Section 1. Thresholds/Monitoring/Sampling

SAMPLING GRAPE MEALYBUG IN TABLE GRAPES

Walt Bentley and Lee Martin
University of California, Kearney Agricultural Center
9240 S. Riverbend Ave., Parlier, CA 93648

Searching for grape mealybug females in a four inch radius around the base of spurs or canes in early June resulted in a highly significant positive correlation with cluster infestation at harvest in 1996, 1997, 1998, and 1999. Female mealybugs are mature in June and just starting to produce egg sacs. These stages are relatively easy to find with a two minute timed search.

Table 1 presents the coefficient of correlation (r), the coefficient of determination (r2) and the degree of significance for the relationship between summer spur counts and harvest infestation for each of four years. In 1996 the variety sampled was Thompson seedless and plots were 1 acre in size (454 vines). In 1997, 1998, and 1999, the variety sampled was Ruby seedless and plots ranged from 5 to 6 vines in size. The coefficient of correlation was 0.91, 0.90, 0.87, and 0.73 for 1996, 1997, 1998, and 1999 respectively. Each of the coefficients of correlation were significant at the 0.0001 level.

These results indicate that grape growers can sample for grape mealybugs in the summer use this information in deciding upon the necessity to spray for this pest. A current tentative treatment guideline is one mealybug per every fifth spur sampled in June.

Table 1. The relationship between basal spur sampling for grape mealybug in June and cluster infestation at harvest in September.

Statistic	1996	1997	1998	1999
Sample Number	16	24	24	32
Coefficient of determination	0.83	0.81	0.74	0.53
Coefficient of correlation	0.91	0.90	0.87	0.73
Probability	<0.0001	<0.0001	<0.0001	<0.0001