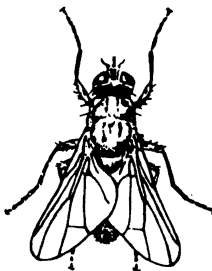


Insect Control Recommendations

EXTENSION DIVISION
Virginia Polytechnic Institute and State University

EXTERNAL PARASITES OF DAIRY CATTLE

James E. Roberts, Sr.

Pests	Insecticide and Percent Dilution	How to Mix and Apply	Precautions and Days Between Last Application and Slaughter ^{1/}
DUST BAGS ^{2/}			
Horn flies-aids in the control of face flies	Coumaphos (Co-Ral) 1% D	No mixing is necessary. Install burlap bags of dust in doorway where cattle leave milking barn or enter loafing barn. Do not contaminate feed or water. Keep in place during winter months for aid in control of lice.	0 days
	Stirofos (Rabon) 3% Dust		0 days
BACKRUBBERS			
Horn flies	Coumaphos (Co-Ral)	Use 1 qt. of 1 lb. per gal. EC to 3 gal. of diesel fuel when mixing Co-Ral. No mixing is necessary for the Ciodrin-Vapona mixture. It is available in a ready-to-use light oil.	See footnote ^{3/} . 0 days
	1% Crotoxyphos (Ciodrin) + 0.25 Dichlorvos (Vapona) sold under various trade names.		0 days
			To obtain forced-use, install burlap-wrapped cable or similar device in gates, doorways, or loafing areas, etc., at first sign of pest. Pour one gal. of mixture on 20 ft. of cable. Re-treat once each week.
HAND DUSTING			
Horn flies	Malathion 4% or 5% D	No mixing is necessary. Apply with shaker can to back, neck and flanks using 4 tbsp. per head of 4% dust or 3 tbsp. per head of 5% dust. THE BEST TIME TO APPLY IS JUST AFTER MILKING.	Allow a 10 to 14-day interval between treatments. Do not apply within 5 hours prior to milking or during milking. 0 days

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Pests	Insecticide and Percent Dilution	How to Mix and Apply	Precautions and Days Between Last Application and Slaughter
Face flies, Horn flies, Lice	Stirofos (Rabon) 3% D	No mixing is necessary. Apply approximately 2 oz. of dust by shake can, rotary duster or by spoon to the upper portions of the back, neck and poll, and to the face as an aid in the control of face flies. Rub in lightly to carry the dust beneath the hair. Repeat as necessary.	0 days
Horn flies, Lice	Coumaphos (Co-Ral) 1% D		
WETTING SPRAYS			
Face flies, Horn flies, Stable flies, Lice, Ticks	10% Crotoxyphos (Cioldrin) + 2.5% Dichlorvos (Vapona) (Ciovap EC)	Use 2 qts. of Ciovap EC (1.1 lbs. per gal.) per 6 gal. of water. Spray thoroughly, especially on back and upper portion of sides, using 1-2 pts. of spray per large animal and proportionately less for smaller animals.	0 days. Do not apply more than once every 7 days. Do not apply regularly to calves under 6 months old. Do not spray udders.
MIST SPRAYS			
Horn flies, Horse flies, Stable flies	Synergized pyrethrins 0.05% to 0.1% + synergist 0.5% to 1% 4/ Crotoxyphos (Cioldrin) 1% + Dichlorvos (Vapona) 0.25%. Sold under labels such as Ciovap and Super Kleen Kow	Follow directions on container. Apply 1 to 2 oz. daily as a mist spray, with hand sprayer or electric mister automatic sprayer. Improve control by adding 1 tsp. of sugar per pt. of spray solution.	If other mist sprays are used on lactating dairy cattle, please read label carefully. 0 days Do not contaminate food, feed, or drinking water.
Face flies, Horn flies, Stable flies	Dichlorvos (Vapona) 1%	No mixing necessary. It is available in a ready-to-use light oil. Apply 1 to 1 1/2 oz. daily as a mist spray with hand or automatic sprayer. Spray to thoroughly cover all parts of the animal, including the legs but do not wet the skin.	0 days
Face flies, Horn flies, Stable flies	10% Crotoxyphos (Cioldrin) + 2.5% Dichlorvos (Vapona) EC. (Ciovap EC)	Mix 1 qt. of Ciovap EC with 3 gal. of water. Apply 1-2 oz. daily per animal with a low-pressure sprayer or electric mister.	0 days. Do not apply more than once every 7 days. Do not exceed 2 oz. per animal.

