

UC CITRUS ENTOMOLOGY PROGRAM

CITRUS IPM NEWSLETTER



Citrus Peelminer – End of Season

Each season since 2005 we have conducted a survey of citrus blocks in Fresno, Tulare and Kern counties to determine the extent of peelminer damage to susceptible fruit varieties (Pummelo, grapefruit and smooth-skinned navels such as Atwood, TI, Fukumoto and Barnfields). In this survey, 1000 fruit in each orchard are checked for peelminer damage. The 2008 season showed less damage than previous years. The improvement was in both the average % of infested fruit and also the maximum % fruit damage experienced by any grower. The improvement could be due to better management practices (spray choice and timing) or weather conditions that suppress peelminer activity during the summer and fall (prolonged heat). It is possible that there has been a gradual improvement in parasite activity. Dr. Luck's laboratory continues to provide us with *Cirrospilus* parasites for release in the Valley. There were almost enough degree-day units accumulated in 2008 to achieve eight flights (3900 DD as of November 3). However, temperatures have cooled to the point where few additional temperature units will accumulate. Compare this to 2007, in which there were only enough degree-days to complete seven flights.

See our website for degree day updates:

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

For more information on peelminer and to learn to recognize live and dead larvae, see our new ANR publication 8321: Citrus leafminer and citrus peelminer

<http://anrcatalog.ucdavis.edu/pdf/8321.pdf>

Average % peelminer infested fruit per year for 67 citrus orchards

County	No. orchards	2005	2006	2007	2008
Fresno	12	0.3	0.6	0.7	0.3
Tulare	49	3.5	2.9	2.7	1.0
Kern	6	3.4	0.5	0.6	0.6
All Counties	67	3.0	2.3	2.2	0.9
Maximum % damage		62%	55%	40%	18%

2008 Citrus Peelminer Flights

	1 st male flight	2 nd male flight	3 rd male flight	4 th male flight	5 th male flight	6 th male flight	7 th 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	Willow/oleanders Stems	Walnut Stems	Pummelo grapefruit	Pummelo grapefruit susceptible oranges	Pummelo grapefruit susceptible oranges	Oranges	Oranges	Oranges
Tulare	March 24	May 26	June 23	July 14	August 11	Sept 1	Sept 29	*

Citrus Leafminer Populations Soaring in the San Joaquin Valley

Densities of citrus leafminer moths caught on pheromone traps were much higher this year than last year at all sites monitored (See graph). Pheromone trap captures have reached nearly 1000 moths per week in some locations.

Leafminer damage to the leaves was noticeable on fall flush throughout the San Joaquin Valley. Leafminer doesn't seem to have strong variety preferences. It is an opportunist searching for new flush for its egg laying. Leafminer larvae continue to be active at this time of year in citrus that has new growth, but colder temperatures and hardening of the leaves will slow down their development soon and the larval instars will not survive the winter.

If you find citrus leafminer infesting mature citrus, you should not treat for it because the damage can be tolerated by fruit-bearing trees > 4 years old. If you find citrus leafminer infesting young citrus, treatments may be needed, but it is very late in the season and so efficacy may be poor because of cold weather conditions.

For more information on peelminer and to learn to recognize live and dead larvae, see our new ANR publication 8321:

