

• First report of the invasive glassy-winged sharpshooter (GWSS) in California

1999

- GWSS identified as spreading Pierce's disease (PD), putting the state's grapes at risk
- Large portions of grapevine acreage in Temecula, California lost to PD
- Federal government assists in reducing losses in Temecula
- Riverside County declares a local state of emergency due to PD/GWSS outbreak
- California Department of Food and Agriculture (CDFA) implements action plan
- CDFA forms the PD/GWSS Task Force and PD Advisory Task Force
- PD/GWSS Task Force identifies 11 research priorities and sends out the first request for research proposals
- State of California approves \$2.25 million to study PD
- University of California (UC) forms PD Research and Emergency Response Task
 Force
- CDFA, nursery industry, and University of California Cooperative Extension (UCCE) develop plan to reduce the spread of GWSS on nursery stock

- PD destroys over 1,000 acres of grapevines in Northern California between 1994 and 2000, causing \$30 million in damage
- GWSS infestations found in Chico, Butte County; Brentwood, Contra Costa County; Rancho Cordova, Sacramento County; and multiple urban areas in Fresno and Tulare counties
- Federal government issues a declaration of emergency and provides \$22.3 million for PD/GWSS research and control
- U.S. Congress approves crop insurance measure, with \$7.14 million to fight GWSS
- California provides \$6.9 million for research and GWSS eradication
- United States Department of Agriculture (USDA) funds \$500,000 PD research project

- CDFA updates GWSS pest rating from "C" to "B," granting CDFA and county agricultural commissioners the authority to regulate the pest
- CDFA develops GWSS pest management plan
- CDFA establishes Pierce's Disease Control Program (PDCP), GWSS Environmental Task Force, and GWSS Science Advisory Panel
- GWSS Treatment Pilot Program launches in Temecula
- CDFA assists Napa, Tulare, and Kern counties in establishing local pest management areas
- CDFA hunts for parasitic wasps to use for biological control
- PDCP releases GWSS biological control agents for the first time
- CDFA forms California Agricultural Commissioners and Sealers Association/Glassywinged Sharpshooter Advisory Group
- CDFA adopts emergency regulations to regulate movement of nursery stock, bulk grapes, and bulk citrus
- Southern California Nursery Inspection Program launches
- UC PD Research and Emergency Response Task Force publishes report with recommendations

- PDCP publishes first annual Report to the Legislature
- GWSS infestation found in the Blossom Hill and Branham areas of San Jose and in Cupertino, Santa Clara County
- CDFA establishes the PD/GWSS Board and annual, value-based assessment on crushed grapes to fund PD/GWSS research and related activities
- PD/GWSS assessment rate set by legislation at \$3 per \$1,000 of value for the 2001 harvest and to be set by the Board in subsequent years
- Board funds \$19,000 in research projects
- Researchers gather for first Pierce's Disease Research Symposium
- General Beale Pilot Project monitors for GWSS in Southern San Joaquin Valley, setting the foundation for the current area-wide control program
- Napa County Winegrape Pest and Disease Control District created to provide for the detection, education, and control of PD, and later other pests and diseases

- Congress gives \$7 million to winegrape growers for vine losses resulting from PD
- First localized GWSS infestation eradicated from Brentwood, Contra Costa County

- GWSS infestations found in the Foothill Farms area of Sacramento County and the Imperial Spas and Bombay Beach areas of Imperial County
- Board research funding exceeds \$1+ million
- Board starts funding UC Davis PD-resistance grape breeding project
- Board partners with UC and National Academies of Sciences (NAS) to review PD research and make research priority recommendations

- CDFA sets permanent GWSS regulations for bulk grape, citrus, and nursery industries
- Board partners with American Vineyard Foundation (AVF) to review research
- GWSS Area-Wide Management Program launches in Coachella Valley, Riverside County
- Legislation signed to form wine and table grape pest and disease control districts
- USDA Agricultural Research Services releases strategic research plan for Xylella fastidiosa diseases and GWSS