Pests	Insecticide and Percent Dilution	How to Mix and Apply	Precautions and Days Between Last Application and Slaughter
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LATE SUMMER OR FALL APPLICATIONS FOR CATTLE GRUB CONTROL ON NON-LACTATING (DRY) COWS ONLY
SPRAYS

	Coumaphos (Co-Ral) 0.375%	Amount of Water 100 gal. 3 gal. 12 lb. of 6 oz. of 25% WP or 25% WP or 3 gal. of 12 oz. of 11.6% EC 11.6% EC Spray once to point of drip (up to 1 gal. per adult) between July 15 and October 1.	Do not apply closer than 14 days of freshening. ^{3/} If freshening occurs with- in 14 days of treatment, do not milk for human consumption for the balance of 14 days. 0 days
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POUR-ONS 6/

	Coumaphos (Co-Ral) 4%	No mixing is necessary. It is available as a ready-to-use oil solu- tion. Pour on evenly along animal's back by means of a long-handled dipper. Use 1/2 oz. per 100 lb. of body weight.	Do not treat animals less than 3 months old. Do not apply within 14 days of freshening. ^{3/} If freshening occurs within 14 days of treatment, do not milk for human con- sumption for the balance of 14 days. 0 days
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LATE SUMMER OR FALL POUR-ONS FOR CATTLE GRUBS AND LICE CONTROL ON NON-LACTATING (DRY) COWS ONLY

	Fenthion <u>7/</u> (Tiguvon) 3%	No mixing is necessary. Available as a ready-to- use oil solution. Use as directed on label. Apply evenly along animal's backline by means of long-handled dipper. Use 1/2 oz. per 100 lb. of body weight.	35 days for 1 application. 45 days for 2 or more applications. Do not apply in conjunction with oral drench or other medication. 28 days pre-freshening interval.
	Trichlorfon <u>8/</u> (Neguvon) 8%	No mixing is necessary. Ready-to-use oil solu- tion. Use as directed on the label. Apply on backline as above. Use 1/2 oz. of 8% Neguvon per 100 lb. of body weight. Use 1 oz. of 13.2% Warbex per 200 lb. of body weight, not to exceed a total dosage of 4 oz. applied from shoulder to the tail head as a single treatment. Do not treat if rain conditions prevail allowing animals to be- come wet.	Do not treat sick animals or those less than 3 months old. Do not repeat treat- ment. Do not treat animals if they are likely to get wet. 21 days.
	Famphur <u>9/</u> (Warbex) 13.2%	No mixing is necessary. Ready-to-use oil solu- tion. Use as directed on the label. Apply on backline as above. Use 1/2 oz. of 8% Neguvon per 100 lb. of body weight. Use 1 oz. of 13.2% Warbex per 200 lb. of body weight, not to exceed a total dosage of 4 oz. applied from shoulder to the tail head as a single treatment. Do not treat if rain conditions prevail allowing animals to be- come wet.	Do not treat sick animals or those less than 3 months old. Do not repeat treat- ment. (See footnote <u>3/</u>). 35 days

DAIRY (LACTATING AND NON-LACTATING)

EAR TAGS

Ear ticks, horn flies (also aid in control of face flies)	Stirofos (Rabon) ready to use	Apply with the Allflex Tagging System. Apply 2 tags per animal (one in each ear) READ INSTRUCTIONS CAREFULLY for proper placement. Replace as necessary.	Read instructions carefully to avoid ear damage. Manufac- turer suggests that calves less than 5-6 mos. old not be tagged due to possible ear deformity.
			No withdrawal period necessary.

RABON ORAL LARVICIDE IS NOW LABELED AS A FEED ADDITIVE FOR THE CONTROL OF HORN FLIES, FACE FLIES, HOUSE FLIES AND STABLE FLIES IN THE MANURE OF TREATED DAIRY CATTLE. USE IN ACCORDANCE WITH LABEL.

