

GRAPE INSECT CONTROL—COMMERCIAL

Insect	Material and Formulation	Dosage of Insecticides/Acre	Remarks/Precautions	Days to Harvest
BUD SWELL				
Climbing Cutworm	Superior oil	4 gal	Spray trunk and all wood by bud swell.	
Grape Scale	(70 sec viscosity)			
Flea Beetle	Sevin 80S	2.5 lb	During bud swell, scout at least twice weekly for holes in buds or inspect buds after dusk for presence of cutworms. Spray weekly as long as new bud damage is noted.	7
	Danitol 2.4EC	5 1/3-10 2/3 fl oz		21
	Renounce 20WP	3-4 oz		3
	Baythroid 2E	2.4-3.2 oz		3
BUD BREAK				
Flea Beetle	SEE BUD SWELL SPRAY		Use only when necessary.	
Climbing Cutworm				
Mealybug	Alias 2F	16-24 fl oz	Surface application followed by 0.25 inch of rain or overhead irrigation. Do not exceed 24 fl oz per acre per season.	14
Leafhopper				
Sharpshooter				
Grape phylloxera (foliar)				
APRIL 1			It is important to begin monitoring for all insect pests near bloom. Pheromone traps can aid in determining the presence of grape berry moth. From April 1 to mid-May, check three pheromone traps in trees adjacent to vineyard. On May 15, move these pheromone traps into the vineyard center and continue weekly monitoring of moth flight. The grape berry moth larvae hatch from mid-May to early June. There may be three additional generations in June, July and August.	
TEN-INCH SHOOT SPRAY				
Flea Beetle Larvae	SEE BUD SWELL SPRAY		Flea beetle larvae and rose chafer may be present anytime between 4 to 10 inches of shoot growth and bloom. Other Sevin formulations may be available.	
Rose Chafer	Sevin 80S	1 1/2-2 1/2 lb		7
	Danitol 2.4 EC	10 2/3 lb		21
	Assail 30 SG	2.5 oz	Do not make more than two applications per season at 14-day interval.	7
PREBLOOM				
Flea Beetle Larvae	SEE TEN-INCH SHOOT			
Rose Chafer				
Grape Berry Moth	Biobit HP	0.5-1.0 lb	A <i>Bt</i> formulation approved for organic production. Repeat treatment weekly as necessary.	
Grape Scale	Intrepid 2F	4-8 oz	During dormant pruning, flag scale-infested vines. To evaluate effectiveness of dormant oil application, wrap double-stick tape around infested canes in early May and begin weekly inspections of tapes for yellow scale crawlers. There is a 2- to 3-week crawler emergence period. Dormant oil is the only insecticide currently labeled for this insect.	30
	Entrust 80	1.25-2.5 oz		7
	(OMRI approved)			
Grape Phylloxera (leaf form)	Endosulfan 50W	2-3 lb	Apply endosulfan at bloom, and repeat 10-14 days later. Since bees do not pollinate grapes, there is no danger to bees at this time unless they are working on blooming weeds in the vineyard. Mow before spraying to eliminate blooms on weeds. Note: Concord, Baco Noir, Colobel, Chancellor, Cascade and other cultivars may have severe injury if treated with endosulfan, so refer to label. Maximum Admire Pro allowed per season: 14.0 fl oz/acre or 0.5 lb AI/acre.	7
	Danitol 2.4 EC	10 2/3-21 1/3 fl oz		30
	Admire Pro	7-14 oz		
Leafhopper Sharpshooters	Assail 30 SG	2.5 oz	Do not make more than two applications per season at 14-day interval.	7
RED IMPORTED FIRE ANTS (ALL FIRE ANTS) – Apply when ants are active and soil temperature is above 60 degrees F. Do not treat if rain is anticipated within 6 hours				
	S - Methoprene (Extinguish)	3-5 T/mound 1-1.5 lb/A	Mound-to-mound treatment rate. Broadcast rate.	
	Pyriproxyfen (Esteem)	2-4 T/mound 1.5-2 lb/A	This product is an insect growth regulator (IGR). Apply 3 to 4 weeks prior to harvest date of production area being treated. Mound-to-mound treatment rate. Broadcast rate.	

