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RESEARCH PD/GWSS BOARD

bulletin

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Nursery Inspection System – Pilot Program Update

In 2000, when the Glassy-Winged Sharpshooter (GWSS) threat was being fully realized, the current nursery plant inspection program was established to stop what was determined to be a significant carrier of GWSS within California — the transportation of nursery stock.

The inspection program has been in operation since the summer of 2000, with the data showing an effectiveness rate of 99.93 percent. While many seem satisfied with a 99 percent effective rate, an alternative system that relies on plant treatments has proven in recent testing to be 100 percent effective.

“When the visual inspection program was first established, we saw it as a stopgap measure until we could come up with something better,” said Bob Wynn, CDFA’s statewide coordinator for the Pierce’s Disease Control Program. “We now have nearly two years of testing in real-world conditions under our pilot project, and the results have been excellent.”

The new system relies on treating all plants with either Fenprothrin (Tame) or Carbaryl (Sevin) before shipping, instead of the current manpower-intensive visual inspections at both origin and destination.

The new system was first tested in the lab, and then in 2005, the PD/GWSS Board provided funding to test it in a pilot program. “We had three nurseries involved in the trial,” said Greg Morris, program supervisor with the CDFA. “All the plants were treated before shipment, and any GWSS egg masses were bagged on the plant. Once the plants arrived at destinations in Northern California, they were safeguarded for at least 14 days, and then the egg masses were inspected again.”

In nearly two years of trials, a wide variety of plants were transported in 54 shipments during 2005 and 33 shipments (so far) in 2006. The plants came from three

different nurseries in Southern California with destinations in Sacramento and San Joaquin counties. “Not a single GWSS egg has survived,” said Morris.

“State regulations require that all plants being shipped are pest and disease free,” said George Gutman, general manager of Bordier’s Nursery, Inc., one of the largest nurseries in Southern California. “So no matter what control system is used, we still must stay within the code. But we’ve seen the results of the new method and feel that it would be better for everyone in reducing the risk of spreading GWSS.”

“County Agricultural Commissioners will always have the option to decide how plants arriving from outside their county are handled once they reach their jurisdictions, no matter what GWSS-control method is being used,” said Wynn.

Currently two nurseries are participating in the pilot program. “We want to get more counties to agree to accept plants under the pilot program before we expand it,” said Morris. “Only then will people see for themselves how well it works.”

(Top Left) County inspectors go over the paperwork just as carefully as the plants to ensure everything is in order. (Right) Some leaves on a plant hosting GWSS eggs are bagged as part of the pilot program. (Bottom Left) After nursery employees go over each plant looking for eggs, county ag inspectors go over them again before they are shipped.



Applying a Little Science to Keep PD Out of the Vineyard

“It should look like a moonscape.” That’s what Michael Honig, manager of Honig Vineyard and Winery in Rutherford, Calif., was told by his neighbors a few years back when he started a planting program on the banks of the creek that runs along the west side of his vineyards.

But Honig had a different idea in mind, one based on science and not just a gut feeling.

“The source of PD in our vineyards is the Blue-Green Sharpshooter,” said Honig. “The stream running along our vineyards with its riparian vegetation is the perfect habitat for them. But while I wanted the Blue-Greens out now, in the back of my mind was the threat of a possible Glassy-Winged Sharpshooter invasion. I wanted to be prepared for that, too.”

Rather than turning the area into a “moonscape” as some of his neighbors suggested, Honig decided that instead of fighting nature, he’d help it.

Honig is no stranger to working with nature. Anyone walking around his winery and vineyards will see that he works with nature at every opportunity. With owl boxes dotting the vineyards, small birdhouses at the end of nearly every vine row and even a few bat-friendly niches around his buildings, Honig never seems to miss an opportunity

to let Mother Nature work her own magic.

“It was clear that PD was in our vineyards and where it was coming from,” said Honig. “And I knew that there was no way I could stop the Sharpshooters, but I thought that perhaps I could make the area along the creek so attractive to Sharpshooters that they would prefer it to our vineyard.”

So Honig began reading up to find out not only what vegetation was preferred by Sharpshooters, but also did not host PD. “My thinking was that I could create a habitat preferred by Sharpshooters that was also PD free,” he said. “It would help keep Sharpshooters out of the vineyards as well as reduce the likelihood that any Sharpshooters reaching the vineyards would pass PD to the vines.”

