

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.



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

| 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 | |