Monitoring for the glassy-winged sharpshooter

Multiple species of native and exotic xylem sap-feeding insects are capable of transmitting *Xylella fastidiosa*, the causal agent of Pierce's disease of grapevines. In Southern California, the invasive glassy-winged sharpshooter (GWSS; *Homalodisca vitripennis*) is the most dominant vector. Given the recent resurgence in GWSS in the Temecula Valley, vigilance is needed to avoid another Pierce's disease epidemic, as occurred in the late 1990s. Below are recommendations on how to monitor for GWSS in vineyards, which is critically important for deciding when and where additional chemical control is needed.

Monitoring methods

Monitoring for GWSS can include 1) visual surveys, 2) sweep or tap sampling, or 3) the use of sticky traps. Of these, the most time efficient method is the use of yellow sticky traps. Visual inspection of vines is most useful prior to the vine canopy developing fully or if confirmation of GWSS egg laying is needed. Sweep or tap sampling (http://ipm.ucanr.edu/PMG/r1900311.html) of the vine canopy may provide more precise estimates of insect activity in vineyards, but is generally not needed as long as there is sufficient effort devoted to trapping

Traps and trap placement

Sticky traps for insect monitoring come in a range of sizes and colors. There is nothing inherently attractive about these traps for GWSS, in that they are not embedded with a pheromone lure or other chemical attractant. As a result, the more traps used, the better.

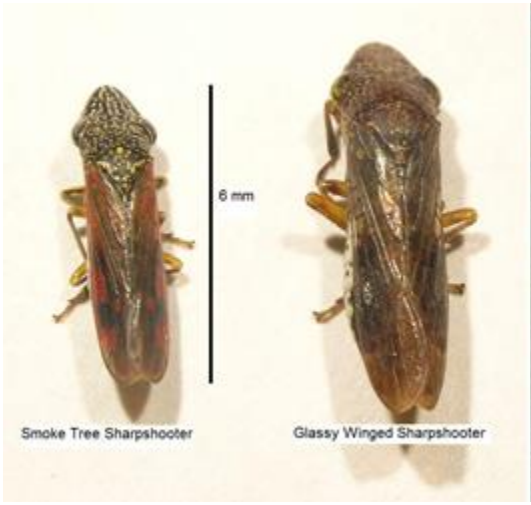
The GWSS area-wide monitoring programs use 5.5" x 9" yellow panel traps, which can be purchased in bulk from multiple retailers (e.g., http://www.seabrightlabs.com/paneltrap.htm). To deploy the traps, open them and reverse them, then attach them at the desired location. Once deployed, as long as they do not get dirty, they will be sufficiently sticky for upwards of a month.

Traps should be placed in a way that they sit slightly above the vine canopy, so that leaves don't stick to the trap face. Early in the season you can hang them directly from the trellis wires.

However, later in the season as the canopy develops, it is recommended that the traps be moved higher, ideally attaching them with a binder clip to a short post above the vine.

Trap number should be varied based on the size of the block. Use a minimum of a few traps, even for small blocks, then add an additional trap for each additional few acres (e.g., 3 traps for ~1 ac, 4-5 traps for ~5 ac, 6-7 traps for ~10 ac). Locate traps so that they are easy to get to, typically spread out along the edges of the block or near row ends, with more traps placed near likely sources of GWSS. Potential sources of GWSS include adjacent citrus groves or ornamental plantings near wineries or residential neighborhoods.

Each trap should receive a unique identifying code and its placement should not move over time. Check traps every 2 weeks from budbreak through leaf fall, then monthly the remainder of the year. For each census, record the number of GWSS for each trap then remove them from the trap. Traps should be replaced monthly, or more frequently if they are dirty or wet.



Identifying GWSS

GWSS are the largest sharpshooters in Southern California, and are distinct looking relative to the others except for the native smoke tree sharpshooter (*Homalodisca liturata*) – also a vector of the PD pathogen. GWSS adults are approximately 0.5" in length, cigar shaped, with bodies that are mostly brown with white on the abdomen. A portion of GWSS wings are transparent, with some black and patches ranging between red and brown. At certain times of the year GWSS females have distinct white spots on the side of their abdomens.

Identification of insects is more challenging when they are stuck to traps. However, very few insects found in vineyards are the size and shape of GWSS. A hand lens or magnifying glass is helpful for identification.

For additional information

Temecula GWSS newsletter: http://cisr.ucr.edu/temeculagwss/
UC IPM guidelines for sharpshooters: http://ipm.ucanr.edu/PMG/r302301711.html
UC IPM identifying sharpshooters: http://ipm.ucanr.edu/PMG/C302/mt302dpsharpshoot.html

Questions

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