




# Bulletin

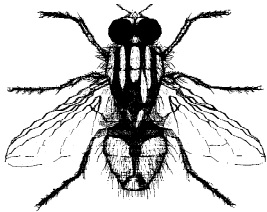
Extension

## Beef Cattle and Non-Lactating Dairy Cattle

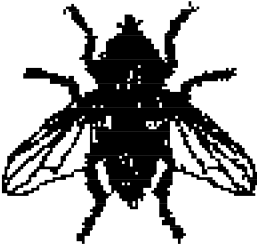
Pests	Material and Formulation	Minimum Days from Last Application to Slaughter	Amount per Animal or Area if Appropriate	Remarks	
Be careful when applying pesticides to non-lactating dairy animals. Record the date of application to each animal. Should freshening occur before the minimum number of days shown on the label, do not use the milk for the balance of the days. Follow label directions and precautions. Read "When to Treat for Cattle Grubs" in the Beef Cattle Section. Do not treat calves less than 3 months old.					
<b>Cattle Grub</b> Normally, Ohio cattle do not have grub infestations as great as out-of-state cattle. Out-of-state, Midwest or North Central cattle should be treated no later than Nov. 1. In Ohio, it may be best to treat after Sept. 1 to avoid the risk of reinfestation. Treatment in Nov. and Dec. may cause toxic conditions (host parasite reaction) in cattle from dying grubs.	coumaphos (Co-Ral) 11.6% EC (Restricted Use) 25% WP	0	Spray Depends on animal size and hair coat	Mix 12 qt. 11.6% EC or 12 lbs. 25% WP per 100 gallons of water. Thoroughly spray to wet the skin and not just the hair. <b>Do not apply to dry dairy animals within 14 days of freshening.</b>	
	phosmet (Prolate, GX-118) 11.6% E	21	1 gal. spray per animal	Mix 1 gal. 11.6% E with 49 gallons of water. Thoroughly spray to wet the skin and not just the hair. <b>Use on beef cattle only.</b>	
	*famphur (Warbex) 13.2%	35	Pour-on 1/2 fl. oz. per 100 lb. body weight. Maximum of 4 fl. oz. per animal.	Ready to use. <b>Do not use on</b> dry dairy animals within 21 days of freshening or animals less than 3 months old. <b>Do not use on Brahman cattle or Brahman crossbreds.</b>	
	*fenthion (Tiguvon) 3%	35	1/2 fl. oz. per 100 lb. body weight	Ready to use. Pour evenly along backline. <b>Do not treat</b> dry dairy animals within 28 days of freshening, or calves less than 3 months old.	
	ivermectrin (Ivomec) 5 mg/ml	49	1 ml per 22 lbs. body weight	Ready to use. Apply along the topline in a narrow strip extending from the withers to the tail head. Do not use in female dairy cattle of breeding age. Flammable! Keep away from heat, sparks, open flame, and other sources of ignition.	