Citrus leafminer and citrus peelminer

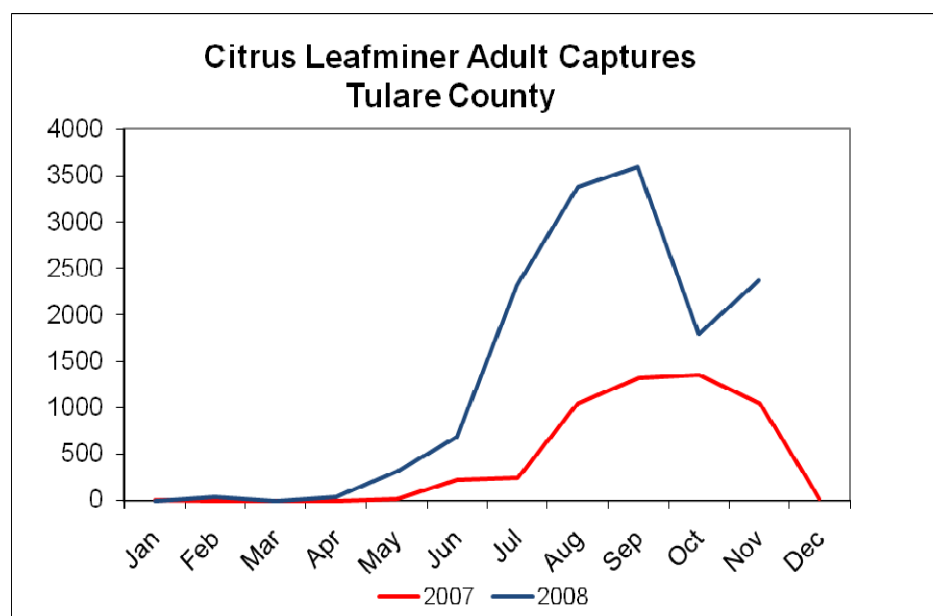
<http://anrcatalog.ucdavis.edu/pdf/8321.pdf>.



Citrus leafminer damage to pummelo flush



Citrus leafminer pheromone trap insert



Asian Citrus Psyllid Update

Residential Infestations: Asian citrus psyllid has been detected by CDFA in backyard citrus in southern San Diego and Imperial Counties. A wide quarantine zone has been created around those find sites that prohibits movement of citrus and closely related plants that are hosts of ACP outside of the quarantine zone. Nurseries that ship into the quarantine zone are required to treat with both a systemic and foliar insecticide prior to shipment to retail stores. See <http://phpps.cdfa.ca.gov/PE/InteriorExclusion/acptreatments.pdf> for more details on the citrus nursery approved treatments. The purpose of treating citrus with insecticides at the wholesale nursery level is to prevent psyllid populations from becoming established after the plants arrive at the retail stores. Lack of treatment and heavy infestation of retail plants was a major way that ACP rapidly spread throughout Florida. The host plants at the find sites (primarily residential properties) and all properties within 400 meters of a find site are being treated with insecticides. In residential properties, Tempo® (cyfluthrin) is applied to the foliage and Merit® (imidacloprid) to the soil in an attempt to eradicate the pest. CDFA has conducted numerous outreach meetings for the public and residents have generally supported the treatment program. To see the distribution of the current infestations and quarantine zones see: <http://pi.cdfa.ca.gov/pqm/manual/pdf/420.pdf>

Mexico: CCQC, Sunkist, and CCM have been working to secure APHIS funding for an expanded effort to treat psyllid infestations in the border region in Mexico, especially in Tijuana. APHIS plans to provide funding for this effort and applications in Tijuana could start in approximately two weeks. CDFA has done an excellent job with its control program in San Diego and Imperial Counties. Their efforts have been critical in convincing APHIS that an area-wide psyllid approach may be viable and paving the way for an expanded program in Mexico. These treatments are critical for the success of the eradication/suppression effort.

Commercial Citrus: I have been asked what treatments will be effective if psyllid were to be found in a citrus orchard. Joe Morse and I prepared a list of insecticides and posted it on the UC IPM citrus guidelines web page. We used data from Florida pesticide efficacy trials for our recommendations. There are a number of insecticides that are registered in citrus for psyllid control including: Danitol®, Baythroid®, Lorsban®, Dimethoate®, Sevin®, Admire®, Delegate, Micromite® and Movento®. As the situation evolves and more data is developed by Florida, we will refine our recommendations for treatment to preserve the citrus IPM program as best we can. For current guidelines for commercial citrus: <http://www.ipm.ucdavis.edu/EXOTIC/diaphorinacitri.html>

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 Greg Montez at (559)646-6597

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