

# DAIRY IPM

## CORNELL COOPERATIVE EXTENSION

### Cattle Lice

*Bovicola bovis*  
*Linognathus vituli*  
*Haematopinus eurysternus*  
*Solenopotes capillatus*

Cattle lice are among the most important arthropod (insect and mite) pests affecting dairy cattle in New York State and elsewhere in the United States. Lengthy, cool winters are particularly favorable to populations of lice, which thrive on animal skin that is protected by the long, winter-hair coat. Unlike fly pests, which feed on a variety of livestock and engage in many behaviors off the animals, lice are very host-specific and can survive for only very short periods of time off the host animal. Management of lice populations below economically injurious levels requires systematic monitoring and identification of these pests.

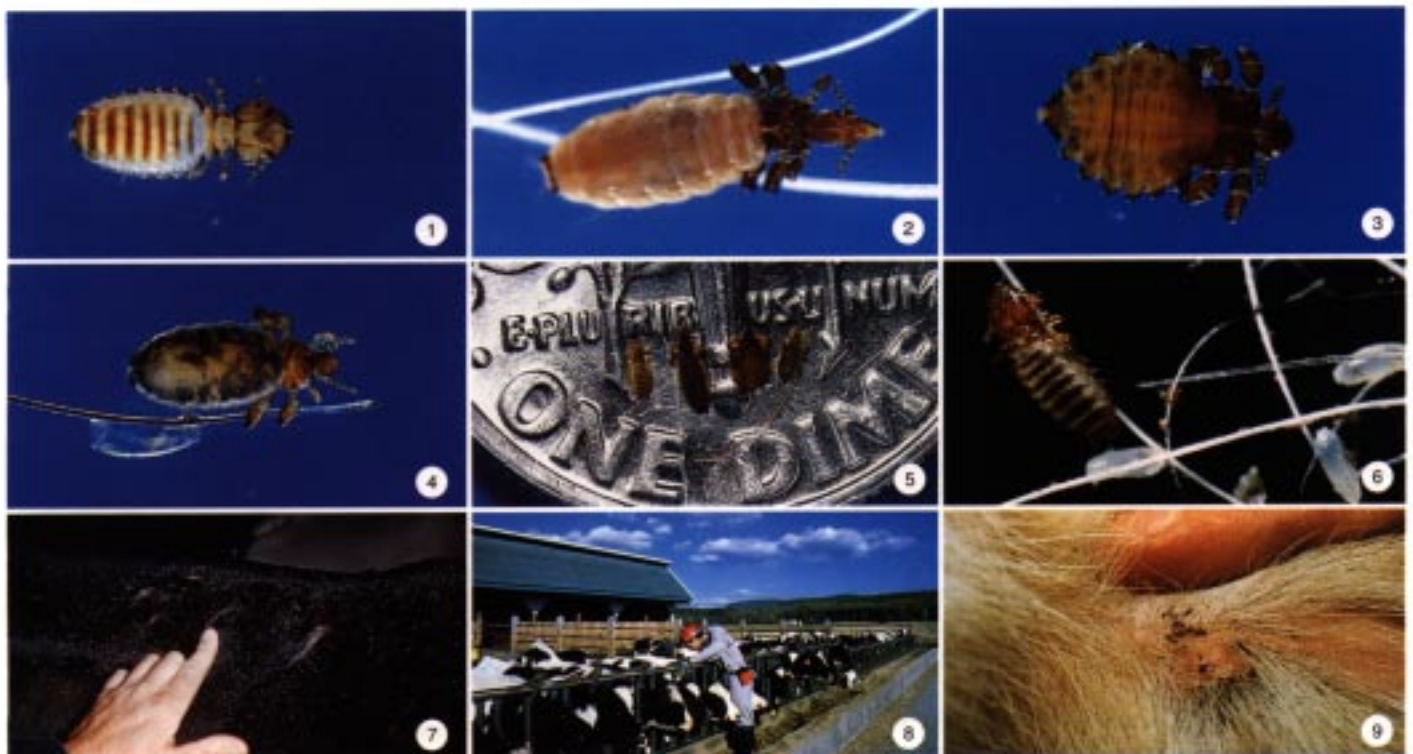
### Adults

Four species of lice feed on dairy cattle in New York. The most common is the little red cattle chewing louse (*Bovicola bovis*, fig. 1). Adults of this species can be recognized

by their relatively broad head and characteristic reddish-brown and yellow coloration. These lice do not feed on blood but instead use their mouthparts to rasp animal skin and hair.

In addition, there are three species of blood-sucking lice on dairy cattle: the long-nosed sucking louse (*Linognathus vituli*, fig. 2); the short-nosed sucking louse (*Haematopinus eurysternus*, fig. 3), and the little blue sucking louse (*Solenopotes capillatus*, fig. 4). Sucking lice are blood-feeders, and can be easily recognized by their firm attachment to the animals' skin and by the dark coloration that their abdomens take on as they fill with blood.