	phosmet (GX-118) 11.6% E	21	1 fl. oz. per 100 lb. body weight. Maximum of 8 fl. oz. per animal.	Mix 1 gal. 11.6% E with 2 gal. of water. Pour evenly along <b>backline</b> . Do not apply to dairy <b>animals.</b>	
	trichlorfon (Neguvon) 8%	21	1/2 fl. oz. per 100 lb. body weight. Maximum of 4 fl. oz. per animal.	Ready to use. Pour evenly along the backline with a marked dipper. Do not apply to dry dairy animals within 7 days of freshening.	
	*Safety Note - Systemic organophosphate insecticides such as famphur (Warbex) and fenthion (Tiguvon) when topically applied (Pour-ons) to livestock may present secondary and tertiary hazards to certain birds. Some birds pull hair from the backs of treated livestock and are killed; raptors and scavengers feed on carcasses and may be killed. Remove any treated dead livestock from the farmland or range. Injection applications should be used in preference to pour-ons whenever bird hazards may occur.				
		fenthion (Spotton) 20%	45	Spot-on 4 cc per 300 lb. body weight. Maximum of 20 cc per animal.	Ready to use (closed system) - either a squeeze-a-spot, attached pouring device or gun and tubing. Apply to a single location on the back midline. Use single application. Do not treat dairy cattle of breeding age or calves less than 3 months old.
		ivermectin (Ivomec) 1%	49	1 ml per 110 lb. body weight	Ready to use. Inject subcutaneously and use aseptic procedures. Use a 16 gauge 1/2 to 3/4 inch needle injected under the loose skin in front of or behind the shoulders. Do not use on female dairy cattle of breeding age.
ivermectin 1% clorsulon 10% (Ivomec Plus)		49	1 ml per 110 lb. body weight	Ready to use. Inject subcutaneously and use aseptic procedures. Use a 16 gauge 1/2 to 3/4 inch needle injected under the loose skin in front of or behind the shoulders. Do not use on female dairy cattle of breeding age.	
<b>Face Fly</b> <b>Horn Fly</b> <b>House Fly</b> <b>Stable Fly</b>	permethrin (Ectiban, Insectrin) 5.7% EC	0	Spray 1 to 2 qt. per animal	Mix 1 qt. 5.7% EC to 100 gals. of water	
	(Atroban, Expar) 11% EC	0	2 qt. per animal	Mix 1 pt. 11% EC to 50 gals. of water. Thoroughly wet animals with spray after milking. Repeat not more than once every 2 weeks.	
	(GardStar) 40% EC	0	1 to 2 qt. per animal	Mix 4 fl. oz. 40% EC to 25 gals. of water. Treats 50 to 100 head.	
		0	4 to 5 fl. oz.	Mix 4 fl. oz. 40% EC to 2.5 gals. of water. Spray midline from face to tailhead to point of runoff.	

