

California Red Scale – Fourth Flight Approaching

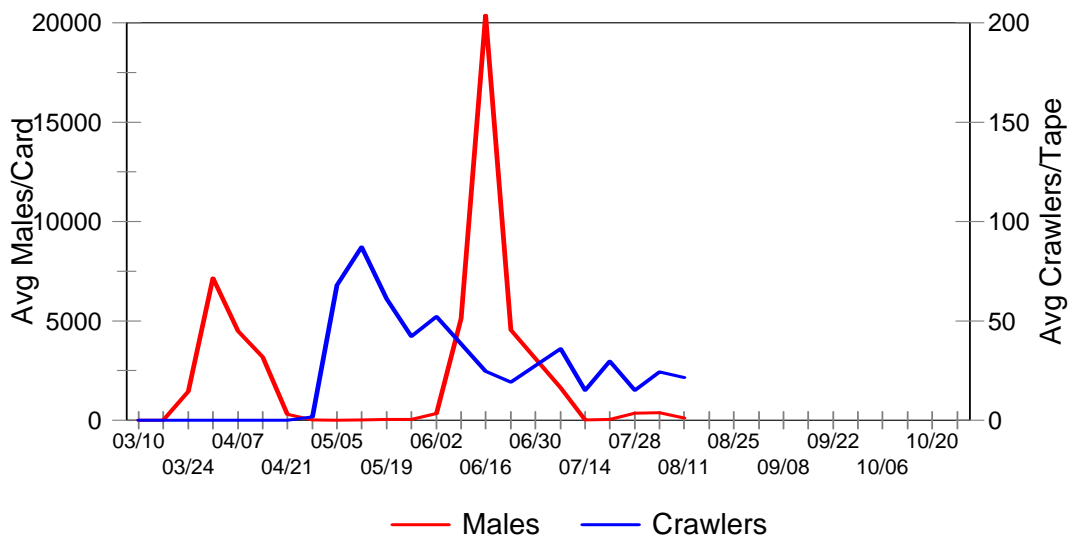
	1st male flight (observed)	1st gen. crawlers (observed)	2nd male flight (observed)	2nd gen. crawlers (observed)	3rd male flight (observed)	3rd gen. crawlers (observed)	4th male flight (predicted)	4th gen. crawlers	5th male flight
Estimated Degree Days	Biofix	550 DD	1100 DD	1650 DD	2200 DD	2750 DD	3300 DD	3850 DD	4400 DD
Kern	March 12	April 30	May 28	June 25	July 23	Aug. 6	Aug. 27		
Tulare	March 12	April 30	June 4	July 2	July 23	Aug. 13	Sept. 3		
Fresno	March 17	May 7	June 11	July 9	July 30	Aug. 20	Sept. 10		

Red Scale Lower Developmental Threshold: 53°F

Current DD (as of August 13) - Kern: 2911 DD, Tulare: 2866 DD, Fresno: 2672 DD

At this point in the season you will find a mixture of scale stages on fruit. The third generation of crawlers should be developing into second instars in the next week and will provide *Aphytis* wasps with fresh hosts to feed on and deposit eggs on. With temperatures in the mid 90s expected for the remainder of August, we are predicting the fourth male scale flight to begin during the last week of August or the first week of September. Traps placed out for the duration of the fourth flight can be used as an indicator of the severity of red scale in an orchard and help you to plan control strategies for next season. Currently, degree-day accumulation is 20 – 25 DD per day, which is typical for late August. 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>.

**California Red Scale 2007
Lindcove Citrus Field Station Block 83**



California Red Scale Resistance Monitoring

We need your infested-fruit now!

