

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 September 20, 1999):

Kern: 3329 DD

SW Tulare: 3031 DD

NE Tulare: 3129 DD

Fresno: 2984 DD

Madera: 2579 DD

Third male flight occurs: 2200 DD

Third crawler activity begins: 2750 DD

Fourth male flight occurs: 3300 DD

After a relatively slow start, the degree-day accumulation for California red scale is now even with 1998. The fourth male flight has begun in the southern regions of the San Joaquin Valley, with the northern areas about 10 days behind. With the current highs (90s) and lows (60s) the scale are accumulating 20-25 degree-day units each day. The third generation of crawlers has been active for about 3 weeks in Kern and Tulare counties. **Pheromone traps for the fourth male flight need to be in place now to get an accurate estimate of the red scale population in your orchards.** See our website at www.uckac.edu/citrusent for weekly updates on California red scale activity throughout the San Joaquin Valley.

FIG 1

**Lindcove REC
California Red Scale Degree-Days**

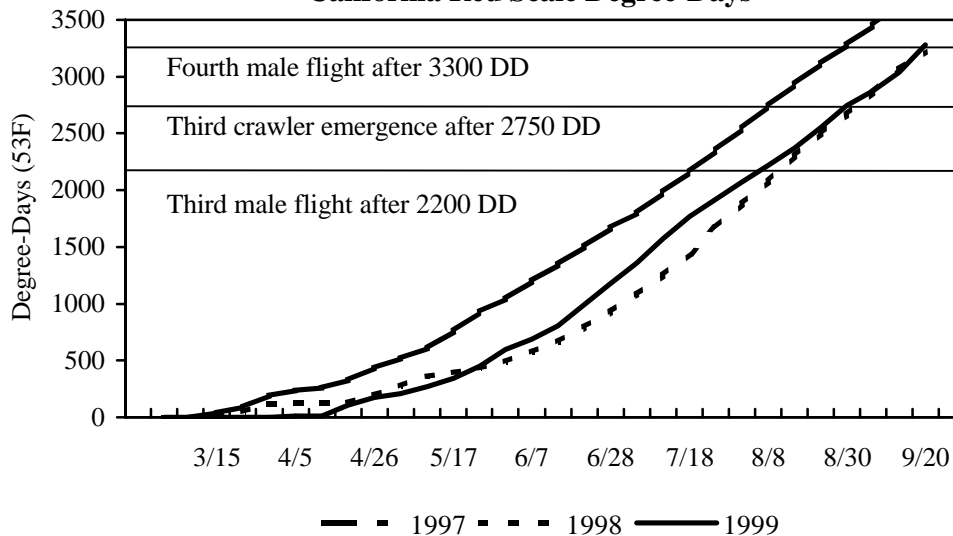
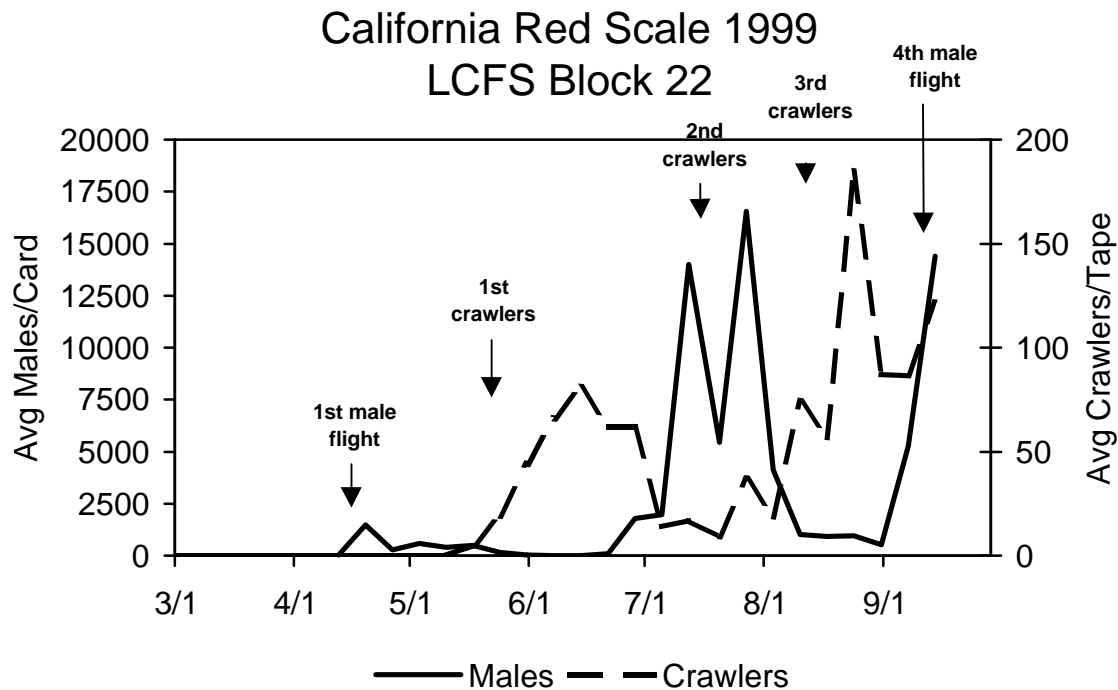


Fig. 2



At the Lindcove Field Station, the 2nd, 3rd, and 4th flights of males (1100, 2200, and 3300 degree days after the first male flight begins) and the 1st, 2nd and 3rd emergence of crawlers (550, 1650, 2750 degree days after the first male flight begins) occurred very close to the predicted times (Fig. 1 & 2).

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 has 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.

Cottony Cushion Scale

We are seeing quite a few live vedalia beetle larvae, pupae, and adults scattered throughout the valley in the last few weeks. This is good news. Last year at this time we could not find any live vedalia anywhere. We are still not sure if they are vigorous enough to clean up the cottony cushion scale problems we currently have or if they are going to stay in the orchards in the fall months. The beetles like to disperse to other crops at various times of the year. I am looking for orchards that have heavy cottony cushion scale that will not be sprayed with a pesticide between now and spring so that I can release vedalia beetles to see 1) how well they control cottony cushion scale at this time of year and 2) if they don't control scale in the fall, will they overwinter and gain control of cottony cushion scale in a timely manner in the spring. If you are interested in cooperating in such a project, please contact me.

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