## Beef Cattle and Non-Lactating Dairy Cattle (continued)

Pests	Material and Formulation	Minimum Days from Last Application to Slaughter	Amount per Animal or Area if Appropriate	Remarks
<b>Face Fly</b> <b>Horn Fly</b> <b>House Fly</b> <b>Stable Fly</b> (continued)	(Permethrin II, Insectrin X) 10% EC	0	Spray thoroughly	Mix 1 pt. 10% EC in 100 gals. of water. Repeat as needed, but not more frequently than every 2 weeks.
	(GardStar) 40% EC	0	1 qt. per animal	Mix 4 fl. oz. 40% EC to 50 gals. of water. Treats 200 head.
	pyrethrins-synergized 0.03% to 0.1% plus synergist 0.5% to 1%	0	1 to 2 fl. oz. per animal	Ready to use. Repeat as needed. Do not wet skin. Apply to face, head, back, belly and shoulders.
	tetrachlorvinphos and dichlorvos (Ravap) 28.7% EC	0	Spray to runoff	Mix 1 qt. 28.7% EC in 18 gals. of water. Do not treat more often than every 10 days.
	diflubenzuron (Vigilante) 9.7%	0	<b>Bolus</b> 1/2 bolus per 300 to 550 lbs. or 1 bolus per 550 lbs. or greater body weight.	Ready to use. Use standard balling gun. Do not administer to cattle weighing less than 300 lb. or more than 1 bolus to any animal.
<b>Face Fly</b> <b>Horn Fly</b>	<b>Ear tag</b>			
	cyfluthrin (Cutter Gold) 10%	0	2 tags per animal	Aids in control of face flies. Apply tags with the Allflex Tagging System when horn fly populations reach 100 to 200 flies per animal. Remove ear tags when fly control declines and especially at the end of the season.
	cypermethrin 7.0% and chlorpyrifos 5.0% and piperonyl butoxide 3.5% (MAX-CON)	0	2 tags per animal	Aids in the control of lice. Wear gloves when applying tags with the Y-TEX two-piece tagging system when flies become a problem in the spring. Replace tags if needed. Remove tags before slaughter. Bury or discard in a safe place all tags removed from animals.
	diazinon (New Z Diazinon) 18%	0	2 tags per animal	Apply with the New Z Applicator. Replace as necessary. Remove tags in the fall. Calves less than three months of age should not be tagged as ear damage may result.
	diazinon (Terminator) 20%	0	2 tags per animal	Apply with the Allflex Tagging System. Calves less than 3 months of age should not be tagged as ear damage may result. Remove tags in the fall or before slaughter.
	(Bova Guard, Optimizer, Optimizer-Calf) 21.4%	0	2 tags per animal	Apply with the Y-TEX Tagging System. Optimizer-Calf may be used on calves less than three months of age.
	(Patriot) 40%	0	1 to 2 tags per animal	Available with either Allflex or Fearing Tagging System. Effective against pyrethroid-resistant horn flies.
	diazinon 30% and chlorpyrifos 10% (Warrior)	0	1 to 2 tags per head	Apply 1 tag per animal to control horn flies for 3 to 4 months and aid in control of face flies. Apply 2 tags per animal for optimum control of horn flies for up to 5 months and substantial reduction of face flies. Apply with the Y-TEX Tagging System. Remove tags in fall before slaughter.
	fenthion 20% plus piperonyl butoxide 15% (Cutter Blue)	0	2 tags per animal	Aids in control of face flies. Apply tags with the Allflex tagging system when horn fly populations reach 100 to 200 flies per animal. Remove ear tags when fly control declines and especially at the end of the season.
	lambdacyhalothrin (Excalibur, Saber) 10%	0	2 tags per animal	Apply with the Allflex Tagging System. All animals in the herd should be tagged. Remove tags in the fall or before slaughter. Bury or discard in a safe place all tags removed from animals.
	lambdacyhalothrin 6.8% pirimiphos methyl 14.0% (Double Barrel)	0	2 tags per animal	Apply with Allflex Tagging System. All animals in the herd should be tagged. Remove tags in the fall or before slaughter. Bury or discard all tags removed from animals in a safe place.
	permethrin (Atroban, Expar, Insecta-Gard, Gard Star Plus, Permethrin Ear Force, Coop, Deckem, Duodeckem, New Z Permethrin) 10%	0	2 tags per head	Aids in the control of lice. Apply tags when flies first appear in the spring. Replace tags if needed. Remove tags before slaughter. Bury or discard in a safe place all tags removed from animals.





