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EC84-1510 Insect Control Guide for Beef Cattle in Nebraska

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Nebraska Cooperative Extension Service EC84-1510

Insect Control Guide for Beef Cattle in Nebraska



 Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Leo E. Lucas, Director of Cooperative Extension Service, University of Nebraska, Institute of Agriculture and Natural Resources.



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Insecticides Registered for Use on Beef Cattle in Nebraska

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Precautions

All insecticides can be hazardous to man and animals if not used correctly.

Observe the minimum time between treatment and slaughter.

Note and follow label restrictions for treatment in conjunction with other medication and in treating sick or stressed cattle.

Never use crop insecticides on livestock.

Always read and understand label recommendations before opening the container; preparation, amount to use, how to use and special instructions or restrictions are on the label.

Insecticide Formulations

Understand the difference in the insecticide formulations. Dusts (D) may be preferred when only a few animals are to be treated or during extremely cold weather. Emulsifiable concentrates (EC) may be mixed with water or fuels. Flowables (F) are thick fluids which are mixed with water. The only flowable livestock insecticide is Co-Ral. Soluble Powders (SP) and Wettable Powders (WP) are to be mixed with water. Some type of agitation is necessary to keep SP's and WP's in suspension. Solutions (S) are used as light mist sprays or as prepared pour-ons. Some solutions are prepared for mixing with backrubber oils.

Insecticides can be systemic or non-systemic. Systemic insecticides are absorbed through the skin into the animal's blood stream and tissues. The use of systemic insecticides is not recommended on cattle between November 1 and February 1 in Nebraska, because of the danger of a host-parasite reaction. This reaction is the result of grubs being treated when they are migrating through the esophagus or central nerve canal. The dying grub releases a toxin which causes bloating or paralysis. Exercising cattle and the administration of antihistamines usually reduces the swelling.

Systemic insecticides listed in this circular are coumaphos, trichlorfon, phosmet, fenthion and famphur. All other insecticides are non-systemic and remain on the skin and hair surface as a residual contact poison.

Chemicals listed in this publication are considered safe when used according to label directions. Proper use should not result in illegal residues or injury to beef animals.

Insecticide Application Methods

Sprays: Both systemic and non-systemic insecticides are used as sprays. A systemic must be absorbed through the skin and requires a spray pressure of at least 300 p.s.i. (lbs/sq.inch) to reach the skin. A non-systemic spray needs only to wet the haircoat which requires a spray pressure of only 40 p.s.i. The addition of household detergent helps the spray stick to the hair.

Pour-ons and Spot-ons: These insecticides are relatively high concentrations applied to the animal in small doses. All pour-ons and spot-ons are systemics except Dursban (chlorpyrifos).

Self-treatment Devices: Oilers, dust bags and eartags can be considered self-treatment devices. Place oilers and dust bags at a location frequented by cattle. For best results, force cattle to use them to obtain water, feed, or mineral. If used free-choice, enough oilers and dusters should be available for all cattle to use daily. Eartags have insecticide incorporated in polyvinyl chloride (PVC) for gradual release. Ear movement by the animal wipes the insecticide on the face, neck and back of the animal.

Feed Additives: These insecticides are either incorporated in salt or mineral blocks or added to feed. The insecticide passes through the digestive system of the animal with little absorption and is then available in the manure to destroy fly larvae.

Dips: As with sprays, dips may be either systemic or non-systemic. In Nebraska, dips generally used for grub and lice control on large numbers of cattle are systemic. The exception is toxaphene, a restricted-use product, for scabies control in accordance with federal regulations.

Injections: Ivomec (Ivermectin), a newly registered product, is a subcutaneous injection for control of internal parasites, grubs, lice and scabies. At present, it is marketed only through veterinarians.

