

## Cottony Cushion Scale

Cottony cushion scale survived the summer in low numbers in a number of orchards. Vedalia beetle does not tolerate heat and so it all but disappears in the summertime. Cottony cushion scale populations are building in a number of orchards. Search for this pest by looking inside the trees. If you find significant numbers, then search for vedalia beetles in the early spring (Feb-March) and move them into the blocks where they are missing.

I have just published, through the University of California Agriculture and Natural Resources Catalog, a free publication that you can access via the web as a PDF file and print out on your color printer. This publication will help you learn to recognize the life stages of the pest scale and the vedalia beetle.

**Publication 8051, Stages of the Cottony Cushion Scale (*Icerya purchasi*) and Its Natural Enemy, the Vedalia Beetle (*Rodolia cardinalis*), Beth Grafton-Cardwell**

<http://anrcatalog.ucdavis.edu/pdf/8051.pdf>

There are many other publications available from the ANR Catalog on pest management related issues. I encourage you to look through the list for subjects that interest you.

<http://anrcatalog.ucdavis.edu/merchant.ihtml>

## Citrus Peelminer

Citrus peelminer has been found infesting grapes, cotton, and beans since June. It began to attack grapefruits and pummelos in Tulare County in July and navels in September. This year we have seen its range expand from the Lindsay-Porterville area northward to Fresno County (Sanger). In fact, it is currently infesting eggplants and zucchini at the Kearney Agricultural Center. The spread suggests that it is a new biotype or species. Genetic studies conducted by John Heraty and Marta Guillen (UC Riverside Entomology) suggest that it is not a different species from the Coachella population. However, it could be a different strain. We have been releasing the parasitic wasp *Cirrospilus coachellae* (reared at UC Riverside by Marta Guillen and Neil Smart) in a number of citrus orchards. We have been able to find *Cirrospilus* parasite larvae several weeks after releases suggesting that the parasites are establishing in the release orchards. However, we still do not know if the parasite will survive the winter. We would appreciate hearing about the locations of citrus orchards with fresh mining of the fruit.

## Citricola scale

Citricola scale continues to be a chronic problem throughout the valley because it is not controlled by Esteem. Applaud seems to have more efficacy but it works very slowly and so should only be used for low citricola scale populations. The current best insecticides for citricola scale control are Lorsban, Provado, and Assail. Lorsban works best when the weather is hot and the nymphs are on the leaves on the outside of the trees (Aug-Sept). Some growers use a low rate of Lorsban (< 6 pints/acre) or treat later (October) in the season to avoid killing *Aphytis* wasps needed for red scale control. This can be effective, but it may not lower the population as well as a full rate (6-12 pints/acre) applied earlier in the season. Provado and Assail work well at any time of the year, but they are fairly broad spectrum and will kill most natural enemies that they come in contact with for about a month. Weather has a big impact on survival of citricola scale. Mild winters, cool summers and moisture are their favorite conditions. Prolonged heat, like we have had this summer causes many of them to die.

The best time to sample for citricola scale is in August-early October to determine if a population is treatable. Because each citricola scale produces 1000 eggs, the population can increase very quickly. If a population is heavy in the springtime it will reduce yield. If a population is heavy now, it is best to treat now and prevent those springtime populations from reducing yield and producing honeydew for sooty mold to grow on.

A simple method of evaluating the population is to walk down four evenly spaced rows in the block and collect 1 leaf from the NE corner of each of 25 trees per row (a total of 100 leaves per 10 acre block). Look at the underside of each leaf and use a hand lens to see if any of the scale are alive. If one or more scale is alive then the leaf is considered infested. Use the chart below to determine if any of the 25 leaf samples indicates treatment. If any portion of the block is treatable, then treat the whole block. If the number falls between 5-12, the population is growing and you should consider treating depending on the other areas of the block.

	Number of leaves infested with live nymphs in a 25 leaf sample	1-4 leaves infested <b>DON'T TREAT</b>	5-12 leaves infested <b>?</b>	13-25 leaves infested <b>TREAT</b>
Row A				
Row B				
Row C				
Row D				

If you are unsure how to determine if citricola scale are alive or dead, come to the field day:

Field Demonstration Wednesday October 9<sup>th</sup>  
 Management Strategies For Weeds  
 Monitoring / Management Citricola Scale  
 Tulare County Pest Management Demonstration Project\*  
 Neil O'Connell, Cooperative Extension Tulare County  
 Dr. Beth Grafton Cardwell, Kearney Ag Center

9:00 AM First site (east of Orosi) - take Avenue 424 off of Road 144 and go east approximately 1/4 of a mile to the end of the asphalt; continue a few hundred yards - orchard is on your right (south side of road). Directions to the second and third stops will be given at this first stop.