

Controlling Disease-Carrying and Blood-Feeding Flies in Pastured Beef Cattle



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Fig 1. Face flies feeding on the secretions of the eyes and nose of a cow.

water-based [Table 2] or oil-based [Table 3]. Also available are insecticides that can be used in dusters [Table 4] or backrubbers [Table 5].



Fig 2. Horn flies on the back and side of a cow. (Photo: Kim Holt)

Fly pests of pastured beef cattle

Face Fly (*Musca autumnalis*)

Horn Fly (*Haematobia irritans*)

Stable Fly (*Stomoxys calcitrans*)

Importance

Face flies are known vectors of the bacterium that can cause pinkeye disease in cattle. Pinkeye disease, if not treated immediately, can lead to cattle blindness. Horn flies and stable flies are irritating blood feeders that can reduce weaning weights in calves and weight gain and milk production in cows.

Biology

Face flies and horn flies breed in newly-excreted cow dung on open rangelands. Adult face flies feed on liquids around the eyes of cattle; horn flies feed on blood. Stable flies are also blood feeders and breed in decaying vegetation.

Control

Insecticidal ear tags [Table 6] and on-animal insecticide capsule and pour-ons [Table 1] can be used to control horn flies and face flies. On-animal sprays can be used to control stable flies, horn flies, face flies and other blood-feeding ectoparasites. On-animal sprays can either be



Fig 3. Stable flies feeding on blood from the leg of a cow. (Photo: Dr. Mike Catangui)



Fig 4. A herd of cattle being sprayed for flies using an A1 Mist Sprayer.

Technical Services
AmerisourceBergen

Table 1.

ON-ANIMAL INSECTICIDAL CAPSULE AND POUR-ONS				
MFR.	BRAND NAME	ACTIVE INGREDIENT	TARGET FLY SPECIES	RATE
BAYER	Clean-Up™ II Pour-On Insecticide with IGR	diflubenzuron (3.0%) + permethrin (5.0%)	horn fly (see label for others)	3mL per 100 lbs. body weight of animal up to maximum of 30mL for any one animal. Pour along back line and down face.
	CyLence® Pour-On Insecticide	cyfluthrin (1.0%)	horn fly, face fly (see label for others)	Depending on body weight of animal (see label).
	Permethrin™ CDS Pour-On Insecticide	permethrin (7.4%) + PBO (7.4%)	horn fly, face fly (see label for others)	2mL per 100 lbs. body weight up to a maximum of 20mL for any one animal
	Permethrin™ Pour-On Insecticide	permethrin (1.0%)	horn fly, face fly (see label for others)	0.5 fl. oz. per 100 lbs. body weight of animal, up to a maximum of 5.0 fl. oz. for any one animal.
	Permethrin™ S Synergized Formula	permethrin (1.0%) + PBO (1.0%)	horn fly, face fly (see label for others)	0.5 fl. oz. per 100 lbs. body weight of animal, up to a maximum of 5.0 fl. oz. for any one animal.
CONTROL SOLUTIONS	Martin's® Cyonara Lambda Pour-On Topical Insecticide	lambda-cyhalothrin (1.0%)	horn fly	10mL per head for cattle weighing less than 600 lbs.; 15mL per head for cattle weighing more than 600 lbs. <i>Do not apply to lactating or dry dairy cows, or to the face of beef cattle, cows or calves.</i>
	Martin's® Cyonara Plus Pour-On Topical Insecticide	lambda-cyhalothrin (1.0%) + PBO (5.0%)	horn fly	10mL per head for cattle weighing less than 600 lbs.; 15mL per head for cattle weighing more than 600 lbs. <i>Do not apply to lactating or dry dairy cows, or to the face of beef cattle, cows or calves.</i>
	Martin's® Fly-Ban Synergized Pour-On	permethrin (7.4%) + PBO (7.4%)	horn fly, face fly (see label for others)	2mL per 100 lbs. body weight up to a maximum of 20mL for any one animal.
	Martin's® Permethrin 1.0% Pour-On	permethrin (1.0%)	horn fly, face fly (see label for others)	0.5 fl. oz. per 100 lbs. body weight of animal, up to a maximum of 5.0 fl. oz. for any one animal.
	Martin's® Permethrin 1.0% Synergized Pour-On	permethrin (1.0%) + PBO (1.0%)	horn fly, face fly (see label for others)	0.5 fl. oz. per 100 lbs. body weight of animal, up to a maximum of 5.0 fl. oz. for any one animal.
ELANCO	StandGuard™ Pour-On Insecticide	gamma-cyhalothrin (0.5%)	horn fly	10mL per head for cattle weighing less than 600 lbs.; 15mL per head for cattle weighing more than 600 lbs. <i>Do not apply to lactating or dry dairy cows. Do not apply this product to face of beef cattle or calves.</i>