Insecticides and Target Pests

	Altoisid (methoprene)	Airoban (permethrin)	Ciodrin (crotoxyphos)	Co-Ral (coumaphos)	Delnav (dioxathion)	Dur-ban (chlorpyrifos)	Ectiban (permethrin)	Ectrin (fenvalerate)	Guardian (flucythrinate)	Lindane	Malathion	Methoxychlor	Neguvon (trichlorfon)	Phenothiazine	Prolate GX-118 (phosmet)	Pyrethrin	Rabon (stirofos)	Tiguvon (fenthion)	Vapona (dichlorvos)	Warbex (tamphur)
Cattle grub																				
dip				X											X					
feed additive																				X
pour-on/spot-on				X									X		X			X		X
spray				X									X		X					
Cattle lice																				
back rubber			X	X	X					X	X	X				X	X			
dip				X	X					X	X	X			X					
dust bag			X	X						X	X	X					X			
pour-on/spot-on				X									X		X			X		X
spray		X	X	X	X		X			X	X	X	X		X	X	X		X	
Face fly																				
back rubber			X	X	X					X	X					X	X			
dust bag			X	X							X	X					X			
ear tag		X					X	X	X											
feed additive				X										X			X			
spray		X					X	X												
Horn fly																				
back rubber			X	X	X					X	X					X	X			
dust bag			X	X							X	X					X			
ear tag		X					X	X	X											
feed additive	X			X										X			X			
spray		X	X	X	X		X	X		X	X	X	X		X	X	X		X	
Mosquitoes																				
spray		X	X	X	X		X	X		X	X	X	X		X	X	X		X	
Stable fly																				
spray		X	X	X	X		X	X		X	X	X	X		X	X	X		X	

NOTE: Some insecticides are mixed.

Example: Ciovap = Ciodrin + Vapona

Ravap = Rabon + Vapona

M & M = Malathion + Methoxychlor

Insecticides Registered for Use on Beef Cattle

Insecticide	% Active Ingredient	Method of Application	Dosage	Restrictions
Altosid (methoprene)	0.02%	Feed additive	4-8 oz/100 lb. body weight/month.	Feed in salt or mineral block. For horn flies only.
Atroban (permethrin)	11.0% EC	Spray	Horn flies—1 pt/50 gal. water. 0.025% (in water). Face flies and Lice—1 pt/25 gal. water. 0.05% (in water).	14-day treatment interval.
Ciodrin (crotoxyphos)	10.0%	Eartag		None
	14.4% EC	Spray	0.1-0.25%, 1 gal/animal.	7-day treatment interval.
			0.5% (in water). 1-2 qt/animal.	7-day treatment interval. Do not contaminate feed or water.
			1.0% (in water). 1-2 pt/animal.	7-day treatment interval. Do not contaminate feed or water.
			2.0% (in water) 1-2 oz/animal. 1.0% (in oil). 2 fl oz/animal.	Treatment interval—daily. Do not contaminate feed or water. Treatment interval—daily. Do not contaminate feed or water.
Co-Ral (coumaphos)		Back rubber	1.0% (in oil). 2 fl oz/animal.	None
	3.0%	Dust	½-1 oz/animal on poll, back and sides.	3- to 4-week treatment interval. Do not treat calves under 6-months of age.
		Dust bag		None
	11.6%	Spray	0.03-0.5% (in water)	Do not treat animals less than 3-months of age. Do not treat sick or stressed animals or in conjunction with other insecticides.
		Dip	0.25% (in water)	
Delnav (dioxathion)		Back rubber	1.0% (in oil)	
	1.0%	Dust	2 oz/animal over head, neck, shoulder, back and tailhead.	Treatment interval—as necessary.
			4 oz/animal. Apply in ears and head area for spinose ear tick.	7-day treatment interval.
		Dust bag		None
		Feed additive	1.2 mg/kg body weight/day. Add to daily ration.	
Dursban (chlorpyrifos)	4.0%	Pour-on	½ oz/100 lb. body weight.	
	30.0% EC	Spray	0.15% (in water). 0.6% (in water). 1 qt/animal.	14-day treatment interval.
		Dip	0.15% (in water).	Do not treat calves under 3-months of age. 14-day treatment interval. 30-day treatment/slaughter interval.
Ectiban (permethrin)		Back rubber	1.5% (in oil)	None
	43.2%	Spot-on	2 cc/100 lb. body weight.	Maximum 16 cc/animal. For cattle lice only. See label for other restrictions.
Ectiban (permethrin)	5.7% EC	Spray	Dilute 1 qt/25 gal. water. Apply 1-2 qt. diluted spray per animal.	14 day treatment interval.
		Back rubber	1 qt. to 10 gal. diesel.	None
	0.9 g	Eartag tapes		None

