CALIFORNIA
PD/GWSS BOARD
Partnership for Winegrape Pest Solutions

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bulletin

cdfa CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

INSIDE THIS ISSUE

California Winegrape Growers Vote to Continue PD/GWSS Assessment and Programs Through 2031

With 76.56% of voters casting ballots in favor, the Pierce's Disease and Glassy-Winged Sharpshooter (PD/GWSS) Assessment, the Pierce's Disease Control Program and the PD/GWSS Board will continue to safeguard California's wine industry for another five years.

"For more than two decades now, California's winegrape growers have steadfastly committed to this multi-pronged partnership," said CDFA Secretary Karen Ross. "We work together to keep Pierce's disease and the glassy-winged sharpshooter contained, and to fund essential research that allows growers to stay ahead of emerging winegrape pests and diseases as well."

The assessment funds research, prevention and control work to mitigate the impact of winegrape pests and diseases, including PD, GWSS, viruses, mealybugs and the spotted lanternfly.

"Thank you to my fellow growers for demonstrating our industry's continued commitment to protecting our vineyards from these pests and diseases," said Randy Heinzen, PD/GWSS Board Chair. "With the PD/GWSS assessment, California winegrape growers have top researchers working on solving issues that matter most to us."

A recent economic impact study found that without these efforts led by the PDCP, California winegrape growers could see their annual PD losses more than double, from $48 million to $104 million. Including existing mitigation practices, PD still costs an estimated $110 million annually in California. Read the study at bit.ly/pdcost.

Grower-funded research drives progress and innovation, delivering practical and sustainable solutions. The PD/GWSS Board has invested $60.1 million in 311 research grants since 2001. Current projects address disease management strategies, genetic and biotechnological solutions, vector and disease transmission, virus detection and management and industry preparedness.

Learn more about Board-funded research at bit.ly/3w27mtc.

PAGE 2

PD/GWSS Winegrape Assessment Holds at $1.25 for 2025 Harvest

Staying Ahead of GWSS: Eradications Continue in 3 Counties

PAGE 3

On the Research Front

- Using the Native Grapevine Immune System to Generate Pierce's Disease-Resistant Grapevines
- Interactions Between the Spotted Lanternfly and Pierce's Disease of Grapevines
- Biology and Role of Treehoppers in Grapevine Red Blotch Disease with Emphasis on *Tortistilus albidosparsus*

PAGE 4

New Research Projects Starting this Summer

PD/GWSS Winegrape Assessment Holds at $1.25 for 2025 Harvest

The Pierce's Disease and Glassy-Winged Sharpshooter (PD/GWSS) Board has set the PD/GWSS Winegrape Assessment rate at $1.25 per $1,000 of crop value for the 2025 harvest—the fourth consecutive year at this level.

At its summer meeting, the grower-led Board weighed economic pressures facing the industry, projected crop values and the need for continued strategic investment in pest and disease research. To avoid raising the assessment, the Board chose to reduce expenses and limit new research funding.

"We're growers ourselves, so we feel the economic pressures firsthand," said Randy Heinzen, PD/GWSS Board Chair. "Our priority is funding research that helps keep vineyards healthy and sustainable without adding financial strain for growers."

The 2025 assessment is expected to bring in about $4 million to help fund research and efforts to control pests and diseases that threaten vineyard health, yields and quality. The grower-led Board works closely with the California Department of Food and Agriculture to decide how these funds are spent.

Since 2001, the Board has invested $60.1 million in 311 research projects addressing pests and diseases, including PD, GWSS, red blotch, leafroll, fanleaf and mealybugs.

Staying Ahead of GWSS: Eradications Continue in 3 Counties

Quick response to new glassy-winged sharpshooter (GWSS) detections remains a cornerstone of the Pierce's Disease Control Program. These coordinated eradication and prevention efforts aim to protect California's vineyards from the spread of GWSS and Pierce's disease.

Eradication efforts are underway in three counties:

- **El Dorado County:** Ninety-one GWSS adults, 119 nymphs, nine viable egg masses and six emerged egg masses have been detected in El Dorado Hills so far this year. In response, treatments have been applied to 550 residential properties and 40 acres of common areas, and 2,370 biocontrol wasps have been released.
- **Solano County:** No viable GWSS lifestages have been detected in Vacaville this year. Nevertheless, proactive treatments were conducted on 846 properties, and 3,540 biocontrol wasps have been released.
- **Stanislaus County:** So far this year, five GWSS adults have been found in Turlock, 11 properties have been treated and 2,460 biocontrol wasps have been released.

311
TOTAL GRANTS
funded by the PD/GWSS Board since 2001

$44.1
MILLION
invested in PD and GWSS research since 2001

$15.9
MILLION
invested in research on other pests and diseases since 2010

on the RESEARCH FRONT

CALIFORNIA PD/GWSS BOARD

Partnership for Winegrape Pest Solutions

A grapevine showing symptoms of Pierce's disease

Using the Native Grapevine Immune System to Generate Pierce's Disease-Resistant Grapevines

Caroline Roper, University of California, Riverside and David Tricoli, University of California, Davis

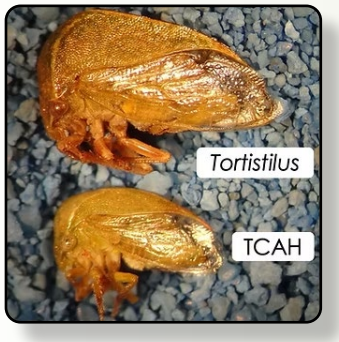
This project aims to develop grapevines resistant to Pierce's disease (PD) by manipulating the grapevine immune response. The team has identified genes linked to both immune responses against PD and PD susceptibility. They designed guide RNAs to knock out genes associated with an excessive defense response that worsens PD symptoms. They are refining CRISPR gene-editing methods for grapevines and will be testing several edited lines of Thompson Seedless to identify which edits lead to the best disease resistance characteristics. Learn more at bit.ly/43QCoUG.

