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## EC78-1513 Insect Control Guide for Alfalfa and Clover

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## INSECT CONTROL GUIDE FOR ALFALFA AND CLOVER

D. L. Keith and R. E. Roselle

Agricultural Extension Entomologists

Insect control suggestions for alfalfa and clover are based on University of Nebraska research results, U.S.D.A. recommendations, and label registrations. Farmers and commercial operators must be extremely careful in selection of insecticides for use on hay crops so that illegal residues do not occur.

**CAUTION:** All insecticides are poisonous and must be used with care, and stored in a safe place. Empty containers must be burned or buried. It is very important that labels of every insecticide be studied until they are understood. Safety precautions and use instructions are on all labels. Follow these carefully to avoid accidental poisoning or death, and to prevent illegal residues in crops and livestock.

Insecticides designated "R" are classified for restricted use. They can only be used legally by certified private or commercial applicators, or under the direct supervision of a certified applicator. Other highly toxic materials recommended for certified applicators will eventually be classified restricted.

### PROTECT BEES AND OTHER POLLINATING INSECTS

Insecticides will kill honey bees and other pollinating insects. It is very important to seed producers and beekeepers that care be taken to avoid unnecessary losses of pollinators. The following suggestions will reduce bee losses:

1. If crop is for hay production, take a cutting rather than apply an insecticide if crop is beginning to bloom.
2. Apply chemicals when bees are not actively foraging. Apply before bloom. Select a material of low toxicity and apply in late evening or early morning if bees are foraging on any plants in fields.
3. Alert beekeepers in areas to be sprayed so they can move bees from the area, or keep them confined during the application period. Bees should be held 2 or 3 miles from fields being treated.
4. Do not dump unused sprays where they might become a bee poisoning hazard.

The relative toxicities of insecticides to honey bees are:

#### Group 1 - Highly Toxic

If highly toxic materials are used, severe losses may be expected when bees are present at treatment time or within a few days thereafter.

Extension work in "Agriculture, Home Economics and subjects relating thereto," The Cooperative Extension Service, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln, Cooperating with the Counties and the U.S. Department of Agriculture  
Leo E. Lucas, Director

DDVP, diazinon, Dibrom, dimethoate, Cygon, EPN, ethyl parathion, Furadan, Guthion, Imidan, Lannate, malathion, methyl parathion, methyl trithion, Pennacap-M, Phosdrin, phosphamidon, Sevin, Supracide, and TEPP.

### Group 2 - Moderately Toxic

Where moderately toxic materials are used there should be little loss of bees if dosage, timing and method of application are correct, but they should never be applied when bees are in the field.

Co-Ral, Di-Syston (seed treatment), Dylox, Korlan, Thimet (seed treatment), Trithion.

### Group 3 - Low Toxicity

Low toxic materials can be used around bees with a minimum of injury.

Delnav, Ethion, methoxychlor, sulfur, demeton (Systox), Tedion, Toxaphene, Thiodan.

### ALFALFA AND CLOVER HAY

INSECT	MATERIAL	AMT. FORMULATION PER ACRE(0.40 hectare) AND DAYS BEFORE HARVEST	RESTRICTIONS
APHIDS	Naled 60EC (Dibrom)	1 Pt. (.47L) (4 days)	Apply when temperature is above 60° F.
	Malathion 57EC	1.5 Pts. (.70L) (7 days)	Apply when temperature is above 60° F.
	Diazinon AG500	1 Pt. (.47L) (7 days)	Apply when temperature is above 60° F.
	Cygon 400 (dimethoate)	1 Pt. (.47L) (10 days)	Apply when temperature is above 60° F.
	(R) Parathion 46EC	½ Pt. (.23L) (15 days)	Certified applicators only.
	(R) Methyl parathion 46EC	½ Pt. (.23L) (15 days)	Certified applicators only.
	Di-Syston 15G (disulfoton)	6.7 Lbs. (3Kg) (28 days)	Certified applicators only.
ALFALFA WEEVIL	(R) Guthion 2LC (azinphosmethyl)	1 Pt. (.47L)(14 days) 3 Pts.(1.4L)(21 days)	Certified applicators only.
	Sevin 80WP (carbaryl)	1.25 Lbs.(.56Kg) (0 days)	Highly toxic to bees, do not apply during bloom.
	(R) Furadan 4F (carbofuran)	0.5 Pt. (.23L)(7 days) 1.0 Pt.(.47L)(14 days) 2.0 Pts.(.93L)(28 days)	Certified applicators only. One application per season. Pure stands.