Insecticides Registered for Use on Beef Cattle (continued)

Insecticide	% Active Ingredient	Method of Application	Dosage	Restrictions
Ectrin (fenvalerate)	10.0% EC	Spray	0.5%, ½-gal/animal.	14-day treatment interval.
			0.1%, ½-gal/animal.	For horn flies only.
	8.0%	Eartag		None
	10.0%	Pour-on	0.1% (in water). 4 fl oz/animal.	14-day treatment interval.
Guardian (flucytrinate)	7.5%	Eartag		None
Lindane	25.0% EC	Spray	0.03-0.06% (in water).	30-day treatment/slaughter interval. Treat calves only at the 0.03% rate.
		Back rubber	0.2% (in oil)	30-day treatment/slaughter interval. Do not treat calves under 6-months of age.
	1.0%	Dust bag		30-day treatment/slaughter interval.
Malathion	57.0% EC	Spray	1.25% (in water)	None
		Dip	1.25% (in water)	None
		Back rubber	2.0% (in oil)	None
	4.0%	Dust		None
	5.0%			None
Methoxychlor	50.0% WP	Spray	1% (in water). 2 qt/cow. Less for calves.	None
	25.0% EC		0.5% (in oil). 2.5 fl oz/cow. Do not wet skin.	21-day treatment interval.
			2 fl oz/cow.	Treatment interval—daily.
		Dip	0.5%	Do not treat calves under 2-months of age.
	50.0%	Dust	1 oz/animal. Work dust into hair.	None
	25.0% EC	Back rubber	5% (in oil)	None
	5.0%	Dust bag		None
Neguvon (trichlorfon)	8.0%	Pour-on	½ oz/100 lb. body weight.	21-day treatment/slaughter interval.
Phenothiazine	2.26%	Feed additive	0.25 g/100 lb., body weight.	Feed in salt or mineral supplement. Treatment interval—daily.
Prolate GX-118 (phosmet)	11.6%	Spray	0.25% (in water). 1 gal/cow.	21-day treatment/slaughter interval.
		Dip	0.15%	21-day treatment/slaughter interval. See label for additional restrictions.
		Pour-on	4.0% (in water). 1 fl oz/100 lb. body weight.	Maximum of 8 oz/animal. 21-day treatment/slaughter interval.
Pyrethrin (natural)	1.0%	Spray	1.0% (in oil) 2 ml/animal, 2-3 times daily.	None
		Back rubber or Spray	0.5% (in oil) 10 ml/animal daily. 1 fl. oz/animal, 2-3 times weekly. Apply 1 fl. oz/animal on face for face fly.	None

Insecticides Registered for Use on Beef Cattle

Insecticide	% Active Ingredient	Method of Application	Dosage	Restrictions
Rabon (stirofos)	50.0% WP	Spray	½-1 gal/animal.	None
	3.0%	Dust		None
	24.0% EC	Back rubber	1% (in oil)	None
	97.3%	Feed additive	70 mg/100 lb. body weight/day.	
Tiguvon (fenthion)	3.0%	Pour-on	½ oz/100 lb. body weight.	35-day treatment/slaughter interval.
	8.0%		Mix 1 part Tiguvon to 8 parts water. 1 oz/100 lb. body weight.	35-day treatment/slaughter interval.
	20.0%	Spot-on	4 cc/300 lb. body weight.	Maximum 20 cc/animal. 21-day treatment/slaughter interval.
Vapona (dichlorvos)	23.4% EC	Spray	1% (in water), 1-2 oz/animal.	Treatment interval—daily.
Warbex (famphur)	12.5%	Pour-on	1 oz/200 lb. body weight.	Do not repeat treatment. Maximum of 4 oz/animal. 35-day treatment/slaughter interval.