LICE ON CATTLE

Lice can cause serious financial losses through reduced growth rates and loss of production in beef and dairy cattle. This article describes the main species and recommended control measures.

Contributed by the Veterinary Branch

BEEF and dairy cattle of all ages are liable to lice infestation and loss of production. These parasites although very small can be responsible for serious financial losses as their presence leads to retarded growth rates and reduced milk yields. This is easily understood when it is realised that lice-infested animals spend much of the time, normally devoted to feeding and rumination, in rubbing and scratching to allay the irritation caused by the parasites.

Most types of birds and animals have their own species of lice and these are specific to their hosts—pig lice, for instance, would soon die if transferred from pigs to cattle or horses.

Lice are usually grouped in two main classes—sucking lice and biting lice. The sucking lice have conical heads and strong legs terminating in powerful claws. The eyes are absent in the *Haematopinus* species to which the common sucking lice of domestic animals belongs.

Sucking lice are, in general, regarded as being responsible for far greater losses than biting lice. They cause considerably more irritation owing to their habit of feeding in clusters or colonies and of piercing skin and sucking the blood and tissue fluids.

Biting lice are less irritating, since they feed on the scurf and hair on the skin surface. Biting lice are characterised by their broad heads and all bird-lice and some mammalian lice belong to this group.

Species and Life Histories

Six species of lice are recognised as affecting cattle. The four main species found in Western Australia are:

The Short-Nosed Sucking Louse, or Blue Louse

*Haematopinus eurystermus*

This species occurs chiefly in grown cattle, particularly the beef breeds, and is generally found in clusters on top of the head, around the eyes and nose, on the neck, brisket, withers, rump, tail, inside the thighs, scrotum, sheath, and udder.

Female long-nosed sucking louse, with egg attached to a hair. This is the most common and important species in Western Australia.
The Short-Nosed Sucking Louse
Actually 3.5 mms. long
(a) Male; (b) Female

The Long-Nosed Sucking Louse
Actual maximum length 2.5 mms.
(After Kuth)

The long-nosed sucking louse only grows to 2.5 mms. long and can be easily overlooked. When searching for these lice, a good source of light is essential, and a magnifying glass can be useful. They are found in clusters and a close search must be made of a number of areas on the skin before you can gauge how severe the infestation is. The head is twice as long as it is broad and the parasite is smaller and more slender than the short-nosed sucking louse. The eggs hatch in 10 to 14 days and the lice mature 11 days later.

The Biting Louse of Cattle
(Damalinia bovis)
This species was recorded recently for the first time in Western Australia at Pinjarra and at Geraldton. It is reddish-brown, slightly smaller than the sucking lice, and occurs chiefly in dairy herds and stabled cattle. It is found usually on the top of the head, neck, shoulders, back and rump. Biting lice may be found on cattle of all ages and when numerous are capable of causing considerable annoyance and irritation. The eggs hatch in about nine days and the lice reach maturity about 14 days later.

The Tubercle-Bearing Louse, or Little Blue Sucking Louse
(Solenoptes capillatus)
This is one of the smallest of the cattle sucking lice and was first reported in Western Australia in 1932 from Herne Hill. More recently a young bull from the Wooroloo area was found to be heavily infested with this parasite.
The tubercle-bearing louse occurs in conspicuous clusters on the head and neck and its eggs hatch in 10 to 13 days.

Transmission
Lice are usually spread from animal to animal by contact, and it has been noticed that adult lice instinctively move outward along the hair when a lousy animal rubs against another beast. Infestations are seldom spread by eggs and lice on detached hairs, as under these conditions both eggs and parasites seldom live for more than a few days.

Seasonal Prevalence
Lice infestation may occur practically at any season of the year, but it is only under certain conditions that the parasites assume serious proportions.

HEAVIEST INFESTATIONS ARE FOUND DURING WINTER but large lice populations may occur on stalled cattle during summer.

It has been suggested that the temperature of the skin surface is a controlling factor. In the case of the cattle biting lice (Damalinia bovis) for example the upper limits for population maintenance are between 90° F. and 100° F. When animals are exposed to bright sunlight during the summer, the skin temperature may rise to 125° F. which soon kills the parasites. Where cattle are stall-fed, in lower temperatures, heavy infestations may occur during summer.

Other factors which may influence lice populations are the state of nutrition of the host animal, the conditions of the skin and coat, and the intensity of light. Intensity of light would hardly apply in Australia where there are many bright sunny days during the winter when lice are apt to be most abundant on pastured cattle.

Symptoms
In heavily lice-infested animals which are constantly rubbing and scratching there is usually a marked loss of hair and the coat becomes rough and shaggy. In very bad cases the hairs of the coat becomes matted. The skin becomes dry and scaly so that large scabs or crusts may form, resembling the lesions of mange.

Lousy animals are restless, do not feed well and their unhealthy conditions may make them susceptible to other diseases.

Lice infestation causes lower milk production in dairy cattle and leads to retarded weight gains particularly in young stock. With calves, lousiness leads to much licking of the coat, and since the hair is loose, hairballs form readily and frequently lead to internal disorders.

The constant sucking of blood and tissue fluids by sucking species of lice can lead to severe anaemia, and deaths from this cause may result when infestations are particularly heavy. UNDER THE CONDITIONS EXPERIENCED IN THE SOUTHWEST OF THIS STATE THE LICE POPULATIONS START TO BUILD UP IN EARLY
WINTER WHEN THE PASTURES ARE LOW IN NUTRITIONAL VALUE AND WHEN YOUNG CATTLE ESPECIALLY FIND IT HARD TO GET ENOUGH NOURISHMENT TO KEEP THEM IN A HEALTHY CONDITION.

Treatment and Control

A knowledge of the life history of the parasite is helpful in the application of control measures. The female lice lay eggs and attach them to the hairs of the host. These hatch in 10 to 12 days and the newly hatched lice reach sexual maturity after a further 16 to 18 days and start to lay eggs. The life cycle from egg to egg is about 28 days.

Cattle lice may be killed by spraying with organic phosphate or arsenical sprays. The active constituents in the organic phosphate sprays registered are diazinon, malathion or delnav. These insecticidal sprays are readily available through suppliers of stock medicines and should be mixed and used according to the manufacturers' directions. If used as directed they are safe for cattle of any age and in any body condition.

The chlorinated hydrocarbon insecticides, DDT, B.H.C. and dieldrin, which were previously recommended, have been prohibited for use as cattle sprays.

A single treatment will provide a good measure of control but two treatments separated by an interval of 14 days are desirable for complete eradication.

Lice eggs are seldom destroyed by spraying fluids and the second application ensures that young lice which have hatched after the first treatment are destroyed before they start to lay.

It is essential also that all cattle on the property should be treated at the same time since any which are left untreated may readily re-infest the herd.

Lice populations decline in the summer, but increase and reach serious proportions in the winter, and TREATMENT IN THE LATE AUTUMN OR EARLY WINTER IS NECESSARY IF THIS BUILD-UP IS TO BE PREVENTED.

Small herds may be treated with a knapsack spray or better still with a fire-fighting unit fitted with a suitable nozzle, but care must be taken to ensure that the insecticide is thoroughly applied and each animal is completely saturated.

For the treatment of large herds, power operated sprays are necessary. A sheep shower with the walls of the spraying enclosure strengthened and re-inforced will be found suitable. But an appliance such as the water-wall spray race which is specially designed for cattle and enables large numbers to be treated rapidly and efficiently, is much more satisfactory.
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