



HORN FLIES AND CATTLE

Lee Townsend, Extension Entomologist

Horn flies are small (3/16 inch), dark gray, blood-sucking flies that stay on cattle almost continuously. Both males and females are blood feeders that spend most of their time on the shoulders and backs of cattle. During extremely hot weather or when it rains, they may move to the protected underside of the animal. When disturbed, horn flies will fly up in a swarm but they will return to animals almost immediately. In addition, females leave occasionally to lay their eggs in fresh manure piles.

ECONOMIC IMPACT

Horn flies are blood feeders that primarily attack pastured cattle. Bulls are more attractive to horn flies than are steers or cows. Individual flies pierce the skin with their short, tube-like mouthparts 20 to 30 times per day to ingest a small amount of blood. Their feeding activity is painful and annoys the animals, as well as causing some blood loss. This stress is probably the cause of reduced weight gain during the summer. Horn flies can cause a 12 to 20 pound lighter calf at the end of the summer, as well as, greater weight loss per nursing cow.

In addition, horn flies have been implicated in the spread of summer mastitis, a suppurative disease of non-lactating mammary glands. Incidence of this disease is highest during the fly season and decreases in response to effective fly control. Horn fly feeding lesions on teats may serve as entry sites for the pathogen and these, and other pasture flies, may carry the disease organism on their bodies.

HORN FLY CONTROL OPTIONS

There are many effective options to keep horn fly numbers below the 50 fly per side treatment threshold. Cost, convenience, and herd management practices, such as grazing rotation, can be considered when designing a control program that fits best.

Backrubbers allow cattle to treat themselves while loafing and scratching. The insecticide should be

diluted with a good grade of mineral oil (diesel oil evaporates more quickly and is harder on the cattle's skin) according to label instructions. Do not use motor oil. See ENT-4, Making and Using A Cattle Backrubber, for more information.

Dust bags are most effective when used where cattle have to pass under them daily to get to water or mineral. The bag will leave an insecticide deposit along the back, where horn flies spend most of their time. The bag should be inspected regularly and recharged as needed. Keep the bag dry to reduce clumping of the insecticide and premature loss of effectiveness.

Feed additives target horn fly maggots breeding in fresh animal manure. All animals must eat a minimal dose of a feed additive regularly. Supplementary control measures must be taken to deal with flies moving in from nearby herds.

High pressure sprays can be used to treat cattle thoroughly and inexpensively on a per head basis. More handling is required because the animals must be confined in a corral to so that they can be sprayed thoroughly. Several applications probably will be needed during the fly season.

An **insecticide bolus** is a large pill-like formulation that is given to the animal with a standard balling gun. For best results, the entire herd should be treated. The active ingredient, usually an insect growth regulator, is gradually released from the bolus and prevents development of face fly and horn fly larvae in manure.

Insecticide-impregnated cattle ear tags release small amounts of an insecticide which are distributed over the animal during grooming or rubbing. In general, ear tags have provided excellent, long term control of horn flies and a reduction in face fly numbers. See Entfact 505, Insecticide- Impregnated Ear Tags, for more information.

Pour on insecticides are ready-to-use formulations that are applied in measured doses to animals based upon

body weight. Most function as contact insecticides. Typically, they provide fly reduction for about 4 weeks so they must be re-applied at intervals. The length of control will vary with weather and other factors so re-apply when fly numbers build back up to about 50 per side but no sooner than the label instructions allow.

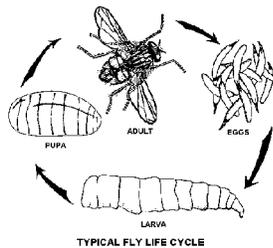
Self-applicator sprayers can be set up at mineral feeders or gates between fields. A switch, tripped by the animal, releases a small amount of spray. While the actual treated area may be relatively small, horn flies move around on the animal enough to come in contact with the insecticide.

Large **walk through fly traps**, placed at pasture gates where animals must pass through them regularly, can reduce horn fly numbers by up to 70% without the use of an insecticide. Ideally, the tunnel-like trap should be placed where animals can pass through it several times a day. Flies are brushed off of the animals while they are in the device. See Entfact 508, Walk Through Fly Trap for Pastured Cattle.

INSECTICIDE RESISTANCE

In some areas, horn flies have developed resistance to insecticides used for their control. See Entfact 501, Managing Pyrethroid-Resistant Horn Flies for more information.

HORN FLY BIOLOGY



Female horn flies lay their eggs in fresh cattle manure within a few minutes after it has been deposited. The immature, or maggot state, develop best in the grass manure of pastured cattle, few can survive in the manure of cattle fed concentrates or

silage. The horn fly life cycle is completed in 10 to 14 days; since each female can lay up to 500 eggs, very large populations can build up over the summer. These pests overwinter as pupae beneath manure pads or in the soil.