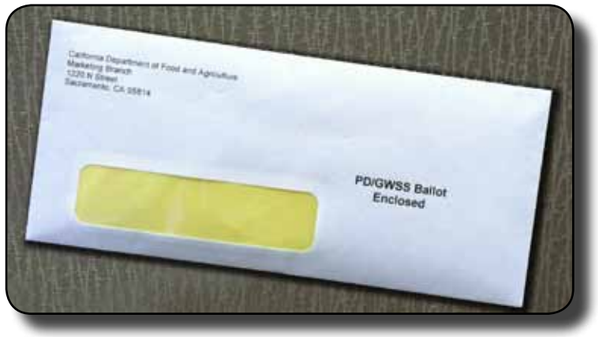
Is the PD/GWSS Referendum Over Yet?

As we go to print, the ballots are in the mail, and the votes are coming in. However, if 40 percent of eligible winegrape growers have not voted, then the voting period may have been extended 30 more days.



If the voting period has been extended CDFA will be sending ballots to all growers who have not voted yet, requesting they vote and return their ballots immediately.

Here is the plan:

- Original Deadline to Vote: In order to be tallied the ballots must be postmarked or otherwise received by Monday, May 11, 2015.
- Extension: The voting period will be extended if the minimum 40 percent participation is not reached. CDFA started monitoring levels of participation on or about April 27; a determination on whether to extend the voting period will be made no later than May 6.

The results of the referendum are expected to be announced by mid-June.

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PD/GWSS BOARD RESEARCH

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bulletin

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Breaking the GWSS Sound Barrier

It's a sound so low that conventional sound recording equipment can't pick it up. Yet it could be the key to a novel control method that is compatible with chemical and biological control of the glassy-winged sharpshooter (GWSS) and perhaps used against other sharpshooters as well.

Rodrigo Krugner looks over data from a session of recording sound from GWSS.

In a lab at the USDA Agricultural Research Service (ARS) in Parlier, California, Rodrigo Krugner aims a laser at a plant where a single GWSS sits. The laser picks up vibrational signals used by GWSS to communicate with each other. Yes, in a manner of speaking, GWSS talk to each other. And what they are saying can have a big effect on their actions.

"By knowing what they are saying we may be able to use this as an attractant, repellent and/or disruptive signal which could be a useful, non-chemical control method for suppressing GWSS populations," said Krugner.

Krugner identified sounds made for mating purposes (male to female) and defending territory (male to male). The big question is, can these sounds be reproduced to help control the GWSS?

"To make the sounds we use an electrodynamic shaker, which is a speaker membrane in a solid round housing with a mounting for a wire on the front," said Krugner. "A wire, like a trellis wire, is attached to the shaker. This then reproduces the vibrational signals made by GWSS and stimulates individuals to perform their natural behaviors." So far Krugner has been successful in using this method to establish communications with GWSS, both males and females, in the lab.

Krugner hopes to begin field trials in a vineyard next year and is currently looking for a suitable site.

A Laser Doppler Vibrometer uses a laser beam aimed at a GWSS to record the super-low frequency sounds it makes, which are then recorded by a computer.

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PD/GWSS BOARD RESEARCH

Students, faculty and industry professionals taste wines made from PD-resistant winegrapes at UC Davis.

Tasting the Future

In March a group of UC Davis students, faculty, and wine industry professionals gathered at UC Davis to taste wines made from PD-resistant winegrapes.

"There was lots of discussion about the wine, and overall people were very impressed," said Dr. Andy Walker, who has been breeding PD-resistant winegrapes for several years with funding from the PD/GWSS Board.

This tasting was just the latest in many that have taken place around the state over the last few years. From Temecula to Healdsburg, winegrape growers, winemakers, and many others have had the opportunity to taste these wines, and overall they have been received very favorably.

GWSS Discovered in Plant Shipment to Marin County

In February a single glassy-winged sharpshooter (GWSS) was found in Marin County during a routine inspection of a nursery shipment.