Interactions Between the Spotted Lanternfly and Pierce's Disease of Grapevines

Cristina Rosa, Michela Centinari and Julie Urban, The Pennsylvania State University; Caroline Roper, University of California, Riverside and Carmen Gispert, UC Cooperative Extension, University of California, Riverside Palm Desert Campus

This project investigates whether the spotted lanternfly spreads *Xylella fastidiosa (Xf)* and if it can spread other pathogens, such as grapevine red blotch virus. The team found that SLF can pick up *Xf* after feeding on infected grapevines. Next, the team is seeing whether SLF can successfully spread *Xf* to healthy vines and investigating the transmission of grapevine red blotch virus. Learn more at bit.ly/43QCoUG.

Adult spotted lanternfly on a grapevine trunk. *Richard Gardner, Bugwood.org*



Comparing treehoppers, with the larger *T. albidosparsus* **on top and the smaller threecornered alfalfa hopper on the bottom.** *C. Kron.*

Biology and Role of Treehoppers in Grapevine Red Blotch Disease with Emphasis on *Tortistilus albidosparsus*

Frank Zalom and Mysore R. Sudarshana, University of California, Davis; Cindy Kron, UC Cooperative Extension, Sonoma County and MacKenzie Patton, Central Sierra Cooperative Extension

This study aims to confirm whether the treehopper *Tortistilus albidosparsus* plays a role in spreading grapevine red blotch virus in Northern California vineyards and to understand its behavior throughout the year. The researchers have studied how the insect might spread the virus in both lab and field settings, as well as its movement from winter and spring plants to grapevines. They confirmed that adult female treehoppers lay eggs in grapevines, and the nymphs can develop into adults directly on the vines. They also tracked the time it takes for these treehoppers to cause damage while feeding. Learn more at bit.ly/4dHGVNs.

The CDFA PD/GWSS Board partners with other organizations to leverage funding for research and outreach projects. Funding partners include the American Vineyard Foundation, the Consolidated Central Valley Table Grape Pest and Disease Control District, the USDA Agricultural Research Service, and other organizations.

New Research Projects Starting this Summer

Five brand new research projects are starting this year to address key concerns about the spread of the glassy-winged sharpshooter (GWSS) and spotted lanternfly (SLF).

These projects are part of the PD/GWSS Board's comprehensive portfolio of 33 research projects taking on grapevine pests, diseases and viruses. The projects focus on disease management strategies, genetic and biotechnological solutions, vector and disease transmission, virus detection and management and industry preparedness.

Assessing the Effectiveness of Flupyradifurone at Eliminating Glassy-Winged Sharpshooter Egg Masses on Nursery Stock

Matt Daugherty, University of California, Riverside

Nurseries in the Pierce Disease Control Program's Approved Treatment Program (ATP) can currently use two products for preventive treatment. To equip nurseries with additional tools to eliminate GWSS from plants heading to Northern California, this project is evaluating the effectiveness of the insecticide flupyradifurone (Altus™).

Flupyradifurone has been previously studied and proven effective at killing GWSS adults. The team is investigating how well the insecticide prevents GWSS egg masses from hatching on various common ornamental plants to determine whether adding the product to the ATP is warranted.

Identification of Grapevine Phenolic and Vineyard-Associated Biocontrol Agent Fungal Compounds for Management of *Xylella fastidiosa* by Reducing Sharpshooter Spread

Jacob Wenger, California State University, Fresno

This project is studying how natural compounds from plants and fungi affect the behavior and survival of sharpshooters. Early results show these compounds can influence how sharpshooters feed and whether they survive, which could lead to new ways to manage them. The team is exploring whether changing the levels of certain natural compounds in grapevines or using fungus-based sprays could help control sharpshooter populations and reduce the spread of Pierce's disease, offering more sustainable tools for growers.

Development of Multimodal Lures for Early Detection of Spotted Lanternflies

Saad Bhalma, Georgia Institute of Technology

This project aims to develop more effective early detection tools for SLF by creating lures that mimic the natural signals SLF uses to communicate, including vibrations, body odors and honeydew. The project will contribute to long-term pest management strategies, benefiting growers and reducing the ecological impact of SLF.

Risk Maps and Apps for the Spread of Spotted Lanternfly in California

Matthew Helmus, Temple University

The team will update existing predictive models and web applications to track and forecast the spread of SLF, utilizing California-specific data and models to enhance decision-making tools. Given the rapid spread of SLF and its potential to damage vineyards, this work will help target high-risk areas for survey and early detection. The project will also support the development of smaller-scale apps to provide actionable data for local stakeholders in California's viticultural regions.

Can Spotted Lanternfly Transmit Pierce's Disease? An In-Depth Investigation into Potential Acquisition of *Xylella fastidiosa* by Spotted Lanternfly

Julie Urban, The Pennsylvania State University

This project investigates whether SLF can acquire the bacterium *Xylella fastidiosa* from infected grapevines. The team will utilize advanced techniques to identify the location within the insect's body where the bacterium may reside, including electrical penetration graph (EPG) monitoring, insect dissection, histology and high-powered microscopy. The findings will help determine SLF's potential to spread Pierce's disease and will aid California in better preparing for the arrival of SLF.