May 15, 2006

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).

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

Catherine Merlo, Editor
(661) 588-0561
cmm55@aol.com

Web site:
http://cekern.ucdavis.edu/Custom_Program444/

Leading Pierce's Disease researcher to retire

Dr. Alexander (Sandy) Purcell, one of the world's leaders in Pierce's Disease (PD) research, will retire in June from the University of California at Berkeley after 35 years of research on the disease.

When not in the lab or classroom, Purcell could often be found in a vineyard somewhere in the world. His smile and youthful, almost contagious, enthusiasm for his research projects highlight that he is still just as interested and curious about his research as when he started.

PD Control Program Statewide Coordinator Bob Wynn said Purcell's value to the statewide GWSS program "extends well beyond the walls of his lab; he has also been a tremendous resource for his fellow scientists as they pursue parallel paths toward a solution."

Purcell's introduction to PD began while studying at UC Davis. He received a fellowship provided by Napa growers to conduct research on a grape virus called Pierce's Disease.

"In those days, PD was believed to be a virus," Purcell recalls.

Purcelll studied plant pathology under Dr. George Nyland at UC Davis. Nyland had been conducting heat therapy studies on virus diseases. Heat treatments that should not have worked on viruses cured the cuttings, which could then be planted. Nyland and a colleague thought that if PD was a virus, that shouldn't have worked. So, they began looking for a mycoplasma as the possible cause. Instead, they only found bacteria with an electron microscope.

"At first they thought it was a bacterium that fed on decaying tissue of the diseased vines," remembers Purcell. "But we saw it so consistently that it was proposed as the possible cause of PD. By then, I switched my

(continued on page 2)

Soon to retire from UC Berkeley, Alexander Purcell will continue to pursue PD studies. (Photo courtesy of Alexander Purcell)

Tracking and treating GWSS through area-wide program

Efforts are underway to establish a comprehensive area-wide management program for the glassy-winged sharpshooter in Ventura County, GWSS Program Director Beth Stone-Smith told attendees at the 2006 Kern County Grape Pest Management meeting May 4 in Bakersfield.

At issue for Ventura County, which has few vineyards, are nursery infestations from surrounding citrus acreage infested with GWSS. Officials are concerned the situation could possibly spread the sharpshooter to uninfested areas of the state.

Smith also reported:

- **GWSS is established** in eight California counties. Area-wide treatment programs are underway in Kern, Tulare, Riverside and, to some extent, Ventura counties. Like Riverside and Kern counties, Tulare is protecting its grape industry from GWSS and PD but also is holding the northern border of GWSS in the San Joaquin Valley.
- **GWSS program officials** focus treatments on citrus acreage since the sharpshooter prefers to overwinter in citrus. "We can successfully target that single commodity to take out the majority of existing GWSS populations prior to their movements in other commodities," Stone-Smith said.
- **Citrus and adjacent windbreak trees** in Kern County's General

(continued on page 2)

PD-GWSS Boards to meet May 16

There will be a joint meeting of CDFA's Pierce's Disease/Glassy-winged Sharpshooter Board and the Pierce's Disease Advisory Task Force May 16 at 10 a.m. in the auditorium of CDFA's offices at 1220 N Street, Sacramento.

For more information, contact Janet LeMasters at (916) 651-0272.

Leading Pierce's Disease researcher set to retire

(continued from page 1)

studies from virology to bacteriology in my graduate work."

Thus began Purcell's first studies into PD. "In my research, I found that vines could recover from PD," he says. "When my advisor told me that vines couldn't recover, I thought I had done something wrong. It turns out I was right, and I was able to prove it."

After graduating from UC Davis, Purcell became an assistant professor in UC Berkeley's Department of Entomological Sciences. His research efforts have centered on insects as vectors of bacteria and phytoplasmas that cause plant diseases and symbiosis of bacteria with plant sap-feeding insects.

Purcell rose through the ranks at UC Berkeley, starting in 1972 as an assistant professor. He served as the department chair from 1993 to 1994.

"Sandy recognized very early just how critical an issue PD was for our industry," said Dana Merrill, a San Luis Obispo winegrape grower and a member of the PD/GWSS Board. "He has been a real advocate to plead the growers' case to other researchers and to help define what the threat was. And while no silver bullet has yet been discovered, Sandy has developed many practices that we growers can use to lower our risk of getting PD. The industry owes him a big debt of gratitude."

"For 35 years, Sandy has been the standard-bearer for PD," says Kim Waddell, executive director of the American Vineyard Foundation, who worked with Purcell during the National Science Foundation's Pierce's Disease Research Priorities study.

Although Purcell will be leaving UC Berkeley, he hasn't finished with PD research yet. "I plan to do some independent research," says Purcell. "I'd like to look into some symbiotic bacteria relationships, and I have some long-shot ideas I'd like to explore."

"He'll be missed in the PD research community," Waddell says. "His legacy to the grape industry and the PD research community is that today we are asking smarter questions and traveling down fewer dead-ends thanks, in large part, to his body of work."

—PD/GWSS Board

"While no silver bullet has yet been discovered, Sandy has developed many practices that we growers can use to lower our risk of getting PD. The industry owes him a big debt of gratitude."

Dana Merrill, San Luis Obispo winegrape grower and member of the PD/GWSS Board

Tracking and treating GWSS through area-wide program

(continued from page 1)

Beale Pilot Project have been a significant problem in 2006. Trap finds began in the area in August 2005. Program officials decided to withhold treatments, other than a foliar application in the windbreaks, so they could time imidicloprid applications jointly in the citrus and surrounding windbreak trouble spots.

So far this spring, 640 acres of commercial citrus and adjacent windbreaks have been treated. Of the citrus, 320 acres had not been treated under the GWSS program since 2003, while the other 320 acres had not been treated since 2004.

"Growers in this problem area tend to have less severe chemical treatment programs for other pests, so over time we don't benefit from those other pest applications as we would in other areas," Stone-Smith said.

- **In Tulare County, a couple of trouble spots** popped up early this year with the warmer-than-usual December and January temperatures. An area north of Lindsay is considered to be very difficult to manage since it's commercial citrus acreage mixed in with urban back yard host material, non-commercial citrus acreage, and hills. "In conjunction with Tulare County, we coincided our area-wide treatments with urban treatments in this area, in hopes of preventing any back and forth movement of GWSS from this host material," said Stone-Smith.

Program officials are currently working to identify additional acreage for treatment.