

CLOVER INSECT CONTROL

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

Will Hudson, Extension Entomologist and David Buntin, Research Entomologist

PEST	MATERIAL AND FORMULATION ¹	AMOUNT PER ACRE	REMARKS AND PRECAUTIONS
Alfalfa weevil, clover weevil, lesser clover leaf weevil, clover head weevil	carbaryl (Sevin) 80S 50 WP XLR Plus malathion 8EC zeta-cypermethrin (Mustang Max)	1 7/8 lbs. 3 lbs. 1 qt. 15 fl. ozs. 2.24 to 4.0 ozs.	CAUTION: 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. If insecticides <u>must</u> be applied during the bloom period, spray as late in the evening as possible since most insecticides are very toxic to bees. WHEN TO TREAT FOR INSECTS IN CLOVER PASTURES
Aphids	malathion 8EC zeta-cypermethrin (Mustang Max)	15 to 20 fl. ozs. 2.24 to 4.0 ozs.	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 in. long or larger) per square foot. ALFALFA WEEVIL: Treat when larvae and/or adults are damaging 50% of the leaves or buds.
Caterpillars (armyworm, cutworms, green cloverworm, velvetbean, yellowstriped armyworm)	carbaryl (Sevin) 80S 50WP XLR Plus methoxyfenozone (Intrepid) 2F zeta-cypermethrin (Mustang Max) spinosad (Tracer)	1 1/4 lbs. 2 lbs. 1 qt. 4 to 8 ozs. 2.24 to 4.0 ozs. 1 - 2 ozs.	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.
Grasshoppers, striped ground crickets	carbaryl (Sevin) 80S malathion 8EC zeta-cypermethrin (Mustang Max)	1 7/8 lbs. 15 to 20 fl. ozs. 2.8 to 4.0 ozs.	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. 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.
Green June beetle larvae	carbaryl (Sevin) 80S 50WP	1 7/8 lbs. 3 lbs.	PESTICIDE USE PRECAUTIONS <u>carbaryl</u> : Do not graze or cut for hay for 14 days after application. <u>Cypermethrin</u> : 3 day PHI for hay or grazing; 7 day PHI for seed.
Leafhoppers	carbaryl (Sevin) 80S 50WP zeta-cypermethrin (Mustang Max)	1 1/4 lbs. 2 lbs. 2.24 to 4.0 ozs.	<u>Malathion</u> : Apply as needed up to day of grazing or cutting for hay. Do not apply during bloom period. <u>spinosad</u> : 3 day PHI for hay or fodder; Do not allow grazing until sprays have dried.
<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 lbs. active ingredient per gallon; those following solids indicate percent active ingredient.</p>			

CLOVER WEED CONTROL

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

Tim R. Murphy, Extension Agronomist-Weed Science

USE STAGE/ AND HERBICIDE	BROADCAST RATE/ACRE		REMARKS AND PRECAUTIONS
	AMOUNT OF FORMULATION	POUNDS ACTIVE INGREDIENT	
PREPLANT INCORPORATED			
EPTC (Eptam)	3.5 pts.	3.1	For winter annual grass and some broadleaf weed control, incorporate 2 to 3 inches 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.
benefin (Balan 60DF)	2.0 lbs.	1.2	May be used on alsike, ladino, and red clover. For winter annual grass and some broadleaf weed control, incorporate 2 to 3 inches deep before planting. Do not use if a grass or grain crop is to be planted with the clover.
POSTEMERGENCE - Seedling Clovers			
imazethapyr (Pursuit) 2EC	3.0 - 6.0 fl. ozs.	0.047 - 0.094	Apply to seedling clover with a minimum of two trifoliate leaves and when weeds are 1 to 3 inches tall or before rosette forming weeds exceed 3 inches 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.
pronamide (KERB) 50W	1.0 - 1.5 lbs.	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 trifoliate leaf stage. In spring seedings, applications should be delayed until the following fall or early winter.
sethoxydim (Poast) 1.5 lb./gal. (Poast Plus) (Sethoxydim E-Pro) (Sethoxydim G-Pro) 1.0 lb./gal.	1.0 - 1.5 pts. 1.5 - 2.25 pts. 1.5 - 2.25 pts. 1.5 - 2.25 pts.	0.19 - 0.3	Apply with crop oil concentrate at 2.0 pts./acre 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 inches tall. Do not apply within 7 days of feeding, grazing, or harvesting undried forage, or within 20 days of cutting for dry hay.
2,4-DB (Butyrac 200)	2.3 qts.	1.0 - 1.5	For postemergence control of winter or summer annual broadleaf weeds, spray emerged weeds less than 3 inches tall. 2,4-DB will not control wild radish, chickweed, or mustards. Do not graze or cut for hay for 60 days after application. Do not apply to clovers grown for seed. Rainfall or irrigation within 7 to 10 days after treatment can cause injury. DO NOT add wetting agents or surfactants to the spray mix. Apply after clover is in the 2 to 4 trifoliate leaf stage.
POSTEMERGENCE - Established Clovers			
imazethapyr (Pursuit) 2EC	3.0 - 6.0 fl. ozs.	0.047 - 0.094	Apply to clover with a minimum of two trifoliate leaves and when weeds are 1 to 3 inches tall or before rosette forming weeds exceed 3 inches 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.
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pronamide (KERB) 50W	1.0 - 1.5 lbs.	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.
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