

(D15)

PISTACHIO: *Pistacia vera* L.

EFFICACY OF INSECTICIDES AGAINST THE MEALYBUG, *FERRISIA GILLI*, IN PISTACHIO, 2006

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Mealybug: *Ferrisia gilli* Gullan

Ferrisia gilli is a relatively new pest of pistachio in California. Feeding by this mealybug on the pistachio hull can cause significant reductions in nut quality. In 2005 the insecticides Centaur and Assail were identified as highly effective against immature mealybugs. The purpose of this insecticide trial was to compare rates and an alternate timing of these products to an untreated check and a hull-split application of Imidan, which is a grower standard against navel orangeworm, *Amyelois transitella* (Walker). The trial was conducted in a mature pistachio orchard in Tipton, Tulare Co., CA. A total of 35 trees were organized into a CRD with five replications of six treatments and an untreated check. Individual trees were sprayed in a water volume of 200 gpa with a Schaben, gas-powered sprayer equipped with a hand gun at 150 psi. Treatments were Imidan at hull split in 2005, Centaur at a full label rate in Apr 2006, and Centaur and Assail at full and at half label rates in Jun 2006. Treatments were evaluated 10 times from 5 May to 21 Sep 2006 by counting the total number of mealybug in each of 10 randomly chosen pistachio clusters per tree. Data were converted into mean no. of mealybugs per cluster and were analyzed by ANOVA using transformed (square root ($x + 0.5$)) data with means separated by Fisher's Protected LSD at $P = 0.05$.

Mealybug densities in plots treated with Imidan in the fall, or Centaur in the spring had significantly reduced mealybug densities on 5 and 17 May, but not on 31 May or 15 Jun. However, mealybug densities beginning 29 Jun, at the time of crawler emergence of the first generation of mealybugs through the harvest evaluation on 21 Sep, were significantly reduced. A comparison of full versus half rates of Centaur and Assail in Jun revealed that half rates of both products had numerically (and often statistically) higher mealybug densities on all evaluation dates. There were no significant differences between the full rate of Centaur and the full rate of Assail, the two most effective treatments. A comparison of the full rate of Centaur in the spring to the full rate of Centaur in the summer revealed that summer applications are significantly better than those made in the spring, though plots treated in the spring maintained mealybug densities below that of the untreated check.

Treatment/ formulation	Rate amt product/acre	Applic. date	Mean no. mealybugs/cluster									
			5 May	17 May	31 May	15 Jun	29 Jun	11 Jul	25 Jul	9 Aug	8 Sep	21 Sep
Imidan 70W	5 lb	28 Jul 05	0.1a	0.1a	0.2a	1.2a	0.9a	1.4a	20.3a	47.1ab	13.5ab	61.7ab
Centaur 7WP	2.14 lb	19 Apr 06	0.1a	0.1a	0.8a	4.6ab	3.6abc	3.0a	31.1a	58.2ab	28.3ab	99.2b
Assail 30SG	8 oz	15 Jun 06				21.9bc ^a	3.3abc	1.5a	15.2a	20.5a	8.3a	31.8ab
Assail 30SG	4 oz	15 Jun 06				27.7c ^a	8.2cd	9.6bc	22.4a	117.0b	31.4ab	116.5bc
Centaur 7WP	2.14 lb	15 Jun 06				18.9bc ^a	1.9ab	2.8a	1.9a	8.2a	11.2a	8.6a
Centaur 7WP	1.07 lb	15 Jun 06				23.7bc ^a	6.8bcd	5.5ab	6.0a	50.1ab	38.1bc	117.1bc
Untreated check			1.3b	1.0b	1.3a	14.4abc	14.5d	16.7c	33.8a	423.2c	94.7c	233.1c

Means in a column not followed by the same letter are significantly different ($P < 0.05$, Fisher's protected LSD) after square root ($x + 0.5$) transformation of the data. Untransformed means are shown.

^apretreatment counts