

## **Livestock Insects-Cattle**

### **Cattle Grubs**

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#### **Identification and Field Biology**

Cattle grubs are also known as “heel flies.” The adult is a large fly that resembles a bee in size and coloration. There are two species, the Common and Northern. They are similar in appearance and biology, except the Northern occurs about a month later than the Common.

Heel flies deposit eggs on the hairs of cattle, usually on the hind legs or belly. The larvae hatch and bore through the skin, usually at a hair follicle. The larvae spend about eight months migrating through the tissues of the animal and end up in the loin area of the back. Some states recommend a grub treatment cut-off date of December through January, because that is when most of the grubs are migrating through the esophagus (Common grub) or the central nerve canal (Northern). Dying grubs release a toxic, which causes swelling at the death site. The swelling in the esophagus causes bloating and in the central nerve canal, partial paralysis in the hindquarters. Veterinarians treat these symptoms with 2 PAM or atropine. The grub encysts in the back and completes their larval development. The cysts are termed warbles. A breathing hole is cut in the back, and the larvae emerge through the breathing hole, when ready to pupate. The pupae fall to the ground and seek shelter in clumps of vegetation until they emerge as adults. The Common grub emerges in late February or early March, and the Northern about a month later. The heel fly has no mouthparts, and when mating and egg deposition have occurred, the adults die.

#### **Animal Response and Behavior**

Cattle being attacked for egg deposition will run trying to escape the fly. When running, they have their tails curled over their back, a behavior that is termed “gadding”. As internal parasites, cattle grubs present in any number will cause reduced weight gains. When the breathing holes are cut, secondary infections often occur, and it is at this time that the grub has its greatest effect on the infested animals. Our research on feedlot cattle indicated infested cattle gained 0.12 pounds less than grub-treated cattle over a 120-day period. Weight gains on untreated calves kept at ranches and fed a maintenance ration were reduced at about the same magnitude.

#### **Management Approaches**

##### **Chemical**

There are several systemic insecticides available that provide excellent control. Systemic insecticides are absorbed through the skin and circulate internally. The older phosphate insecticides are still efficient, but have generally been replaced by the broad spectrum endectocides, which control both external and internal parasites (Ivomec and others). Recommended insecticides can be found in tabled form at the end of the chapter. We recommend treatment only for cattle that will be at the ranch in February and March, the time of grub emergence from the back. Cattle purchased from ranches usually go through an animal health program and are treated for grubs and lice regardless of whether the original owner treated them or not.

*Insecticide Suggestions for Cattle Grub Control:*

<b>Insecticide</b>	<b>Application Method</b>	<b>Application Rate</b>	<b>Restrictions and comments</b>
<b>Doramectin</b> (Dectomax)	Pour-on  Injection	5 mg/ml AI 1 ml/22 lb body wt.  1 ml/110 lb body wt.	Treatment-slaughter interval 45 days. Do not treat lactating dairy cows or dairy heifers over 20 months of age.
<b>Eprinomectin</b> (Eprinex)	Pour-on Injection	5 mg/ml AI 1 ml/22 lb body wt.	No treatment-slaughter interval. Do not treat calves less than eight weeks old.
<b>Famphur</b> (Warbex)	Pour-on	13.2% AI 2 oz./100 lb body wt. Do not exceed 4 oz.	Treatment-slaughter interval of 35 days. Do not treat lactating dairy cattle, Brahma bulls, calves under three months, sick or stressed cattle, or use with other medication.
<b>Fenthion</b> (Teguvon)	Pour-on  Spot-on	3.0% AI 2 oz./100 lb body wt. 20 % AI 4 ml/300 lb body wt.	Treatment-slaughter interval of 35 days. Do not treat calves less than 3 months old, sick or stressed cattle, or use with other medications or insecticides.
<b>Ivermectin</b> (Ivomec)	Injection	1% AI 1 ml/110 lb body wt.	Treatment-slaughter interval 35 days.
(Ivomec) (Phoenectin) (Prozap)	Pour-on	0.5% AI 1 ml/22 lb body wt.	Treatment-slaughter interval 48 days.
<b>Moxidectin</b> (Cydectin)	Pour-on Injection	5 mg/ml AI 1 ml/ 22 lb body wt.	No treatment-slaughter interval. No restrictions on dairy cattle.

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