Marin County Agricultural Commissioner Stacy Carlsen said a county inspector found the adult GWSS while checking an incoming plant shipment. The adult specimen was hand-delivered to the California Department of Food and Agriculture's Entomology Laboratory, where it was officially identified. All plants in the shipment were immediately returned to the origin shipper.

"This is an extremely serious insect pest that we need to continue to keep out of Marin County and the Bay Area," Carlsen said. "The potential damage to our landscape plants, gardens, and environment is significant."

A county inspector looks closely at some GWSS eggs found on a leaf during an inspection.

Video of PD-Resistant Winegrape Vines Planted in Napa

In the video, Dr. Andy Walker walks along the newly planted vines in a vineyard near the Napa River.

Years of work have led to PD-resistant winegrape vines being planted in test plots around California, the most recent being in Napa.

In a new video Dr. Andy Walker talks about a recent planting of PD-resistant vines along the Napa River, how they might be used and when they may be available to growers.

This video and others from the PD/GWSS Board can be seen on the PD/GWSS Board Channel on YouTube. Just use this link for the video page: http://ow.ly/LpqQK.

The YouTube PD/GWSS Board Channel gives winegrape growers a closer look at how winegrape assessment funds are being spent by taking them into labs and vineyards where researchers are working to find solutions to PD.

Identification of a New Virulence Factor Required for Pierce's Disease and Its Utility in Development of a Biological Control

Co-Principal Investigators: Thomas J. Burr, Plant Pathology & Plant-Microbe Biology, Cornell University, NYSAES, Geneva, NY, & Patricia Mowery and Luciana Cursino, Dept. of Biology, Hobart & Wm. Smith Colleges, Geneva, NY

Researchers discovered that deleting the *Xylella fastidiosa (Xf)* Temecula gene PD1311 resulted in a strain that induces significantly less Pierce's disease (PD). They are performing research to determine how PD1311 plays such a central role in disease development, and there is evidence that the strain of *Xf* lacking PD1311 may function as a biocontrol. The results from this research aim to expand our understanding of PD and provide information in relation to preventing the disease.

Vine on the left inoculated with wild-type *Xf*. Vine on the right inoculated with PD1311, then with wild-type *Xf*.

Role of Cold Shock Proteins in *Xylella fastidiosa* Virulence

Co-Principal Investigators: Lindsey P. Burbank and Drake C. Stenger, San Joaquin Valley Agricultural Sciences Center, USDA ARS, Parlier, Calif.

Left - Chardonnay infected with *Xf* Stag's Leap. Center - cold shock protein deficient mutant showing reduced symptom severity. Right - uninfected control plant.

Pierce's disease, caused by *Xylella fastidiosa (Xf)* is mainly prevalent in warmer climates. Subjecting *Xf*-infected grapevines to cold temperatures can, in many cases, effectively eliminate the bacterial population, a phenomenon known as cold curing. However, very little is known regarding the physiological response of *Xf* to cold temperatures. Cold shock proteins (CSPs) are known to be important for survival of bacteria following a drop in temperature. Two putative CSPs have been identified in *Xf*. Further study of the role of CSPs in *Xf* during infection of grapevines will lead to a better understanding of cold curing and the interactions of *Xf* with the plant host.

Transgenic Rootstock-Mediated Protection of Grapevine Scions by Dual Stacked DNA Constructs

Principal Investigator: David G. Gilchrist, Dept. of Plant Pathology UC Davis, Calif.

Collectively, a team of researchers (Lindow, Dandekar, Labavitch/Powell and Gilchrist) has identified or constructed and advanced the evaluation of five DNA constructs that, when engineered into grapevine root stocks, have been shown to successfully suppress symptoms of Pierce's disease. The team is now looking at an approach which involves "stacking" a combination of distinct protective transgenes in a single rootstock line, which is intended to foster not only durability but also more robust protection of the non-transformed scion against PD. Stacked transgene rootstock lines will be ready for evaluation this year under controlled greenhouse conditions, with field testing planned for 2016.

Gene stacking could give grapevines resistance to PD even if it mutates.