

**California Red Scale – End of Season**

	1st male flight	1 <sup>st</sup> gen. crawlers	2nd male flight	2nd gen. crawlers	3rd male flight	3rd gen. crawlers	4th male flight	4th gen. crawlers	5th male flight
Estimated Degree Days	Gussed biofix	Crawler biofix	550 DD from crawler biofix	1100 DD	1650 DD	2200 DD	2750 DD	3300 DD	3850 DD
Kern	Apr 3	May 8	June 5	June 26	July 17	August 7	August 21	Sept 11	
Tulare	Apr 3	May 8	June 5	June 26	July 17	August 7	August 28	Sept 25	
Fresno	Apr 10	May 15	June 12	July 3	July 24	August 14	Sept 4	Sept 25	

**Red Scale Lower Developmental Threshold: 53°F**

**Current DD (as of September 25) calculated using the 1<sup>st</sup> crawlers as the biofix:**

Kern: 3513 DD, Tulare: 3351, Fresno: 3131

Moderate (and normal) September weather has marked the end of the 2006 CRS season with a predicted fourth generation of crawlers occurring during the last two weeks of the month of September for Kern and Tulare Counties, and the southernmost portions of Fresno County. At this time, there is an overlap of the third and fourth generations. In heavily infested blocks, we expect to see red scale on this season’s fruit. Degree-day calculations for CRS as well as weather summaries for selected weather stations are maintained on our website: <http://citrusent.uckac.edu/DegreeDay.htm>.

**Citrus Red Scale Resistance Monitoring**

The Citrus Entomology Lab is now accepting samples of this season’s green fruit infested with CRS for organophosphate insecticide (Lorsban) and Esteem resistance testing. We test 3<sup>rd</sup> instar female scales for the organophosphate test and 1<sup>st</sup> instar scales for the Esteem resistance test. For growers and PCAs who would like to submit samples for testing, we need ~150 fruit (two grocery bags) to perform both tests. An accurate map of the orchard and the 2006 insecticide application history should accompany each sample. Please contact Greg Montez at 559-646-6597 or [gregm@uckac.edu](mailto:gregm@uckac.edu) if you intend to submit a sample for analysis or would like us to come collect it.

**Citricola Scale**

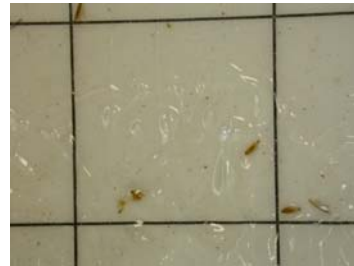
Citricola scale is increasing as a pest in the San Joaquin Valley. We have done some preliminary bioassays and believe that we have found populations that have developed some resistance to Lorsban. This changes the way that we think about citricola scale management. Previously, growers relied on a single Lorsban treatment to provide several years of control of citricola scale. With resistance, growers are finding that Lorsban only lasts one season. It is time to utilize other pesticides for citricola scale control, such as Assail, Admire, Applaud or oil. These insecticides tend to reduce citricola scale populations below the threshold for only one year, but if resistance is present that is the best that you will get out of Lorsban.

## Citrus Peelminer

The pheromone traps have failed again to trap enough peelminer moths to determine when the flights are occurring in the San Joaquin Valley. So, as an alternative, Melissa O'Neal from Cal Poly San Luis Obispo has been very carefully sampling walnut stems, pummelos and oranges and has observed five larval generations. This is starting to help us get a fix on when we can expect the next larval infestation to appear. Peelminer started in walnuts in May, moved to pummelos in June, and expanded to oranges in August. We just now experiencing larvae during the first week of October. The next group of larvae are expected at the end of October. If you are growing susceptible orange varieties (TI, Atwood, Fukumoto) and have had trouble with peelminer in the past you should be spraying now and again in three weeks.

