

Dairy Cattle Insect Management

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Information on controlling flies, lice, grubs and mange mites on dairy cattle is found here.

- Read and understand the label on every insecticide used for any purpose at a dairy.
- If instructions for use on dairy cattle or dairy premises are not on the label, do not use the insecticide. For example, some insecticides used for crop insects cannot be used at dairies (as stated on the label) because of the possibility of insecticide residues in the milk.
- Label directions may be different for lactating and nonlactating dairy cattle. Most insecticides used on beef animals also can be used on nonlactating dairy cattle, but there may be restrictions on time of treatment prior to freshening.
- Keep pesticides in original containers and in locked storage.
- Do not contaminate milk, feed or water when using an insecticide.

Fly Control

Sanitation. House flies, stable flies and blow flies may be pests of dairy cattle kept on lots. These flies (filth flies) breed in spilled feed, bedding, decaying organic matter and manure mixed with moisture, dirt and organic matter. Sanitation is the first and most important step in control of filth flies.

Clean cattle pens, drainage areas, loafing sheds, stalls, feeding aprons, spilled feed and other decaying organic matter at 10-day intervals to minimize fly breeding. If this decaying organic matter is spread on fields, spread it thin enough for rapid drying. The material can be spread in the lot and, when dry, incorporated into mounds or low spots within the lot.

Take care to prevent moisture penetration in manure stored for later distribution. The manure stack should be steep-sloped and, if possible, packed. Manure stored in silo-type storage units may crust on the top, but cracks allow flies to deposit eggs in wet material below the crust. Agitating and/or adding water may be necessary (fly larvae are drowned by adding water).

If conditions are too wet to take sanitation measures, insecticides (larvicides) can be used to treat fly-breeding areas. Consider this method a temporary measure since develop-

ment of fly resistance to insecticides generally accelerates when control of the immature insect is practiced.

If cattle remain in dry lots, only house and blow flies and blood-feeding stable flies will be pests. If cattle go to pasture between milkings, they also may be attacked by horn and face flies (pastures flies). The horn fly is a small, blood-feeding fly that spends all its time on cattle. Face flies feed on animal secretions, primarily around the eyes and nose, but they do not spend much time on cattle.

Both pasture fly species breed in manure in the pasture. The numbers of flies developing in the manure can be decreased by clipping and dragging the pastures.

Insecticides. The best choice of insecticide and application method depends on the cattle management system and the fly species.

Control of filth flies is best achieved with sanitation and a combination of knockdown (also called space and area) sprays and residual sprays.

See *EC1550, Nebraska Management Guide for Arthropod Pests of Livestock and Horses*, for specific insecticide information. Many insecticides used for livestock insect control are restricted for use in milking parlors and on lactating dairy cattle. This will be stated on the label and in the restriction section of *EC1550*.

Knockdown sprays are applied by a mist blower, fogger or handgun set to deliver a fine mist. These sprays break down rapidly in the environment (1 to 2 hours) and should be applied to areas where flies are concentrated because the insecticide droplets kill flies on contact.

Knockdown sprays may be most efficient when fly activity in the pens is low. During the hot parts of the day both house flies and stable flies rest in trees and other vegetation around the pens. Keeping weeds mowed reduces the amount of shade available and restricts favorable fly habitat.

Knockdown sprays should be used the same day they are mixed because they lose effectiveness over time after being mixed. They should not be applied when air temperatures are below 65°F or above 90°F. Insecticides are not very active at low temperatures and considerable spray is lost to evaporation or inversions at high temperatures.

Residual sprays remain active for several days, and flies resting on a treated surface absorb enough insecticide to destroy them. Apply residual sprays to fly resting surfaces, such as walls and ceilings within the barn (unless prohibited on the label), loafing sheds and other surfaces on the outside of the milking barn. Residual sprays should be applied only to shaded fly resting areas, because ultraviolet light breaks them

down if they are exposed to sun. Rain washes the residual sprays off treated surfaces, so they should be reapplied following a rain.

Knockdown and residual sprays can be alternated as needed throughout the fly season. The existing adult population can be reduced with a knockdown spray, and after about one week (time needed for newly emerged females to begin depositing eggs) a residual treatment can be applied.

Residual sprays cannot be used in the milking parlor. Only baits, such as Vapona no-pest strips (dichlorvos), pyrethrin mists and sticky flytraps can be used in the milking parlor.

At some dairies, the waste management (sanitation system) may be excellent except for the calf hutches. These may contribute enough stable and house flies to be an economic problem. Straw mixed with moisture, manure and urine is a very attractive breeding place for flies. Bedding should be removed from the hutches and walkways at least weekly to prevent fly breeding. Residual sprays can be applied to the inside and shady outside walls of the hutches for fly control.

Insecticide baits can aid in the control of house flies, but baits do not control stable flies as they feed only on blood. Baits can be beneficial around calf hutches. Distribute dry baits along walls, window sills or other areas where flies congregate. Keep insecticide baits away from feed, water and milk. Make light applications and collect dead flies and all bait periodically.

Apply liquid baits to burlap bags, papers or other removable surfaces. After some time passes, organic phosphate insecticides used in liquid baits will decompose and only the sugar or syrup will be left to attract flies. Therefore, remove and replace liquid bait residues regularly. Most dry baits are available as prepared products.

Pasture fly numbers can be reduced with the use of sprays, ear tags, dust bags and oilers. Most ear tags currently registered for use on beef cattle also can be used on dairy cattle. If face flies are on the cattle, two ear tags per animal may be required because face flies concentrate on the face. Best results are achieved when cattle are forced to pass through low-hanging dust bags and oilers so their faces get treated.

None of these control methods are effective for controlling filth flies. House flies may never feed on cattle, and the stable fly feeds mainly on the lower front legs, an area not affected by pasture fly control methods.

Cattle Lice

There are four lice species that infest cattle in Nebraska. Three are blood-feeders and one feeds on sloughing skin. The life cycle of cattle lice averages about 24 days. Reproduction increases during the winter and young dairy animals are often heavily infested with lice.

Insecticides listed for control of flies on cattle also can be used for control of cattle lice. If sprays are used, check the animals at about 14-day intervals to determine if the population is under control. Most insecticides will not control the eggs, and two treatments may be necessary to eliminate the infestation.

In addition to sprays, dust bags can be used for lice control. Most of the pour-on or spot-on systemic insecticides registered for control of grubs and internal parasites can be used on nonlactating dairy cattle for controlling lice. Note the treatment interval before freshening.

Cattle Grubs

Cattle grubs are immature heel flies. Heel flies deposit eggs on the hair of cattle early in the spring. As the grubs hatch, they migrate down the hair strand to the follicle and bore into the animal. The next 7 to 8 months are spent as internal parasites.

The grubs migrate through the tissue to the loin area where they encyst, cut a breathing hole in the skin of the animal on the back-line and complete their larval development. When mature, they emerge through the breathing hole, fall to the ground and pupate. In the spring, the adult heel flies emerge and start the life cycle again by depositing eggs on cattle.

Pour-on, spot-on and injectable systemic chemicals for grub control are ready-to-use formulations and most can be used on nonlactating dairy cattle only, but two endectocides Epruisex and Oyslectin can be used on lactating dairy cattle. Follow precautions and waiting periods.

Mange Mites

Mange in dairy cattle is caused by small mites feeding in the skin. Tunneling by the mites causes a skin injury that forms scabs. Mites increase rapidly because conditions under the scab are ideal for their development.

Currently, Ivomec (ivermectin) is the only insecticide suggested for mange mite control. This product cannot be used on lactating dairy cows or cows within 35 days of freshening.

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