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Dairy Cattle Sprays

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Dairy cattle are exposed to a variety of fly pests during the fly season. House flies are usually the principal pest in and around buildings; however, the stable fly, the little house fly and a few other species are also common. Of these barn pests, the stable fly is the only biting fly.

In pastures, dairy cattle are annoyed by horn flies, face flies, stable flies, horse flies, deer flies, black flies and mosquitoes. All of the pasture fly pests are biting flies except the face fly.

Fly pests take a proven toll of the dairyman's profits by reducing production. These losses are caused by the feeding of blood-sucking flies as well as by the continual annoyance of non-biting flies. Losses have been documented in numerous tests which have shown a substantial decrease in milk production from dairy animals subjected to constant daily annoyances by flies.

In a dairy operation, fly control cannot be achieved without sanitation and manure management. Good sanitation practices such as removing all manure, rotting straw and hay will eliminate fly breeding areas. Winter manure accumulations must be removed by June 1 to prevent the early-season build-up of flies around a dairy operation. Well-drained and clean loafing areas will greatly reduce the fly breeding areas. Sanitation followed by the wise use of insecticides will reduce fly populations.

Use caution when applying insecticides for dairy fly control. When spraying buildings, treat not only the inside but also the outer walls, windows and doors. Remove all animals during spraying operations. Use approximately 1 gallon of spray to each 750 square feet of surface, spraying to the point of run off. Avoid contamination of water, feed and equipment with the insecticide. During the fly season, keep the barn closed as much as is practical and screen windows. Livestock insecticide ear tags may be used but are more effective in pasture situations than in barnyards or close confinement feed lot situations.

The major insect pest of dairy cattle during winter months is cattle lice. Both sucking lice and chewing lice are present in North Dakota. Sucking lice, often called "blue lice," are larger than chewing lice and are a slate-blue color. They feed by piercing the skin with their mouthparts and sucking blood. Chewing lice, commonly called "red lice," feed by chewing on the skin and flakes of dried epidermis in the hair coat. Both sucking and chewing lice cause considerable discomfort to cattle as they move over the animals' hide, under the hair coat. The eggs of lice are attached to hair and are called "nits." All life stages are present on cattle year around, but louse populations reach their highest numbers during the winter months. Cattle infested with lice have an unthrifty appearance, higher feed consumption, reduced weight gain and vigor, as well as a reduced milk production when compared to louse-free cattle.

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PEST	INSECTICIDE TO USE	AMOUNT TO USE	REMARKS
Treating Livestock Horn Fly Stable fly Face fly Mosquitoes Lice	SPRAYS— Direct Application		
	Anchor 10% EC	1 pt. per 50 gals. of water	Spray to run-off or fog or mist using 1 gal. spray mix per head.
	Atroban 11% EC	1 pt. per 50 gals. of water	Apply directly to animals at the approximate rate of 1 qt./animal. Spray dairy only after milking is completed.
	Ciodrin 14.4% EC	4 gals. per 100 gals. water	Apply 1 to 2 qts. per animal at weekly intervals.
	Ciodrin 1% + Vapona 0.25% (Ciovap)	2 fl. ozs. per animal daily	Daily application, or as often as needed. Do not exceed 2 ozs. daily per animal. Do not apply to animals less than 6 months of age.
	Dichlorvos (Vapona)	1 qt. per 7 gals. water or oil	Daily applications of 2 ozs. per animal per day, preferably 2 applications of 1 oz., morning and night.
	Ectiban 5.7% EC	1 qt. per 100 gals. water	Spray until entire animal is thoroughly covered. A second treatment at 14-21 days is recommended.
	Ectrin 10% WDL	1 qt. per 50 gals. water	Apply 1-2 pts. per animal with attention to head, neck, legs and down backline. Do not apply more frequently than weekly.
	Co-Ral 11.6% EC	1 qt. per 100 gals. water	Do not exceed recommended rate per 100 gals. water.
	Co-Ral 25% WP	1 lb. per 100 gals. water	Repeat applications as needed.
	Pyrethrins plus Synergist 0.025% EC plus 0.25% Synergist	Use as directed.	No restrictions, use as often as necessary.
SELF-TREATING DEVICES (Backrubbers and Dust Bags)			
	Ciodrin 14.4% EC	1 qt. per 4 gals. backrubber base oil (= 1% solution)	Do not apply regularly to calves under 6 months of age. Use 1 gallon per 20 linear feet of burlap sack rubber or as needed. For automatic or mechanical backrubbers, recharge the reservoir as needed.