PASTURED BEEF CATTLE

Integrated Pest Management

Table 1. (Continued)

ON-ANIMAL INSECTICIDAL CAPSULE AND POUR-ONS				
MFR.	BRAND NAME	ACTIVE INGREDIENT	TARGET FLY SPECIES	RATE
MERCCK	Boss® Pour-On Insecticide for Beef and Dairy Cattle and Sheep	permethrin (5.0%)	horn fly, face fly, stable fly (see label for others)	3mL per 100 lbs. body weight of animal up to a maximum of 30mL for any one animal.
	Saber™ Pour-On Insecticide	lambda-cyhalothrin (1.0%)	horn fly	10mL per head for cattle weighing less than 600 lbs.; 15mL per head for cattle weighing more than 600 lbs. <i>Do not apply to lactating or dry dairy cows.</i> Do not apply this product to face of beef cattle or calves.
	Synergized DeLice® Pour-On Insecticide	permethrin (1.0%) + PBO (1.0%)	horn fly, face fly (see label for others)	0.5 fl. oz. per 100 lbs. body weight of animal, up to a maximum of 5.0 fl. oz. for any one animal.
	Ultra Boss® Pour-On Insecticide	permethrin (5.0%) + PBO (5.0%)	horn fly, face fly (see label for others)	3mL per 100 lbs. body weight of animal up to a maximum of 30mL for any one animal.
	Ultra Saber™ Pour-On Insecticide	lambda-cyhalothrin (1.0%) + PBO (5.0%)	horn fly	10mL per head for cattle weighing less than 600 lbs.; 15mL per head for cattle weighing more than 600 lbs. <i>Do not apply to lactating or dry dairy cows.</i> Do not apply this product to face of beef cattle or calves.
NEOGEN	Prozap® Backrubber and Pour-On	permethrin (0.125%)	horn fly, face fly (see label for others)	1 fl. oz. per 100 lbs. body weight of animal up to a maximum of 8 fl. oz. per animal
	Prozap® Backrubber and Pour-On Xtra	permethrin (0.125%) + PBO (0.125%)	horn fly, face fly (see label for others)	1 fl. oz. per 100 lbs. body weight of animal up to a maximum of 8 fl. oz. per animal
	Prozap® Insectrin 1% Pour-on Xtra	permethrin (1.0%) + PBO (1.0%)	horn fly, face fly (see label for others)	0.5 fl. oz. per 100 lbs. body weight of animal, up to a maximum of 5.0 fl. oz. for any one animal.
	Prozap® Insectrin CS	permethrin (7.4%) + PBO (7.4%)	horn fly, face fly (see label for others)	2mL per 100 lbs. body weight up to a maximum of 20mL for any one animal.
STARBAR	Starbar® Cattle Armor 1% Synergized Pour-On	permethrin (1.0%) + PBO (1.0%)	horn fly, face fly (see label for others)	0.5 fl. oz. per 100 lbs. body weight of animal, up to a maximum of 5.0 fl. oz. for any one animal.
SMARTVET	AIM-A VetCaps™ (for VetGun™)	abamectin (3.15%)	horn fly	Use with VetGun™; one capsule per cattle weighing greater than 600 lbs. per treatment (see label for details). Use on beef cattle and non-lactating dairy cows. <i>Do not use on cattle treated with an abamectin ear tag.</i>
	AIM-L VetCaps™ (for VetGun™)	lambda-cyhalothrin (1.5%) + PBO (7.5%)	horn fly, face fly (see label for others)	Use with VetGun™; one capsule per beef cattle weighing greater than 600 lbs. per treatment (see label for details). Use on beef cattle only (<i>not labeled for use on dairy cattle</i>).
Y-TEX	Brute® Pour-On Insecticide	permethrin (10.0%)	horn fly, face fly (see label for others)	Depending on body weight of animal (see label).

