

End of the season pest memo

California red scale

California red scale is a key pest of citrus in the SJV. Its life cycle starts as crawlers produced by overwintering females from the past season. Crawlers move and find a suitable place to start feeding. Once they have settled, they do not move.

What's happening with the SJV CRS population?

This year has been weird weather wise. September was starting to cool down and we expected that in many counties we may not see the complete 4th flight. Well, October changed that. Current degree day accumulations show that 4th generation crawlers have emerged. In Kern and Tulare counties, we may see 5th generation flight if weather remains warm.



County	DD as of Oct 25	Life stage
Kern	4226	4 th generation crawlers have emerged. Expect 5 th flight if weather remains warm.
Tulare	4307	
Fresno	3969	
Madera	3608	Expect 4 th generation crawlers if weather remains warm.

Visit https://lrec.ucanr.edu/Citrus_IPM/Degree_Days/ for degree day updates.

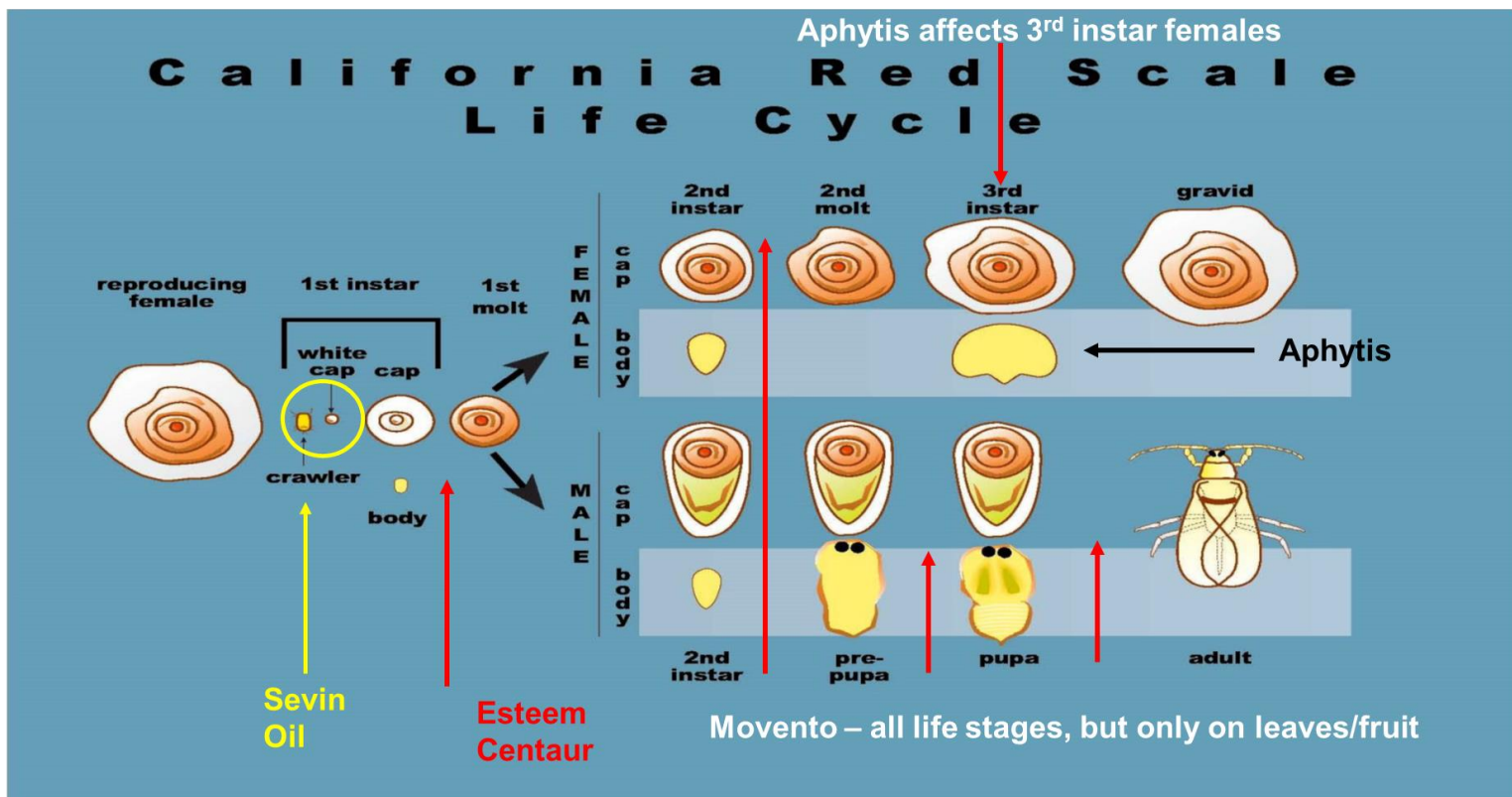
End of the season CRS Monitoring

- **Examining fruit:** Conduct visual inspections of citrus fruit. Walk around 20 trees in each quadrant of the block, record the number of fruit examined and fruit with noticeable patches (10 or more CRS). Use the [form](#) to calculate percent of fruit with more than 10 scales.
- OR**
- **Bin Counts:** At harvest, look at the fruit on surface from at least 10 bins from areas throughout the block. Count the number of uninfested and infested fruit. Calculate the percentage of fruit with more than 10 scales.
 - **If 5% or more fruit is infested in a block, that block may need spray application in the following season.**

California red scale management choices – UCIPM Guidelines

Management choices	Efficacy	Selectivity	Spectrum
Mating disruption (Checkmate CRS)	Moderate: Effectiveness varies	Nontoxic	Narrow: CRS
<i>Aphytis melinus</i>	Moderate: effectiveness varies	Nontoxic	Narrow: CRS
Oils (415, omni)	Moderate: short residual	Short term effect on all arthropods	Broad: most pests
Esteem (Pyriproxyfen)	Moderate: Emerging resistance issues	Toxic to beetles	Narrow: CRS
Centaur (Buprofezin)	Moderate	Toxic to beetles	Interm: CRS, Citricola
Movento (Spirotetramat)	Moderate: Doesn't control scale on wood	Toxic to predatory mites	Interm: CRS, ACP
Sevin (Carbaryl)	Moderate: Resistance issues	Toxic to most natural enemies	Broad; CRS, Citricola scale, FRB

How to use life cycle for making pest management choices?



Recommendations for chemical control of California red scale

- Timing: treat the stage that is most sensitive
- Treat generations 1 or 2 when the scale population is uniform in stage (exception is spirotetramat, which seems to work in fall)
- Use the selective insecticides that allow natural enemies to survive when you can
- Rotate products to avoid resistance
- Good coverage: 750-1500 gpa/acre (7000-15000 l/ha) (spirotetramat 250 gpa/acre)
- Drive slowly! < 1.5 mph (2.4 kph)

Links to Pesticide trials on CRS

- [CRS trial 2012](#) [CRS Trial 2012-2](#)
- [CRS trial 2014](#)
- [CRS trial 2015](#)
- [CRS trial 2016](#)
- [CRS trial 2017](#)
- [CRS trial 2018](#)
- [CRS trial 2019](#)
- [CRS Trial 2022](#)