PEST	INSECTICIDE TO USE	AMOUNT TO USE	REMARKS
	Dichlorvos (DDVP) 23.4%	Mix 1 pt. to 12½ gals. backrubber base oil.	Follow restriction as described on label.
	Methoxychlor 50% WP	1 tbs./animal as dry application	Apply to the necks and backs as a dry application every 3 weeks. Sprays containing methoxychlor are not permit- ted.
	Malathion 5% D	3 tbs./animal as dry application	Apply to the necks and backs of animals and repeat the ap- plication every 10 to 14 days. Sprays are not permitted. Do not apply within 5 hours before milking.
	Rabon 3% D	2 ozs./animal as dry application	Apply to the necks and backs of animals. May also be used in dust bags.
	Co-Ral 1% D	For lactating dairy cows, duster may be suspended in exit through which cows leave the milk barn. Adjust bag so that the bottom of the bag hangs 4 to 6 inches below topline of cattle. Do not place duster over feed, minerals or water troughs.	
	Rabon-oral larvacide (ROL)	For dosage, follow label recommendations explicitly. It may be worked into a feeding program or mineral mix. When fed to animals, it passes through the digestive tract and reaches the manure in sufficient concentrations to kill fly larvae, or maggots. Rabon oral larvacide is cleared for dairy cattle, in- cluding lactating cows.	

LIVESTOCK INSECTICIDE EAR TAGS

TRADE NAME	BASIC MANUFACTURER	COLOR	ATTACHMENT SYSTEM
<u>Fenvalerate (8%) Ear Tags</u>			
Ectrin Insecticide Ear Tag	SDS Biotech Corp.	Yellow	Allflex
Purina Insecta-Shield Cattle Ear Tag	SDS Biotech Corp.	Yellow	Allflex
Moorman's Ear Tag Plus	SDS Biotech Corp.	Yellow	Allflex
Vet Shack Insecticide Cattle Ear Tag	SDS Biotech Corp.	Yellow	Allflex
Starbar Insecticide Cattle Ear Tag	SDS Biotech Corp./ Zoecon Corp.	Green	Temple
<u>Permethrin (10%) Ear Tags</u>			
Cooper Atroban Insecticide Cattle Ear Tag	Burroughs Wellcome Co.	Green	Allflex
Coop Insecticide Ear Tag	Burroughs Wellcome Co.	Green	Allflex
Purina Insecta-Gard Insecticide Ear Tag	Burroughs Wellcome Co.	Green	Allflex
Jen-Sal Wellcome Tag	Burroughs Wellcome Co.	Fire-orange	Allflex
GardStar Insecticide Ear Tag	Y-Tex Corp.	Fire-orange	Y-Tex
Fearing Insecticide Ear Tag	Fearing Co.	Orange	DuFlex
Anchor Permethrin Ear Tag	Anchor Labs, Inc.	Clear	Allflex
<u>Permethrin (10%) Ear Strips</u>			
Anchor Permethrin Ear Strip	Anchor Labs, Inc.	Clear	Cable tie around existing ear tag
<u>Permethrin (1.2g) Ear Tapes</u>			
Ectiban Ear Tape	ICI Americas, Inc.	Fire-orange	By hand around existing ear tag
<u>Flucythrinate (7.5%) Ear Tags</u>			
Guardian Insecticide Cattle Ear Tag	American Cyanamid Co.	Yellow	Allflex