Prior to using any product mentioned in this article, carefully read and follow all available instructions, warnings and safety information made available by the product's manufacturer. No pre-harvest withdrawals indicated.

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Table 2.

WATER-BASED ON-ANIMAL SPRAYS					
MFR.	BRAND NAME	ACTIVE INGREDIENT	TARGET FLY SPECIES	RATE	PRE-HARVEST W/D
BASF	ULD® HyroPy-300	natural pyrethrins (3.0%) + PBO (15.0%)	horn fly, stable fly (see label for others)	10.7 to 42.7 fl. oz. per 1 gal. water (2 fl. oz. mixture per adult animal, sufficient to wet the hair but not to soak the hide)	
	Microcare® 3% CS	natural pyrethrins (3.0%; microencapsulated)	flies (see label for others)	4.0 fl. oz. per 1 gal. water. Lightly mist animals thoroughly, but do not treat to runoff.	
BAYER	Co-Ral® Fly and Tick Spray	coumaphos (6.15%)	horn fly (see label for others)	<i>Do not apply to animals less than 3 months old.</i> See label for rates and restrictions.	10 days
	Permethrin™ II	permethrin (10.0%)	horn fly, face fly, stable fly (see label for others)	2.5 fl. oz. per 1 gal. water (up to 8 fl. oz. mixture per animal)	
	Ravap® E.C. *	tetrachlorvinphos (23.0%) + dichlorvos (5.3%)	horn fly, face fly (see label for others)	<i>Do not apply to animals less than 6 months old.</i> See label for rates and restrictions.	
	Vapona® Concentrate Insecticide *	dichlorvos (40.2%)	horn fly, face fly, stable fly, house fly (see label for others)	<i>Do not apply to animals less than 6 months old.</i> See label for rates and restrictions.	1 day
CONTROL SOLUTIONS	Martin's® Permethrin SFR	permethrin (36.8%)	horn fly, face fly, stable fly, house fly (see label for others)	0.2 fl. oz. per 1 gal. water (2 quarts mixture per animal)	
	Stryker™ Insecticide Concentrate	natural pyrethrins (6.0%) + PBO (60.0%)	horn fly, face fly, stable fly, house fly (see label for others)	2.0 fl. oz. per 1 gal. water (wet hair thoroughly)	
	Vector-Ban™ Plus	permethrin (10.0%) + PBO (10.0%)	horn fly, face fly, stable fly, house fly (see label for others)	1.3 fl. oz. per 1 gal. water (wet hair thoroughly)	
MERCK	Atroban® 11% EC	permethrin (11%)	horn fly, face fly, stable fly, house fly (see label for others)	0.6 fl. oz. per 1 gal. water (1-2 quarts mixture per animal)	
MGK	EverGreen® Pro 60-6	natural pyrethrins (6.0%) + PBO (60.0%)	horn fly, face fly, stable fly, house fly (see label for others)	2.0 fl. oz. per 1 gal. water (wet hair thoroughly)	
	EverGreen® Pyrethrum Concentrate	natural pyrethrins (5.0%; organic)	horn fly, face fly, stable fly, house fly (see label for others)	3.0 fl. oz. per 1 gal. water (wet hair thoroughly)	
	Riptide® Waterbased Pyrethrin ULV	natural pyrethrins (5.0%) + PBO (25%)	horn fly, face fly, stable fly, house fly (see label for others)	Dilute 1 part concentrate with 49 parts water. Apply 2 fl. oz. of diluted product per adult animal in an amount sufficient to wet the hair but not to soak the hide.	
NEOGEN	Prozap® Insectrin X Concentrate	permethrin (10.0%)	horn fly, face fly, stable fly (see label for others)	1.3 fl. oz. per 1 gal. water (spray thoroughly to cover the entire animal)	
	Prozap® Pyrethrin Aqueous Fly Spray Ready-to-use on Horses & Cattle	natural pyrethrins (0.1%) + PBO (1.0%)	horn fly, stable fly, house fly (see label for others)	Use undiluted. Apply mist sufficient to wet the hair.	
	Prozap® Vapona 400E *	dichlorvos (40.2%)	horn fly, face fly, stable fly, house fly (see label for others)	<i>Do not apply to animals less than 6 months old.</i> See label for rates and restrictions.	1 day
PYRANHA	Pyranha 1-10 PX Concentrate	permethrin (10.0%) + PBO (10.0%)	horn fly, face fly, stable fly, house fly (see label for others)	1.3 fl. oz. per 1 gal. water (wet hair thoroughly)	

