

INSECT CONTROL ON DAIRY CATTLE - 2018

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This publication contains only a portion of the important information included on pesticide labels. Always read the product label carefully before buying and using any pesticide. In addition, pesticide labels and registrations may change at any time. Disregard any statements in this publication that disagree with the label. Many insecticides are sold under brand names that are not listed in this publication. No endorsement is intended for products mentioned, nor is criticism meant for products not listed. Products listed in bold are **Restricted Use** insecticides. Products listed in *italics* are approved for organic production.

Insecticides have been placed into numbered Insecticide Mode of Action groups (MOA) based on how they work against insects. Continual use of products from a single group against a pest species can lead to reduced control (resistance) by all products in the group. To minimize control failures due to insecticide resistance, do not apply insecticides within the same group repeatedly, even when using different application methods (baits, residual sprays, knockdown sprays, etc.). Rotate among groups during the fly season.

House fly and stable fly control on premises

House fly and stable fly maggots develop in moist spilled feed and bedding or organic matter mixed with manure. A successful control program is based on effective sanitation / manure management supplemented with timely applications of insecticides as needed. Fly control that relies mostly in chemicals is unlikely to be successful.

Sanitation and moisture management are the keys to any successful fly control program. Sanitation removes breeding sites. This should be done at about 10-day intervals during the fly breeding season. Keeping accumulated manure, bedding, and spilled feed as dry as possible until removed will make these sites less attractive for fly breeding.

Screening and other mechanical control methods are invaluable in preventing flies from entering milk rooms and milking parlors. Air curtains are also of some use in keeping flies from entering these areas.

Fly traps can capture large numbers of house flies but generally do not reduce their numbers significantly. Ultraviolet light traps, bottle traps, and fly sticky strips can be useful, particularly in the milk room where pesticide applications are limited and fly numbers are low. The solution to severe fly problems lies in finding and treating or eliminating breeding sites.

Fly parasite release programs Several commercial firms offer a fly parasite release program that can be used to supplement fly control around concentrated livestock operations. These small wasp parasites lay their eggs in the larvae or pupae of house flies. The benefits of a parasite release programs in livestock operations have not been proven. If you try them, include sanitation and chemical treatments with these parasite releases probably will be essential. See Entfact 502 for more information.

Control of house flies in milk rooms

Insecticide	MOA
<i>Pyrethrins + piperonyl butoxide (various brands)</i>	3
<i>Pyrethrins – EverGreen Pyrethrum Concentrate, PyGanic Specialty</i>	3
Dichlorvos- Vapona Farm Strips (20%)	1B

Pesticides must be used with extreme caution in milk rooms to avoid illegal residues in milk. Nonchemical means such as good sanitation, tight-fitting, spring-loaded screen doors and windows, sticky fly strips, and ultraviolet traps are preferred methods of control supplemented by a comprehensive fly management program in the dairy barn. When pesticides are used, cover milk, milking utensils, bulk tanks and other containers before spraying. Follow label directions and check with your local milk inspector before using any pesticide in the milk room area.

Control of adult flies (excluding milk rooms)

Residual fly sprays applied to shaded or protected surfaces (walls, posts, ceilings) in and around barns and loafing sheds will kill flies that stay on the surfaces long enough to absorb a lethal dose. Residual sprays remain active for several days until they are broken down by sunlight or washed off by rain. Fly resting sites can be recognized by the accumulations of "fly specks", feces deposited by flies.

Pyrethroid Insecticides (Group 3)	Organophosphate Insecticides (Group 1b)
Cyfluthrin - Countdown 2 E or Countdown 25% WP	Fenthion-Baytex 4 45% EC
Lambda-Cyhalothrin- Grenade 10% WP	Naled - Fly Killer D
Permethrin- Atroban 11% EC; Permethrin II 10% EC	Tetrachlorvinphos -Rabon 50% WP Tetrachlorvinphos + Dichlorvos - Ravap EC
Spinosyn (Group 5)	
Spinosad - Elector PSP 44.2%	

Note: Remove animals from barn before spraying. Allow at least 4 hours for spray to dry. Do not contaminate feed, water or milking equipment and do not apply these materials in the milk room. These same materials may also be applied onto fly resting areas outdoors. Apply one gallon of spray solution per 500 to 1,000 square feet. Residual fly spray materials listed above should control flies for 1 to 7 weeks.

Fly baits (attractant plus an insecticide) can provide temporary reduction of house flies but will not control stable flies. Baits should be placed in areas where flies rest but kept away from feed, water, milk, cattle, and other animals. Baits work best where sanitation is very good so there is little competition from other food sources.

Bait Active Ingredient	MOA	Brand Name
Methomyl	1A	Apache, Fatal Attraction, Golden Malrin Fly Bait Plus, Tailspin
Trichlorfon	1B	Dipterex
Dinotofuran	4	QuickStrike 1% Strip
Imidacloprid	4	QuickBait 0.5%
Cyantraniliprole	28	ZyroxBait
Spinosad	5	Elector Bait 0.5%

Space sprays or knockdown sprays are applied as fine mists by blowers, foggers, or hand guns. They should be applied to areas where flies are resting because they kill by direct contact. The sprays usually break down rapidly and do not leave a killing residue.

Space sprays or knockdown sprays	MOA
<i>Pyrethrins - Pyganic</i>	3
Pyrethrins + Piperonyl butoxide +MGK 326 Repellent	3
10% Permethrin or Permethrin II EC	3
Dichlorvos - Vapona 23.4% EC or Vapona 1% OS	1B

Control maggots in manure

Larvicides Spray Rabon 50WP or Ravap EC directly on maggot-infested manure as a means of temporarily reducing fly numbers when sanitation and manure management cannot be used. These applications will kill beneficial insects that feed on fly eggs and larvae so limited treatments to areas with large numbers of maggots. Do not spray manure where runoff to soil or water can occur. Do not spray animals with these concentrations.