INSECT	MATERIAL	AMT. FORMULATION PER ACRE(0.40 hectare) AND DAYS BEFORE HARVEST	RESTRICTIONS
ALFALFA WEEVIL cont.	Diazinon AG500	2.0 Pts. (.93L) (10 days)	
	Alfatox 10-20	2.0 Qts. (1.9L) (7 days)	10% diazinon + 20% methoxychlor
	Alfacide 20-20	2.0 Qts. (1.9L) (7 days)	20% malathion + 20% methoxychlor
	Malathion 57EC	2.0 Pts. (.93L) (0 days)	
	(R) Lannate 1.8 SC (methomyl)	2.0 Qts. (1.9L) (7 days)	Certified applicators only.
	Methoxychlor 25EC	3.0 Qts. (2.8L) (7 days)	
	Imidan 50WP (phosmet)	2.0 Lbs. (.9Kg) (7 days)	One application per season.
	(R) Ethyl parathion 8EC	0.5 Pt. (.23L) (15 days)	Certified applicators only.
	(R) Methyl parathion 8EC	0.5 Pt. (.23L) (15 days)	Certified applicators only.
	Pennacap-M 2	2.0 Pts. (.93L) (15 days)	Do not apply during bloom.
	Supracide 2E (methidathion)	2.0 Pts. (.93L) (10 days)	One application per cutting.
WEBWORMS	Dylox 80SP (trichlorfon)	1 Lb. (.45Kg) (0 days)	
	Sevin 80WP (carbaryl)	1.25 Lbs. (.57Kg) (0 days)	
	(R) Parathion 8 EC	0.25 Pt. (.12L) (15 days)	Certified applicators only.
GRASSHOPPERS	Cygon 400 (dimethoate)	1.0 Pt. (.47L) (10 days)	
	Diazinon AG500	1.0 Pt. (.47L) (10 days)	
	Dimethoate 267	1.5 Pts. (.7L) (10 days)	
	(R) Guthion 2S (azinphosmethyl)	2 Pts. (.94L) (21 days)	Certified applicators only.
	Malathion 57EC	1.5 Pts. (.7L) (7 days)	



INSECT	MATERIAL	AMT. FORMULATION PER ACRE(0.40 hectare) AND DAYS BEFORE HARVEST	RESTRICTIONS
GRASSHOPPERS Cont.	Dibrom 60EC (naled)	0.75 Pt. (.35L) (4 days)	
	Sevin 80WP (carbaryl)	2.0 Lbs. (.90Kg) (0 days)	
POTATO LEAFHOPPERS	Cygon 400 (dimethoate)	1.0 Pt. (.47L) (10 days)	
	Dimethoate 267	1.5 Pts. (.7L) (10 days)	
	(R) Furadan 4F (carbofuran)	2.0 Pts. (.94L) (28 days)	Certified applicators only. One application per season. Pure stands.
	Sevin 80WP (carbaryl)	2.0 Lbs. (.90Kg) (1 day)	
	Supracide 2E (methidathion)	2.0 Pts. (.94L) (10 days)	One application per cutting.
CLOVER LEAF WEEVILS	Malathion 57EC	1.5 Pts. (.7L) (7 days)	Apply in spring when growth is 2-6 inches.
SWEETCLOVER WEEVILS	Methoxychlor 25EC	2.0 Qts. (1.9L) (7 days)	Apply when first damage to sweetclover is noted.
	Sevin 80WP (carbaryl)	1.5 Lbs. (.68Kg) (0 days)	
BLISTER BEETLES	Sevin 80WP (carbaryl)	2.0 Lbs. (.90Kg) (0 days)	
ARMY CUTWORMS	(R) Parathion 8EC	3/8 Pt. (.18L) (15 days)	Certified applicators only. When damage threatens new seedings.
	Sevin 80WP (carbaryl)	2.0 Lbs. (.90L) (0 days)	
	Sevin 5% bait (carbaryl)	30 Lbs. (13.6Kg) (0 days)	
VARIEGATED CUTWORMS	Dylox 80SP (trichlorfon)	1.0 Lb. (.45Kg) (0 days)	Not more than 3 applications.
	Dylox 5% bait (trichlorfon)	20 Lbs. (9.0Kg) (14 days)	

