this new condition, and many others.

Chorioptic mange

Chorioptic mange, caused by infestation with *Chorioptes bovis,* is commonly seen in adult cattle in the UK towards the end of the winter housing period.

Clinical presentation

Infestation with *C. bovis* causes serum exudation and thickening of the skin characteristically at the base of the tail. Infestation may spread to the udder, scrotum and limbs. Chorioptic mange is most often observed coincidentally by your veterinary surgeon during pregnancy diagnosis. Skin scrapings demonstrate the presence of mites.

Fig 7: Serum exudation and thickening of the skin at the base of the tail are characteristic of chorioptic mange.

Fig 8: Unlike lice, treatment of chorioptic mange is rarely necessary.

Treatment

See sarcoptic mange, although treatment is rarely necessary and lesions resolve spontaneously when cattle are turned out to pasture in the spring.

Warble flies (Hypodermatosis)

Warble fly has been successfully eradicated from the UK. After hatching from eggs laid on the skin during summer months, larvae penetrate the skin and migrate to either epidural fat (*H. bovis*) or submucosa of the oesophagus (*H.lineatum*) before reaching the subdermal layer of the dorsum. Large holes are made in the skin during development to third stage larvae in early spring. The larvae emerge, pupate and develop to adults completing the life cycle.

Treatment

Topical organophosphorus treatments (these were licensed for such use at the time of eradication programme), and group III anthelmintics administered before mid-November to avoid adverse reactions if larvae are killed during their over-wintered sites in the oesophagus/spinal cord. Eradication by compulsory cattle treatment programmes before mid-November proved successful in the UK.

Ticks

Ticks (*Ixodes ricinus*) are not important in the UK except acting as a vector for the occasional case of redwater (*Babesia spp*) and tick-borne fever (*Ehrlichia phagocytophila*).

Aetiology

The life cycle involves egg, larva, nymph and adult stages.

Treatment

Topical application of pyrethroid preparations is the standard treatment.

Midges

Please refer to separate bulletin on bluetongue.