Pasture flies and external parasites

Dust bags 3% Rabon, 10% Prozap Insectrin, Permethrin D may be used. Dust bags are most effective when set up in a forced-use situation such as at the exit to milking parlors, across barn doors, entrances to water or feeders.

Insecticides for back rubbers/ oilers and face rubbers	Insecticide Group
Atroban 11% EC, Delice PO, GardStar 40% EC, 10% Prozap Insectrin, Permethrin II 10% EC (permethrin)	3
Coral 6.15% Fly and Tick Spray	1B
Ravap 28.7% EC (stirofos + dichlorvos)	1B

Use No. 2 diesel oil, No. 2 fuel oil, or label-recommended mineral oil to dilute concentrate. Do not use waste oil or motor oil. Use one gallon of diluted solution per 20 ft of back-rubber. Do not use these dilutions as sprays. As with dust bags, these devices are most effective when placed in force-used areas such as milking room exit doors and entrances to watering sites. Rubbers are more effective against face flies if 18" strips of cloth are tied at four to six inch intervals along the length. Service the devices at least once per week and position in entryways to water or mineral feeders.

Whole animal sprays	Insecticide Group
Atroban 11% EC, GardStar 40% EC, Hardhitter, 10% Prozap Insectrin, Permethrin II (permethrin)	3
<i>Pyrethrins – EverGreen Pyrethrum Concentrate, PyGanic Specialty</i>	3
Ravap 28.7% EC (stirofos + dichlorvos)	1B

Spray lactating cows after milking. Do not contaminate feed, water, milk, or milking equipment.

Pour-On Insecticides

Several products containing the active ingredient permethrin may be used on lactating dairy cattle. Examples include Atroban Boss, Brute, CyLence, DeLice, and Permethrin CDS. Other labeled pests include lice and stable flies.

Insecticide impregnated ear tags for lactating dairy cattle (number of tags per animal)

Pyrethroid Tags (Group 3)
10% Permethrin - Atroban/Atroban Extra/ Apollo/ Deckem/ Ear Force /Gard Star/ New Z Permethrin/Permethrin Insecticide Ear Tags
15% <i>beta</i> -cyfluthrin - Cylence CyGuard
8% <i>beta</i> -cyfluthrin CyLence Ultra
<i>zeta</i> -cypermethrin PYthon/ZetaGard

Insecticide ear tags can provide good control of horn flies and may provide some reduction in face fly numbers. Horn fly resistance to the synthetic pyrethroid permethrin has become a significant problem in Kentucky. See Entfact 501. Insert tags after flies first appear in the spring (late May or early June). Use on calves and mature cattle. Remove tags at the end of the fly season (Sept or Oct). If insecticide resistance is suspected, or if pyrethroid ear tags were used the previous year, organophosphate (OP) tags (Cutter Blue) are recommended or switch to other control devices such as dust bags or sprays. Organophosphate ear tags effectively control pyrethroid-resistant horn flies but are somewhat less effective against face flies.

Bolus and feed additives for pasture fly control

Bolus Vigilante 9.7% (diflubenzuron) is available for fly control. The active ingredient is gradually released from the bolus and prevents development of face fly and horn fly larvae in manure. Use standard balling gun. For best results, all cattle in herd should be treated. See the product label for dosage rates.

Feed additives target fly maggots breeding in fresh animal manure. Research results indicate that results can be very variable. 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. The insect growth regulator (IGR) methoprene is the active ingredients in Altosid Block, Tub, and Liquid products. The organophosphate Rabon (stirofos) is available as a 7.76% Premix. Diflubenzuron (Clarify) also is an alternative.

Lice, horse fly, and tick control

Insecticides listed for animal sprays can be used to control lice and reduce numbers of horse flies and ticks. The Pour On insecticides Atroban, Delice, Boss, and Cylence are not systemic and can be applied to control cattle lice at any time during the winter.

Horse flies Many insecticides labeled for control of biting flies will provide temporary relief from horse flies. However, there are no practical control methods to provide long-term protection of pastured animals. Animals with access to sheds or barns can escape attack.

Ticks occasionally can be a problem on beef cattle grazing in over-grown areas. Many pasture fly sprays and pour-on products will provide some protection against ticks. See product labels for directions. Use Rabon 50 WP at 2 lbs per 25 gallons of water. Use Ravap at 1 gal per 200 gallons of water.

Cattle grub control on dairy Cattle

Cattle grub treatments must be properly timed in order to be effective and to minimize risk to animals. Make applications as soon as heel fly activity ceases, usually by the last week in July. **Do not treat after October 31, preferably not after October 15.**

Pour-ons for lactating dairy cattle	MOA	Days to freshening
Cydectin (moxidectin)	6	0 - Can be used on lactating animals
Eprinex (eprinomectin)	6	0 - Can be used on lactating animals

Chorioptic Mites cause a condition known as barn itch or tailhead mange. Two treatments 7 to 10 days apart, or as directed by the label, are necessary for control. Eprinex is labeled for control of chorioptic mange mites with no withholding period for the milk or slaughter.

Rat-tailed maggots live in highly polluted water such as livestock lagoons and manure pits. Mature larvae crawl away from the area in which they developed to dry places so that they can transform to the adult stage, a fly. They become pests when they enter milking parlors or milk rooms. An application of Ravap to the manure pit may provide very limited control. The crawling larvae will stop in a row of dry soil placed in their path. Shovel up and discard soil and maggots. See ENTFACT 500 for more information.

Wound maggots (green flies) Catron IV (permethrin) can be used to protect wounds on dairy cattle. Use as directed.