

June 4, 2004

Kern/Tulare

GWSS Update



A project of the Glassy-winged Sharpshooter Task Force of Kern and Tulare Counties. Participants: Agricultural Commissioner's 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).

Tall screen barriers show promise in reducing GWSS entry into plant nurseries

A unique tactic that appears to curtail the movement of the glassy-winged sharpshooter (GWSS) into plant nursery yards from surrounding citrus groves and native vegetation has been studied by researchers Matthew Blua and Rick Redak at the University of California, Riverside.

The use of screen barriers measuring 5 meters high around nursery operations has shown promise in reducing the GWSS population density in nursery yards.

"The most important effect we observed in this study is the difference in GWSS trap catches on either side of the barrier," says Blua, who works with the university's Department of Entomology. "This indicates that the barrier is functioning as a means of reducing the influx of GWSS."

Blua and Redak observed that more than 99 percent of all GWSS trapped at altitudes of 1 to 7 meters were caught on sticky traps at 5 meters or lower, with the largest proportion caught at 3-meter traps. They also noted that when making contact with the screen barrier, GWSS rarely flew over it and never walked up more than a few centimeters. Their studies also showed that GWSS either were not stimulated to fly in the barrier's direction or were repelled by it.

Nursery industry involvement.

Blua and Redak's research was prompted by the heavy involvement of the state's nursery industry in the fight against GWSS. Strict regulations have been imposed on California's nursery industry to limit the appearance of GWSS on nursery stock that's transported to non-infested counties. The regulations require that potted plants destined for shipment be thoroughly inspected for all stages of GWSS and treated with an insecticide if warranted.

"GWSS egg masses are particularly

difficult to find and treat with insecticides," says Blua. "Inspections and treatments are labor-intensive and time consuming, resulting in additional costs to growers and county agricultural commissioners' offices."

Some growers in GWSS-infested zones have stopped shipping their products to non-infested areas rather than risk a rejection of nursery stock after shipment.

Compatible management tactic.

In prior research, Blua and Redak had examined the height of GWSS flight out of citrus as well as GWSS flight direction and behavior when placed on or near a barrier. "We found two distinct periods of GWSS incursion into the nursery yard: the first of the year and in mid-summer," Blua says.

In assessing the impact of the barrier on GWSS flight direction, the researchers found significantly more GWSS (70.5 percent) flew away from the barrier than toward it when the pest was released midway between the barrier and adjacent vegetation.

"The barrier tactic at \$18 per linear foot for labor and materials has a large initial cost relative to other management tactics to reduce the influx of GWSS into a nursery yard," Blua says. "However, the screen material we used has a 10-year warranty against damage due to the absorption of ultraviolet light, and the structure to support the barrier is permanent."

Adds Blua, "This GWSS management tactic is completely compatible with biocontrol and the use of insecticides."

Cooperating with Blua and Redak were Craig Hanes and David Morgan of the California Department of Food and Agriculture (CDFA), and Brad Bowers and Robert Crudup of Valley Crest Tree Co., a nursery operation in Fillmore, Calif. CDFA provided the funding for the project.

You can reach Blua at matthew.blua@ucr.edu.

Contact:

Don Luvisi
Project coordinator
(661) 868-6226
dluvisi@bak.rr.com

Web sites:

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

"This GWSS management tactic is completely compatible with biocontrol and the use of insecticides."

— Matthew Blua,
University of
California, Riverside

Special thanks

A special thanks to the California Table Grape Commission and the GWSS Task Force of Kern and Tulare Counties for their support of this newsletter.