

AGRICULTURAL GUIDE

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Insect Control

Fly control on beef cattle for 1983

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Flies that attack beef cattle are of two general groups—*non-biting*, those with sponging mouth parts, and *biting*, those with piercing-sucking mouth parts. *Non-biting* includes face flies and house flies. *Biting* includes horn flies, stable flies, horse flies, and many species of small gnats.

Non-biting Flies

The mouth parts of non-biting flies are not adapted for piercing the animal's skin. They can take up food only in liquid form. They feed on liquid materials around the eyes, nose, mouth, and on blood flowing from wounds. They may cause eye inflammation and transmit eye disease organisms. Their feeding activities annoy the animals so that the animals may not graze normally, thus reducing food intake and causing a decline in gain.

House Flies may be found feeding around the eyes, nose, mouth, and on saliva or other moisture on the hair. Larvae develop in fresh manure, especially if it is close to barns or in decaying organic matter.

Face flies closely resemble the house fly but are usually just slightly larger. As the name implies, they feed mainly around the face of the animal, particularly around the eyes, nose and mouth. Larvae develop in fresh manure, principally in open pastures.

Biting Flies

Biting flies feed by piercing the animal's skin with their sharp mouth parts and sucking blood. The feeding activities of the flies are annoying and cause a reduction in food consumption. The loss of blood and reduced food consumption cause a decline in rate of weight gain and reduce the efficiency of the beef cattle feeding operation.

Horn flies are about one-half the size of house flies. Their black bodies appear to be covered with a grayish powder. They usually feed on the shoulders and back and less frequently on the neck, around horns, and on the belly. Wings are partially spread when feeding, giving them the appearance of an arrow-head. Generally, they feed in large numbers and "swarm" when disturbed. Larvae develop in fresh manure.

Stable flies are about the size of house flies. Their bodies are a light gray and black. These flies feed mainly on the animal's legs. When the fly is resting, the mouth parts are projected forward. Stable flies develop in moist, decaying vegetation, such as straw, hay, piles of grass, dead weeds, or large round hay bales stored outside. They develop in manure only if it is mixed with hay or straw.

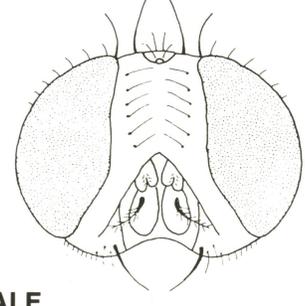
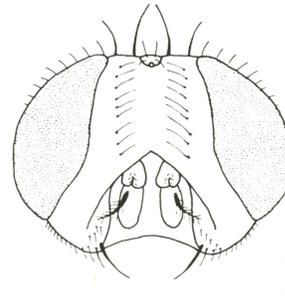
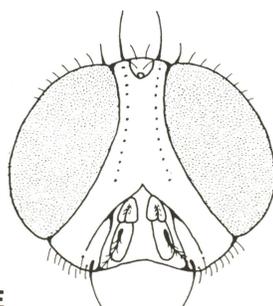
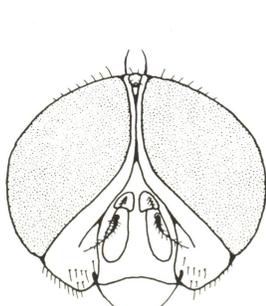
Several species of horse flies and deer flies may pester cattle. Size may vary from $\frac{1}{3}$ to 1 inch long. Color may be solid, striped, or spotted brown or black. Eyes are sometimes brightly colored. Only the females bite. The males feed on honeydew, nectar, etc. Larvae live in mud or water in streams, lakes, and swampy areas. To date no practical control exists for deer and horse flies. Traps may reduce populations near houses or barns. Write to the UMC Entomology Department, 1-87 Agriculture Bldg., for plans.

FACE FLY

HOUSE FLY

FACE FLY

HOUSE FLY



MALE

FEMALE

Method of Control

Insecticide

Ear Tags (Horn fly control and aids in Face fly control)

Ear tags have been experimentally demonstrated to be highly effective in the control of horn flies. These tags will also aid in the control of face flies. This new convenient method of control is worthy of your consideration and use at least on a trial basis. Use fenvalerate (Ectrin) 8% plastic ear tags or permethrin (Atroban, Gardstar) 10% plastic ear tags.

RESTRICTION: Use only as directed on label.