2004

- NAS releases "California Agricultural Research Priorities: Pierce's Disease" to guide the Board's research program
- AVF releases report on the Board's research program
- PD/GWSS Research Recommendations Subcommittee releases report in response to recommendations from NAS and AVF
- GWSS infestations found in Vacaville, Solano County and Corvina Estates area, Imperial County
- GWSS Area-Wide Management Programs begin in Fresno and Tulare counties
- PDCP releases one-millionth GWSS biological control agent
- GWSS biological control agent production moves to Arvin Biological Control Facility
- Board forms subcommittee to make recommendations on intellectual property

- PD/GWSS Referendum passes with 90% approval of winegrape growers who voted, extending the Board and assessment through 2010
- Board research funding exceeds \$10 million
- GWSS eradicated from Cupertino, Santa Clara County and Imperial Spas, Bombay Beach, and Corvina Estates, Imperial County

- GWSS infestation found in Three Flags area, Imperial County
- Nursery Treatment Pilot Program launches
- Consolidated Central Valley Table Grape Pest and Disease Control District forms in Kern and Tulare counties
- Board starts working with Public Intellectual Property Resource for Agriculture (PIPRA) to help facilitate bringing research results to market

- GWSS eradicated from Fowler, Fresno County and Chico, Butte County
- GWSS infestations discovered in the Evergreen area of San Jose, Santa Clara County and in the Beach Line area, Imperial County
- Board hires first research director to oversee research projects and implement recommendations
- First plantings of conventionally bred PD-resistant winegrapes

2007

- GWSS eradicated from Vacaville, Solano County and Three Flags area, Imperial County
- Board's new Research Scientific Advisory Panel (RSAP) identifies areas of significant progress, areas to target going forward, research gaps, and sets recommendations on funding future research, evaluating potential hurdles, and communicating research progress
- PIPRA creates online research database of PD/GWSS-related research

2008

- South Coast Winery in Temecula, named "Best Winery in California," thanks Board
- GWSS infestation eradicated from Beach Line area, Imperial County
- GWSS infestation found in the Capitol area of San Jose, Santa Clara County
- Nursery Approved Treatment Program launches
- "Red leaf disease" first observed in Napa County, with grapevine red blotch virus (GRBV) ultimately confirmed as causing grapevine red blotch disease (GRBD)

- Legislation expands Board and PD/GWSS assessment funding scope to include research and outreach on other designated pests and diseases
- European grapevine moth (EGVM) discovered in Napa County

- GWSS eradicated from the Blossom Hill area of San Jose, Santa Clara County, and Rancho Cordova and Foothill Farms, Sacramento County
- GWSS infestation found in the Meridian area of San Jose, Santa Clara County

- PD/GWSS Referendum passes with 84% approval of winegrape growers who voted, extending the Board and assessment through 2015
- Board designates EGVM as a pest of winegrapes, granting \$266,000 for outreach and research over the next three years
- Board research funding exceeds \$20 million
- PDCP releases two-millionth biological control agent
- Field trials of new PD-resistant grapevines start in Solano and Riverside counties
- PD-resistant winegrapes planted in Sonoma County
- GWSS eradicated from Branham and Evergreen areas of San Jose, Santa Clara County
- GWSS infestation found in San Luis Obispo and Madera counties
- First observations of what would later be described as sudden vine collapse, likely associated with virus infection, in Lodi area of San Joaquin County

2011

- California stops annual general funds to PDCP
- PDCP and Board assist with the European Grapevine Month Joint Information Center for coordinated response

- GWSS eradicated from Meridian area of San Jose, Santa Clara County
- GWSS Area-Wide Management Program begins in Madera County
- First tastings of wines made from conventionally bred PD-resistant winegrapes take place around California
- Board hires technology facilitator to help develop promising research discoveries into commercially available products
- Board begins funding UC Davis Plant Transformation Facility to develop grape tissue culture and transformation technologies

- Economic study finds PD costs California \$104.4 million annually, including \$48.3 million for PD control activities and \$56.1 million in lost production and vine replacement. Study also estimates that costs of PD would increase by \$185 million if GWSS became distributed throughout California
- GWSS eradicated from San Luis Obispo County
- Three conventionally bred PD-resistant rootstocks and 10 scion varieties released to Foundation Plant Services
- Board hires viticulture consultant to assist with field trials

