Lice on cattle

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Recommended Citation
(1959) "Lice on cattle," Journal of the Department of Agriculture, Western Australia, Series 3: Vol. 8 : No. 4 , Article 16.
Available at: https://researchlibrary.agric.wa.gov.au/journal_agriculture3/vol8/iss4/16

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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-lice 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.

**Fig. 2.**—The Long-Nosed Sucking Louse
*(After Kuth)*

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

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 Western Australia in 1932 from Herne Hill.
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.

![Fig. 4.—The Tubercle-Bearing Louse or Little Blue Sucking Louse](image)

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.

**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 commence to lay eggs. The life cycle from egg to egg is thus about 28 days.

Cattle lice may be eradicated by spraying either with dieldrin or B.H.C. (Gam-mexane) applied at a concentration of 0.05 per cent. These insecticides are readily available on the market and they should be mixed and used according to the directions of the manufacturer.

When used at the recommended strength both dieldrin and B.H.C. are safe and effective insecticides, but they have been reported on odd occasions to have produced toxic effects in young and weak animals. It is therefore safer to treat young calves and cattle in low condition with 0.5 per cent D.D.T.

A single treatment will provide a good measure of control but two treatments separated by an interval of 14 days are essential 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 commence to lay.

It is essential also that all cattle on the property should be treated at the same time since any that 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 a necessity. A sheep shower with the walls of the spraying enclosure strengthened and re-inforced will be found very useful, 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.

Notes on Submitting Diseased Poultry for Examination

The majority of the poultry specimens received at the Department of Agriculture's Animal Health and Nutrition Laboratories arrive in a condition which makes it impossible for the Veterinary Pathologist to make an accurate diagnosis, and the Department requests farmers to co-operate as suggested hereunder. Unless they do so, little satisfaction is likely to be derived by either the Pathologist or the farmers concerned.

1. In the case of chicks up to eight weeks of age, not less than six birds should be supplied for post-mortem examination. In no case, regardless of age should fewer than two birds be supplied, and larger numbers are preferred. It will be realised that a single bird is seldom fully representative of a disease condition or other problem affecting a whole flock.

2. Birds supplied for diagnosis must be living. Dead birds decompose rapidly and often fail to reveal the cause of the deaths. Also, it is impossible to isolate viruses and extremely difficult to isolate bacterial agents from decomposed specimens.

3. Birds chosen for diagnostic purposes must not be on the point of death. The owner should pick birds just beginning to develop typical signs of the disease outbreak and also two or three birds from the affected flock which are still apparently healthy. Very sick birds will probably die before reaching the pathologist.

4. Living specimens should be placed in suitable containers such as ventilated cartons just before being forwarded and should be transported to the Animal Health Laboratories in the shortest possible time.

5. A full and adequate description of the disease problem must accompany the birds. Furthermore, a detailed outline of flock management, housing, introduction of new birds, feeding, past difficulties, etc., should be included.

6. All diseased birds should be forwarded to the Veterinary Pathologist, Animal Health and Nutrition Laboratory, Department of Agriculture, Smyth Road, Nedlands.
**Pastry case**

1 egg.
2-oz. sugar.
3-oz. shortening.
5-oz. flour.
½ teaspoon baking powder.
Pinch salt.

**Raisin cream**

2 eggs (yolks and whites separated).
½ cup brown sugar.
1 tablespoon melted butter.
1 cup chopped seeded raisins.
½ cup cream.
1 teaspoon vinegar.
Little cinnamon.
Salt to taste.

**To make pastry shell:** Beat 1 egg and sugar together. Cut shortening into egg mixture. Sift flour, baking powder and pinch salt and work into creamed mixture. Turn on to floured board, roll out, spread on to pie plate. Leave a little pastry to make strips across plate.

**Raisin cream filling:** Combine yolks of eggs with brown sugar, melted butter. Add raisins, cream, vinegar, cinnamon and salt to taste. Mix well. Beat egg whites until stiff, fold into mixture. Pour into the uncooked pie shell and lattice across with strips of pastry. Bake in a hot oven for 10 minutes, reduce heat and cook for another 15 minutes. Serve with whipped cream.
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