

California Red Scale – Third Flight

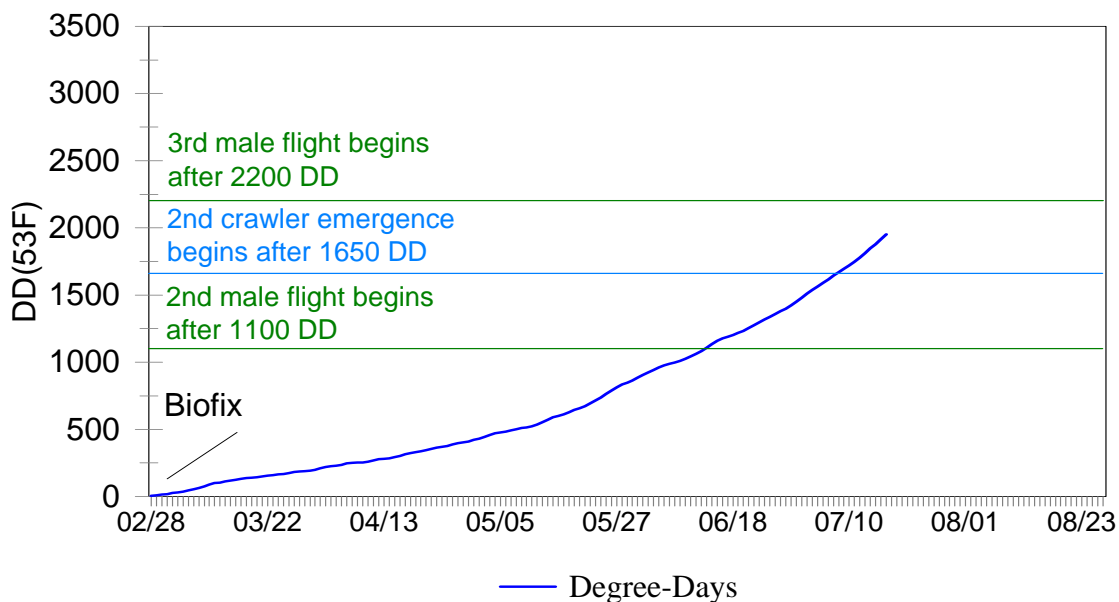
	1st male flight	1st gen. crawlers	2nd male flight	2nd gen. crawlers	3rd male flight (predicted)	3rd gen. crawlers	4th male flight	4th gen. crawlers	5th male flight
Degree Days	biofix	550 DD	1100 DD	1650 DD	2200 DD	2750 DD	3300 DD	3850 DD	4400 DD
Kern	Mar 1	May 9	June 13	July 3	July 24				
Tulare	Mar 1	May 16	June 20	July 3	July 24				
Fresno	Mar 8	May 16	June 20	July 10	July 31				

Current DD (as of July 17) – 2020 Kern, 1950 Tulare, 1850 Fresno

Summertime temperatures have hit hard in the Central Valley, with daytime highs in the 100s and lows in the 70s for eight of the last seventeen days. Under these conditions, California red scale is at its peak metabolic rate and degree-day accumulation is in the range of 30 to 35 heat units per day. We are expecting the next flight of males to begin the week of July 24th for the southern and foothill citrus growing regions, with the next crawler emergence period estimated for mid-August.

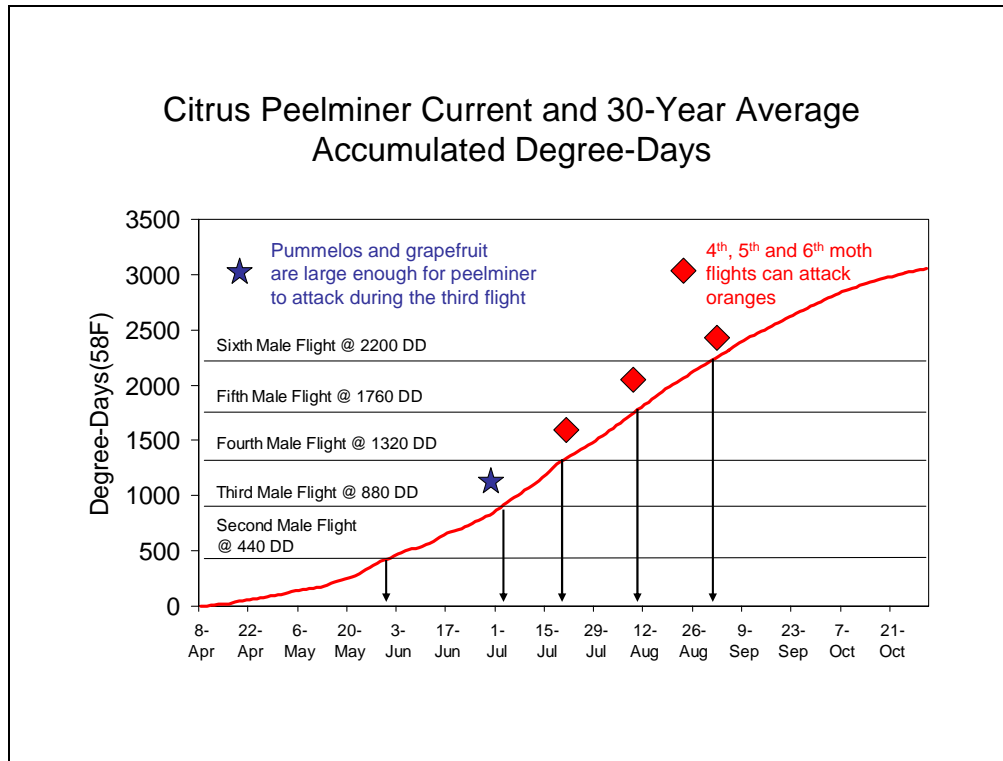
CRS Degree-day calculations for various regions of the San Joaquin Valley are maintained on our website: <http://citrusent.uckac.edu/DegreeDay.htm>.