**Beef Cattle and Non-Lactating Dairy Cattle (continued)**

<b>Pests</b>	<b>Material and Formulation</b>	<b>Minimum Days from Last Application to Slaughter</b>	<b>Amount per Animal or Area if Appropriate</b>	<b>Remarks</b>	
<b>Face Fly Horn Fly</b> (continued)	pirimiphos-methyl (Dominator, Rotator) 20%	0	2 tags per animal	Apply with the Allflex Tagging System. All animals in the herd should be tagged. Remove tags in the fall or before slaughter.	
	zeta-cypermethrin 10% and piperonyl butoxide 20% (PYthon, Zeta Gard)	0	2 tags per head	To control horn flies for about 3 to 4 months and aid in control of face flies, apply 1 tag per animal in late spring. To control horn flies, face flies for 4 to 5 months, apply 2 tags per head.	
<p><b>*Note:</b> The old generation pyrethroid ear tags, which have shown some fly resistance, include permethrin, fenvalerate and flucythrinate. New generation pyrethroid tags of cyfluthrin, lambdacyhalothrin and zeta-cypermethrin usually give better control. Switching to organophosphate ear tags, such as diazinon or pirimiphos-methyl, is helpful in preventing resistance. One should avoid using the same chemical family ear tag 2 years in a row. Ideally, different chemical ear tags should be rotated 2 to 3 times each year after every 3 to 4 generations of horn flies. Widespread reliance on organophosphate tags may lead to resistance as occurred with the pyrethroid tags. Pyrethroid tags are usually more effective against face flies.</p>					
<b>Backrubber or Self-Oiler</b>					
	coumaphos (Co-Ral) 5.8% EC 11.6% EC (Restricted Use)	0	Self-Treatment	Mix 2 qt. 5.8% EC or 4 qt. 11.6% EC in 13 gals. of mineral, No. 2 fuel or diesel oil or any approved backrubber base oil. Do not use motor or waste oils. Saturate and resaturate rubbers as needed.	
	methoxychlor 2 EC	0	Self-Treatment	Mix 1 gal. 2 EC in 5 gals. of No. 2 mineral, No. 2 fuel or diesel oil or any approved backrubber base oil.	
	tetrachlorvinphos and dichlorvos (Ravap) 28.7% EC	0	Self-Treatment	Mix 1 qt. 28.7% EC with 6 gals. of No. 2 mineral, No. 2 fuel or diesel oil or any approved backrubber base oil. Do not use motor or waste oils.	
	permethrin (Ectiban, Insectrin) 5.7% EC	0	Self-Treatment	Mix 1 qt. 5.7% EC in 10 gals. of mineral, No. 2 fuel or diesel oil. Saturate cable. Keep device charged. Results improve by daily forced use.	
	(Permethrin II, Insectrin X) 10% EC	0	Self-Treatment	Mix 1 qt. 10% EC in 20 gals. diesel fuel. Recharge oiler as needed.	
	(Atroban, Expar) 11% EC	0	Self-Treatment	Mix 1 pt. 11% EC in 10 gals. of mineral, No. 2 fuel or diesel oil. Saturate cable. Keep device charged.	
	(GardStar) 40% EC	0	Self-Treatment	Mix 4 fl. oz. to 10 gals. diesel oil or suitable mineral oil. Keep rubbing device charged. Results improved by daily forced use.	
	phosmet (Del-Phos, Lintox-HD, Prolate) 11.6%	0	Self-Treatment	Mix 1 pt. 11.6% in 6-1/4 gals. of suitable carrier oil and charge the device or soak the sack or cloth as required.	
	<b>Dust</b>				
	coumaphos (Co-Ral, Zipcide) 1%	0	Self-Treatment	Ready to use. Use 1 dust bag per 10 to 20 animals. Hang dust bags in barn door exits, alleyways leading from buildings or entryways to water or mineral sources.	
0		2 oz. per animal	Wear rubber gloves and hand dust with shaker can evenly into the hair of the head, neck, shoulders, back and tailhead. Repeat as necessary.		
permethrin (Ectiban, Insectrin, Permethrin) 0.25%	0	Self-Treatment	Ready to use. Use 1 bag per 10 to 20 head of cattle. Hang bags in an entryway to water or mineral sources to ensure usage.		
tetrachlorvinphos (Rabon) 3%	0	Self-Treatment	Ready to use. Use 1 dust bag (12-1/2 lb.) per 10 to 12 animals. Hang bags near salt or mineral blocks or in door exits or alleyways for daily use.		
<b>Pour-on</b>					
<b>Horn Fly</b>	cyfluthrin (Cylence) 1%	0	4cc per 400 lb. body weight	Ready to use. Apply as a pour-on down the center of the animal's back and face. Repeat as needed, but not more than once every 21 days.	
	fenthion (Lysoff) 7.6%	21	1 fl. oz. per 100 lb. body weight	Mix 8 parts water to 1 part Lysoff. Apply mixture to the animal's backline. Do not treat calves less than 3 months old. Treat no more than 3 times at not less than 14 day intervals.	
	lambdacyhalothrin (Saber) 1%	0	1/3 fl. oz. less than 600 lb. body weight 1/2 fl. oz. more than 600 lb. body weight	Ready to use. Do not apply to face of beef cattle and calves. Apply down backline. Do not apply more often than four times in a six month period or more than once every two weeks.	