Table 2. (Continued)

WATER-BASED ON-ANIMAL SPRAYS					
MFR.	BRAND NAME	ACTIVE INGREDIENT	TARGET FLY SPECIES	RATE	PRE-HARVEST W/D
STARBAR	Attack-All® Livestock & Premise Fly Spray	natural pyrethrins (0.05%) + permethrin (0.10%) + PBO (0.50%)	horn fly, face fly, stable fly, house fly (see label for others)	See label for rates and restrictions	
	E-Pro Adulticide Spray	permethrin (36.8%)	horn fly, face fly, stable fly, house fly (see label for others)	0.2 fl. oz. per 1 gal. water (2 quarts mixture per animal)	
	Prolate/Lintox-HD™ Insecticidal Spray & Backrubber for Livestock	phosmet (11.75%)	horn fly (see label for others)	<i>Do not apply to animals less than 3 months old.</i> See label for rates and restrictions.	3 days
	Pyronyl™ Crop Spray	natural pyrethrins (6.0%) + PBO (60.0%)	horn fly, face fly, stable fly, house fly (see label for others)	2.0 fl. oz. per 1 gal. water (wet hair thoroughly)	
	UL-100 EC Insecticidal Spray	natural pyrethrins (0.96%) + PBO (9.60%)	horn fly, face fly, stable fly, house fly (see label for others)	Dilute 1 part concentrate and 9 parts water and apply one quart per adult animal to wet hair thoroughly with particular attention to the legs, flanks, barrel, topline and other body areas commonly attacked by flies.	
Y-TEX	Gardstar® 40% EC	permethrin (40%)	horn fly, face fly, stable fly, house fly (see label for others)	0.2 fl. oz. per 1 gal. water (1-2 quarts mixture per animal)	

Prior to using any product mentioned in this article, carefully read and follow all available instructions, warnings and safety information made available by the product's manufacturer. *Restricted use insecticide.

Table 3.