Week of	Observations of peelminer larvae
5/18/06	First generation of larvae observed in walnut stems
6/29/06	2 <sup>nd</sup> generation of peelminer larvae in walnut stems 1 <sup>st</sup> generation of larvae in pummelos
7/27/06	2 <sup>nd</sup> generation of larvae in pummelos
8/29/06	3 <sup>rd</sup> generation of larvae in pummelos 1 <sup>st</sup> generation of larvae in susceptible oranges
10/02/06	2 <sup>nd</sup> generation of larvae in susceptible oranges

## Citrus Leafminer has arrived in the San Joaquin Valley!



Citrus leafminer in a sticky trap

Citrus leafminer is a pest of the flush growth of citrus trees. Recently, citrus leafminer moths have been trapped and identified in Kern, Tulare and Fresno Counties. We are the last citrus growing region in the world to get this pest! The Citrus Entomology Lab is offering pheromone traps and lures to anyone who would like to monitor for populations of citrus leafminer in these counties. At this time we are mostly concerned with the geographical distribution of citrus leafminer and are not requiring weekly counts of the traps. That means you only have to check the trap once in a four week period. An ArcIMS website similar to that for citrus peelminer is now active and can be accessed at <http://citrusent.uckac.edu/leafminer.htm>. That web site will allow you to log in the location, date, and the number of moths that you found in your traps. Or, you can call Greg and tell him the counts over the phone. If you do find a moth that you suspect is leafminer, we need you to bring the trap to your local County Ag Commissioners office or UC Extension to have it identified. Our web site explains how to prepare the traps to submit for identification. Growers and PCAs who are willing to maintain one or more pheromone traps to monitor for citrus leafminer are asked to contact Greg Montez 559-646-6597 for more information.

## Computer-Based Study of Citrus Insect Pests

Beth Grafton-Cardwell, Greg Montez

<b>Lindcove Research and Extension Center</b> 22963 Carson Ave., Exeter (call 559-592-2408 for directions)  <b>February 28, 2006 (Tuesday),</b> <b>July 11, 2006 (Tuesday)</b> <b>October 17, 2006 (Tuesday)</b>	<b>Kearney Agricultural Center</b> 9240 S. Riverbend Ave., Parlier (call 559-646-6500 for directions)  <b>March 2, 2006 (Thursday)</b> <b>July 13, 2006 (Thursday)</b> <b>October 19, 2006 (Thursday)</b>
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We have developed (or are in the process of developing) a number of teaching modules, that allow a grower or Pest Control Advisor to learn about citrus insect pests by viewing pictures, videos, and text information on a computer screen. Each participant works at his/her own pace to learn the class material and takes a short test at the end. Each module teaches the lifecycle of the pest, the damage it causes to citrus, the lifecycle of its natural enemies, how to sample for the pest and the latest research on biological, cultural and chemical control of the pest.

**Module 1: Cottony cushion scale and vedalia beetle**

**Module 2: Citrus peelminer**

**Module 3: Citricola Scale**

**Module 4: Citrus Red mite and predatory mites**

**Module 5: Katydid (not available until the July meeting)**

**Module 6: California red scale (not available until the October meeting)**

Sign up for one session for each module that you want to study. You can take the modules in any order and complete as few as one or as many as four modules on any particular date. Because we have only 16 computers, we are asking you to sign up ahead of time to make sure that everyone has a computer to use.

**Session 1:** 9:00-10:30

**Session 2:** 10:30-12:00

**Session 3:** 12:30-2:00

**Session 4:** 2:00-3:30

### To reserve a space in a class:

Contact Lois Strole: 559-646-6545, [lois@uckac.edu](mailto:lois@uckac.edu), at the Kearney Ag Center. Provide her with your name, telephone number, email or home address, the number of modules that you would like to complete and the session(s) you would prefer to attend. We will send you a reminder of the class time you have chosen.

*1 hour of continuing education credit for each module has been requested*

### The Citrus IPM Newsletter is published by the University of California Citrus Entomology Laboratory at the Kearney Agricultural Research Center.

For information or to subscribe or unsubscribe please send an email to [gregm@uckac.edu](mailto:gregm@uckac.edu) or call (559)646-6597

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