

CLOVER: CLOVER INSECT CONTROL

Other than alfalfa, including arrowleaf, crimson, red, white, and other clovers

Will Hudson, Extension Entomologist, and David Buntin, Research Entomologist

PEST	INSECTICIDE	MOA	AMOUNT PER ACRE	REI/PHI (Hours or Days)	REMARKS AND PRECAUTIONS
Alfalfa weevil, Clover weevil, Lesser clover leaf weevil, Clover head weevil	<i>carbaryl</i> Sevin, other brands 4.0	1A	1.0-1.5 qt	12 H/ 7 D	CAUTION BEE HAZARD: Clovers are either dependent upon or benefited by insect pollination, primarily by bees. They are an important source of honey and pollen for bees, including honey bees. Do not apply these insecticides to clover fields when clover or weeds in clover fields are flowering.
	<i>malathion</i> Malathion 8EC, other brands	1B	1.0-1.25 pt	12 H/ 0 D	
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8 EC	3A	2.24-4 oz	12 H/ 3 D	
Aphids	<i>malathion</i> Malathion 8EC, other brands	1B	15-20 fl oz	12 H/ 0 D	WHEN TO TREAT FOR INSECTS IN CLOVER PASTURES FOLIAGE FEEDING CATERPILLARS (armyworm, alfalfa caterpillar, beet armyworm, corn earworm, cutworms, green cloverworm, fall armyworm, velvetbean caterpillar, yellowstriped armyworm): Treat when populations of any (or any combination) of these insects exceed 3 larvae (1/2" long or larger)/sq ft.
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8 EC	3A	2.24-4 oz	12 H/ 3 D	
Caterpillars (armyworm, cutworms, green cloverworm, velvetbean, yellowstriped armyworm)	<i>carbaryl</i> Sevin, other brands 4.0	1A	1.0-1.5 qt	12 H/ 7 D	ALFALFA WEEVIL: Treat when larvae and/or adults are damaging 50% of the leaves or buds. APHIDS: Treat if infestations appear to be causing excessive leaf discoloration. CLOVER LEAF WEEVIL: Treat when 50% of the plants have leaf feeding damage from larvae and/or adult weevils. GRASSHOPPERS: Treat when heavy populations are causing excessive defoliation. LEAFHOPPERS: Treat when heavy populations are causing leaf discoloration over large areas of the field. LESSER CLOVERLEAF WEEVIL: Treat when 10% or more of the buds or seed heads are infested with larvae or when the adults are damaging the leaves and stems on 50% of the plants.
	<i>chlorantraniliprole</i> Coragen 1.67SC Prevathon 0.43	28	3.5-5 fl oz 14-20 fl oz	4 H/ 0 D	
	<i>methoxyfenozide</i> Intrepid 2F	18	4-8 fl oz	4 H/ Forage 0 D Hay 7 D	
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8 EC	3A	2.24-4 oz	12 H/ 3 D	
Grasshoppers, Striped ground crickets	<i>carbaryl</i> Sevin, other brands 4.0	1A	1.0-1.5 qt	12 H/ 7 D	STRIPED GROUND CRICKETS: Treat when 10% of the seedling-stand has been lost and crickets are still present. If crop is not being monitored closely, treat preventively after seeding but <u>before</u> seedlings emerge.
	<i>malathion</i> Malathion 8EC, other brands	1B	1.0-1.25 pt	12 H/ 0 D	
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8 EC	3A	2.8-4 fl oz	12 H/ 3 D	
Green June beetle larvae	<i>carbaryl</i> Sevin, other brands 4.0	1A	1.0-1.5 qt	12 H/ 7 D	NOTE: Coragen/Prevathon: 0 day PHI. No more than 4 applications per crop; no more than 0.2 lb ai oz/A/crop.
Leafhoppers	<i>carbaryl</i> Sevin, other brands 4.0	1A	1.0-1.5 qt	12 H/ 7D	
	<i>malathion</i> Malathion 8EC, other brands	1B	1.0-1.25 pt	12 H/ 0 D	
	<i>zeta-cypermethrin</i> Mustang Maxx, Respect 0.8 EC	3A	2.24-4 oz	12 H/ 3 D	

EC – emulsifiable concentrate, SP – soluble powder, S – sprayable powder, EL – emulsifiable liquid, WP – wettable powder
Numbers following liquid formulations indicate lb ai/gal; those following solids indicate % ai.

