

Winter cattle lice

Part 1: biology and life cycle of cattle lice



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Cattle lice

Lice are external parasites of cattle which can cause significant economic and production losses in both beef and dairy cattle. Lice usually manifest in winter months when the animals' coats are longer and thicker. Lice cannot jump or fly, so they rely on direct contact between the host cattle to spread - this is another reason that their populations increase during winter when animals are housed in barns together.

There are four species of lice affecting cattle in Vermont:

The **cattle chewing louse *Bovicola bovis*** is the most common species and is identified by its reddish brown color. It is about 1.7 mm in length, and lays 2 eggs every 3 days. Eggs hatch in 7-10 days, develop into adults over the following week, and adults can survive for 10 weeks. It is found along the top line of the back, withers, rump and poll. It is the only species that does *not* suck blood, but instead uses chewing mouthparts to scrape and bite the skin and hair, feeding on secretions and debris. This causes intense irritation, allergic reactions, itching, hair loss, and secondary infections in affected animals.



The other three species of lice affecting cattle are all sucking lice.

The **longnosed cattle louse *Linognathus vituli*** is found abundantly on young stock and is identified by its blue-black color and long thin head. It is about 2.5 mm long (males smaller), and females lay one egg per day. The lifecycle is



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completed in 21 days. Preferred infestation sites are the shoulder, back, neck, and dewlap, but it can be found widely distributed over the body of the host.

The **little blue cattle louse *Solenopotes capillatus*** is another common louse, blue-black in color, but can be identified by its smaller size than the other species (1.5 mm).

It has a shorter head than the longnosed cattle louse. Females lay 1-2 eggs per day and the lifecycle is complete in 28 days. It tends to aggregate around the face, jaw, and eyes, but may spread to the neck and dewlap in heavy infestations.



The **shortnosed cattle louse *Haematopinus eurysternus*** is the largest species of cattle louse, up to 2.9 mm long, and is grey-black in color with a short head. The female lays 1.4 eggs per day, which develop into adults in 14 days, and adults survive for 10-15 days. Preferred infestation sites are the top of the neck, the dewlap, and the brisket, spreading along the top line of the back in heavy infestations. It may also be found around the ears during summer.



Sucking lice feed directly on the blood of the host using piercing mouthparts to draw out blood. This can result in anemia, abortion, death, and loss of vitality in the host cattle, and increase susceptibility to other pathogens. The feeding and salivary extractions of sucking lice can also cause inflammation, and allergic or immune responses which reduce weight gains and decrease milk production.

Distribution in the herd

Louse infestations in the herd are not uniform—the majority of lice will be found on a small number of heavily infested animals, while others have very low burdens. Cattle can carry all four species at once, and within the herd certain animals may be infested with different species. Susceptible animals are usually young stock, and old, immunocompromised, or stressed animals.

Seasonality

Lice are the most important winter parasite of cattle. Populations begin to build up in the fall, peak in late winter, and decrease quickly when temperatures rise in the spring. Lice are only able to survive a small range of temperatures close to the body temperature of the host, so it is thought that exposure to sunlight and warmer weather quickly kills them. During winter housing when cattle are crowded together, the darker conditions, long hair coats, and easy transmission between animals create the perfect conditions for lice to thrive.

Economic impacts

Louse infestations contribute to adverse stress in cattle that limits growth and production, resulting in lower milk production and weight gains in both beef and dairy cattle. This is particularly important for young stock and heifers—if lice infestations are not treated, heavy burdens may delay growth and result in an unthrifty animal even after the lice have been eradicated. Rubbing and scratching can produce lesions on the skin, damaging the hide and producing 'light spot' on leather. Rarely, pathogens can be transmitted by sucking lice.

Finding and identifying lice on cattle

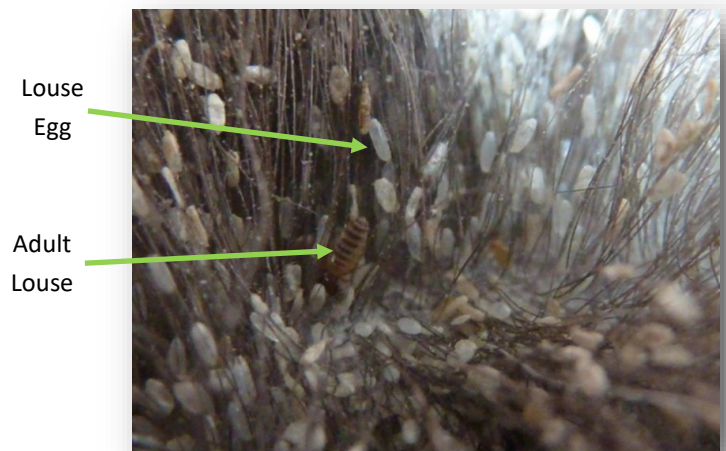


Photo: Jennifer Cotter, DAFWA Albany

Cattle may experience hair loss, scaley skin, and scratching for several reasons including fungal infections, mange, infectious diseases, and

nutritional issues. It is important to confirm the presence of lice, and to rule out other problems, before effective treatment can commence.

Cattle may begin to show signs of rubbing, scratching, and hair loss on the neck, shoulders and rump. The presence of lice and eggs can be confirmed by closely examining the skin. In a well lit area, part a section of the animals hair and observe the skin. Eggs will be uniform, shiny, white ovals which are attached (cemented) to strands of the hair. Not to be confused with dandruff, which is irregular shapes and sizes, and loosely on the skin as well as the hairs. Lice are small (1.5—3 mm) reddish brown (chewing lice) or blueish black (sucking lice) insects found on, or attached to, the skin itself. This inspection should be repeated 5-10 times in different areas of the neck, shoulder, back, and rump.



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