

## Update on Vine Mealybug Trapping and Distribution

January 19, 2007

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Pheromone trapping and sampling for vine mealybug (VMB) [*Planococcus ficus* (Signoret) (Homoptera: Pseudococcidae)] began throughout the state in 2003 and continued in 2006. The level of trapping in 2006 was less than in previous years: some counties no longer extensively trap since they know the approximate areas of infestations in their counties, and there is no state funded program for VMB trapping or detection. Funding was obtained from USDA-APHIS to purchase pheromone traps and lures for use in the 2006 season, and were made available to anyone requesting traps from the California Department of Food and Agriculture (CDFA). Identification of insects in traps and samples has been and is conducted by personnel at the CDFA Plant Pest Diagnostics Laboratory; University of California Cooperative Extension (UCCE); and agricultural commissioner offices. In 2006, the CDFA Plant Pest Diagnostics Laboratory examined approximately 1,200 traps and 50 plant and insect samples for the presence of VMB.

The results of the trapping and sampling program for 2006 (through 31 December 2006) are summarized in Table 1, and a summary of VMB detection activities from 1994 – 2006 can be found in Appendix A. The results are based on information from the CDFA Pest Damage Records (PDRs) and other information submitted by agricultural commissioner personnel and UCCE scientists. Vineyards and grapevine nurseries were monitored for VMB in 28 counties. There were no new county records for VMB in 2006.

Vine mealybug infestations can be found in many of the grape growing regions of California. For the 17 infested counties, VMB continued to spread very slowly in 2006. The growers and everyone associated with the vineyards have done a good job in using cultural practices that help slow or limit the spread of VMB.

In the foothills, two counties have found VMB at a few sites. El Dorado County appears to have eradicated VMB from the one infested vineyard. They have monitored the treated vineyard for three years and have found no VMB. Amador County is continuing the second year of an eradication program. They have been able to contain the infestation to one small area of the county.

For five counties, the VMB situation is not clear. Males have been trapped sporadically at one site each in San Mateo, Lake, San Benito, and Stanislaus Counties. The source of these males is being investigated. In Madera County, males were trapped at a nursery site in 2004 but no more males have been trapped since. It is thought that a vineyard adjacent to the nursery block was infested. This vineyard was removed in 2004.

TABLE 1. The number of sites (unique addresses) found to have male *Planococcus* mealybugs or female VMB by county and city in 2006.

County	Total Sites in 2006		Closest city (No. of Sites)	
	Male	Female	Male	Female
Amador	1	0	Ione (1)	
Kern	13	2	Wasco (3)	McFarland (1)
			Delano (1)	Unknown (1)
			Edison (5)	
			Arvin (4)	
Lake	1	0	Kelseyville (1)	
Merced	1	0	Snelling (1)	
Monterey	4	1	Greenfield (3)	Salinas (1)
			San Ardo (1)	
Napa	43	18	Napa (27)	Napa (17)
			St. Helena (7)	St. Helena (1)
			Angwin (5)	
			Sonoma (1)	
			Calistoga (2)	
			Pope Valley (1)	
			American Canyon (1)	
			Paicines (4)	
San Benito	4	0	Paicines (4)	
San Joaquin	3	6	Lodi (1)	Lodi (2)
			Galt (1)	Galt (1)
			Thornton (1)	Thornton (1)
				Clements (2)
San Luis Obispo	3	0	Paso Robles (3)	
San Mateo	1	0	Portola Valley (1)	
Sonoma	18	0	Sonoma (12)	
			Sebastopol (2)	
			Windsor (1)	
			Healdsburg (3)	
Stanislaus	1	0	Unknown (1)	
Yolo	0	1		Courtland (1)

## Appendix A

### Vine Mealybug Detection Summary

- Alameda** County – VMB males and females found in 2003. No new sites reported for 2004, 2005, or 2006. (Traps were submitted for 2006).
- Amador** County – VMB males found at one site in 2004, and females found at same site in 2005. An eradication program began in 2005 and continues. In 2006, males were trapped at the site of the eradication program. No new sites were found.
- Butte** County – Trapped in 2003 and 2004, and no VMB found.
- Calaveras** County – Trapped in 2004 and no VMB found.
- Colusa** County – Trapped in 2004 and no VMB found.
- Contra Costa** County – Trapped in 2003-2005, and no VMB found.
- Del Norte** County – No grape acreage
- El Dorado/Alpine** Counties – Found one site in 2002 and began eradication program. During the trapping program conducted county-wide in 2003, male VMB were found only at the eradication program site. Subsequent detection activities in 2004, 2005, and 2006 were negative for VMB. It appears that the small infestation of VMB in El Dorado County has been eradicated.
- Fresno** County – Found VMB at one site each in 1998 and 1999. Trapping in nurseries in 2004 found no new sites. Two new sites were found in 2005. In 2006, no samples were submitted to CDFA for verification of VMB.
- Glenn** County – Trapped in 2003-2005, and no VMB found.
- Humboldt** County – No trapping program. Small acreage of grapes.
- Imperial** County – Trapped in 2004 and 2005, and no VMB found.
- Inyo/Mono** Counties – No grape acreage.
- Kern** County – Found VMB at one site in 1998, two sites in 1999, and one site in 2002. In 2004 – 2006, approximately 13 nursery blocks had VMB males present, and two commercial production sites had VMB females present.
- Kings** County – Trapped in 2004, and no VMB found.
- Lake** County – Found one site with VMB males in 2004 near a truck scale. In 2005, no males were found in traps. In 2006, males were found in traps in the same location as in 2004, very late in the season. The source of these males is under investigation.
- Lassen** County – No grape acreage.
- Los Angeles** County – Samples submitted in 2003 were negative. In 2004 and 2005, no VMB were found in either traps or samples.
- Madera** County – One nursery was found to have VMB males in 2004. In 2005 and 2006, no males were found in traps. Males in the traps in 2004 may have come from surrounding vineyards that have since been removed.
- Marin** County – Trapped in 2004 – 2006, and no VMB males found.
- Mendocino** County – Trapped in 2003 and 2004, no VMB found. In 2006, samples of mealybugs on grapevines were submitted, but were not VMB.
- Merced** County – VMB males found at one site in 2004, and females found at the same site in 2005. Males were trapped at this site in 2006.
- Modoc** County – No grape acreage.

