The Vine Mealybug Threat

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This insect is an economic pest in many areas of the world. It was first discovered in California's Coachella Valley in 1994. In the last few years it has been found in many of our state's grape growing counties. We DO NOT want it to become established in the northern San Joaquin Valley. Although VMB was identified in two Stanislaus County vineyards a few years ago, we think the infestations were eradicated because the growers identified the problem early and went after it.

The vine mealybug is a more serious pest than the grape mealybug we are used to. The grape mealybug is only an occasional pest and rarely reaches economically damaging levels in Stanislaus County winegrapes. In contrast, the vine mealybug appears in much larger numbers, causes significantly more problems and is more difficult to control. VMB produces more eggs, has a greater number of generations per year and can smother clusters, producing copious amounts of a sticky substance called honeydew.

Mealybugs are phloem feeders that can feed on all portions of the vine. VMB feeding can reduce vine vigor and lead to the collapse of clusters or whole spurs. Mealybug feeding and excretion of honeydew can lead to sooty mold and bunch rot. VMB has the potential of spreading some viruses from vine to vine.

What to look for. Just like other mealybugs, look for white, cotton-like insect bodies and egg sacks under the bark or in grape clusters, only in larger numbers than grape mealybug. Look for ants active on the vines as they move mealybugs around and protect them from predators. VMB produce copious amounts of honeydew. Badly infested clusters can look like they are covered with melted sugar or candle wax. If mealybugs are found, look at them with a lens. VMB do not have "tails" like grape, obscure and long-tailed mealybugs. VMB is found on all portions of the vine and is present year-round. During the winter, eggs, crawlers, nymphs and adults are found under the bark, within developing buds, and on roots. However, most VMB are found on the lower trunk near the soil line and on roots. As temperatures warm in spring, VMB increase in numbers and become more visible. By late summer, VMB can be found on all portions of the plant, including canes, leaves and clusters.

Management. The best management tool is prevention. VMB cannot fly. Although ants can move mealybugs short distances and infested leaves can be blown into adjacent vineyards, long distance movement requires the activities of man (or birds). Due to the vast amount of honeydew produced, infested plant parts are very sticky. VMB hitches a ride on vineyard equipment, mechanical harvesters, people, clothing, picking buckets, - just about anything that comes into contact with infested plant parts. VMB can also be brought in on infested nursery stock or cuttings. In fact, we suspect this was the primary way VMB was spread through the state.

Closely inspect any equipment coming from other vineyards, especially if they have been used in infested counties. Clean your own equipment before transporting it to other locations. If you suspect you have VMB in your vineyard, bring a sample by our office, the Ag Commissioner's office or send it to a CDFA lab. I encourage grape growers and PCA's to hang pheromone traps in local vineyards to detect if VMB is present, especially if you have planted a new vineyard or replanted vines within the past five years. If VMB is verified, come after it with heavy guns and try to eradicate it before it becomes established. Although control

strategies are still being refined, some treatments look promising. Lorsban® @ 4 pints per acre applied just prior to bud break is important to reduce populations. Growers should follow with Imidacloprid (Admire®) injected through the drip system in late May. Finally, apply dimethoate, Lorsban® or Applaud® after harvest. Timing is very important for good control.

The importance of early detection of VMB in your vineyard cannot be overemphasized. Growers should train their crews to identify the damage.