OIL-BASED ON-ANIMAL SPRAYS					
MFR.	BRAND NAME	ACTIVE INGREDIENT	TARGET FLY SPECIES	RATE	
BASF	ULD® BP-100	natural pyrethrins (1%) + PBO (5%)	horn fly, face fly, stable fly (see label for others)	Use undiluted. Apply a light mist sufficient to wet the tips of the hair.	
BAYER	Permethrin® CDS Pour-On Insecticide	permethrin (7.4%) + PBO (7.4%)	horn fly, face fly, stable fly (see label for others)	Use undiluted using a mist sprayer to apply 2mL per 100 lbs. body weight up to a maximum of 20mL for any one animal.	
	Permethrin® Pour-On Insecticide	permethrin (1.0%)	horn fly, face fly, stable fly (see label for others)	Use undiluted using a mist sprayer to apply 0.5 fl. oz. per 100 lbs. body weight up to a maximum of 5.0 fl. oz. for any one animal.	
	Permethrin™ S Synergized Formula	permethrin (1.0%) + PBO (1.0%)	horn fly, face fly, stable fly (see label for others)	Use undiluted using a mist sprayer to apply 0.5 fl. oz. per 100 lbs. body weight up to a maximum of 5.0 fl. oz. for any one animal.	
CONTROL SOLUTIONS	Martin's® Fly-Ban Synergized Pour-On	permethrin (7.4%) + PBO (7.4%)	horn fly, face fly, stable fly (see label for others)	Use undiluted using a mist sprayer to apply 2mL per 100 lbs. body weight up to a maximum of 20mL for any one animal.	
	Martin's® Permethrin 1.0% Synergized Pour-On	permethrin (1.0%) + PBO (1.0%)	horn fly, face fly, stable fly (see label for others)	Use undiluted using a mist sprayer to apply 0.5 fl. oz. per 100 lbs. body weight up to a maximum of 5.0 fl. oz. for any one animal.	
	Stryker® 100	natural pyrethrins (1%) + PBO (5%)	horn fly, face fly, stable fly (see label for others)	Use undiluted. Apply a light mist sufficient to wet the tips of the hair.	

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Table 3. (Continued)

OIL-BASED ON-ANIMAL SPRAYS				
MFR.	BRAND NAME	ACTIVE INGREDIENT	TARGET FLY SPECIES	RATE
MERC	Synergized DeLice® Pour-On Insecticide	permethrin (1.0%) + PBO (1.0%)	horn fly, face fly, stable fly (see label for others)	Use undiluted using a mist sprayer to apply 0.5 fl. oz. per 100 lbs. body weight up to a maximum of 5.0 fl. oz. for any one animal.
NEOGEN	Prozap® Insectrin 1% Pour-on Xtra	permethrin (1.0%) + PBO (1.0%)	horn fly, face fly, stable fly (see label for others)	Use undiluted using a mist sprayer to apply 0.5 fl. oz. per 100 lbs. body weight up to a maximum of 5.0 fl. oz. for any one animal.
	Prozap® Insectrin CS	permethrin (7.4%) + PBO (7.4%)	horn fly, face fly, stable fly (see label for others)	Use undiluted using a mist sprayer to apply 2mL per 100 lbs. body weight up to a maximum of 20mL for any one animal.
	Prozap® VIP Insect Spray	dichlorvos (0.500%) + natural pyrethrins (0.025%) + PBO (0.250%)	face fly, stable fly (see label for others)	<i>Do not apply to calves less than 6 months in age.</i> Use undiluted; apply 1-2 oz. per animal. Do not use in excess of 2 oz. per adult animal. Do not soak the skin or wet the hide.
STARBAR	Cattle Armor™ 1% Permethrin Synergized Pour-On	permethrin (1.0%) + PBO (1.0%)	horn fly, face fly, stable fly (see label for others)	Use undiluted using a mist sprayer to apply 0.5 fl. oz. per 100 lbs. body weight up to a maximum of 5.0 fl. oz. for any one animal.
	Pyronyl™ Oil Concentrate #525	natural pyrethrins (5.0%) + PBO (25.0%)	horn fly, stable fly (see label for others)	Dilute 1 part concentrate with 49 parts oil (refined kerosene). Apply 2 fl. oz. of diluted product per adult animal sufficient to wet the hair but not to soak the hide.

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Table 4.

INSECTICIDES FOR USE IN DUSTERS				
MFR.	BRAND NAME	ACTIVE INGREDIENT	TARGET FLY SPECIES	RATE
BAYER	Co-Ral® Livestock Dust	coumaphos (1.0%)	horn fly, face fly (see label for others)	See label for directions.
	Permethrin™ Fly & Louse Dust	permethrin (0.25%)	horn fly, face fly (see label for others)	See label for directions.
	Rabon™ 3% Livestock Dust	tetrachlorvinphos (3.0%)	horn fly, face fly (see label for others)	See label for directions.
NEOGEN	Prozap® Insectrin Dust	permethrin (0.25%)	horn fly, face fly (see label for others)	See label for directions.
	Prozap® Dust'R	tetrachlorvinphos (3.0%)	horn fly, face fly (see label for others)	See label for directions.
Y-TEX	PYThon® Dust Livestock Insecticide	zeta-cypermethrin (0.075%) + PBO (0.150%)	horn fly, face fly (see label for others)	See label for directions.