CLOVER WEED CONTROL

(Including arrowleaf, crimson, red, white, and other clovers)

Patrick E. McCullough, Extension Agronomist – Weed Science

HERBICIDE	BROADCAST RATE/ACRE		REMARKS AND PRECAUTIONS
	AMOUNT OF FORMULATION	POUNDS ACTIVE INGREDIENT	
PREPLANT INCORPORATED			
<i>EPTC</i> Eptam	3.5 pt	3.1	For winter annual grass and some broadleaf weed control, incorporate 2-3" deep before planting. Do not use on white Dutch clover. Do not use if a grass or grain crop is to be planted with the clover.
<i>benefin</i> Balan 60DF	2 lb	1.2	May be used on alsike, ladino, and red clover. For winter annual grass and some broadleaf weed control, incorporate 2-3" deep before planting. Do not use if a grass or grain crop is to be planted with the clover.
POSTEMERGENCE – Seedling Clovers			
<i>imazethapyr</i> Pursuit 2EC	3-6 fl oz	0.047-0.094	Apply to seedling clover with a minimum of two trifoliolate leaves and when weeds are 1-3" tall or before rosette forming weeds exceed 3" in diameter. Pursuit requires a 1 hour rain-free period. Pursuit may cause a temporary reduction in height or slight leaf yellowing. DO NOT feed, graze, or harvest clover for 30 days after application. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1.25% v/v to the spray solution. If replanting is necessary in a field treated with Pursuit, do not plant alfalfa for 4 months following the application of Pursuit.
<i>pronamide</i> KERB 50W	1-1.5 lb	0.5-0.75	For preemergence control of winter annual weeds, spray prior to weed emergence in November or December. Do not graze or cut for hay for 120 days after treatment. In fall-seeded clovers, applications should be made after clover has reached the first trifoliolate leaf stage. In spring seedings, applications should be delayed until the following fall or early winter.
<i>sethoxydim</i> Poast 1.5 lb/gal Poast Plus Sethoxydim E-Pro Sethoxydim G-Pro 1 lb/gal	1-1.5 pt 1.5-2.25 pt 1.5-2.25 pt 1.5-2.25 pt	0.19-0.3	Apply with crop oil concentrate at 2 pt/A to control annual and perennial grasses. Use the high rate for johnsongrass and bermudagrass. Do not apply to grasses growing under drought-stressed conditions. Apply to annual grasses less than 8" tall. Do not apply within 7 days of feeding, grazing, or harvesting undried forage, or within 20 days of cutting for dry hay.
POSTEMERGENCE – Established Clovers			
<i>imazethapyr</i> Pursuit 2EC	3-6 fl oz	0.047-0.094	Apply to clover with a minimum of two trifoliolate leaves and when weeds are 1-3" tall or before rosette forming weeds exceed 3" in diameter. Pursuit requires a 1-hour rain-free period. Pursuit may cause a temporary reduction in height or slight leaf yellowing. DO NOT feed, graze, or harvest clover for 30 days after application. Add a nonionic surfactant at 0.25% v/v or a crop oil concentrate at 1.25% v/v to the spray solution. If replanting is necessary in a field treated with Pursuit, do not plant alfalfa for 4 months following the application of Pursuit.

<p>¹ Abbreviations used are: EC – emulsifiable concentrate SP – soluble powder S – sprayable powder EL – emulsifiable liquid WP – wettable powder</p>	<p>Numbers following liquid formulations indicate lb active ingredient per gallon; those following solids indicate percent active ingredient</p>
--	--

CLOVER WEED CONTROL
(Including arrowleaf, crimson, red, white, and other clovers)

HERBICIDE	BROADCAST RATE/ACRE		REMARKS AND PRECAUTIONS
	AMOUNT OF FORMULATION	POUNDS ACTIVE INGREDIENT	
POSTEMERGENCE - Established Clovers			
<i>sethoxydim</i> Poast 1.5 lb/gal Poast Plus Sethoxydim E-Pro Sethoxydim G-Pro 1 lb/gal	1-1.5 pt 1.5-2.25 pt 1.5-2.25 pt 1.5-2.25 pt	0.19-0.3	Apply with crop oil concentrate at 2 pt/A to control annual and perennial grasses. Use the high rate for johnsongrass and bermudagrass. Do not apply to grasses growing under drought-stressed conditions. Apply to annual grasses less than 8" tall. Do not apply within 7 days of feeding, grazing, or harvesting undried forage, or within 20 days of cutting for dry hay.
<i>pronamide</i> KERB 50W	1-1.5 lb	0.5-0.75	Controls winter annual grasses and some broadleaf weeds in clovers, birdsfoot trefoil and crown vetch. Apply from November through February. DO NOT graze or harvest for hay for 120 days after application. KERB is a restricted use herbicide.

¹ Abbreviations used are: EC – emulsifiable concentrate SP – soluble powder S – sprayable powder EL – emulsifiable liquid WP – wettable powder	Numbers following liquid formulations indicate lb active ingredient per gallon; those following solids indicate percent active ingredient
---	---