

Kern/Tulare

GWSS Update



A project of the Glassy-winged Sharpshooter Task Force of Kern and Tulare Counties. Participants: Agricultural Commissioner Offices of Kern and Tulare Counties, California Department of Food and Agriculture, University of California-Cooperative Extension, U.S. Department of Agriculture (APHIS and ARS Divisions).

Protect the vedalia beetle while controlling cottony cushion scale and GWSS with properly timed Admire and Assail citrus treatments

Prior to the introduction of vedalia beetle into California in 1888, cottony cushion scale was a devastating pest of citrus.

Now, serious problems with cottony cushion scale generally occur only when new broad spectrum insecticides, such as pyrethroids, insect growth regulators and neonicotinoids, are used for one or more citrus pests, disrupting the highly effective vedalia beetle. The severity of the disruption depends on the timing of when they are used, the rate and application method, and the number of applications per season.

Laboratory and field studies have shown that neonicotinoid insecticides, including Admire®, Assail® and Provado®, are toxic to vedalia beetles. Mortality occurs when foliar applications come in contact with the beetle, or when larvae or adults feed on cottony cushion scale that has ingested one of these insecticides from a systemically or foliarly treated tree.

Since cottony cushion scale is not susceptible, and vedalia beetles are highly susceptible to these insecticides, growers should not use these insecticides where they have a cottony cushion scale population.

With proper timing, however, applications of Admire and Assail can provide excellent control of glassy-winged sharpshooter (GWSS) without severely disrupting IPM programs.

Optimal timing of Admire. The optimal application timing of Admire to control GWSS in citrus is just prior to bloom (late March). The next best option is just after petal fall (late April, early May). Bloom-time applications would also be effective, but are restricted due to bee toxicity.

Applications during this pre- and post-bloom period have consistently resulted in good uptake of the active ingredient

(imidacloprid), resulting in lethal concentrations throughout the tree in four to six weeks. Applications applied more than a week or two before bloom are less effective because the roots are not active.

In areas where cottony cushion scale is a concern, Admire applications should be postponed until after petal fall. This application timing (a late April or early May application plus four to six weeks for uptake) will allow time for vedalia beetles to grow and develop during the March to May period when it naturally cleans up scale. Mortality to vedalia after this period is less of a concern because their populations naturally disperse or decline in the summer heat.

We recommend monitoring for cottony cushion scale in the spring prior to setting an application date for Admire. To monitor, check 20 trees per every 10 acres for the presence or absence of live cottony cushion scale. If more than 5 percent of the trees have live scale, delay Admire applications until after petal fall.

Treating with Assail; Provado's drawback. Assail, with its active ingredient acetamiprid, is also effective against GWSS. This treatment is the most effective option for growers on furrow or flood irrigation because it is difficult to get adequate uptake of Admire into trees in this type of irrigation system. As with Admire, delay applications of Assail to fields with heavy populations of cottony cushion scale until after vedalia beetle has finished feeding on cottony cushion scale (early June).

Provado is the foliar form of imidacloprid. It is effective against citricola scale and GWSS, but because it has been shown to cause flare-ups of red scale, we do not recommend its use in citrus.

Admire is the preferred treatment of

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- www.co.kern.ca.us/kernag/
- http://cekern.ucdavis.edu/Custom_Program444/

“With proper timing, applications of Admire and Assail can provide excellent control of GWSS without severely disrupting IPM programs.”

—Beth Grafton-Cardwell,
UCCE entomology specialist



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GWSS in citrus because it is long lasting (five to six months) and more selective, allowing most natural enemies to survive with the exception of vedalia beetle.

As an added benefit, Admire can provide suppression of red scale and citricola scale. Assail is shorter lived (two months) and may be more disruptive of natural enemies because it is applied to the foliage. It is somewhat more effective in controlling citricola scale than Admire.

We are studying the impact of Assail

on red scale and natural enemies in large field plots.

By following these recommendations, growers can successfully integrate Admire and Assail applications into their integrated pest management programs without severely disrupting the benefits of their biological control organisms.

— David Haviland,
UCCE entomology advisor-Kern County and
Beth Grafton-Cardwell,
UCCE entomology specialist-Kearney
Agricultural Center

USDA magazine takes a closer look at GWSS in September issue

Looking for more information on GWSS?

The September issue of USDA's Agricultural Research Service magazine includes two articles on GWSS.

The first, "South American Biocontrols May Tangle With Glassy-Winged Sharpshooter," reports on the USDA-ARS role in searching for biocontrol agents in South

America. It can be found online at: <http://www.ars.usda.gov/is/AR/archive/sep03/wing0903.htm>.

The second article, "Scientists Target Glassy-winged Sharpshooter," explores work being carried out by the ARS facility at Parlier. Find it at: <http://www.ars.usda.gov/is/AR/archive/sep03/insect0903.pdf>.

Find GWSS trapping maps online

The latest GWSS area-wide management trapping maps can be found online at:

For the Kern County Project:
<http://www.cdfa.ca.gov/phpps/pdcp/gwMaps/gwMgmtMaps.htm>

For the Kern Urban Trapping Project:
<http://www.cdfa.ca.gov/phpps/pdcp/gwMaps/gwKernUrban.htm>

For the Tulare County Project:
<http://www.cdfa.ca.gov/phpps/pdcp/gwMaps/gwTulareCty.htm>

For the Ventura County Project:
<http://www.cdfa.ca.gov/phpps/pdcp/gwMaps/gwVenturaCty.htm>