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PASTURED BEEF CATTLE

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Table 5.

INSECTICIDES FOR USE IN BACKRUBBERS

MFR.	BRAND NAME	ACTIVE INGREDIENT	TARGET FLY SPECIES	RATE	PRE-HARVEST W/D
BAYER	Co-Ral® Fly and Tick Spray	coumaphos (6.15%)	horn fly, face fly	<i>Do not apply to animals less than 3 months old.</i> Mix 4 quarts in 13 gals. of #2 fuel oil or #2 diesel fuel. Saturate the fiber portion of the backrubber with this mixture.	
	Permethrin® CDS Pour-On Insecticide	permethrin (7.4%) + PBO (7.4%)	horn fly, face fly (see label for others)	Mix 64 (2.1 fl. oz.) per gal. of mineral oil. Keep rubbing device charged. Results improved by daily forced use.	
	Permethrin II™	permethrin (10.0%)	horn fly, face fly (see label for others)	Animals self-apply. Mix 1 quart in 20 gals.; 8 oz. in 5 gals.; 1.6 oz (48mL) in 1 gal. of mineral oil or a non-irritating organic oil. Recharge backrubber oiler as needed.	
	Permethrin® Pour-On Insecticide	permethrin (1.0%)	horn fly, face fly (see label for others)	Mix one pint per gal. #2 diesel or mineral oil. Keep rubbing device charged. Results improved by daily forced use.	
	Permethrin™ S Synergized Formula	permethrin (1.0%) + PBO (1.0%)	horn fly, face fly (see label for others)	Mix one pint per gal. #2 diesel or mineral oil. Keep rubbing device charged. Results improved by daily forced use.	
	Ravap™ E.C. *	tetrachlorvinphos (23.0%) + dichlorvos (5.3%)	horn fly, face fly (see label for others)	<i>Do not apply to animals less than 6 months old.</i> Dilute 5 fl. oz. in 1 gal. oil. Pour diluted solution into oil reservoir of mechanical rubbing devices or pour one gal. per 20 linear feet on burlap or rope backrubbers.	
CONTROL SOLUTIONS	Martin's® Fly-Ban Synergized Pour-On	permethrin (7.4%) + PBO (7.4%)	horn fly, face fly (see label for others)	Mix 64mL (2.1 fl. oz.) per gal. of mineral oil. Keep rubbing device charged. Results improved by daily forced use.	
	Martin's® Permethrin 1.0% Synergized Pour-On	permethrin (1.0%) + PBO (1.0%)	horn fly, face fly (see label for others)	Mix one pint per gal. #2 diesel or mineral oil. Keep rubbing device charged. Results improved by daily forced use.	
	Martin's® Permethrin SFR	permethrin (36.8%)	horn fly, face fly (see label for others)	Dilute 4 fl. oz. to 10 gals. diesel oil or suitable mineral oil.	
MERCK	Atroban® 11% EC	permethrin (11%)	horn fly, face fly (see label for others)	Dilute 1 pint per 10 gals. diesel oil. Keep rubbing device charged.	
	Synergized DeLice® Pour-On Insecticide	permethrin (1.0%) + PBO (1.0%)	horn fly, face fly (see label for others)	Mix one pint per gal. #2 diesel or mineral oil. Keep rubbing device charged. Results improved by daily forced use.	
	Ultra Boss® Pour-On Insecticide	permethrin (5.0%) + PBO (5.0%)	horn fly, face fly (see label for others)	Mix 100mL per gal. of #2 diesel oil or mineral oil. Keep rubbing device charged. Results improved by daily forced use.	