2014

- Board designates brown marmorated stink bug, grapevine red blotch disease, and vine mealybug as winegrape pests and diseases, making PD/GWSS assessment funds available for research and outreach
- Second group of conventionally bred PD-resistant scions released to Foundation Plant Services
- Last detection of EGVM in California, survey and regulatory work continues

2015

- PD/GWSS Referendum passes with 83% approval of winegrape growers who voted, extending the Board and assessment through 2020
- Board designates grapevine leafroll disease, grapevine fan leaf virus, and all mealybug pests of winegrapes as winegrape pests and diseases, making assessment funds available for research and outreach
- First Board-funded research and outreach projects on grapevine viruses and mealybugs begin
- Board research funding exceeds \$30 million
- First studies show partial insecticide resistance in some GWSS populations in San Joaquin Valley

- EGVM declared eradicated from California
- Board gets a taste of wine made from PD-resistant grapevines

- GWSS eradicated from Capitol area of San Jose, Santa Clara County, leaving the county free of GWSS for the first time in 17 years
- UC Davis announces pre-release of five new PD-resistant winegrape cultivars

2018

- Board research funding exceeds \$40 million
- Grapevine red blotch virus confirmed as causing grapevine red blotch disease

2019

UC Davis releases <u>PD-resistant wine grape varieties</u>

2020

- PD/GWSS Referendum passes with 78% approval of winegrape growers who voted, extending the Board and assessment through 2025
- Board designates spotted lanternfly (SLF) as winegrape pest, making PD/GWSS assessment funds available for research and outreach
- CDFA conducts first annual statewide survey for SLF
- GWSS populations drastically increase in the San Joaquin Valley, and Board and Consolidated Table Grape District both give \$600,000 for additional control efforts
- Board funds red blotch monitoring project at Foundation Plant Services' Russell Ranch vineyard in response to the threat to foundation nursery stock
- Lodi Grapevine Virus Research Focus Group and experts produce grower virus workbook with Board funding

- GWSS infestation found in Vacaville, Solano County
- Field trials show promising results for three solutions to PD, including using a bacterium for biological control, breeding PD-resistant winegrapes, and cross-graft protection with transgenic grape rootstocks
- Wines made from PD-resistant grapevines spotlighted at Unified Wine & Grape Symposium
- Board hires new research coordinator to oversee expanding research portfolio, especially projects on viruses and mealybugs
- CDFA establishes <u>SLF state exterior quarantine</u>
- Board releases SLF communications toolkit

- Board research funding exceeds \$50 million, funding for pests and diseases other than PD and GWSS exceeds \$10 million
- CDFA releases <u>SLF action plan</u> addressing detection, delimitation, treatment, and quarantine
- CDFA Truckee Border Protection Station stops shipment with SLF egg masses

2023

- Board works with NAS to review leafroll and red blotch virus research and the Board's RFP process, and set new research priorities
- Studies published demonstrating three-cornered alfalfa hopper is a vector of grapevine red blotch virus, as Board continues funding research on viruses
- UC Davis agricultural economists begin study to revisit economic impacts of PD and GWSS
- United States Department of Agriculture releases <u>Spotted Lanternfly Five-Year</u> <u>Strategy</u>, prioritizing operations and implementation, research support, and outreach and communication

- "Advancing Vineyard Health: Insights and Innovations for Combatting Grapevine Red Blotch and Leafroll Diseases" report from the National Academies of Sciences, Engineering, and Medicine identifies key research priorities
- GWSS infestations found in El Dorado Hills, El Dorado County and in Turlock, Stanislaus County
- CDFA Truckee Border Protection Station stops shipment with SLF egg masses
- Studies published uncovering how native vectors transmit PD and how long PD has been in California
- Foundation Plant Services begins moving foundation grapevine nursery stock into a new greenhouse after vigorous testing for viruses funded by the Board