PEST	INSECTICIDE TO USE	AMOUNT TO USE	REMARKS
TREATING BARNS House fly Stable fly Face fly Other flies	BAIT TREATMENTS AND BARN SPRAYS Diazinon 50% WP	½ lb. plus 1 lb. sugar in 2½ gals. water	Use fly baits along with your regular fly control program. Apply liberally to litter, window sills, doors and wherever flies appear. Apply the baits daily for the first 3 to 4 days. After this period use as needed. Avoid contaminating feed and water with the baits. Do not apply liquid baits where animals can slip and fall. The liquid baits may be used to treat cords and ropes. Use extreme caution in handling treated cords when hanging them in the building.
	Malathion 57% EC	5 ozs. (10 tbs.) plus 1 cup sugar in 2 gals. water	
	Trichlorfon (Dipterex 1%)	Use 4 ozs. (⅔ cup) prepared bait per 1,000 sq. ft. of area, or pour 4 ozs. (⅔ cup) pre- pared bait in 1 gal. water, add 2 cups sugar or corn syrup	
	Vapona 0.5% Dry (DDVP)	Use 0.5% prepared dry bait at the rate of ¼ lb. per 1,000 sq. ft. or mix 1 lb. 0.5% dry prepared bait in 1 gal. water and apply as wet bait.	
	Ravap (Rabon-Vapona)	Mix 1 gal. in 25 gals. water. 1 gal. of spray will treat 500 to 1,000 sq. ft. of surface area.	
	SLOW RELEASE STRIPS		
Vapona 20% resin strips — 1 strip to 1,000 cubic feet. Use only in rooms or buildings where doors and windows are kept closed. Flies are controlled by the fumes released from the strip. May be used in milk rooms and milk houses. Dimetilan — Use 1 band to each 100 sq. ft. of ceiling areas. Flies must come into contact with treated band to be killed. Keep doors and windows closed as much as possible.			

FLY CONTROL IN BUILDINGS AND PREMISES

NOTE: The key to successful fly control around farm buildings is sanitation. If conditions prevail where flies can breed successfully, then any attempt to control flies with chemicals will likely fail. Start fly control programs early. Always treat all infested areas including manure piles, wet areas around silos, etc. Explicitly follow label restrictions, taking special note of those concerning milk houses and milk rooms.

INSECTICIDE	TREATMENT	REMARKS
	<u>Long Residual Materials</u>	
Anchor Permethrin (10% EC Permethrin)	Follow label rates for mixing.	Apply finished spray to fly resting surfaces at the rate of 1 gal./750 sq. ft. — or just short of runoff. Do not use in milk rooms.
Atroban WP (25% Permethrin)	Follow label rates for mixing.	Uses and restrictions for Atroban are the same as Anchor Permethrin above.
Dimethoate (Cygon) 23.4% EC	1 gal. per 25 gals. water	Remove all animals before spraying buildings.
Ectiban 5.7% EC	1 qt. to 12.5 gals. water	Use 1 gal. diluted spray per 750 sq. ft. of surface. Spray directly to walls and ceiling as a residual surface spray. Do not treat livestock directly with this concentration and avoid contamination of feed and water.
Ectiban 25% WP	6 ozs. to 11 gals. water	Same as above.
Ectrin 10% WDL	1 qt. to 10 gals. water	Apply ½ gal. of finished spray to 1,000 sq. ft. of surface. Do not treat livestock directly with this concentration and avoid contamination of feed and water.
Fenthion (Baytex) 45% EC	3 qts. per 25 gals. water	Do not contaminate feed, drinking water, milk or milk handling equipment. Do not use in homes or where food is processed. Apply at the rate of 1 gal. spray to 500 sq. ft.
Rabon 24% EC	1 gal. per 25 gals. water	Avoid contamination of feed, water and foodstuffs.
Rabon 50% WP	4 lbs. per 25 gals. water	Same as above.
Ravap (23% Rabon, 5.7% Vapona)	1 gal. per 25 gals. water	Do not contaminate food or feed products. Apply at the rate of 1 gal. spray to 500-1,000 sq. ft.
	<u>Medium Residual Materials</u>	
Diazinon 50% WP	2 lbs. per 25 gals. water	Remove animals for at least 4 hours. Do not contaminate milk, feed, water or apply to animals or poultry.
Dylox 80 SP	5 lbs. per 40 gals. water	Remove animals before spraying. Do not contaminate feed, water or milk handling equipment.
Methoxychlor 25% EC 50% WP	2 gals. per 25 gals. water 8 lbs. per 20 gals. water	Avoid contamination of feed or water with the sprays. Cover milk and milking equipment when using spray in milk rooms.

INSECTICIDE	TREATMENT	REMARKS
	<u>Short Residual Materials</u>	
Dichlorvos (Vapona) 23.4% EC	2 qts. per 25 gals. water	For increased residual control, add ½ sugar. Do not apply in milk rooms, avoid contamination of feed and water.
Pyrethrins + Synergist (0.1% to 0.2%)	Apply as directed on container	The pyrethrin sprays are prepared oil sprays that contain synergists such as piperonyl butoxide or MGK-264. Apply as a space spray for quick knock down of flies in milk rooms or dwellings.

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