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Table 5. (Continued)

INSECTICIDES FOR USE IN BACKRUBBERS

MFR.	BRAND NAME	ACTIVE INGREDIENT	TARGET FLY SPECIES	RATE	PRE-HARVEST W/D
NEOGEN	Prozap® Backrubber and Pour-On	permethrin (0.125%)	horn fly, face fly (see label for others)	Apply undiluted. Fill reservoir or saturate applicator. Recharge as needed to maintain effective results. Locate mechanism to give animals free access.	
	Prozap® Backrubber and Pour-On Xtra	permethrin (0.125%) + PBO (0.125%)	horn fly, face fly (see label for others)	Apply undiluted. Fill reservoir or saturate applicator. Recharge as needed to maintain effective results. Locate mechanism to give animals free access.	
	Prozap® Insectrin 1% Pour-on Xtra	permethrin (1.0%) + PBO (1%)	horn fly, face fly, stable fly (see label for others)	Mix one pint per gal. #2 diesel or mineral oil. Keep rubbing device charged. Results improved by daily forced use.	
	Prozap® Insectrin CS	permethrin (7.4%) + PBO (7.4%)	horn fly, face fly, stable fly (see label for others)	Mix 64mL (2.1 oz) per gal. of mineral oil. Keep rubbing device charged. Results improved by daily forced use.	
	Prozap® Insectrin X Concentrate	permethrin (10.0%)	horn fly, face fly, stable fly (see label for others)	Dilute 1.6 fl. oz. in 1 gal. oil. Keep backrubber charged. Results can be improved by forced use.	
STARBAR	Cattle Armor™ 1% Permethrin Synergized Pour-On	permethrin (1%) + PBO (1%)	horn fly, face fly, stable fly (see label for others)	Mix one pint per gal. #2 diesel or mineral oil. Keep rubbing device charged. Results improved by daily forced use.	
	Prolate/Lintox-HD™ Insecticidal Spray & Backrubber for Livestock	phosmet (11.75%)	horn fly (see label for others)	<i>Do not apply to animals less than 3 months old.</i> Dilute 1 pint per 6.25 gals. fuel oil or other suitable carrier.	3 days
Y-TEX	Brute® Pour-On Insecticide	permethrin (10%)	horn fly, face fly (see label for others)	Dilute 48mL (1.6 fl. oz.) in 1 gal. diesel fuel or oil. Keep rubbing devise charged.	
	Gardstar® 40% EC	permethrin (40%)	horn fly, face fly (see label for others)	Mix 4 fl. oz. (118mL) to 10 gals. diesel oil or suitable mineral oil. Keep rubbing device charged. Results improved by daily forced use.	











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Table 6.