Although there is some size variation among these four species of lice, all of them are small insects that reach a maximum size of about 3.0 mm (1/8 in.; fig. 5). They are permanent parasites, which means that they spend their entire lives on the animals. Development from egg to adult takes four to six weeks.



## Eggs

Female lice lay their eggs, known as nits, by attaching them to hairs with a strong glue to prevent them from falling off (fig. 6). The nits can be seen on heavily infested animals as white specking on the hair coat (fig. 7). The hard shell of the nit protects it from most hazards, including insecticide treatments.

## Nymphs

Eggs hatch into nymphs one to two weeks after being laid. Lice have a simple metamorphosis; therefore, the nymphs resemble the adult lice quite closely except for their smaller size. The nymphs feed on host animals in the same manner as the adult lice. Development from egg hatch to adult is completed in two to three weeks, with the nymphs passing through three instars (stages between molts).

## Damage

Regardless of the species involved in an infestation, cattle lice cause extreme annoyance to the host animals. In heavily infested milking cows, milk production declines and the animals' preoccupation with rubbing leads to hair loss, reduced feed conversion efficiency, and general unthriftiness. Infested animals are irritable and difficult to work with, especially during milking.

Heavy louse infestations on calves and heifers also contribute to the many stresses that can have adverse effects on growth, time to first lactation, and overall future production performance of replacement animals. In addition, people working around heavily infested animals are exposed to greater risk of injury and are annoyed by stray lice acquired from infested animals during handling.

Infestations with lice are aggravated by other stresses on the animals. Cattle that are stressed by crowding, infection, or inadequate nutrition often have exceptionally severe louse infestations.

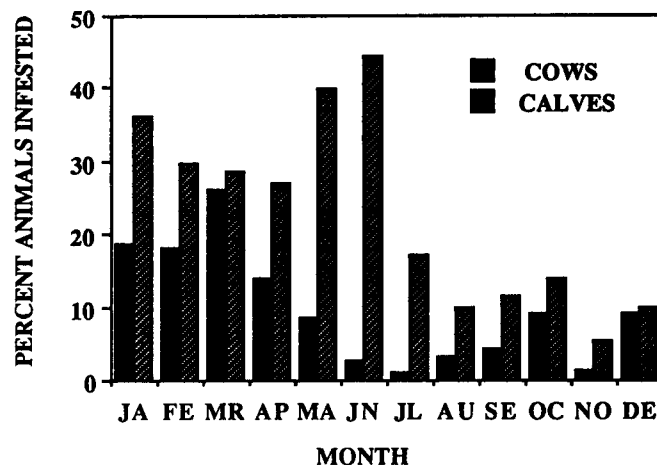
## Monitoring

Lice are more abundant on young animals than on mature milking cows. In general, infestations are heaviest during cool weather, although high populations of lice are commonly found on calves as late as June, as shown in the chart on this page.

Early detection and treatment is essential to prevent infestations from causing economic losses. Therefore, animals should be monitored between the months of September and June.

It is best to inspect 30 animals every two to four weeks; choose 10 calves, 10 heifers and 10 milking cows. Healthy-looking animals should be inspected as well as noticeably lousy ones in order to detect populations approaching economically injurious levels. Ideally, a head-band light or hard hat-mounted light should be used so that both hands are free to work with the animals (fig. 8).

The neck, shoulders and tailhead should be inspected on each animal by parting the hairs and estimating the numbers of lice present per square inch (fig. 9). Animals should be treated if more than 10 lice per square inch are found. If replacement animals are brought into the herd from off of the farm they should be examined and treated, if necessary, before allowing them to mix with the other animals.



## Management

A form of cultural control that is highly effective is the use of individual outdoor hutches for calves instead of housing the animals in collective pens inside barns.

Many insecticides are registered for louse control. Read the label carefully to insure that the insecticide may be used on milking animals; concerns about residues may limit the number of choices. Most insecticides require two treatments spaced 10 days apart to kill the nymphs that hatch after the first treatment (eggs are resistant to most insecticides).

A variety of application methods are available for controlling lice, including whole-animal sprays, mists, dusts, back rubbers, pour-ons, and dust bags. Each method has certain advantages depending on individual production and management practices. Whole-animal sprays give good coverage, but should be avoided during cold weather when chilling the animals is a concern. Mist-blowers may be used to minimize the amount of liquid required for treatment. Dusts are convenient, may be used any time of the year, and require no mixing. Self-application and forced-use devices such as dust bags are effective only if they are positioned so that the animals make frequent contact with them. Consult local Cooperative Extension personnel for a louse management program that is appropriate for your farm.

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