## Beef Cattle and Non-Lactating Dairy Cattle (continued)

Pests	Material and Formulation	Minimum Days from Last Application to Slaughter	Amount per Animal or Area if Appropriate	Remarks	
<b>Horn Fly</b> (continued)	tetrachlorvinphos and dichlorvos (Ravap) 28.7% EC	0	1/2 to 1 gal. per animal	Mix 1 gal. 28.7% EC with 75 gals. of water. Apply as a coarse spray. Do not treat more than once every 10 days.	
	<b>Feed Additive</b>				
	methoprene (Altosid, Moorman's IGR) 0.02%	0	0.25 to 0.5 lb. per 100 lb. body weight per month	Feed this oral insect growth regulator as free-choice mineral or mixed in supplements for pasture cattle continuously from May through September for horn fly control.	
	tetrachlorvinphos (Rabon) 7.76%	0	70 mg. a.i. per 100 lb. body weight per day	Mix this oral larvacide with complete feeds, concentrates or protein supplements. Feed pasture cattle continuously from May through September for horn fly and face fly control.	
<b>Trap</b>					
<p>Large "walk-through" fly traps, which do not use pesticides, positioned at pasture gates where cattle must pass regularly, can reduce horn fly infestations between 50 percent and 70 percent. This level of control is less than that obtained by ear tags and other treatments, but an acceptable level of control below the injury level of about 200 flies per animal. Fly trap information can be ordered by requesting the August 1989 Walk-through Fly Trap leaflet from the North Dakota State University Extension Service, Dept. of Entomology, 202 Hultz Hall, Fargo, North Dakota 58105. Plans are for steel framing construction, which is quite durable, and lasts for many years. Also, fly trap information can be ordered by requesting Fly Trap Publication G1195 from the University of Missouri-Columbia Extension Division, Columbia, Missouri 65211, and/or a set of blueprints by sending \$4.69 to Agricultural Engineering Plan Service, Room 205, Agricultural Engineering, University of Missouri-Columbia, Columbia, Missouri 65211 (specify Plan 1-904-C6 "Fly Trap"). Plans are for treated wooden construction that lasts 5 to 6 years.</p>					
	<b>Spray</b>				
	Permethrin (GardStar) 40% EC	0	1 to 2 qts. per animal	Mix 4 fl. oz. 40% EC to 25 gals. of water. Treats 100 head. Additional instructions for mosquito control as a premise treatment are on the label.	
<p>Additional permethrin formulations of Ectiban, Hard-Hitter, Insectrin, Permaban and Permethrin II are registered for mosquito and horn fly control on cattle. (Follow label recommendations and safety precautions.)</p>					
	pyrethrins-synergized 0.03% to 0.1% plus synergist 0.5% to 1%	0	1 to 2 fl. oz. per animal	Ready to use. Repeat as needed. Do not wet skin. Apply to face, head, neck, belly and shoulders. Do not contaminate feed or water.	
	<b>Spray</b>				
	amitraz (Tactic) 12.5% EC	0	2 gals. per fully grown animal	Mix 1 can (760 ml) 12.5% EC in 100 gals. of water. Spray the skin until runoff, especially to the legs, udder, tail regions and head, including ears, shoulder area and neck. A repeat application in 10 to 14 days is recommended. Apply spray within 6 hours after mixing.	
	coumaphos (Co-Ral) 5.8% EC 11.6% EC (Restricted Use) 25% WP	0	1 gal. per animal	Mix 4 qts. 5.8% EC or 2 qts. 11.6% EC or 2 lbs. 25% WP in 100 gals. of water. Spray animals 3 to 6 months old lightly. Do not treat animals less than 3 months old. Spray animals thoroughly. Repeat as needed.	
	methoxychlor (Marlate) 50% WP 25% EC	0	2 qts. per animal	Mix 8 lbs. 50% WP in 100 gals. of water. Wet the skin to runoff. Repeat treatment every 3 weeks if needed. May be used on young dairy animals up to 2 weeks of freshening.	
		0	4 qts. per animal	Mix 2 gals. 25% EC per 100 gals. of water. Wet the skin to runoff. Repeat treatment at 14 to 21 days intervals if needed. May be used on young dairy animals up to 2 weeks of freshening.	
	permethrin (Ectiban, Insectrin) 5.7% EC	0	1 to 2 qts. per animal	Mix 1 qt. 5.7% EC in 25 to 50 gals. of water. Repeat application 14 days after first treatment. Do not treat more often than once every 14 days.	
	(Permethrin II, Insectrin X) 10% EC	0	Up to 1 gal. per animal	Mix 1 pt. 10% EC in 100 gals. of water. Spray entire animal. A second treatment after 2 to 3 weeks is recommended.	
	(Atroban, Expar, Permaban) 11% EC	0	2 qts. per animal	Mix 1 pt. 11% EC in 25 gals. of water. Repeat not more often than every 2 weeks.	
(GardStar) 40% EC	0	1 to 2 qts. per animal	Mix 4 fl. oz. to 40% EC 25 gals. of water. Treats 100 head.		