2018 INSECTICIDAL CATTLE EAR TAG REFERENCE CHART

	BRAND	MFR.	ACTIVE INGREDIENT	TARGET FLY SPECIES	LABELLED FOR LACTATING DAIRY?	APPLICATOR	RATE	WEIGHT	DURATION CLAIMED	TAGS/ UNIT	MWI#
MACROCYCLIC LACTONE TAGS											
	XP 820 [™] Insecticide Ear Tag	Y-Tex	abamectin (8%) + PBO (20%)	horn fly, face fly (see label for others)	Yes	Y-Tex [®]	2 tags per animal (1 tag on each ear)	9g per tag	Up to 5 months	20 100	034180 034181
	XP 820 [™] Insecticide Strip	Y-Tex	abamectin (8%) + PBO (20%)	horn fly, face fly (see label for others)	Yes	None	1-2 strips per animal (see label for details)	9g per strip	3-5 months	special order only	
ORGANOPHOSPHATE TAGS											
	Corathon [®] Insecticide Ear Tag*	Bayer	diazinon (35%) + coumaphos (15%)	horn fly, face fly (see label for others)		Allflex [®]	2 tags per mature animal (1 tag to each ear); 1 tag per calf	14g per tag	Up to 5 months	20	035840
	Dominator [®] Insecticide Ear Tag	Merck	pirimiphos-methyl (20%)	horn fly, face fly (see label for others)		Allflex [®]	2 tags per animal (1 tag to each ear)	9.5g per tag	Up to 5 months	20	011501
	Optimizer [®] Insecticide Ear Tag	Y-Tex	diazinon (21%)	horn fly, face fly, stable fly (see label for others)		Y-Tex [®]	2 tags per animal (1 tag to each ear)	15g per tag	Up to 5 months	20 100	010474 021783
	Patriot [™] Insecticide Ear Tag	Bayer	diazinon (40%)	horn fly, face fly, stable fly (see label for others)		Allflex [®]	2 tags per animal (1 tag to each ear)	15g per tag	3-5 months	20 120	001739 001733
	Warrior [™] Insecticide Ear Tag	Y-Tex	diazinon (30%) + chlorpyrifos (10%)	horn fly, face fly, stable fly (see label for others)		Y-Tex [®]	2 tags per animal (1 tag to each ear)	15g per tag	Up to 5 months	20 100	020150 021782
PYRETHROID TAGS											
	Cylence Ultra [®] Insecticide Ear Tag	Bayer	beta-cyfluthrin (8%) + PBO (20%)	horn fly, face fly (see label for others)	Yes	Allflex [®]	2 tags per mature animal (1 tag to each ear)	14g per tag	Up to 5 months	20	021095
	Gardstar [®] Plus Insecticide Ear Tag	Y-Tex	permethrin (10%)	horn fly, face fly, stable fly (see label for others)	Yes	Y-Tex [®]	2 tags per animal (1 tag to each ear)	9.5g per tag	4-5 months	25	012641
	PYthon [®] Insecticide Ear Tag	Y-Tex	zeta-cypermethrin (10%) + PBO (20%)	horn fly, face fly, stable fly (see label for others)	Yes	Y-Tex [®]	2 tags per animal (1 tag to each ear)	9.5g per tag	4-5 months	20 100	021780 021781

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Table 6. (Continued)

2018 INSECTICIDAL CATTLE EAR TAG REFERENCE CHART

	BRAND	MFR.	ACTIVE INGREDIENT	TARGET FLY SPECIES	LABELED FOR LACTATING DAIRY?	APPLICATOR	RATE	WEIGHT	DURATION CLAIMED	TAGS/UNIT	MWI#
	PYthon[®] Magnum[™] Insecticide Ear Tag	Y-TEX	zeta-cypermethrin (10%) + PBO (20%)	horn fly, face fly, stable fly (see label for others)	Yes	Y-TEX [®]	1 tag per animal	15g per tag	4-5 months	20 100	021778 021779
PYRETHROID TAGS (CONTINUED)											
	PYthon[®] Insecticide Strip	Y-TEX	zeta-cypermethrin (10%) + PBO (20%)	horn fly, face fly, stable fly (see label for others)	Yes	Y-TEX [®]	1-2 strips per animal (see label for details)	9.5g per strip	3-5 months	50	059767
	Saber[®] Extra Insecticide Ear Tag	Merck	lambda-cyhalothrin (10%) + PBO (13%)	horn fly, face fly (see label for others)		Allflex [®]	2 tags per animal (1 tag to each ear)	9.5g per tag	Up to 5 months	20	011503
COMBINATION TAGS											
	Double Barrel[®] VP Insecticide Ear Tag	Merck	pirimiphos-methyl (14.0%) + lambda-cyhalothrin (6.8%)	horn fly, face fly (see label for others)		Allflex [®]	2 tags per animal (1 tag to each ear)	9.5g per strip	Up to 5 months	20	012491
	Tri-Zap[™] Insecticide Cattle Ear Tag	Y-TEX	zeta-cypermethrin (3.2%) + abamectin (6.0%) + piperonyl butoxide (20%)	horn fly, face fly (see label for others)	Yes	Y-TEX [®]	1-2 tags per animal (see label for details)	9.5g per tag	2- 4 months	20 100	065868 065869

Prior to using any product mentioned in this article, carefully read and follow all available instructions, warnings and safety information made available by the product's manufacturer. *Restricted use in California.