

(D14)

PISTACHIO: *Pistacia vera* L.

EFFICACY OF INSECTICIDES AGAINST THE MEALYBUG, *FERRISIA GILLI*, IN PISTACHIO, 2005, PART 2

David R. Haviland

University of California Cooperative Extension, Kern County
1031 South Mount Vernon Ave.
Bakersfield, CA 93907
Phone: (661) 868-6215
Fax: (661) 868-6208
E-mail: dhaviland@ucdavis.edu

Mealybug: *Ferrisia gilli* Gullan

Ferrisia gilli is a newly described species of mealybug that has become established and is quickly spreading throughout pistachio-growing regions of California. Feeding on the pistachio rachis and hull by *F. gilli* can cause significant reductions in nut quality. In response to the threats from this new pest, an insecticide trial was established in 2005. Data from this trial in 2005 are reported in Arthropod Management Tests 31 (2006), D20, by Haviland. However, upon returning to this trial the following spring (2006) it became evident that treatment effects were still significant. As a result we collected additional data from this trial during 2006 and report on it here. The trial was established during the spring of 2005 in Tipton, Tulare Co., CA. A total of 45 trees were organized into a CRD with 5 replications of 8 treatments and an untreated check. Treatments were applied on 2 Jun 2005 using a Schaben sprayer equipped with a hand gun at 150 psi. Applications were made at 200 gpa. This treatment timing coincided with the emergence of the first in-season generation of crawlers. In 2006, plots were sampled 51, 55, 57, 59, 61, 65, and 67 weeks after treatment (WAT) on 31 May, 29 Jun, 11 Jul, 25 Jul, 9 Aug, 8 Sept, and 21 Sept. On each sampling date in 2006, a total of 10 nut clusters per tree were visually inspected for the total number of mealybugs per cluster. The mean no. of mealybugs per cluster was calculated for each treatment, data were transformed using square root ($x + 0.5$) and analyzed by ANOVA with means separated by Fisher's Protected LSD at $P = 0.05$.

The Centaur treatment had the lowest mealybug densities on all evaluation dates in 2006, 51-67 WAT. Assail and the two rates of Movento also resulted in significant reductions in mealybug densities throughout the second season after treatment. Plots treated with Imidan, both formulations of Provado, and Sevin had mealybug densities that were significantly improved compared to the untreated check through the first mealybug generation in early Jul, but in nearly all cases statistically equivalent to the untreated check during evaluations from Jul through harvest.

Mean no. mealybugs/cluster in 2006

Treatment/ formulation	Rate amt product/acre	Mean no. mealybugs/cluster in 2006						
		51 WAT 31 May	55 WAT 29 Jun	57 WAT 11 Jul	59 WAT 25 Jul	61 WAT 9 Aug	65 WAT 8 Sept	67 WAT 21 Sept
Assail 30SG	8 oz	0.01a	1.2ab	1.4ab	18abc	44ab	40a	77bc
Movento	8 fl oz	0.20ab	1.7ab	2.3ab	45abcd	99bc	103abc	61b
Movento	12 fl oz	0.04a	1.9ab	1.0a	16ab	75bc	48ab	71bc
Centaur 7WP	2.14 lb	0.01a	0.2a	0.7a	10a	8a	38a	13a
Imidan 70W	5 lb	0.33bc	6.3c	6.4de	116d	328e	134cde	144cd
Provado 1.6F	8 fl oz	0.58cd	5.7c	3.4bcd	92bcd	135c	160cde	190d
Provado 70WG	2.25 oz	0.79d	8.6c	5.7cd	94cd	325de	230de	189d
Sevin XLR Plus	5 qt	0.59cd	2.6b	3.6bc	82cd	161cd	126bcd	129bcd
Untreated check		1.38e	12.9d	9.7e	98d	399e	247e	170d

Means in a column not followed by the same letter are significantly different ($P < 0.5$, Fisher's protected LSD) after square root ($x + 0.5$) transformation of the data. Untransformed means are shown.