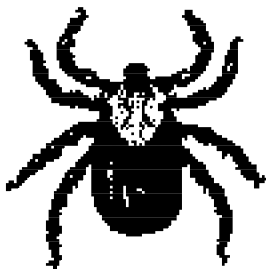
## Beef Cattle and Non-Lactating Dairy Cattle (continued)

Pests	Material and Formulation	Minimum Days from Last Application to Slaughter	Amount per Animal or Area if Appropriate	Remarks	
Lice (continued)	Phosmet (Del Phos, Lintox-HD, Prolate, GX 118) 11.6% E	3	1/2 to 1 gal. per animal	Mix 1 gal. 11.6% E with 150 gals. of water. Wet skin to run-off. Do not use more often than once every 7 to 10 days. Do not treat calves less than 3 months old. Use on beef cattle only.	
	tetrachlorvinphos (Rabon) 50% WP	0	1/2 to 1 gal. per animal	Mix 4 lb. 50% WP per 75 gals. of water. Spray thoroughly.	
	tetrachlorvinphos and dichlorvos (Ravap) 28.7% EC	0	1/2 to 1 gal. per animal	Mix 1 gal. 28.7% EC with 75 gals. of water. Do not treat more than once every 10 days.	
	<b>Pour-on</b>				
	cyfluthrin (Cylence) 1%	0	4 cc per 400 lb. body weight	Ready to use. Apply as a pour-on down the center of the animal's back and face. Repeat as needed, but not more than once every 21 days.	
	fenthion (Lysoff) 7.6%	21	1 fl. oz. per 100 lb. body weight	Mix 1 pt. 7.6% in 1 gal. of water. Pour evenly along the backline. Do not apply to non-lactating dairy cattle within 28 days of freshening or to calves less than 3 months old. Do not use with other cholinesterase-inhibiting insecticides or drugs. There is a waiting period of 35 days to slaughter if two applications are made.	
	ivermectin (Ivomec) 5 mg/ml	49	1 ml. per 22 lbs. body weight	Labeled for both sucking and chewing (biting) lice. Ready to use. Apply along the topline in a narrow strip extending from the withers to the tailhead. Do not use in female dairy cattle of breeding age. Flammable! Keep away from heat, sparks, open flame, and other sources of ignition.	
	lambdacyhalothrin (Saber) 1%	0	1/3 fl. oz. less than 600 lb. body weight. 1/3 fl. oz. more than 600 lb. body weight	Ready to use. Do not apply to face of beef cattle and calves. Apply down backline. Do not apply more often than four times in a six month period or more than once every two weeks.	
	permethrin (Delice, Expar, Hard-Hitter, Permethrin) 1%	0	1/2 fl. oz. per 100 lbs. body weight not to exceed 5 fl. oz. per animal	Ready to use. Pour down the center of the animal's back and face. Repeat as needed, but not more than once every 14 days.	
	(Brute) 10%	0	1/8 fl. oz. per 250 lbs. body weight not to exceed 1/2 fl. oz. per animal	Ready to use. Apply down midline of back over the shoulders. To aid in control of face fly, apply from poll down neck, over shoulders.	
	<b>Injection</b>				
	ivermectin (Ivomec) 1%	49	1 ml per 110 lb. body weight	Ready to use. Labeled for suckling lice only. Inject subcutaneously and use aseptic procedures. Use a 16 gauge, 1/2 to 3/4" needle injected under the loose skin in front of or behind the shoulders. Do not use on female dairy cattle of breeding age.	
	ivermectin 1% and clorsulon 10% (Ivomec-Plus)	49	1 ml per 110 lb. body weight	Ready to use. Labeled for sucking lice only. Inject subcutaneously and use aseptic procedures. Use a 16 gauge, 1/2 to 3/4" needle injected under the loose skin in front of or behind the shoulders. Do not use on female dairy cattle of breeding age.	
<b>Dust</b>					
coumaphos (Co-Ral, Zipcide) 1%	0	2 oz. per animal	Wear rubber gloves and hand dust with shaker can evenly into the hair of the head, neck, shoulders, back and tailhead. Repeat as necessary.		
	0	Self-Treatment	Ready to use. Use 1 dust bag (12-1/2 lb.) per 10 to 20 animals. Hang dust bags in barn door exits, alleyways leading from buildings or entryways to water or mineral sources.		
methoxychlor (Marlate) 50% WP	0	1 tbsp. per animal	Ready to use. Wear rubber gloves and hand dust back, poll withers, flanks and neck of each animal. Repeat application every 3 weeks if needed.		
permethrin (Ectiban, Insectrin, Permethrin) 0.25%	0	Self-Treatment	Ready to use. Use 1 bag per 10 to 20 head of cattle. Hang bags in an entryway to water or mineral sources to ensure usage.		
tetrachlorvinphos (Rabon) 3%	0	Self-Treatment	Ready to use. Use 1 dust bag (12 1/2 lbs.) per 10 to 20 animals. Hang bags near salt or mineral blocks or in door exits or alleyways for daily use.		



