

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).

A review of the 2002 Pierce's Disease Monitoring and Control Project

The epidemiology of Pierce's disease changed dramatically in California with the arrival of the glassy-winged sharpshooter (GWSS) about 15 years ago.

Before that, the disease caused losses in California viticulture for more than 110 years, but the damage occurred primarily in traditional "hot spot" areas. With few exceptions, the damage was not severe enough to prevent grape production.

With the arrival of the GWSS, however, the transmission of the bacterium and subsequent disease threatens significant grape-growing regions of the state.

To cope with this development, there have been extensive field studies to determine methods to control the GWSS.

Two GWSS/PD projects. In August 2002, two coordinated projects led by the University of California-Cooperative Extension (UCCE) and the California Department of Food and Agriculture Pierce's Disease Control Program began to assess the impact of the GWSS on the epidemiology of Pierce's disease. They also evaluated disease-based control strategies that growers can implement.

The focus of these projects is to determine the impact of epidemiological factors on the rate of spread of the disease. Some of the variables are:

- the population size of GWSS
- differences in susceptibility of various grape cultivars to Pierce's disease
- vine age
- proximity to overwintering hosts of GWSS (such as citrus, eucalyptus, etc.)
- removal of Pierce's diseased vines
- weed control

These projects involve surveying affected vineyards, identifying diseased vines, and mapping the locations of these vines in a GIS-based data system.

The study in Kern County has resulted in a survey of more than 200 vine-

yards totaling more than 4,000 acres.

In Tulare County, 20 sites were selected for survey that will allow valuable comparisons over time.

The sites were divided equally between susceptible and tolerant varieties and vine age. Some sites were along the grape-citrus interface and currently have little or no Pierce's disease. The locations of interest are those in which the GWSS has just begun infesting the area but has not occurred in high populations yet.

In addition, a major grower in the Kern-Tulare county area has been doing similar surveys, and is cooperating with the study by sharing his experience and techniques and by making his data available to the study. This grower will add another 4,000 to 6,000 acres for a total of about 8,000 to 10,000 acres that are being surveyed and mapped in 2002.

GWSS data monitoring center. A central data management center is being established to compile the results of these projects.

The Center for the Assessment and Monitoring of Forest and Environmental Resources (CAMFER) at University of California at Berkeley will compile the data and create a GIS-based data set. The resulting data, maps and information will be shared with collaborating plant pathologists, statistical analysts, agricultural economists and other legitimate researchers. This effort is intended to maximize the opportunity to understand the changed epidemiology of Pierce's disease, to manage the disease, and to generate projections for potential economic consequences and risk assessment.

These studies have focused on the Kern-Tulare county areas because these are major viticulture areas with a short history of GWSS infestation. This situation enables the projects to follow the epidemiology and progression of the disease begin-

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Contact:

Don Luvisi
Project coordinator
(661) 868-6226
daluvisi@ucdavis.edu

Web sites:

- www.kernag.com/kpp.htm
- www.co.kern.ca.us/farm/luvisi.htm

"Information from projects in this area will also be useful in the future in those viticulture areas of the state where the GWSS may become established."

Jennifer Hashim,
UCCE, and
Barry Hill, CDFA

Online maps for GWSS

Maps for the Kern Pilot Project and Areawide Management Program are available at:

<ftp://bigfoot.cdfa.ca.gov/>



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ning with the arrival of the insect vector. Information from projects in this area will also be useful in the future in those viticulture areas of the state where the GWSS may become established.

Kern-Tulare's \$1 billion grape production. Kern and Tulare counties have 87,200 acres and 81,334 acres, respectively, in grape production, and 43,531 acres and 138,237 acres, respectively, in citrus production.

The combined farm gate value for grape production alone in these two counties is approaching \$1 billion. Disease damage and control efforts will have an economic impact on both of these industries.

Because the GWSS overwinters in citrus, those vineyards closest to infested citrus orchards are at greatest risk if the

vector and the disease are not controlled.

Area-wide control strategies have been initiated, based largely on what has been learned from the pilot project about controlling the populations of the insect. Many of the assumptions used to formulate current management strategy are based on anecdotal and common sense information.

The epidemiological projects described above will provide much needed quantitative information to enhance the effectiveness and efficiency of area management plans and economic risk assessments in the southern San Joaquin Valley as well as other areas of California in the future.

— Jennifer Hashim, UCCE Viticulture Farm Advisor and Barry Hill, Plant Pathologist, CDFA

PD/GWSS Symposium set for Dec. 15-18

The annual Pierce's Disease Research Symposium will be held Dec. 15-18, 2002, at the Coronado Island Marriott Resort in San Diego.

The symposium will feature presentations on the approximately 60 projects currently being conducted against PD and GWSS.

For more information, visit <http://www.cdffa.ca.gov/phpps/pdcp>.