Lice on cattle

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BEEF and dairy cattle of all ages are liable to lice infestation and these parasites 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 animal 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.

The 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-llice and some mammalian lice belong to this group.

**SPECIES AND LIFE HISTORIES**

Six species of lice are recognised as affecting cattle in Australia but only four of these have been recorded in this State. These are:

**The Short-Nosed Sucking Louse, or Blue Louse.**

(*Haematopinus eurysternus*).

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. It is very common and widely distributed in Australia and has a greyish body colour with a brownish head which is short and blunt. The eggs hatch in from 11 to 18 days and in about another 12 days the lice are sexually mature and the females commence to lay eggs. Males may live up to 10 days and females up to 16 days. During her lifetime the female may lay 35 to 50 eggs.
The Long-Nosed Sucking Louse.
(Linognathus vituli).

This is undoubtedly the most common and important species in Western Australia and occurs frequently in the South-West portion of this State, especially in young animals. It was this parasite, coupled with severe internal worm infestation, which was responsible for the serious losses encountered in calves and yearlings a few years ago. Like the Short Nosed species it is found in clusters and has much the same distribution on the body. It has a dark grey body with an almost black head. 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 from 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 in colour 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 9 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 Australia in 1932 from Herne Hill. More recently a young bull from 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 from 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
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animals are exposed to bright sunlight during the summer, the skin temperature may rise to 125° F. which soon results in the death of the parasites. Where cattle are stall-fed, in lower temperatures, heavy infestations may occur during summer months.

Other factors which may influence lice populations are the state of nutrition of the host animal, the condition of the skin and coat, and the intensity of light. The last-named factor would hardly apply in Australia where there are many bright sunny days during the winter time 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 become 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 reduced condition 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. In the case of 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 South-West of this State the lice populations commence to build in early winter when the pastures are low in nutritional value and when young cattle in particular find it difficult to obtain sufficient nourishment to keep them in a healthy condition.

Where animals are kept in stalls for long periods without adequate grooming, and exercise, they are apt to develop a scurfy condition of the skin which causes them to rub and scratch frequently. This may lead owners to believe that the cattle are lousy, even when no skin parasites are present.

TREATMENT

A knowledge of the life history of the parasites is helpful in applying the correct control measures. The female lice lay eggs and attach them to the hairs of the host. These eggs hatch in from 9 to 18 days, according to the species, and the newly hatched lice or nymphs resemble the adult lice in shape but are smaller and not sexually mature. The nymphs undergo three successive “moults,” progressively growing larger until they attain the adult stage. The eggs are seldom affected by dipping or spraying fluids but some of these fluids have a residual effect which is sufficient to destroy young lice as they hatch out.

Arsenical dipping fluids containing 0.2 per cent. As₂O₃ will give reasonable control of biting lice (D muchinia) but are not effective against sucking lice. Better remedies include DDT, BHC, and nicotine sulphate.

DDT and BHC have the advantage that a single treatment not only kills both sucking and biting lice but at a sufficiently high concentration they leave a residue sufficient to destroy the young lice as they emerge from the eggs. Treatment with DDT may be carried out by dusting with a 5 to 10 per cent. powder or by spraying with 0.25 to 0.5 per cent. suspension of DDT in liquid form. When dusting animals—and dusts have their uses especially during very cold weather—powder should be shaken on and rubbed well into the coat by hand, particular attention being paid to the under side of the animal.
When BHC is used as a dip, wash or spray a concentration of 0.05 per cent. gamma isomer will kill lice at all stages except the eggs. Concentrations of 0.1 per cent. gamma isomer are claimed to be effective in destroying the eggs.

Chlordane at 0.25 to 0.5 per cent. is also said to be very efficient when used as an emulsion or suspension and is reported to have given no toxic effects in dairy cattle sprayed in the sheds during winter.

Nicotine sulphate is used at the rate of 5 ccs. of nicotine sulphate solution (containing 40 per cent. nicotine) in a gallon of water, applied as a spray and worked into the hair with a brush. Although an excellent kill of adult lice and nymphs usually results from this treatment, it is not very effective against the eggs and a further spraying after an interval of 14 days is recommended.

Whatever control measures are used it is preferable to repeat treatment in 14 days, especially where the lower concentrations are used.

It is advisable to carry out treatment in the autumn or early winter thus allowing the cattle to go into the winter season free of lice. It is, of course, essential to treat all animals in the herd as a single beast left untreated can easily re-infest the treated animals as soon as the chemicals used have ceased to be effective.

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