

Grapes: Beware the Vine Mealybug

It seems like only yesterday that we were quivering in our boots, awaiting almost certain devastation from the glassy-winged sharpshooter (actually, the column on that possible scourge was almost three years ago—how time flies!). A very effective source inspection program was started promptly, and it dramatically slowed the spread of this pest, and wherever infestations were found, they were quickly eradicated. Also, we slowly learned some things about it that made the threat less fearful. For one, it doesn't like cold weather (some say that if you get snow twice a winter, you have nothing to fear), and for another, the Pierce's Disease organism spread by the bug seems to be killed within its plant hosts if the temperature goes below freezing for two days in a row, a pretty reliable occurrence in our neighborhood. So, just about when we were starting to get comfortable about the risk from that particular hazard, up pops another to take its place and keep us from sleeping soundly.

Mealybugs Galore!

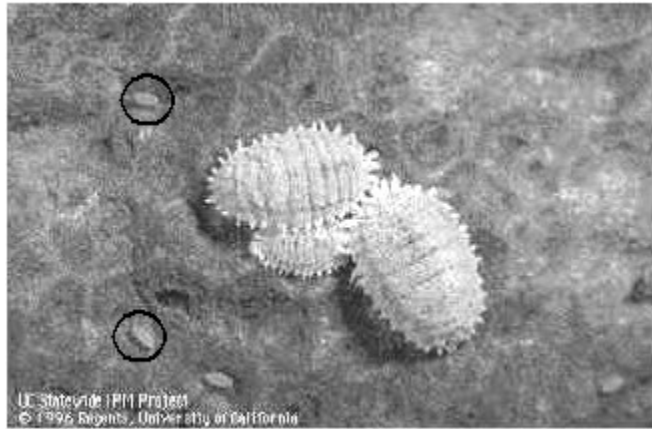
We've all seen mealybugs before—they're light gray, about one-quarter inch long, and kids like to play with them because they don't bite and roll up into a ball when you nudge them. Well, hold onto your pruning shears, because this one's really *bad!* The vine mealybug ("*planococcus ficus*") is present in most European grape-growing countries, and has been part of the California landscape for about ten years, mostly in the Central Valley. It is not the same as the grape mealybug, which it resembles, and which is relatively harmless. In the last few years, it has been spotted in Monterey, Napa, Sonoma, Sacramento and now, in one vineyard in the Gold Hill area of El Dorado County. It appears to have been brought in on infested vines from nurseries, but no specific source has yet been identified.

They travel easily from vineyard to vineyard, on equipment, tires and clothing. The smaller versions are difficult to see, and very easily hidden in clothes and hair. Because we have a large number of small vineyards in the Fair Play area that share equipment, managers and workers, we are especially at risk of spreading if infestation starts. Only a few infestations have started in the center of a vineyard block (and could have been dropped by a bird), but the vast majority show up at the edges or along roadways on properties, indicating that they have been brought in by unwitting carriers.

Detection

The vine mealybug is whiter than most mealybugs, but not easily distinguished unless you're a trained mealybugger. It likes to hide under the loose bark on the vine trunk (especially in the winter), moving up to the canes, leaves and clusters during warm weather. In the really hot areas, it moves back down during intense heat, but we should expect to see it up in the canopy after spring is over. At this time, the best way to find it is to walk through the vineyard pulling down the loose bark on the lower sections of the trunks. As one expert said: "Don't take chances—if you find fuzzy white things on your

vines, bring them in for inspection.” Just put them in a small jar of rubbing alcohol and take them to the County Agricultural Commissioner’s office for identification. When first hatched, the bugs are in the form of very small white “crawlers” that look like miniature grains of rice (circles in see picture), and they change into adults in just a few weeks. The bugs are most dangerous to young vines, and since the infestation is very new, its most likely that infested vines will be relatively young ones. The recommendation of state and county agricultural officials is that you not delay inspection, especially of young vines that could harbor bugs and be severely damaged by them.



Adult Vine Mealybugs with Crawlers

During the growing season, infestations will always be accompanied by “honeydew,” sweet liquid oozing from cuts the bugs have made in the trunks, canes and leaves. The result is that the bugs stick to leaves and grapes, then stick the leaves to bins and containers used to deliver grapes to wineries. Later in the year, the most distinctive sign is large amounts of dark sooty mold on the vines.

Unlike our old friend phylloxera, these bugs reproduce sexually, and pheromone traps can be used to catch males, indicating that they are present (one more trap hanging in your vineyard to go along with the yellow sticky trap for glassy-winged sharpshooters). It’s the females who damage the vines, however, so you’ll have to mount a plan of attack if the bugs are found.

Eradication

First of all a warning: if you find the bug, it’s unlikely that you’ll be able to completely eradicate it. The good news is that it’s easier to eliminate on younger vines, since they have not developed thick layers of bark, and their roots take up a systemic pesticide better. This bug *is* susceptible to pesticides, and the earlier you get them started, the better off you are. The preferred sprays are Admire (imidacloprid) and Lorsban (chlorpyrifos) and need to be applied with large amounts of water (200 gallons per acre is recommended) in order to penetrate the bark and canopy of the vineyard. These are restricted materials, so you’ll need a license to spray. Admire is best applied through a drip system as a systemic, but make sure your drip system has

groundwater. No matter how hard we try, it is unlikely that the bugs will ever be completely eradicated from an area after widespread infestation occurs. Again, early and frequent inspection is the best way to keep us from becoming another area with widespread infestation.

Prevention

This is where it gets complicated and difficult. If an infested vineyard is found, all equipment leaving the vineyard should be pressure washed to remove bugs, and this means all the surfaces that touch the ground or vines. Tractors, implements, pickup trucks, workers' cars, and trailers must all be decontaminated after each visit to the vineyard, or they are very likely to spread the infestation. After each time work is performed in the vineyard, workers' shoes must be similarly decontaminated, and the clothes must be changed and the workers must shower before working at an uninfested vineyard. It seems like a great deal of trouble, but the crawlers can hide in hair and clothing and be easily moved to the next location if careful sanitation is not followed. Even sweatshirts and coats, which normally see several days' use before washing, must be cleaned after each visit!

If prunings from one vineyard are to be used as budwood for grafting at another location, they must be inspected by a trained inspector before removal. We've mentioned before that this is usually not a desirable practice, and this latest threat just might provide justification for not doing it at all.

Further Information

If you'd like to know more, here are some websites with more details in the areas listed:
chemical recommendations: <http://www.ipm.ucdavid.edu/PMG/r302301911.html>;
biology: http://cesanluisobispo.ucdavis.edu/newsletterfiles/Grape_Notes_1590.pdf and
<http://cetulare.ucdavis.edu/pubgrape/ipm600.pdf>

Some people say that wars result whenever the population exceeds a certain threshold, and are a way of reducing populations to tolerable levels. If that's true, maybe this most recent plague visited on us is in retribution for having planted too many vines in too many places where we shouldn't have, and we have to go to war to eliminate it.