

Insecticides for European grapevine moth (EGVM), *Lobesia botrana*, on grape

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Insecticide [†]	Label Rates (per acre)	R.E.I (hours)	P.H.I. (days)	OMRI ¹ Listed	Ovicidal ²	Larvicidal ²	Activity
Insect Growth Regulator - Ecdysone mimic (IRAC Group 18)							
Intrepid® 2F (methoxyfenozide)	4-12 fl oz	4	30	no	yes	yes	Ingestion
Microbial insecticide (IRAC Group 11)							
Bacillus thuringiensis Kurstaki (Bt) see pg.3	label rates	4	0	yes	no	yes	Ingestion
Diamides (IRAC Group 28)							
Altacor® (chlorantraniliprole)	3-4.5 oz	4	14	no	yes	yes	Mainly Ingestion, slight contact
Belt® SC (flubendiamide)	3-4 fl oz	12	7	no	no	yes	Ingestion
Sodium channel blockers (IRAC Group 22)							
Avaunt® (indoxacarb)	5-6 oz	12	7	no	no	yes	Ingestion
Spinosyns (IRAC Group 5)							
Success® (spinosad)	4-8 fl oz	4	7	no	no	yes	Ingestion
Entrust® (spinosad)	1.25-2.5 oz	4	7	yes	no	yes	Ingestion
Delegate® WG (spinetoram)	3-5 oz	4	7	no	no	yes	Ingestion, Contact, Translaminar
Fluorine (Unknown Class)							
*Kryocide® & Prokil Cryolite® 96 (cryolite)	4-10 lb ³	12	30	no	no	yes	Ingestion ⁶
*Prokil Cryolite® Dust (cryolite)	5.75-19 lb ³	12	30	no	no	yes	Ingestion ⁶
Avermectins (IRAC Group 6)							
** Agri-Mek® 0.15EC (abamectin)	8-16 fl oz ³	12	28	no	no	yes	Ingestion
Pyrethroids (IRAC Group 3)							
Baythroid® XL (beta-cyfluthrin)	2.4-3.2 fl oz ³	12	3	no	no	yes	Contact
Brigade® WSB (bifenthrin)	8-16 oz ³	12	30	no	no	yes	Contact
Renounce® 20 WP (cyfluthrin)	3-4 oz ³	12	3	no	no	yes	Contact, Ingestion
Tombstone Helios® (cyfluthrin)	2.4-3.2 fl oz ³	12	3	no	no	yes	Contact
Carbamates (IRAC Group 1A)							
***Lannate® SP (methomyl)	0.5-1 lb ³	7(21) ⁴ days	14	no	yes	yes	Contact
***Sevin® XLR Plus (carbaryl)	2 qt ³	12	7	no	no	yes	Contact ⁶
***Sevin® 80S or 80 WSP (carbaryl)	2.5 lb ³	12	7	no	no	yes	Contact ⁶
Organophosphates (IRAC Group 1B)							
Imidan® 70W (phosmet)	1-2.125 lb ³	14 days	7 (14) ⁵	no	no	yes	Contact

[†]Access <http://www.mrlatabase.com> for information on MRL's for export. MRL information may also be obtained from chemical company representatives.

***Consult winery and packers prior to use ** Federally restricted material ***California restricted material**

¹ Approved for use in organic vineyards

² Ovicidal: applied at egg deposition; larvicidal: applied at egg hatch ³ Label rates for lepidoptera pests; no EGVM label rates available.

⁴ REI is 21 days for applicatons on or after August 16

⁵ PHI is 14 days for rate(s) greater than 1.33 lb

⁶ sprays concentrated on the bunch can result in visible residues

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Not all registered products are listed. Use of trade names is in no way an endorsement of the product, nor should it be considered a recommendation. Always consult the product label before making any pesticide application. We gratefully acknowledge editorial support from John Cooledge, Deputy Agricultural Commissioner, Napa County.