**Foothill Region Degree-Days 2005
California Red Scale**



Citrus Peelminer

Using a lower developmental threshold of 58°F and a biofix of the first week of April, the model predicts that the 4th flight of citrus peelminer moths should be starting up about now. The third flight of moths infested the grapefruit and pummelos and those fruit currently have infestations of larvae that are in the “pink” stage and getting ready to pupate and become moths. The 4th flight of males will mate with the females who will then deposit eggs on susceptible orange varieties.



Citrus Peelminer Moths: The table shown below (updated every Monday on our web page: <http://citrusent.uckac.edu/Pheromone%20trap%20catches%20arcims.htm>) uses the information gathered from more than 70 pheromone traps deployed by our research team, PCAs, and growers throughout the San Joaquin Valley [we greatly appreciate your efforts]. The moth activity in citrus has been disappointingly low (generally less than 5 moths per pheromone trap per week). The citrus orchards that have higher moth counts are usually next to oleanders or willows. We are receiving reports of 100+ moths per week trapped in oleanders, a steady trickle of moths out of willows and we are starting to see some emergence now from grapes. We don't know why we are not seeing more moths collected in traps from citrus and the low numbers make it difficult to predict flights. We are not even sure that citrus peelminer has distinct flights. However, based on degree-day calculations and our observations of the development of peelminer in grapefruit and pummelos, we believe that the next flight should occur this coming week (week of July 24). If you are going to treat with Micromite, next week is the time to treat because Micromite is only effective against the egg stage. The first treatment of Micromite in our pummelo experiment did not prevent all eggs from hatching (probably due to problems with coverage), therefore, I would suggest that if you have a crop that has been heavily infested in the past, that you add Success or Lorsban to the Micromite to help kill the larvae that escape the Micromite. Not all orange varieties become infested at this time of year (larger fruit are preferred). I would look back at previous notes on your orchards to see when they were infested last year and if it was during July, then next week's treatment will be important.

Number of citrus peelminer moths per pheromone trap per week

		Fresno County							
Block no	Variety	22 May	29 May	5 Jun	12 Jun	19 Jun	26 Jun	3 Jul	10 Jul
F5593	Atwood			0					
F11898	Atwood					11	9	4	3
F11470	Fukumoto				0	0	0	0	0
F11625	Fukumoto				0	0	0	0	0
F29325	Fukumoto			0					
F9740	Lane Late		8	6	2	0	3	13	22
F29798	Palestine sweet lime			0	0	1	0	0	
F11633	TI			0	0	1	0	0	
		Kern County							
K14689	Frost Nucellar				1	0	0	0	0
K3343	Melogold			0	0	0	0	0	0
K1638	Oleander	8	6	11	10	7	16	104	198
K13064	Star Ruby				0				
K15293	TI				0	0	0	15	4
		Tulare County							
T8830	Atwood			0	0	0	0	0	0
T12405	Atwood				0	1			
T1626	Atwood			0	0	0	0	0	0
T5152	Barnfield				0	0	0	0	
T16231	Chandler					0	0	0	0
T4358	Chandler				0	0	1		
T8011	Chandler				1	0	0		
T12785	Fukumoto				4	1			
T1625	Fukumoto			0	0	0	0	0	0
T2302	Fukumoto					0			
T8604	Lisbon Lemon							0	0
T12542	Melogold		0	0	0	0	0	0	0
T19730	Melogold		0	1	0	3	0	0	0
T20115	Melogold		0	1	0	0	0	0	0
T20153	Melogold		0	0	0	2	0	0	0
T7915	Melogold		0	1	0	2	0	0	0
T13027	Oro Blanco				0	0	0	0	0
T13008	Parent Washington			0	1				
T16222	Parent Washington				0				
T6054	Parent Washington							0	1
T8845	Parent Washington							0	1
T1391	Pummelo					3			
T9062	Ruby Red					0	0	0	0
T11767	TI			0	0				
T13009	TI				0	0	0		
T19740	TI				0	0	0	3	
T19742	TI				0	0	0	0	
T20069	TI		0	1	0	1	0	0	
T3939	TI					0			
T5153	TI				0	0	1	0	
T5264	Zimmerman TI			0	0	0	0	0	0
T13002				1	0	0	1		

Citricola Scale

I have had numerous questions from growers and PCAs concerning citricola scale in the past few weeks. Here are the questions and my answers.

“Is it time to treat citricola scale?” Flip over the brownish-gray female citricola scales and use a hand lens to see what is under them. When the females look dried and flattened and the only thing underneath them are the white skins left over from egg hatch (no eggs or crawlers) then it is time to treat the orchard. Assail and Applaud will significantly reduce citricola scale populations, but Lorsban (applied as 6-12 pts/acre using proper timing, slow rig speed, and good coverage) is most effective in reducing scale below the economic threshold (0.5 nymphs per leaf) for more than one season.

“Why are citricola scale so hard to kill?” Numbers and weather are the short answers. Citricola scale control is a numbers game. The better the job that you do, the lower you suppress the population and the longer the period of time till you have to spray for this pest again. Each scale that survives can produce up to 1,000 eggs next year. When we have a cool spring (remember last month?), more of the scales survive and they grow fast and are much harder to kill with pesticides. It is also possible that citricola scale is developing resistance to Lorsban and we are initiating a research project to study that possibility now.

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