

Cattle Grub Control in Nebraska

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Cattle grub growth cycle and treatments, as well as possible insecticide reactions, warnings and restrictions, are described in this NebGuide.

Economics

Cattle grubs are the immature or larval stages of heel or warble flies. Losses from this insect begin with the fly stage. As flies seek animals on which to deposit eggs, cattle become frightened and run. The running animal has its tail in the air, bent over the back, called “gadding.” Cattle fail to graze normally during the warble fly season because of gadding, seeking shade or standing in water to avoid the flies.

This failure to graze normally results in decreased milk production and reduced weight gains. Further losses occur when cattle, in their efforts to escape the flies, run through fences or into other objects. Slaughter losses result when grubby areas must be trimmed from the carcass and from the decreased value of hides containing grub holes.

Cattle Grub Life History

Two species of cattle grubs in Nebraska: the common cattle grub (*Hypoderma lineatum*) and the northern cattle grub (*Hypoderma bovis*). Habits of the two species are similar except that the northern grub’s life cycle is a month or two behind the common grub. The latter species now is rare in Nebraska.

Eggs are attached to lower hairs on an animal’s body, especially legs. Newly hatched grubs crawl down the hairs and burrow into the skin. They slowly work their way through the animal’s body until they reach the gullet (the common cattle grub) or the spinal canal (the northern cattle grub). The grubs then spend several months migrating to the back of the animal. After migrating to the animal’s back, the grubs use their mouthparts to cut breathing holes through the hide. At this time cysts or swellings, called warbles, are visible or can be detected by touch. Grubs remain in the animal’s back about six weeks.

The full-grown spiny grubs work their way out through the breathing holes, drop to the ground and pupate in plant debris. In three to 10 weeks, the adult flies emerge from the pupal cases and are ready to mate and lay eggs. The entire

life cycle takes about a year, eight to 11 months of which are spent in the bodies of cattle.

Grub Control on Beef Cattle

Most ranchers treat cattle for grubs at weaning in the fall so few cattle are infested with grubs in the spring. Several systemic insecticides currently are registered for control of cattle grubs. Some can be applied as a spray, dip, pour-on, spot-on or feed additive; others by only one or a couple of these methods. In Nebraska, treatment in late August or at fall weaning provides excellent control. The newer, broad-spectrum endectocides control both internal and external parasites and are extensively and very effectively used for grub control.

Some producers assume that treatment for cattle grubs also controls cattle lice. Systemic insecticides do reduce numbers of the blood-feeding lice considerably, but may not prevent a buildup of blood-feeding lice later in the winter.

Pour-ons and spot-ons should be applied along the back line of the cattle, with each dose covering as much surface as possible. Chewing lice are killed by insecticide contact, and treatment down the back line exposes more lice to the treatment.

The injection method is labeled for some broad spectrum parasiticides but it has generally been replaced by pour-ons that control both cattle grubs and internal parasites. Some parasitologists think an injectable provides better control of internal parasites, but pour-ons are better to control chewing lice.

Grub Control on Dairy Cattle

Most dairy production is in northeast Nebraska, an area with few cattle grubs. If a dairy herd does become grub-infested, treat calves, replacement heifers and dry cows. Note there are waiting periods between treatment and freshening that range from seven to 21 days for some grub insecticides. Two systemic insecticides, Eprinex and Moxidectin, may be used on lactating dairy cattle.

Possible Insecticide Reactions

Two kinds of toxic reactions can occur in cattle following organic phosphate insecticide treatment. One reaction is organophosphate toxicity. This results from an overdose of

the insecticide. True organophosphate toxicity is rarely seen if directions for treatment are followed.

A varying lapse of time occurs between the time of treatment with organophosphates and the onset of toxic symptoms by treated cattle. This is dependent on the insecticide, dose and animal condition. Signs of organophosphate poisoning usually consist of diarrhea, abdominal pains, excessive salivation (usually stringy) and weakness of the hind legs, accompanied by a staggering gait.

The other type of reaction is a host-parasite reaction. This results from treating animals while the migrating larvae are either in the esophagus or spinal canal. It is a reaction to the dead or dying grubs within the body of the animal.

The signs indicating a host-parasite reaction differ, depending upon whether the northern cattle grub or common cattle grub is involved. Because the northern cattle grub may be located in the spinal canal, paralysis or weakening of the back legs may occur when this grub is involved. The common cattle grub usually migrates through the esophagus so bloat, difficult breathing, excessive salivation (usually foamy) and vomiting of partially chewed food are common signs of this type of reaction. It is important that a proper diagnosis be made regarding the type of reaction (organophosphate toxicity or host-parasite) that has occurred, because treatment for each type of reaction is different.

Warnings and Restrictions

1. Before applying any livestock insecticide, read and understand the label. Then follow the label directions.
2. Note and obey treatment-slaughter interval for each insecticide to avoid illegal residues.
3. Note and follow treatment restrictions concerning application on young, sick or stressed animals, or treatment in conjunction with other medications for each insecticide.

4. Note and follow treatment cutoff periods: Nov. 1 to Feb. 1 for insecticide use on cattle in Nebraska.
5. These insecticides are poisonous. They can be fatal if swallowed and harmful if inhaled or absorbed through the skin. Avoid skin contact. Do not contaminate food, feeds or water. If spilled on skin, wash immediately with soap and water. If symptoms of poisoning develop, see a physician immediately.
6. Keep insecticides away from children and pets. Store in original container in locked storage area.
7. If, following treatment, animals show any sign of toxic reaction (weakness in the rear legs, a staggering walk, bloating, grunting, increased salivation or diarrhea), immediately consult a veterinarian.

For a listing of specific insecticides recommended for control of cattle grubs in Nebraska, refer to *Nebraska Management Guide for Control of Arthropod Pests of Livestock and Horses* (EC1550).

To simplify technical terminology, trade names sometimes may be used. No endorsement of products is intended nor criticism implied of products not mentioned.

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