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SHATTER				
Grape Berry Moth	Actara	1.5-3.5 oz	14-day minimum interval between applications of Actara.	5
Leafhoppers	Assail 30 SG	2.5 oz	Do not make more than two applications per season at 14-day interval.	7
Rose Chafer	Danitol 2.4 EC	10.6-21.3 fl oz	Examine 100 clusters in perimeter row adjacent to woods for wormy fruit. Also inspect leaves in four	21
Grape Mealy Bug	Sevin 80S	1 1/2-2 1/2 lb	locations for stippling. If stippled, inspect underside of 5 leaves on each of 5 vines in 4 locations for	7
Grape Rootworm	Endosulfan 3EC	1 1/3-2 qt	presence of leafhoppers. Spray if greater than five nymphs found per leaf.	7
Leafrollers	Endosulfan 50W	2-3 lb		7
Japanese Beetle	Pyrellin EC	1-2 pt		0
	Imidan 70W	1 1/3-2 1/8 lb		14
	Pyramite	6.6-13.2 oz		7
	Provado Solupak	0.75-1 oz		0
	Intrepid	4-8 oz	Intrepid is an insect growth regulator that provides control on grape berry moth.	30
	Biobit HP	0.5-1.0 lb	Biobit, Javelin and Deliver are <i>Bt</i> formulations approved for organic production. For control of grape	0
	Javelin WG	0.5-1.25 lb	berry moth. Javelin is also labeled for leafrollers.	0
	Deliver	0.25-1.5 lb		0
	Renounce 20WP	3-4 oz		3
	Baythroid 2E	2.4-3.2 oz		3
	Brigade 2 EC	8-16 oz		30
FIRST COVER TO VERASION				
Grape Berry Moth	SEE SHATTER			
Rose Chafer				
Leafhopper				
Grape Rootworm				
Grape Mealybug				
VERASION TO HARVEST				
Grape Berry Moth	SEE SHATTER		Continue monitoring for insect pests, and apply insecticides as needed. Refer to product label for	
Rose Chafer			specific rates and harvest restrictions.	
Leafhopper				
Japanese Beetle			Japanese beetles will eat leaves and fruit, but usually skeletonize upper third of canopy.	
Grape Mealy Bug				
Green June Beetle	Sevin 80S	2.5 lb	Green June beetles will feed on fruit. Apply spray in July when first beetles enter the vineyard.	7
	Pyrellin EC	1-2 pt	Repeat as needed (weekly).	0
Grape Root Borer	Lorsban 4E	4 1/2 pt/100 gal water	Use to control the pest just prior to adult emergence from the soil or new larvae entering soil. Use 4 1/2 pints of Lorsban in 100 gal water and apply 2 quarts of the diluted spray mix to the soil surface on a 15-square foot area around the base of each vine. Do not allow spray to contact fruit or foliage. Make one application per season.	35

GRAPE BERRY MOTH – MATING DISRUPTION STRATEGY: Mating disruption strategy requires good insecticidal control of the first generation in early to mid-May. In mid-May set out ISOMATE GBM PLUS* at minimum of 200 dispensers per acre or maximum of 400 dispensers per acre must be applied to high-risk vineyards. The pheromone is slowly emitted from plastic twist-ties for about 60 days in the warmer southern states. The atmosphere of the vineyard becomes saturated with the GBM pheromone odor. Male moths become confused so they are unable to locate and mate with females. Females are unaffected by the pheromone but lay unfertilized eggs that will not hatch. **To insure a low GBM population, apply two insecticide sprays against first generation in mid- to late May. This strategy should be considered only for vineyards that are at least 5 acres in size.**

*ISOMATE-GBM, manufactured by Shin-etsu Chemical Co., and distributed by Pacific Biocontrol. This product is available from Great Lakes IPM, Vestaburg, Michigan (phone 989-268-5693 or 800-235-0285).