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).

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September 1, 2001

Pierce's Disease monitoring in Kern County:

Growers advised to be vigilant and pull out diseased vines

A complete survey for Pierce's Disease (PD) in approximately 400 acres of vineyards in the General Beale Road Pilot Project has given growers important information on the location and extent of the disease in their fields.

Measures are already underway to take out affected vines and keep insects from migrating into the diseased vineyards, where they could acquire the *Xylella fastidiosa* bacteria.

"The same advice we're giving to these growers is valid for grape growers throughout the valley and anywhere else sharpshooters are present," said Jennifer Hashim, viticulture farm advisor with the University of California Cooperative Extension.

"We have to keep a close eye on our vineyards and quickly remove any vines that are diseased," she said. "That's the best way to minimize the sharpshooters' opportunities to acquire the bacteria and pass it on to more vines."

Survey's start. Hashim led a staff of CDFA and California Conservation Corps workers who completed the 400-acre survey. Their work began in early April with a Flame Seedless vineyard adjacent to citrus.

They focused on 20 rows bordering a small cluster of diseased vines identified and removed during summer 2000. Every vine in every row was rated for delayed shoot growth and interveinal chlorosis

Don't let up on PD

GWSS and PD monitoring and control are essential both inside and outside of the General Beale Road Pilot Project by vineyard managers, PCAs and irrigators. Growers should not become complacent on this issue.

The general perception has been that Kern County is not a historical hotspot for PD and is somehow guarded from spread. However, if growers do not remain adept in symptom identification and disease management, PD has the ability to spread more effectively in the presence of GWSS than native sharpshooter species.

— Jennifer Hashim,
UCCE Viticulture Farm Advisor

(symptoms characteristic of chronic infection during the spring season). Although some vines showed severely delayed growth, incidence of PD could not be determined because early-season diagnostic tests have yet to be developed.

Field crews were dispatched for a summer symptom survey in June. Two vineyards were selected for intensive survey based on their proximity to citrus and their risk for PD spread.

The original Flame Seedless vineyard was the first to be surveyed, followed by a young Red Globe vineyard to the north. Every vine was rated for stunted growth, leaf scorch and persistent petioles, a condition that occurs when the leaf blades scald and abscise, leaving only the petioles attached to the shoot. The ratings ranged from 0 for symptomless to 3 for severe symptoms. Only vines receiving a rating of 3 were tagged and recorded for further sampling and analysis.

Approximately one month following the field survey, crews returned to collect tissue samples from tagged vines. From the surveyed vineyards, more than 400 samples were taken from questionable vines expressing PD-like symptoms. All samples were sent to the CDFA Plant Pathology lab and a private lab for analysis using both the ELISA and PCR testing methods. Of the 400 samples taken, 203 strong positives and 104 weak positives were discovered.

An aerial survey of both vineyards was conducted to assess the incidence of disease. The aerial maps provided both a representation of a disease epicenter and an assessment of the percentage of acreage that was affected. From the maps and ground assessment, the percentage of the Red Globe vineyard affected ranges from 20-35 percent. The Flame Seedless vineyard appears to be less affected. However, the disease incidence has yet to be determined.

A step further. These findings prompted the survey of 400 additional acres within a 2-3 mile radius of the pilot project. The focus was on Red Globe, since it is the most susceptible variety in the area. The objective was to determine the incidence of disease in a defined area. To date, 14 blocks ranging in size from three to 40 acres have been surveyed and approximately 900 samples have been collected for diagnostic analysis. Of those 14, there are confirmed positives in six blocks. Results are still pending for the remaining blocks.

All growers are immediately made aware of the location of affected vines. Measures are being taken to rogue out affected vines and control insects from migrating into the vineyards to prevent further PD spread.

“The pilot project has been successful in lowering the levels of glassy-winged sharpshooter (GWSS),” Hashim said. “However, we are in a critical time frame because second generation adults present in the field are the overwintering generation.”

Hashim pointed out that overwintering adults in Kern County may survive up to nine months and once an adult acquires the bacteria, it is infective for the remainder of its lifespan. “That leaves a large window of time for additional spread,” Hashim said.

A wide variety of training materials for PD and GWSS identification and management are available through the UCCE office. To obtain some of these materials or ask questions regarding identification, surveying and/or sampling protocol, please call (661) 868-6200.

GWSS Task Force to meet

The Kern-Tulare GWSS Task Force will meet Thursday, Sept. 6 at 1:30 p.m. at the Kern Agricultural Commissioner's Office in Bakersfield.

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