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EC71-1528 Cattle Grub Control in Nebraska

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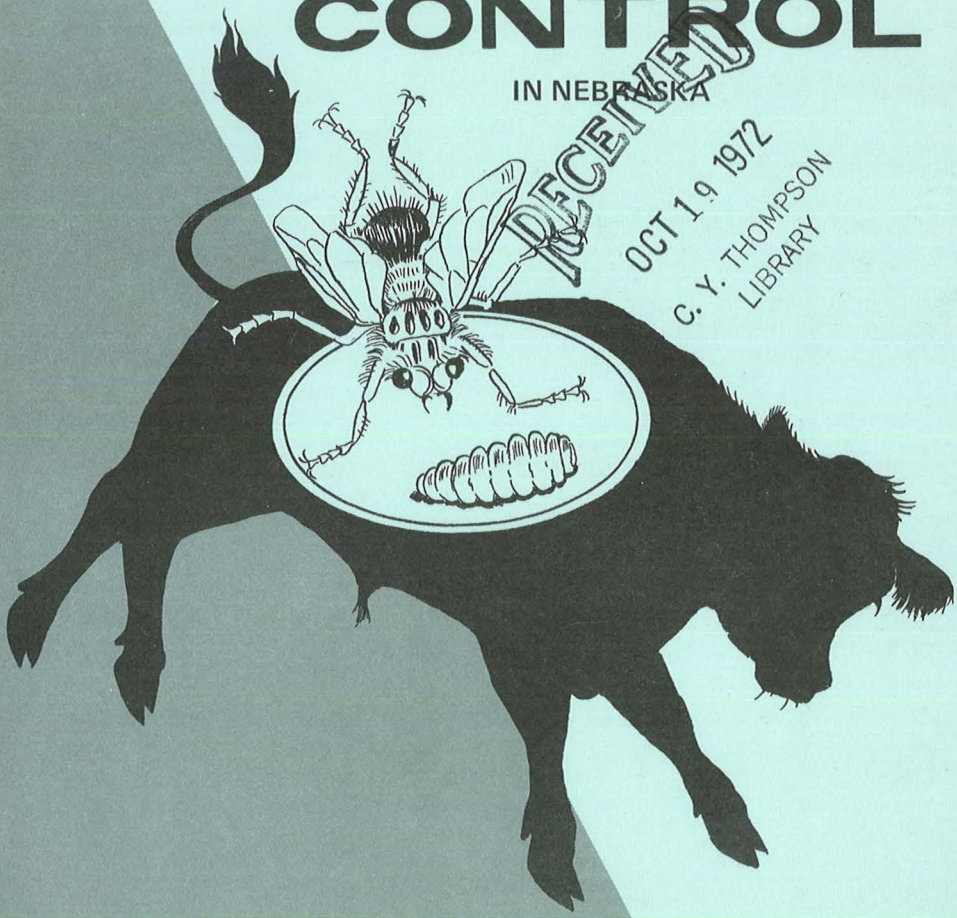
IN NEBRASKA



Extension Service
University of Nebraska College of Agriculture
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CATTLE GRUB CONTROL

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LIVESTOCK LOSSES

Cattle grubs are immature or larval stages of warble flies. Losses from these insects begin with the fly stage in the insect's life history.

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. This behavior is termed "gadding."

Cattle fail to graze normally during the warble fly season because of gadding. They seek shade or water to stand in to avoid the flies.

The failure to graze normally results in decreased milk production and subnormal weight gains. Further losses occur when cattle run through fences or into other objects.

Newly hatched grubs enter the skin at the base of hairs, causing irritation. Cattle kick, stamp and lick the points of irritation. Inflammation is produced in the gullet and spinal canal and in the loin region when breathing holes are made by the grubs.

Slaughter losses result from the necessity to trim grubby areas from the carcass and from the decreased value of hides with grub holes.

CATTLE GRUB LIFE HISTORY

There are 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.

Eggs are attached to hairs low on an animal's body, especially the legs. The newly hatched grubs crawl down the hairs and burrow into the skin at that point. They slowly work their way through the animal's body until they reach the gullet (the common cattle grub)

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or the spinal canal (the northern cattle grub). The grubs remain in the gullet or spinal canal for several months before starting a migration to the loin area of the animal.

After migrating to the animal's back the grubs cut breathing holes through the hide. At this time cysts (called warbles), which contain the grubs, form beneath the hide. These swellings are visible or detectable to the touch. The grubs remain in the animal's back about six weeks.

When full grown, the spiny grubs work their way out through the breathing holes, drop to the ground and pupate. In 3-10 weeks, dependent upon the temperature, the adult flies emerge from the pupal cases and are ready for mating and egg laying. The entire life cycle takes about a year, 8-11 months of which is spent as grubs in the bodies of cattle.

GRUB CONTROL ON BEEF CATTLE

Five systemic insecticides are currently registered for control of cattle grubs: Co-Ral, Neguvon, Ruelene, Trolene and Warbex. Treatment with any of these should be applied between July 15 and Nov. 1. Early treatment is preferred.