**Monterey County** – Female VMB were found at one site in 2002. In 2003, 17 sites with males and two sites with females were found. In 2004, an additional 13 sites with males and three sites with females were found. In 2005, five additional sites with males were identified. In 2006, males were trapped at known infested sites, and one additional site with females was identified.

**Napa County** – In 2002, 8 sites with males and 6 with females were found. In 2003, an additional site with males and 14 sites with females were found. In 2004, 9 sites with males and 11 sites with females were found. In 2005, 33 sites with males and 6 sites with females were found. In 2006, 43 sites with males and 18 sites with females were found. Many of the sites in 2006 were at or near sites that had been infested in previous years. Only two sites with males were remotely located compared to previous years.

**Nevada County** – No trapping program.

**Orange County** – No grape acreage.

**Placer County** – Trapped in 2004, and no VMB found.

**Plumas/Sierra Counties** – No grape acreage.

**Riverside County** – VMB was found throughout the Coachella Valley beginning in 1994. To date the entire valley is infested.

**Sacramento County** – VMB females were found at one site in 2002, and at an additional site in 2003. In 2004, males were found at two additional sites. In 2005, 7 traps were positive for VMB but the locations of the traps were not known. In 2006, the grapevine nurseries in the county were trapped, and no VMB were found.

**San Benito County** – Males were trapped at the same site in 2003 – 2006. This site is next to a winery that imports grapes into the county. The males are typically caught at about the time of grape crush.

**San Bernardino County** – Trapped in 2003, and no VMB found.

**San Diego County** – Trapped in 2004 and 2006, and no VMB found.

**San Francisco County** – No grape acreage.

**San Joaquin County** – In 2003, males were found at three sites and females at 6 sites. In 2004, males were trapped at 25 sites and females were found at an additional two sites. In 2005, males were trapped at one nursery site, and females were found at another site. In 2006, females were found at 6 sites and males were trapped at three sites. These detections through the years show a slow spread of VMB from the northern part of the county to the south and east.

**San Luis Obispo County** – In 2001 and 2002, VMB females were found at one site. In 2003, males were trapped at 10 sites and females were found at five sites. In 2004, males were trapped at 6 sites and females were found at an additional 6 sites. In 2005, males were trapped at 8 additional sites. In 2006, the males that were found were in areas known to be infested with VMB.

**San Mateo County** – Trapped in 2003 and 2004, and no VMB were found. In 2005 and 2006, males were trapped at one nursery site. The source of these males is under investigation.

**Santa Barbara County** – In 2000 and 2002, VMB females were found at one site. In 2003, males were trapped at five sites and females were found at three sites. In 2004, females were found at four sites. In 2005, females were found at a site where female VMB had been found in 2000.

**Santa Clara** County – In 2003, males were found at two sites and females found at one site. In 2004, an additional two sites were found to have VMB males and one additional site was found to have females. In 2005, males were trapped at sites already known to have VMB present. In 2006, traps were placed at new locations within the county, and no VMB were found.

**Santa Cruz** County – Trapped in 2004 – 2006, and no VMB were found.

**Shasta** County – Trapped in 2003-2005, and no VMB found.

**Siskiyou** County – No trapping program, but less than 30 acres of grapes.

**Solano** County – In 2004 – 2006, no males were trapped at nursery sites. In 2004, one commercial vineyard was found to have female VMB.

**Sonoma** County – In 2002, four sites were found to have males and four sites were found to have females present. In 2003, an additional 33 sites were found to have VMB males and 6 sites to have VMB females. In 2004, 26 sites were found to have males and two sites were found to have females. In 2005, 8 additional sites with males and one additional site with females were found. In 2006, most of the finds were at or near known infested sites, with the exception of two sites near Sebastopol.

**Stanislaus** County – In 2004, one site with VMB males was identified. The individual who submitted the trap said that this vineyard had a moderate infestation of VMB. In 2005, trapping at nurseries found no VMB. In 2006, one trap placed at a nursery had a small number of VMB males in one sampling period. Continued sampling at this site in 2006 found no other VMB males. The nursery stock will be hot-water treated while dormant.

**Sutter** County – Trapped in 2003, 2004, and 2006, and no VMB found.

**Tehama** County – Trapped in 2003 – 2005, and no VMB found. In 2006, a sample of mealybugs was submitted from a vineyard, but the mealybug was *Ferrisia gilli* not VMB.

**Trinity** County – Trapped in 2003, 2004, and 2006, and no VMB found.

**Tulare** County – Nurseries were trapped in 2003 and 2006, and no VMB males were found. In 2004, 11 sites with males and two sites with females were found. In 2005, two sites that had had males in previous years were found.

**Tuolumne** County – Trapped in 2003 and 2004, and no VMB found.

**Ventura** County – Trapped by Phil Phillips (UCCE) in 2003 – 2005, and no VMB found.

**Yolo** County – Trapped in 2003 and 2004, and no VMB found. In 2005, one site with females was found. In 2006, the nursery trapping found no VMB males, and females were found at the same site as in 2005.

**Yuba** County – Trapped in 2004 and 2006, and no VMB found.