

1978 Recommendations for Fly Control on Beef Cattle

Flernoy G. Jones, Department of Entomology, College of Agriculture

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, and horse flies.

Non-biting Flies

The mouth parts of non-biting flies are not adapted for piercing the animal's skin. They can only take up food 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 will not graze normally, reducing food intake, 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.

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.

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 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, or dead weeds. They develop in manure only if it is mixed with hay or straw.

Several species of **Horse Flies & 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.

Missouri insect control recommendations are revised annually and are subject to possible change during the season. This guide is intended for use during the 1978 season only. No discrimination is intended and no endorsement is implied.

See other side

Method of Control

Insecticide

Backrubbers (Horn fly and Face fly control)

Apply one to two quarts of solution to cable-type backrubber or fill reservoir of oiler-type to capacity every ten days to two weeks or as needed. Initial charging of cable-type backrubbers will require about one 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 $\frac{3}{8}$ pint 11.6% Co-Ral emulsifiable concentrate in one gallon of fuel oil.
- *2. Dioxathion (Delnav) - Use a 1% dioxathion solution made by mixing eight tablespoons 30% Delnav livestock emulsifiable concentrate in one gallon of fuel oil.
3. Malathion - Use a 2% malathion solution made by mixing nine tablespoons 57% malathion emulsifiable concentrate in one gallon of fuel oil.
4. Ronnel (Korlan) - Use a 1% ronnel solution made by mixing ten tablespoons 24% Korlan emulsifiable concentrate in one gallon of fuel oil.
- *5. Toxaphene - Use a 5% toxaphene solution made by mixing $\frac{3}{8}$ 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 prior to slaughter. No withdrawal interval is required 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.

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 (Horn fly, Stable fly, Face fly, and House fly Control)

Direct sprays on back of animal for best *horn fly* control, applying one to two pints spray per animal. Direct sprays on belly and legs of animals for best *stable fly* control, applying one to two pints of spray per animal. Apply sprays on animal's face for best *face fly* control, applying about one cup per mature animal. For overall application, use one to two 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 two pounds 25% Co-Ral wettable powder in 100 gallons of water or one ounce in three gallons of water. Or mix two quarts 11.6% Co-Ral emulsifiable concentrate in 100 gallons of water or four teaspoons in one gallon of water.
2. Crotoxyphos (Ciodrin) - Use 1% Ciodrin spray weekly, made by mixing two quarts 14.4% Ciodrin emulsifiable concentrate in 6 gallons of water or $\frac{3}{8}$ pint (1- $\frac{1}{3}$ cups) in one gallon of water.
- *3. Dioxathion (Delnav) - Use a 0.15% spray made by mixing two quarts 30% Delnav livestock emulsifiable concentrate in 100 gallons of water or four teaspoons in one 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 two gallons of 24% Korlan emulsifiable concentrate in 100 gallons of water or five tablespoons in one 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 three quarts 60-65% toxaphene livestock emulsifiable concentrate in 100 gallons of water or two tablespoons in one 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; 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 or will be restricted by the Environmental Protection Agency. Applicators must be certified and licensed before they may purchase restricted products.



Issued in furtherance of Cooperative Extension Work Acts of May 8 and June 30, 1914 in cooperation with the United States Department of Agriculture. Carl N. Scheneman, Vice President for Extension, Cooperative Extension Service, University of Missouri and Lincoln University, Columbia, Missouri 65211. ■ An equal opportunity institution.