Our laboratory can test for organophosphate resistance (Lorsban/Supracide) or Esteem resistance in California red scale. For the OP resistance test we use 3rd instar scales in a biochemical assay that takes 1 day to perform. For the Esteem resistance we dip white-cap infested green fruit into various concentrations of Esteem and wait 2 weeks to see if they molt properly. We do this by collecting fruit that has crawler producing females on it. If you have an orchard that has green fruit infested with California red scale and you would like to have either test done, please contact **Greg Montez at the Kearney Ag Center (559-646-6597)**. We will need you to provide us with a map of the orchard location and the pesticide history of that orchard. We will need to collect 80+ scale-infested fruit per orchard to run the tests. You can bring us the fruit, or provide us a map and we will collect the fruit.

Citricola Scale – Lorsban Resistance Monitoring

We need citricola scale infested leaves now!

We have been surveying for Lorsban resistance in citricola scale the past two years and believe that we have found populations with resistance. We need additional sites to test and we need to collect the leaves before you make a citricola scale treatment. All you need to do is provide us with a map to your orchard and we will collect the leaves needed for our test. The test consists of dipping infested leaves in various Lorsban concentrations and waiting 5 days for mortality. If you have an orchard that has heavy citricola scale populations, please contact **Greg Montez at the Kearney Ag Center (phone: 559-646-6597) or Sara Scott at the Lindcove Research and Extension Center (559-592-5910)**. We will need you to provide us with a map of the orchard location.

Event: Two Sessions on Citricola Scale Management

Dr. Beth Grafton-Cardwell, University of California
Citrus IPM Specialist and Research Entomologist

Wednesday, August 29, 2007 at the Lindcove Research & Extension Center
22963 Carson Ave, Exeter CA, (559) 592-2408 (*call for directions*)

1. Citricola Scale Field Session

9:00-10:30 am

We will bring the mobile teaching lab to an orchard in order to teach the details of the lifecycle of the pest and it's parasites using microscopes and handouts. Field monitoring of citricola scale will be demonstrated including recommended treatment threshold densities for the fall and spring periods. Treatment options for citricola scale will be discussed. No advance sign-up is needed for this session.

Location: LREC field station orchard. Please watch for the signs for parking
1 hour of continuing education credit has been requested for this session.

2. Using Computers to Study Citricola Scale

10:30 am-12:00 pm

We will assist you with a computer module that uses text, photos, and videos to teach you about the lifecycle of citricola scale and the damage it causes to citrus. Each participant will have a computer to use and can work through the lesson at their own pace. Seating is limited, you must sign up to reserve a place to use a computer.

Location: Lindcove REC Conference Center

Sign up: Please contact Anita Hunt at LREC 592-2408 ext 10 to reserve a space

1 hour of continuing education credit has been requested for this session.

Bean Thrips – The Protocol Has Changed!

For those of you monitoring for bean thrips in the San Joaquin Valley using green traps, there are new rules for the dates for trapping. Traps must be placed in the 1st or 2nd trees of the outer edges of each block for a total of 42 days (traps changed every 3 weeks = two traps per location). This trapping must be done for 42 days anytime during the period of August 20 through November 2. The traps must be changed at least every 3 weeks to keep them from becoming too dirty to identify the bean thrips. Please see the details of the protocol <http://citrusent.uckac.edu/BCSplan07.pdf> on our bean thrips web page http://citrusent.uckac.edu/bean_thrips.htm. Green sticky cards can be placed in the field as early as August 20 and as late as September 21. This web site also gives sources of green sticky cards and methods for identifying the bean thrips.

Citrus Peelminer – Sixth Flight

	1st male flight	2nd male flight	3rd male flight	4th male flight	5th male flight	6th male flight	7th male flight	8 th male flight
Estimated Degree Days	biofix	580 DD	1160 DD	1740 DD	2420 DD	3000 DD	3580 DD	4160 DD
Host Plant	Stems	Stems	Pummelo grapefruit	Pummelo grapefruit	Susceptible oranges	Susceptible oranges	Susceptible oranges	Susceptible oranges
Tulare	March 12	May 10	June 18	July 9	July 31	August 28 (predicted)		

Citrus Peelminer Lower Developmental Threshold: 55°F
Current DD (as of August 13) – Tulare: 2614 DD