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Insecticide [†]	Toxicity			Signal word	Tank mix	Max. applications ⁷	Max lbs AI (Max product) per acre per year	Minimum interval between applications (days)
	Predator	Parasitoid	Bee					
Insect Growth Regulator - Ecdysone mimic (IRAC Group 18)								
Intrepid® 2F (methoxyfenozide)	low	low	low	Caution	yes	No	0.75 lb (48 fl oz)	10-18
Microbial insecticide (IRAC Group 11)								
Bacillus thuringiensis Kurstaki (Bt) see pg.3	low	low	low	Caution	yes	No	No maximum	3-14
Diamides (IRAC Group 28)								
Altacor® (chlorantraniliprole)	low	low	low	None	yes	4	0.2 lb (9 oz)	7
Belt® SC (flubendiamide)	low	low	low	Caution	yes	3	0.375 lb (12 fl oz)	5
Sodium channel blockers (IRAC Group 22)								
Avaunt® (indoxacarb)	low	medium	high	Caution	yes	2	0.22 lb (12 oz)	21
Spinosyns (IRAC Group 5)								
Success® (spinosad)	low	medium to high	medium	None	yes ⁸	No	0.45 lb (29 fl oz)	5
Entrust® (spinosad)	low	medium to high	medium	Caution	yes ⁸	3 in 30 days	0.375 lb (7.5 oz)	5
Delegate® WG (spinetoram)	medium	high	high	Caution	yes	5	0.305 lb (19.5 oz)	4
Fluorine (Unknown Class)								
*Kryocide® & Prokil Cryolite® 96 (cryolite)	low	low	low	Caution	yes	No	20 lb	14
*Prokil Cryolite® Dust (cryolite)	low	low	low	Caution	yes	No	38.25 lb	14
Avermectins (IRAC Group 6)								
**Agri-Mek® 0.15EC (abamectin)	low	medium to high	high	Warning	yes	2	0.038 lb (32 fl oz)	21
Pyrethroids (IRAC Group 3)								
Baythroid® XL (beta-cyfluthrin)	high	high	high	Warning	yes ^{9,10}	4	0.10 lb (12.8 fl oz)	14 (3.2 fl oz rate) ¹²
Brigade® WSB (bifenthrin)	high	high	high	Warning	yes	No	0.10 lb (16 oz)	
Renounce® 20 WP (cyfluthrin)	high	high	high	Caution	yes ^{9,10}	No	0.20 lb (16 oz)	14 (4 oz rate) ¹²
Tombstone Helios® (cyfluthrin)	high	high	high	Warning	yes ^{9,10}	4	0.20 lb (12.8 fl oz)	14 (3.2 fl oz rate) ¹²
Carbamates (IRAC Group 1A)								
***Lannate® SP (methomyl)	high	high		Danger-Poison	yes ¹¹	5	4.5 lbs (5 lbs)	
***Sevin® XLR Plus (carbaryl)	high	high	high	Caution	yes ¹¹	5	10 lbs (10 qt)	7
***Sevin® 80S or 80 WSP (carbaryl)	high	high	high	Warning	yes ¹¹	5	10 lbs (12.5 lb)	7
Organophosphates (IRAC Group 1B)								
Imidan® 70W (phosmet)	high	medium to high	high	Warning	yes	No	4.55 lbs (6.5 lb)	

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⁷ Maximum applications per season unless otherwise noted

⁹ see label for max rates for combination of beta-cyfluthrin and cyfluthrin to same crop in same year

¹¹ not compatible with Bordeaux mix, triphenyltin hydroxide, lime sulfur, Rayplex iron, casein lime spreaders and highly alkaline solutions

⁸ avoid acidifying buffers

¹⁰ except with products that release free chlorine or contain boron

¹² Maximum product allowed per 14 day interval

	Strain	Rate		% Bt AI	Bt lbs AI		% Sulfur AI
		Low	High		at low rate	at high rate	
<i>Bacillus thuringiensis, subsp. Kurstaki</i>		lbs per acre					
Condor WP	EG2348	0.50	2.00	43.00	0.22	0.86	
Crymax Bioinsecticide	EG7841	0.50	2.00	40.00	0.20	0.80	
Deliver Biological Insecticide	SA12	0.50	1.50	85.00	0.43	1.28	
Dipel DF	ABTS351	0.50	2.00	54.00	0.27	1.08	
Javelin WP	SA11	0.50	1.25	85.00	0.43	1.06	
Dust Products		lbs per acre					
Britz Bt 25 Sulfur dust	ABTS351	25	50	1.160	0.29	0.58	25
Britz Bt dust	HD1	20	30	1.940	0.39	0.58	
Wilbur-Ellis Bt 320 Sulfur 25 dust	ABTS351	20	50	0.582	0.12	0.29	25
Wilbur-Ellis Bt 320 dust	ABTS351	20	50	0.582	0.12	0.29	
<i>Bacillus thuringiensis, subsp. Aizawai</i>		lbs per acre					
Agree WG	GC91	1.00	2.00	50.00	0.50	1.00	
JackPot WP	GC91	1.00	2.00	50.00	0.50	1.00	
XenTari Dry Flowable	ABTS1857	0.50	2.00	54.00	0.27	1.08	