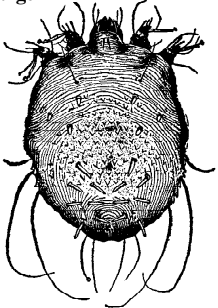
## Beef Cattle and Non-Lactating Dairy Cattle (continued)

Pests	Material and Formulation	Minimum Days from Last Application to Slaughter	Amount per Animal or Area if Appropriate	Remarks
<b>Lice</b> (continued)	diazinon 30% chlorpyrifos 10% (Warrior)	0	<b>Ear Tag</b> 1 to 2 tags per head	Apply one new tag per animal in late fall to early winter to control biting and sucking lice. Kills biting lice and most sucking lice within 2 weeks. Protects from lice reinfestation for 2 to 3 months.
	zetacypermethrin 10% and piperonyl butoxide 20% (PYthon)	0	1 or 2 tags per head	For season-long lice control, apply tags in late fall. To control biting lice, shortnosed sucking lice and aid in control of other sucking lice, apply one tag per calf or two tags per mature animal.
<b>Ticks</b>	amitraz (Taktic) 12.5% EC	0	<b>Spray</b> 2 gal. per fully grown animal	Mix 1 can (760 ml) of 12.5% EC in 100 gals. of water. Spray to penetrate the skin until runoff, especially to the legs, udder, tail regions and head including the ears, shoulder area and neck. Apply spray within 6 hours after mixing.
	coumaphos (Co-Ral) 5.8% EC 11.6% EC (Restricted Use) 25% WP	0	1 gal. per animal	Mix 8 qts 5.8% EC, 4 qt. 11.6% EC or 4 lb. 25% WP in 100 gals. of water. Spray animals thoroughly. Repeat as needed.
	permethrin (Ectiban, Insectrin, Insectaban) 5.7% EC	0	1 to 2 qts. per animal	Mix 1 qt. 5.7% EC in 25 gals. of water. Do not treat more often than every 14 days.
	(Permethrin II) 10% EC	0	Up to 1 gal. per animal	Mix 1 pt. Permethrin II 10% EC in 100 gals. of water. Spray until animal is thoroughly covered and wet. A second treatment after 2 to 3 weeks is recommended. Do not treat more than once every 14 days.
	(Atroban, Expar, Permaban) 11% EC	0	1 to 2 qts. per animal	Mix 1 pt 11% EC in 25 gals. of water. Do not treat more often than every 14 days.
	(GardStar) 40% EC	0	1 to 2 qts. per animal	Mix 4 fl. oz. 40% EC to 25 gals. of water. Treats 100 head.
	<b>Chorioptic Mites</b> (Barn itch mite, Tailhead mange)	amitraz (Taktic) 12.5% EC	0	2 gal. per fully grown animal
	permethrin (Permethrin II, Insectrin X) 10% EC	14	1 gal. per animal	Mix 1 qt. 10% EC in 100 gals. of water. Spray face and back or whole body. Repeat after 3 to 5 weeks or as needed.
	(GardStar) 40% EC	0	1 to 2 qts. per animal	Mix 4 fl. oz. 40% EC to 25 gals. of water. Treats 100 head.