Peelminer continues to attack navel oranges. Pheromone trap catches have been sporadic, but based on larval counts and degree-days another moth flight is predicted for the end of August. As peelminer degree day information accumulates, we will be posting it to our website:

<http://citrusent.uckac.edu/PeelminerDD07.htm>

An updated version of our on-line peelminer moth trap count and fruit damage reporting system is now available for use at <http://arcims.gis.uckac.edu/CitrusMiner>. We are asking that growers and PCAs who are noticing peelminer activity in their orchards to use this system to report their finds. We use this information to create and refine population models of citrus peelminer so that better control of this pest can be achieved. Growers that have used the system already will find a streamlined interface and faster response time. One-on-one demonstrations of the system will be offered for both experienced users and growers that are using it for the first time. Please contact Greg Montez at (559) 646-6597 or gregm@uckac.edu for further information.

Once a peelminer infestation starts, it is best to treat two to three flights in a row (at 3-4 week intervals) with a mixture of a low rate of Micromite for the eggs and a low rate of a broad spectrum pyrethroid or organophosphate for the adults and larvae. The maximum label rate for Micromite is 6.25 oz during a 90 day period.

Micromite registration for pummelos! Chemtura was recently able to obtain a supplemental label for Micromite to be used for peelminer and other pests on pummelos. See the CDMS web site for that label: <http://www.cdms.net/LDat/1d55U010.pdf>

Citrus Leafminer

Citrus leafminer is now infesting backyard citrus trees and commercial citrus in Imperial, Riverside, Orange, Los Angeles, San Diego, San Bernardino, Ventura, Santa Barbara, San Luis Obispo, Fresno, Tulare and Kings Counties. Flush leaf damage is just starting in Kern County and we expect it to increase Valley wide during September-November. If you see any leaf damage the San Joaquin Valley, please let us know about it. Because leafminer is a small moth, we recommend triangular traps to limit other insects from accidentally being stuck in the traps – it makes it easier to find and count the moths. The exact size and color of the trap are not important.

A moth trap catch reporting system similar to the one we are using for citrus peelminer has been developed for citrus leafminer and is now active at <http://arcims.gis.uckac.edu/CitrusMiner/>. Growers who wish to use this system may request a one-on-one demonstration from Greg Montez (contact information above).

While the damage that the leafminer causes to flush of mature citrus trees is ugly, insecticides are not very effective and leafminer will not affect yield (except perhaps for lemons on the coast that are continuously flushing and producing multiple crops). Therefore, we recommend that you ignore this pest in mature citrus. For information on identification see our web site: <http://citrusent.uckac.edu/leafminer.htm>. Citrus leafminer will heavily damage flush of nursery citrus and newly planted citrus and could affect growth and development of young plants. Therefore treatments may be necessary in these situations. In foreign countries, such as Israel, growers apply Admire for the first three years to newly planted trees to reduce leafminer infestations and maximize growth of the trees. We have both SLN and IR4 requests to gain registration of the insecticide Intrepid (methoxyfenozide) for nonbearing citrus and are testing new insecticides for their efficacy against this pest. Additional management guidelines are posted on the UC IPM web site: <http://www.ipm.ucdavis.edu/PMG/r107303211.html>.

Dr. David Headrick (Cal Poly San Luis Obispo) is collecting parasitized leafminer larvae and pupae to determine which parasites are attacking the leafminer in coastal and central California. If you would like to assist with this project, instructions for collecting and shipping parasitized larvae are located on our web site: http://citrusent.uckac.edu/Collect_leafminer_parasites.htm. This pest should eventually be controlled by natural enemies. Some of the same parasites that attack leafminer also attack peelminer (for example (*Cirrospilus*)) and so having both pests present should improve biological control.

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 or call (559)646-6597

Beth Grafton-Cardwell, IPM Specialist and Research Entomologist
University of California Kearney Agricultural Research Center
bethgc@uckac.edu