Backrubbers (Horn fly and Face fly control)

Apply 1 to 2 quarts of solution to cable-type backrubber or fill reservoir of oiler-type to capacity every 10 days to two weeks or as needed. Initial charging of cable-type backrubbers will require about 1 gallon of solution. DO NOT apply entire amount at one time. Split the applications to allow the backrubber to become thoroughly soaked. DO NOT locate backrubbers where drippage or spillage will contaminate surface water supplies. DO NOT LET CATTLE USE A BACKRUBBER THAT IS DRIPPING WITH THE INSECTICIDE MIXTURE. See UMC Guide 7012, "Making and Using a Cattle Backrubber," for suggestions on constructing a backrubber.

1. Coumaphos (Co-Ral) - Charge backrubber with 1% coumaphos solution made by mixing $\frac{2}{3}$ pint 11.6% Co-Ral emulsifiable concentrate in 1 gallon of fuel oil.
- *2. Dioxathion (Delnav) - Use a 1% dioxathion solution made by mixing 8 tablespoons 30% Delnav livestock emulsifiable concentrate in 1 gallon of fuel oil.
3. Malathion - Use a 2% malathion solution made by mixing 9 tablespoons 57% malathion emulsifiable concentrate in 1 gallon of fuel oil.
4. Ronnel (Korlan) - Use a 1% ronnel solution made by mixing 10 tablespoons 24% Korlan emulsifiable concentrate in 1 gallon of fuel oil.
5. Toxaphene - Use a 5% toxaphene solution made by mixing $\frac{2}{3}$ pint 60-65% toxaphene livestock emulsifiable concentrate in 1 gallon of fuel oil.

RESTRICTIONS: Do not allow access to toxaphene charged backrubbers at least 28 days before slaughter. No withdrawal interval is required if you are using backrubbers charged with coumaphos, dioxathion, malathion or ronnel.

Dustbags (Horn fly control)

Place bags in doorways, gateways, loafing sheds or other areas where cattle congregate. Keeping the bags dry is advisable. Placing the bags so cattle are forced to use them daily will result in increased control.

1. Use burlap bags containing 1% coumaphos dust.
2. Or use burlap bags containing 3% stirofos (Rabon) livestock dusting powder.

RESTRICTIONS: **Do not** hang bags over feed, mineral, or water troughs. No preslaughter interval is required with either of these daily applications.

Sprays (Hornfly, Stable fly, Face fly, and House fly control)

Direct sprays on the back of the animal for best *horn fly* control. Apply 1 to 2 pints spray per animal. Direct sprays on belly and legs of animals for best *stable fly* control. Apply 1 to 2 pints of spray per animal. Apply sprays on animal's face for best *face fly* control. Apply about 1 cup per mature animal. For overall application, use 1 to 2 quarts spray per animal. **Do not** apply insecticides to calves less than three months old, and use light applications on calves three to six months old. **Do not** spray animals in a confined, nonventilated area or animals under stress.

1. Coumaphos (Co-Ral) - Use a 0.06% coumaphos spray as necessary, made by mixing 2 pounds 25% Co-Ral wettable powder in 100 gallons of water or 1 ounce in 3 gallons of water. Or mix 2 quarts 11.6% Co-Ral emulsifiable concentrate in 100 gallons of water or 4 teaspoons in 1 gallon of water.
2. Crotoxyphos (Ciodrin) - Use 1% Ciodrin spray weekly, made by mixing 2 quarts 14.4% Ciodrin emulsifiable concentrate in 6 gallons of water or $\frac{2}{3}$ pint (1- $\frac{1}{3}$ cups) in 1 gallon of water.
3. Dioxathion (Delnav) - Use a 0.15% spray made by mixing 2 quarts 30% Delnav livestock emulsifiable concentrate in 100 gallons of water or 4 teaspoons in 1 gallon of water. **Do not** use more often than once every two weeks.
4. Ronnel (Korlan) - Use a 0.5% ronnel spray made by mixing 2 gallons of 24% Korlan emulsifiable concentrate in 100 gallons of water or 5 tablespoons in 1 gallon of water. **Do not** use more frequently than once every two weeks.
5. Toxaphene - Use 0.5% toxaphene spray as needed, made by mixing 3 quarts 60-65% toxaphene livestock emulsifiable concentrate in 100 gallons of water or 2 tablespoons in 1 gallon of water.

RESTRICTIONS: Apply coumaphos or toxaphene as needed; crotoxyphos no more than once every seven days. **Do not** apply dioxathion or ronnel more than once every two weeks. **Do not** apply ronnel within seven days of slaughter or toxaphene within 28 days of slaughter. No preslaughter interval is required with coumaphos, crotoxyphos or dioxathion.

***An asterisk (*) preceding any insecticide means that all or some uses of the product have been restricted by the Environmental Protection Agency. Applicators must be certified before they may purchase restricted products.**

Missouri insect control recommendations are revised annually and are subject to possible change during the season. This guide is intended for use during the **1983** season only. No discrimination is intended and no endorsement is implied.

