

California Red Scale

Biofix (beginning of male flight): March 22-March 29, 1999 in Tulare and Kern Counties

Lower developmental threshold: 53°F

Current Accumulated Degree Day Units (as of July 12, 1999):

Kern: 1660 DD

SW Tulare: 1490 DD

NE Tulare: 1565 DD

Fresno: 1470 DD

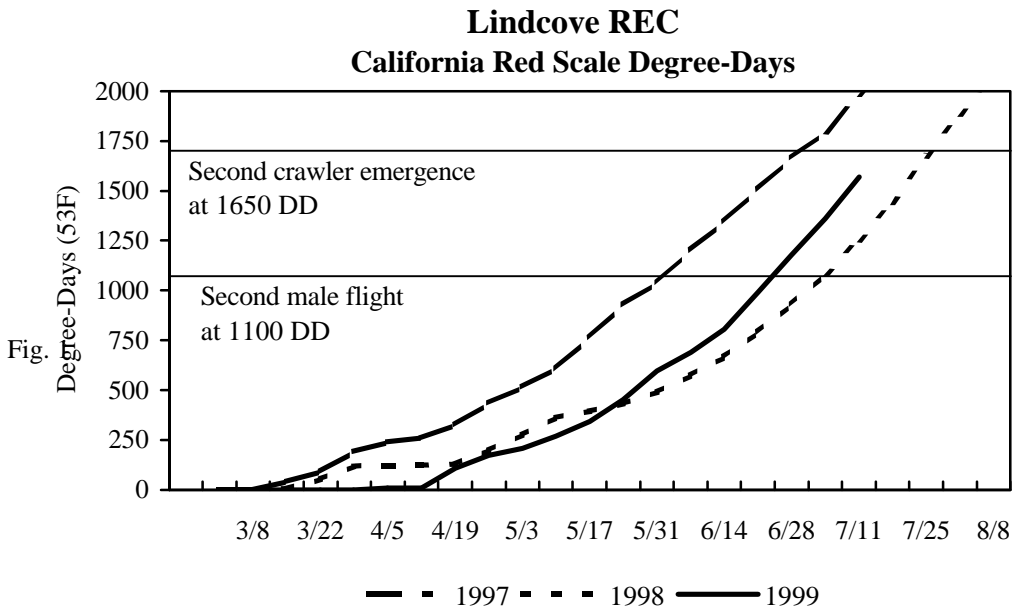
Madera: 1260 DD

Second crawler activity begins: 1650 DD

Peak second crawler emergence: approximately 1750 DD

Third male flight occurs: 2200 DD

With the recent heat wave driving temperatures up across the San Joaquin Valley, development of California red scale is expected to speed up considerably. Instead of the 25 to 30 degree-days per day that were observed for early July, we are now seeing 35+ degree-days accumulated each day (a high of 106°F and a low of 80°F adds up to 40 degree-days!) The second push of crawlers may start in Kern County as early as July 15th, and is now expected for the Porterville/Exeter/Orange Cove areas the week of the 19th. Peak crawler activity would then be expected the week of the 26th. As the graph shows, we are now midway between the extraordinarily warm season of 1997 and the much cooler season of 1998.



Organophosphate (Lorsban and Supracide) and carbamate (Sevin) insecticides work best if applied when the crawlers have just settled. Therefore, the best timing for these pesticides is just after peak crawler activity has occurred, usually 1-2 weeks after the crawlers begin to emerge. Crawler emergence can be monitored using double-sticky tape wrapped around branches and changed weekly to catch crawlers as they move along the branch. You can also use degree days and wait until 1750 to 1800 degree days after the first generation of males began to fly before you spray (or 550 degree days after the second generation of males began to fly). The organophosphates and carbamates will also kill most of the scale if they are sprayed at other times of the year. However, the pesticides do a better job when applied while most of the population is a young stage.

The insect growth regulators Esteem (Knack) and Applaud kill the scale as it molts and so are best applied when the crawlers settle down as white caps. Oil smothers the insect and so the best application timing for this pesticide is also when the scale have settled as whitecaps. For these insecticides, you want to wait longer before you spray than you would for the organophosphates and carbamates. A good way to evaluate the scale for this spray timing is to watch for white caps on old fruit (shiners) or on new fruit in the orchard. The insect growth regulators will not kill crawlers or whitecaps, so don't expect these stages to die and go away.

See our website at www.uckac.edu/citrusent for weekly updates on California red scale activity throughout the San Joaquin Valley.

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