Co-Ral

Spray: Mix 12 lb. of 25% wettable powder in 100 gals. of water. Spray animal's entire body so that the skin is wet. Failure to do this may result in poor control.

When spraying cattle for grub control only a few animals should be sprayed at a time. The animals should be held in a small corral and sprayed with high pressure equipment at a distance of 6 to 8 ft. Spraying large numbers of animals from a distance (as done for control of lice and flies) will not provide control. Avoid spraying the eyes of the animals since the high pressure spray at close range can cause eye injury. Use about 1 gal. of finished spray for each animal.

Dips: Mix 8 lb. of 25% Co-Ral wettable powder in 100 gals. of water for dipping vats.

Pour-on: Use 4% prepared solution, ½ oz. to each 100 lb. of body weight, but not more than 4 oz. per animal.

Neguvon

Spray: Mix 10 lb. 80% SP in 100 gals. of water. Apply as suggested for Co-Ral sprays.

Pour-on: Apply ½ oz. of 8% prepared solution per 100 lb. of body weight uniformly along the back of animals. Do not apply more than 4 oz. per animal.

Ruelene

Spray: Mix 2 gals. of 25% emulsifiable concentrate (EC) in 100 gals. of water. Apply as suggested for Co-Ral sprays.

Pour-on: Apply 8.3% prepared solution by pouring evenly on the animal's back at 1 fluid oz. per 100 lb. of body weight.

Or Mix 1 part Ruelene 25% EC with 3 parts of water. Pour evenly along back line at a rate of 1 fluid oz. per 100 lbs. of body weight.

Trolene (ronnel feed additive)

Feed Additive: Mix 0.3 lb. per 100 lb. of body weight, 0.6% purified grade ronnel in feed and feed daily for 7 days. A 0.26% purified grade ronnel mixture can be added to feed at a rate of 0.3 lb. per 100 lb. of body weight and fed for 14 days. (This material is also available in 5.5% block and as a granular material. It should be fed at a rate of 0.25 lb. per 100 lb. of body weight per month continuously for no less than 75 days.)

Warbex

Pour-on: Apply 12.5% prepared solution evenly along the back line at a rate of ½ oz. per 100 lb. of body weight but not more than 4 oz. per animal.

Feed Additive: Mix with feed either 1 gram of actual Famphur (Warbex) per 1000 lb. body weight and feed for 30 days or 2.3 grams per 100 lb. of body weight and feed for 10 days.

Warnings and Restrictions

1. *For each chemical read the label until it is completely understood. Then follow the directions on the label.*
2. Do not spray with Neguvon within 14 days of slaughter or use the pour-on within 21 days of slaughter.
3. Do not treat with Ruelene within 28 days of slaughter.
4. Do not treat with Trolene 0.6% or 0.26% feed additive within 60 days of slaughter or 5.5% granular or block material within 28 days of slaughter.
5. Do not treat with Warbex pour-on within 35 days of

slaughter of Famphur (Warbex) feed additives within 4 days of slaughter.

6. Do not treat calves under 3 months old.
7. Do not treat lactating dairy animals.
8. Do not treat in conjunction with treatments of other insecticides or veterinary pharmaceuticals.
9. Do not treat after October.
10. Do not treat animals under stress such as:
    a. sick animals.
    b. calves at weaning time.
    c. animals immediately after shipping.
11. Be aware that these materials can be fatal if swallowed and are harmful if inhaled or absorbed through the skin. Avoid skin contact with insecticides. Do not contaminate food, feeds or water. If spilled on skin, wash immediately with soap and water. Should symptoms of poisoning develop, see a physician at once.
12. If, following treatment, animals show a weakness in the rear legs and have a staggering walk or if bloating, grunting, increased salivation or diarrhea are noted, consult your veterinarian.

GRUB CONTROL ON DAIRY CATTLE

Three systemic chemicals for grub control can be used on DRY dairy animals. All precautions and waiting periods should be followed. The materials registered for use and waiting periods before freshening are:

Coumaphos (Co-Ral) spray or back line pour-on .....14 days
Famphur (Warbex) spray or back line pour-on .....21 days
Ruelene spray or back line pour-on .....28 days

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 organic phosphate toxicity is rarely seen if directions for treatment are followed.

There is a varying lapse of time between the time of treatment with organic phosphates and the onset of toxic symptoms by the treated cattle. This is dependent upon the insecticide, dose and condition of the animal. These signs 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 that may occur following systemic insecticide treatment of cattle for grubs is the 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 are different, depending upon whether the northern cattle grub or common cattle grub is involved.

The northern cattle grub may be located in the spinal canal so paralysis or weakening of the back legs are an indication of this type reaction.

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 very important that a proper diagnosis be made of which reaction (organic phosphate toxicity or host-parasite) has occurred because treatment for each type of reaction is different.