The results have been remarkable. Honig keeps yellow sticky traps all along the edges of his vineyards, probably many more than any other vineyard owner in the Napa Valley. He also places traps at the edge of the riparian zone, along the edge of the vineyards and again about 30 feet into the vineyard. “I rarely see any Sharpshooters in the traps along the edge of the vineyard,” says Honig. “And our incidence of PD-infected vines has dropped to nearly zero.”



Michael Honig walks along the ‘barrier’ that has been successful in helping to keep PD under control in his vineyards.

Here are some of the research projects that are being funded either entirely or in part by winegrape assessment funds.

EVALUATION OF FUNGAL PATHOGENS FOR THE CONTROL OF GWSS



Project Leader: Prof. Harry K. Kaya, Dept. of Nematology, University of California, Davis, with Dr. Surendra Dara, Shafter Research and Extension Center, University of California, Davis.

This study recovered several isolates of two native fungi, as well as fungi from Texas, Mississippi and Florida, and tested their effectiveness against GWSS. The study showed that three strains (two from California and one from Texas) of the fungus *Beauveria bassiana* were significantly more virulent to GWSS than other strains. The three isolates are currently being evaluated for their potential in GWSS control.

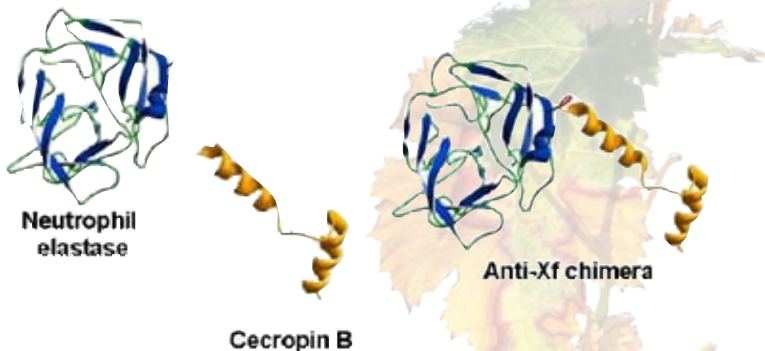
IMPORTANCE OF GROUND VEGETATION IN THE DISPERSAL AND OVERWINTERING OF XYLELLA FASTIDIOSA (PD)



Project Leaders: Kent Daane and Alexander Purcell, Dept. of Environmental Science, Policy & Management, University of California, Berkeley.

This research examined 37 species of common ground vegetation looking for plants that hosted PD. Numerous studies have documented the survival of PD in different plants, however few have included field studies of ground plants. Research found PD detectable in surveyed weeds only between October and April. The results suggest further investigation of the seasonal presence and concentration on PD in ground covers.

DESIGN OF CHIMERIC ANTI-MICROBIAL PROTEINS FOR RAPID CLEARANCE OF XYLELLA FASTIDIOSA (PD)



Project Leaders: Abhaya M. Dandekar, Dept. of Pomology, University of California, Davis; Goutam Gupta, Los Alamos National Laboratory, N.M; Karen McDonald, Chem. Engr. and Material Science, University of California, Davis.

It's estimated that each year one-fifth of crop yields are lost due to plant diseases. This project hopes to develop anti-microbial proteins for the rapid destruction of PD. The team hopes to trigger the innate immunity that enables plants to recognize and clear pathogens on their own. The team has already developed a promising anti-microbial protein that is undergoing tests.

For more information on these and other studies, you can download the proceedings from the 2005 Pierce's Disease Research Symposium at <http://www.cdffa.ca.gov/phpps/pdcp/ResearchSymposium/gw2005symp.htm>.

Online Forum Brings Stakeholders Together

Are you a grower who would like to talk to a researcher? Or perhaps you're a researcher who needs some feedback from growers? Now, getting in touch with someone in the PD/GWSS world is as close as your nearest computer, thanks to the new PD/GWSS Internet Forum.

An Internet Forum, also referred to as a message board discussion group, is a site for holding discussions with a virtual community of people who have common interests or goals.

The PD/GWSS Board created the PD/GWSS Internet Forum to make it easier to communicate with anyone, anywhere, who has an interest in eliminating the PD/GWSS threat.

"Communication among all the stakeholders is critical in ultimately winning our battle against PD and GWSS," said PD/GWSS Board Chairman Pete Downs. "The new forum is a great vehicle for opening up the lines of communication to reach virtually anyone in the world."

The PD/GWSS Forum will be constantly growing and evolving to meet the needs of the communities it serves. To register, just go to www.pdforum.net and follow the link to the forum. You do not have to register to view messages, but those wishing to ask questions or express views must register.



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