<b>Psoroptic Mange</b> (Scabies)	amitraz (Taktic) 12.5% EC	0	<b>Spray</b> 2 gal. per fully grown animal	Mix 1 can (760 ml) 12.5% EC in 50 gallons of water. Two treatments 7 to 10 days apart are required for best mite control. Apply spray within 6 hours after mixing.
	ivermectin (Ivomec) 1%	49	<b>Injection</b> 1 ml per 110 lb. body weight	Ready to use. Inject subcutaneously and use aseptic procedures. Use a 16 gauge, 1/2 to 3/4" needle injected under the loose skin in front or behind the shoulders. Do not use on female dairy cattle of breeding age.
	ivermectrin 1% and clorsulon 10% (Ivomec-Plus)	49	1 ml per 110 lb. body weight	Ready to use. Inject subcutaneously and use aseptic procedures. Use a 16 gauge, 1/2 to 3/4" needle injected under the loose skin in front or behind the shoulders. Do not use on female dairy cattle of breeding age.



This is a reportable, quarantinable disease requiring that treatment be approved and overseen by federal or state veterinarians. Any suspected cases of psoroptic mange should be reported to an Ohio veterinarian. Accurate diagnosis requires microscopic examination of skin scrapings. State veterinarians are available in the Division of Animal Industry, Ohio Department of Agriculture, Reynoldsburg, Ohio 43068, 614-728-6220. 1-800-282-1955 Fax: 614-728-6310

**Beef Cattle and Non-Lactating Dairy Cattle (continued)**

<b>Pests</b>	<b>Material and Formulation</b>	<b>Minimum Days from Last Application to Slaughter</b>	<b>Amount per Animal or Area if Appropriate</b>	<b>Remarks</b>
<b>Sarcoptic Mange</b> 	ivermectin (Ivomec) 5 mg/ml	49	<b>Pour-on</b> 1 ml per 22 lbs. body weight	Labeled for both sucking and chewing (biting) lice. Ready to use. Apply along the topline in a narrow strip extending from the withers to the tailhead. Do not use in female dairy cattle of breeding age. Flammable! Keep away from heat, sparks, open flame, and other sources of ignition.
	ivermectin (Ivomec) 1%	49	<b>Injection</b> 1 ml per 110 lb. body	Labeled for sucking lice only. Ready to use. Do not use in female dairy cattle of breeding age. Flammable! Keep away from heat, sparks, open flame, and other sources of ignition.
	Ivermectin 1% and clorsulon 10% (Ivomec-Plus)	49	1 ml per 110 lb. body weight	Labeled for sucking lice only. Ready to use. Do not use in female dairy cattle of breeding age. Flammable! Keep away from heat, sparks, open flame, and other sources of ignition.

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