

## California Red Scale

### Predicted Events:

**Biofix:** March 19 (South Valley and Foothill) and March 26 (Central Valley and Madera)

**Lower developmental threshold:** 53°F

**First crawler emergence:** 550 DD

**Second male flight:** 1100 DD

**Second crawler emergence:** 1650 DD after the 1st male flight or 550 DD after the 2nd male flight.

### Current Degree Day Units Accumulated (As of June 4, 2001):

Kern: 1134

Foothills: 1033

S. Tulare: 952

N. Tulare: 1014

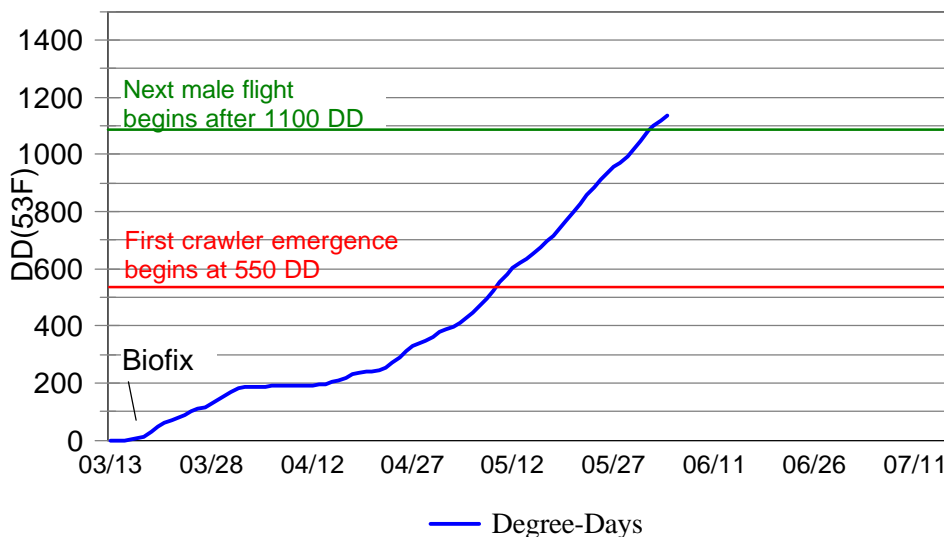
Fresno: 981

Madera: 775

The second flight of California red scale is starting now in the warmest citrus growing regions of the San Joaquin Valley and will begin in the next week in the cooler areas. In Kern and Tulare counties, degree-days are accumulating at the rate of 25 – 30 per day when the daily temperatures are in the high 90s. Some orchards may already be trapping males of the second flight, so if you are using the second flight for spray timing or scale management decisions, it is important to have new traps out now. Crawler emergence is predicted to begin 1650 DD after the first male flight or 550 DD after the second male flight began. California red scale degree-days for all citrus growing regions of the San Joaquin Valley are updated weekly on our web site:

<http://www.uckac.edu/citrusent>.

### Kern Region Degree-Days 2001 California Red Scale



Generally, the organophosphate (Lorsban and Supracide) and carbamate (Sevin) insecticides work better if applied when the crawlers are first emerging. The newly registered Admire can be administered through the irrigation system any time during May-June. It will take about 3 weeks to begin to kill the scale population, but will provide season long control of scale on the fruit. Esteem should be applied just before the white caps molt into second instars.

## **Admire and Provado Fully Registered for Scale Control in Citrus**

Admire and Provado are two formulations of imidacloprid, a class of insecticide (neonicotinoid) that is effective in killing sucking insects such as aphids, whiteflies, scales and sharpshooters. The Admire formulation is applied to the soil through the irrigation system and taken up into the tree systemically. The Provado formulation is applied to the foliage of the tree. This class of insecticide attacks the nicotinic receptors in insects and has a different mode of action than previously used classes of insecticides such as organophosphates, carbamates, and pyrethroids. For the past ten years, we have been testing Admire and Provado at the Lindcove Research and Extension Center to determine their efficacy against various citrus pests including California red scale, citricola scale, and more recently glassy-winged sharpshooter.

**Admire (32 oz/acre, 24 hour PHI, 24 hour REI):** California red scale is best controlled by the Admire formulation of imidacloprid because Admire is more effective, longer-lived, and less toxic to most natural enemies than Provado. The grower should keep in mind that uptake of any systemic insecticide will vary and so will the control of the pest. Admire works best in young, rapidly growing, healthy trees, with a uniform irrigation system, when the soil has been lightly pre-wetted and the application is made during May-July. The full 32 oz rate is needed no matter what size the tree is. Admire works best if applied over a 2-hour period (this time period will vary depending on the length of the row and size of the irrigation system). It should always be preceded by a short interval of pre-irrigation (2 hours), and then be followed up with another short interval of irrigation (2-4) hours. Avoid excessive wetting before or after the application and avoid applying Admire if rain is expected. Growers should be aware that Admire kills vedalia beetle when it feeds on poisoned cottony cushion scale. Thus, if the orchard has cottony cushion scale, the Admire treatment should be delayed until June to allow vedalia time to completely clean up the cottony cushion scale. If cottony cushion scale is still present in June, Admire should not be used in that orchard. Admire (32 oz/acre) also helps to reduce glassy-winged sharpshooter populations by about 85% and helps to inhibit their egg laying in citrus.

**Provado (10-20 oz/acre, 24 hour PHI, 24 hour REI):** The best use of Provado appears to be for citricola scale. This insecticide is fairly broad spectrum, but breaks down rapidly and so its effect on natural enemies is fairly short-lived. The higher 20 oz rate is much more effective against citricola scale than the lower rate. Like Admire, Provado is toxic to vedalia beetles and so should not be used in situations where cottony cushion scale is present.

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