Mealybug Management
Using Lorsban® Advanced Insecticide

Dow AgroSciences
Why Post-Harvest Treatments

1. Vine mealybug populations are at their highest near harvest, allowing a greater number to be controlled and reducing overwintering populations.
2. Mealybugs are more accessible to insecticide applications this time of year because they haven’t yet moved into the subsoil areas.
3. These applications can prevent further dispersal of the pest from the point of infestation to uninfested areas of the vineyard or to other vineyards.
4. Applications can help prevent transmission of leafroll virus (by mealybugs), most of which occurs in the fall, according to research.

After harvest, male and female vine mealybugs can be found in all stages on grape leaves. When those leaves drop, the adults can move to the root system and can’t be easily reached with an insecticide application. More importantly, as those leaves are moved around, they spread mealybugs to surrounding areas. Applications of Lorsban® Advanced insecticide should attempt to control a high percentage of mealybugs before the leaves hit the ground.

What To Look For

To determine if vine mealybug is the specific species infesting a vineyard, look for these characteristic symptoms:

1. Candlewax appearance (not just honeydew) on vines.
2. White mealybug cases on leaf surface near crowns of vines.
3. Dead leaves with a lot of honeydew on them underneath the vines. Typically, the interior leaves that have been heavily fed upon by vine mealybug will be coated with honeydew. Dead leaves don’t normally drop to the ground with grape mealybug.
4. Abundance of ants on vines.
5. Sooty mold on leaves.

The University of California has no economic threshold for vine mealybug. The presence alone of the pest justifies treatment.
**Why Pre-Budbreak Treatments**

During cold winter months, most mealybugs seek protection under bark and on roots. Mealybug lifecycles are slower and eggs, nymphs and small crawlers overwinter at these lower temperatures. When temperatures rise in the spring, mealybug crawlers emerge, moving up on the trunk to feed on the nutrient-rich shoots. Limiting that upward population movement and keeping populations low can help manage mealybugs during the season.

**What To Look For**

During the winter in the coolest grape-growing areas, typically only nymphs can be found under bark at the graft union or below the base of spurs. Warmer growing areas may see all life stages – eggs, nymphs, crawlers adults – under bark or on roots.

**Argentine Ant/Mealybug Relationship**

Although mealybugs and Argentine ants are not always found together in a vineyard, when they are both present, mealybug management programs are even more challenging. Ants will protect the mealybugs by fending off or killing the predators and providing a safe haven for the mealybugs. Ants feed on the honeydew produced by mealybugs.

Lorsban Advanced applied to the soil provides effective and economical control of ants. By controlling ants, mealybug populations may be reduced due to increased biocontrol.

**Ant rate:** 1.5 – 2 pt/A in a min. 2.5 gpa spray volume.

**REI:** 24 hours

**PHI:** 76 days
**S LN Information**

Dow AgroSciences has a Special Local Need (S LN CA-080009) for Lorsban Advanced insecticide that allows applications to be made pre-budbreak and post harvest for vine mealybug. With the S LN, the total amount of Lorsban Advanced allowed on grapes is 4 pt/A/year. Therefore, if an application is made to a vineyard at delayed-dormant timing, then a post-harvest application cannot be made during the same year.

A separate S LN (S LN-CA 080010) can be used for control of Argentine ants in grapes. Growers may not treat the same grape crop under the requirements of both S LNs. Only the Lorsban Advanced brand of chlorpyrifos has been granted these two S LNs in California. Using other brands of chlorpyrifos is “off-label.”

**Rate:** 4 pt/A (both timings)
**REI:** 24 hours

**Spray Timing**

**Post-Harvest** – Applications can begin immediately after harvest. Applications of Lorsban Advanced should attempt to control a high percentage of mealybugs before leaves hit the ground.

**Pre-Budbreak** – Applications are most effective when made just prior to budbreak (budswell). Lorsban Advanced cannot be applied after budbreak. Applications made near budbreak coincide to when crawlers are active, making them more susceptible to Lorsban Advanced. Application during warm days (65° F or above) will improve effectiveness compared to cooler days (below 65° F) when mealybugs are less active.

**Spray Volume**

Apply a minimum 150 gal/A (200 gpa is recommended). Higher volumes help penetrate wood/bark to reach mealybug crawlers.

**Spray Location**

**Post-Harvest** – Spray all parts of the vine, including leaves, canes, cordons and down to the ground.

**Pre-Budbreak** – Coverage to the entire vine is necessary, with particular emphasis at the base of the vine where mealybugs tend to gather before moving up. Although crawlers are the easiest stage to kill, they are often the most inaccessible and hardest to reach. To monitor the overwintering mealybug, tear away that bark during dormancy and observe the eggs and/or small crawlers.
To Learn More

Contact your PCA or Dow AgroSciences representative.

**Jill LeVake**
Sacramento
530-713-2565
jlevakescott@dow.com

**Nick Higgins**
Visalia
559-289-1586
nn/ahiggins@dow.com

**Dwain Morton**
Arroyo Grande
805-878-7149
demorton2@dow.com

**Daniel Abruzzini**
Turlock
209-338-7405
dlabruzzini@dow.com

**Harry Peck**
Tulare
559-730-3304
hlpeck@dow.com

**Jim Matsuyama**
Ventura
805-794-3017
jmatsuyama@dow.com

**Jennifer Crawford**
Bakersfield
661-303-2071
jjcrawford@dow.com

Labels
www.dowagro.com • www.agrian.com • www.cdms.net

Additional Resources
University of California Integrated Pest Management: www.ucipm.ucdavis.edu
University of California Mealybug website: http://vinemealybug.uckac.edu

©Trademark of Dow AgroSciences LLC. Always read and follow label directions. www.dowagro.com
Lorsban Advanced is a federally Restricted Use Pesticide. L01-368-025 (1/12) EF 010-33752