INSECT	MATERIAL	AMT. FORMULATION PER ACRE(0.40 hectare) AND DAYS BEFORE HARVEST	RESTRICTIONS
VARIEGATED CUTWORMS Cont.	(R) Lannate 24L (methomyl)	2.0 Pts.(.94L) (7 days)	Certified applicators only. (Nebraska registra- tion)
	Sevin 80 WP (carbaryl)	2.0 Lbs. (.90Kg) (0 days)	
	Sevin 5% bait (carbaryl)	30 Lbs. (13.6Kg) (0 days)	
ALFALFA SEED PRODUCTION FIELDS			
INSECT	MATERIAL	AMT. FORMULATION PER ACRE(0.40 hectare) AND DAYS BEFORE HARVEST	RESTRICTIONS
APHIDS	Di-Syston LC (disulfoton)	1.0 Pt.(.47L) (14 days)	Certified applicators only.
	Diazinon AG500	1.0 PT.(.47L) (7 days)	Temperature 60° F. or higher.
	Malathion 57EC	1.5 Pts.(.70L) (7 days)	Temperature 60° F. or higher.
	Metasystox-R SC (oxydemetonmethyl)	1.5 Pts.(.70L) (21 days)	
	(R) Parathion 8E	0.25 Pt.(.12L) (15 days)	Certified applicators only.
	Thiodan 2EC (endosulfan)	2.0 Pts.(.94L) (21 days)	
LYGUS BUGS & LEAFHOPPERS	Cygon 400 EC (dimethoate)	1.0 Pt.(.47L) (10 days)	Apply when Lygus reach 2 per sweep before blooming.
	Dylox 80SP (trichlorfon)	1.5 Lbs.(.68Kg) (7 days)	
	Thiodan 2EC (endosulfan)	3.0 Qts.(2.8L) (21 days)	
	Toxaphene 60EC	2.5 Pts.(1.2L)	Do not feed toxaphene treated forage to any class of livestock or use for any purpose on dairy farms.
	(R) Furadan 4F (carbofuran)	2.0 Pts.(.94L) (28 days)	One application per season
	Supracide 2EC (methidathion)	3.0 Pts.(1.4L) (10 days)	

INSECT	MATERIAL	AMT. FORMULATION	RESTRICTIONS
		PER ACRE(0.40 hectare) AND DAYS BEFORE HARVEST	
LYGUS BUGS & LEAFHOPPERS	Malathion 57EC	2.0 Pts.(.94L) (0 days)	

Dylox and malathion hydrolyze rapidly in alkaline water. If pH of water used is above 7, apply sprays within one hour after mixing, or adjust pH to 6-7 with additives manufactured for this purpose.

The other insecticides listed in this circular are subject to hydrolysis in alkaline waters at a slower rate than Dylox or malathion. They should be applied within a few hours after mixing with water to avoid loss of efficacy or used in water with pH adjusted to 7 or lower.

ABBREVIATIONS USED IN THIS CIRCULAR:

WP.....wetable powder  
Lbs.....pounds  
Qt.....quart  
Pt.....pint  
SP.....soluble powder  
F.....flowable  
E.....emulsifiable  
EC.....emulsifiable concentrate  
LC.....liquid concentrate  
SC.....sprayable concentrate  
L.....liter  
Kg.....kilogram  
(R).....restricted use

To simplify recommendations, trade names have been used in some instances. This is not to be interpreted as an endorsement of a particular brand, nor is it intended to discriminate against similar products which are not mentioned by name.