

Optimizing Chemical Control Programs for Gill's Mealybug, *Ferrisia Gilli*, in Pistachio

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Ferrisia gilli is a new exotic mealybug pest of pistachios that has become widespread within the California industry. Management programs are currently based on research from 2005 to 2007 that documented excellent mealybug control with an application of buprofezin (Centaur®) around the first week of June during peak crawler emergence. More recently additional insecticides with the potential to control mealybugs have been registered (Admire®, Assail® and Movento®) or will be registered in the next two years (Bexar and Closer™).

During 2013 we conducted a field trial in Corcoran, Tulare County, to evaluate registered and non-registered insecticides for their effects on Gill's mealybug in pistachios. The trial was organized as a randomized complete block design with eight blocks of six treatments and two sets of untreated checks (Table 1). Treatment effects were measured prior to treatment and monthly thereafter through harvest. In this project summary we highlight data collected just prior to harvest on 3 Sept 2013.

There were significant differences among treatments in the density of mealybugs at harvest (Fig. 1). The untreated checks averaged more than 60 mealybugs per cluster. Assail®, Centaur® and Closer™ (not registered) applied in early June provided excellent control (0.2 to 0.7 mealybugs/cluster). Movento® applied in mid May provided excellent control (3.8 mealybugs/cluster). The earlier timing of the Movento® application was chosen to allow time for the active ingredient to become systemic before crawler hatch in early June. Bexar (not registered) provided approximately 80% control. This means that Bexar (whose primary use in pistachios is likely to be control of true bugs) can also help control mealybugs. Admire Pro® reduced mealybugs by about 50%. While this level of control was not as high as other products, Admire Pro® is the least expensive of the insecticides tested and there are no application costs (soil treatment). Data from this project have documented that pistachio growers in California now have multiple options for chemical control of Gill's mealybug.

Table 1

Treatment ¹	Chemical Class (IRAC Number)	Registered for Pistachios in 2013	Rate	Application Type	Application Date
Admire Pro®	Neonicotinoid (4a)	Yes	14 fl oz	Soil	31 May
Assail® 30SG	Neonicotinoid (4a)	Yes	8 oz	Foliar	7 Jun
Bexar	METI Inhibitor (21a)	No	27 fl oz	Foliar	7 Jun
Centaur®	Chitin Inhibitor (16)	Yes	45 oz	Foliar	7 Jun
Closer™ SC	Sulfoxaflor (4c)	No	5.67 fl oz	Foliar	7 Jun
Movento® 2SC	Tetronic Acid (23)	Yes	9 fl oz	Foliar	16 May

¹All foliar treatments were made using a water volume of 225 gal/acre with the addition of Dyne-Amic at 4 fl oz/100 gallons of water.

Figure 1