- 1/ Insecticides should be applied with extreme caution to cows or calves in poor health. This means light applications of safer materials.
- 2/ Close mesh bags must be used to prevent waste of dust.
- 3/ Do not apply to sick, convalescent, or stressed animals, or animals less than three months old. Do not dip or spray animals for 10 days before or after shipping, weaning, or after exposure to contagious or infectious disease. Do not apply in conjunction with oral drenches or other internal medications such as phenothiazine, or with natural or synthetic pyrethroids or their synergists, or with organic phosphates. Do not spray in a confined non-ventilated area.
- 4/ MGK R-11 or R-326, Tabutrex or Crag fly repellent may be added to synergized pyrethrins for increased effectiveness, especially against horse flies.
- 5/ Do not apply to dry dairy cows within 3 days of freshening, or to cows producing milk for human consumption. If cows freshen during treatment, or if treatment has not been withdrawn the required 3 days prior to freshening, milk must not be used for food for 3 days after the last treatment. Do not load cattle into poorly ventilated trucks within 24 hours following dehorning, overexertion, or excitement; or within 10 days of shipping, weaning, or exposure to diseases. Do not apply to meat animals within 7 days of slaughter. Cattle should have free access to water and feed before and after treatment. Do not treat animals simultaneously or within a few days before or after treatment with or exposure to cholinesterase-inhibiting drugs, pesticides, or other chemicals.
- 6/ If other pour-ons for grub control are used on non-lactating dairy cattle, please read label carefully.
- 7/ Fenthion - Do not apply directly (spray or pour-on) to sick, convalescent, or stressed animals. Do not spray animals less than 6 months or use pour-on application on animals less than 3 months old. Do not apply directly (spray or pour-on) for 10 days before or after shipping or weaning, or after exposure to contagious or infectious diseases. Do not apply in conjunction with or within a few days of treatment with other cholinesterase-inhibiting drugs, pesticides, or other chemicals including other fenthion products. If freshening occurs within 28 days after treatment, do not use milk for human consumption for balance of the 28 day interval.
- 8/ Trichlorfon - Do not apply in conjunction with oral drenches, other external medication, or with other organic phosphates or materials having cholinesterase-inhibiting activity. Seven-day prefreshening interval. If freshening occurs within 7 days after treatment, do not use milk for human consumption for the balance of the 7 day interval. Apply a single treatment along the backline. Proper timing of treatment is important. For most effective results, cattle should be treated as soon as possible after fly activity ceases. Host-parasite reactions sometimes occur when cattle are treated while common cattle grub is in the gullet, or while the northern cattle grub is in the area of the spinal cord. If it is impossible to determine the origin of the cattle, and thus the exact stage of the grubs is unknown, it is recommended they receive only a maintenance ration of low energy feed during the treatment period. This lessens the likelihood of severe bloat which may occur in cattle on full feed when the common cattle grub is killed while in the gullet. Do not treat animals for 10 days before or after shipping, weaning, or after exposure to contagious or infectious diseases.
- 9/ Famphur - Do not use on dry dairy cows within 21 days of freshening. Cattle from or in Texas, Oklahoma, Kansas, Arkansas, Louisiana, Mississippi, eastern third of New Mexico, Colorado, and southwestern half of Missouri should not be treated after October 1; cattle from the rest of the U.S. not after November 1. On occasion, cattle treated with famphur may show signs of organophosphate poisoning such as excessive salivation, stiffness of limbs, and dyspnea. Atropine is antidotal. A veterinarian should be consulted. Do not use any drug, pesticide, insecticide, or other chemicals having cholinesterase-inhibiting activity either simultaneously or within a few days before or after treatment with famphur. Do not treat calves less than 3 months old; dehydrated animals; animals stressed from shipment, castration, over-excitement, or dehorning; and sick or convalescent animals.

For additional information, see Publication 412, BIOLOGY AND METHODS OF CONTROL FOR EXTERNAL PARASITES OF DAIRY CATTLE, Publication 411, BIOLOGY AND METHODS OF CONTROL FOR EXTERNAL PARASITES OF CATTLE, may also be helpful with regard to treating non-lactation (dry) dairy cattle.

AG - Indicates the proper EC formulation for agricultural uses; AI - Active Ingredient; AI/Gal. - Active Ingredient per Gallon; D - Dust; E - Emulsifiable; EC - Emulsifiable Concentrate; EL - Emulsifiable Liquid; F - Flowable; fl. oz. - fluid ounce; G - Granular; gal. - gallon; gal/100 - gallon per 100; in. - inch; IU - International Unit; lb. - pound; lb./gal. - pounds per gallon; LC - Liquid Concentrate; liq. sol. - liquid solution; LS - Liquid Solution or Suspension; MG - Milligram; oz. - ounce; pt. - pint; qts. - quarts; S - Soluble or Sprayable; SC - Soluble Concentrate; SP - Sprayable or Soluble Powder; sq. ft. - square ft.; tbsp. - tablespoon; tsp. - teaspoon; W - Wetttable; WP - Wetttable Powder

Trade and brand names are used only for the purpose of information and the Virginia Cooperative Extension Service does not guarantee nor warrant the standard of the product, nor does it imply approval of the product to the exclusion of others which may also be suitable.

KEYS TO PROPER USE OF PESTICIDES

1. Read the label on each pesticide container before each use. Follow instructions to the letter; heed all cautions and warnings, and note precautions about residues.
2. Keep pesticides in the containers in which you bought them. Put them where children or animals cannot get to them, preferably under lock and away from food, feed, seed, or other material that may become harmful if contaminated.
3. Dispose of empty containers in the manner specified on the label.

SEE YOUR DOCTOR IF SYMPTOMS OF ILLNESS OCCUR DURING OR AFTER USE OF PESTICIDES.