“Visualizing Sudden Oak Death”

An online e-conference: February 10-21, 2014

The “Visualizing Sudden Oak Death” e-conference will provide attendees with updates on research and management while also illustrating disease impacts and ecology. Check this page daily for updates and activities or contact Katie Palmieri.

Schedule of Events

Monday, 2/10
– Online discussion forum opens
– Opening of *The Fourth Art of Saving Oaks* art exhibition and online Art Gallery
– Beginning of caption contest

Tuesday, 2/11
– A SOD webinar exploring the progress and challenges faced in containing *Phytophthora ramorum*; 9 a.m. PST
– Continue discussions via online forum
– Submit captions for the caption contest by 3 p.m. PST

Wednesday, 2/12
– “Focus on Figures” online poster session
– Presentation of SOD Timeline via discussion forum
– Continue discussions via online forum
– Caption finalists announced for voting

Thursday, 2/13
– A discussion with SOD experts via Google+ Hangout. Broadcast at 1 p.m. PST. More details on our Google Events page or watch live on YouTube.
– Continue discussions via online forum
– Voting for caption finalists continues

Friday, 2/14
– Happy Valentine's Day! Watch a video with your sweetheart
– Continue online discussions
– Caption contest winner announced

Monday, 2/17 – President's Day Holiday

Tuesday, 2/18 – Friday, 2/21 – Online forum remains open for review

Phytophthora ramorum VS. Homo sapiens

Where do we stand in our battle against the sudden oak death pathogen?

The live webinar took place Tuesday, February 11, 2014 at 9 a.m. PST. A recording is available at http://cemarin.ucanr.edu/files/262992.mp4. Maps and status summaries for 2013 *Phytophthora ramorum*/sudden oak death in California, Oregon, Washington, and UK wildlands are available below, as is an overview of US nursery *P. ramorum* detections and regulatory changes.

Webinar Agenda

Welcome and housekeeping– Katie Palmieri

"Around the world with *Phytophthora ramorum* in 5 minutes" – Mark Stanley

Sudden oak death status in Oregon: From eradication to containment – Alan Kanaskie

Summary of 2013 *Phytophthora ramorum* activity in the UK – Joan Webber

Taking stock: How are we doing in our battle against the sudden oak death pathogen? – Dave Rizzo

Call to action – Everett Hansen

Questions and Answers

Online Conference "Handouts"

- 2013 Year-end report: Overview of *Phytophthora ramorum* in 2013
- Status in California urban and wildland forests
- Status in Oregon
- Status in US Waterways and Landscape Settings
- Status in UK
- US nursery detections and regulatory update

- Now available! SOD Management Manual
- SOD timeline (DRAFT - please share your comments in the online forum)
- Download the SODMAP mobile application and sign up for the 2014 SOD Blitzes

Caption contest

And the winner is...

"I found the geocache in this large, white rectangle!"

Congratulations to our winner, Inspector Scott Wise.

And many thanks to all who submitted entries and voted!

“Focus on Figures” online poster session

SOD in Oregon

Dead and dying tanoak trees inside the Quarantine Area in Curry County, Oregon. Red trees are current year mortality, gray trees have been dead more than one year. All images taken in 2013. Ebba Peterson photo.

Dead and dying tanoak trees inside the Quarantine Area in Curry County, Oregon. Red trees are current year mortality, gray trees have been dead more than one year. All images taken in 2013. Oregon Department of Forestry photo.

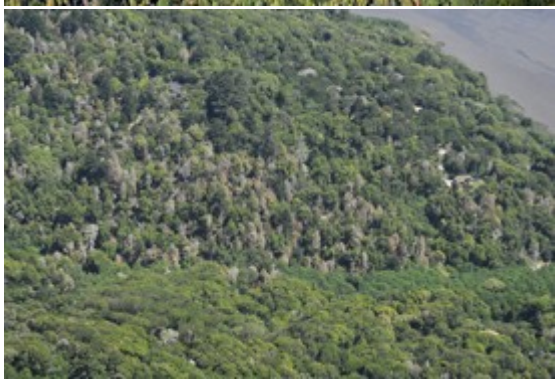
Dead and dying tanoak trees inside the Quarantine Area in Curry County, Oregon. Red trees are current year mortality, gray trees have been dead more than one year. All images taken in 2013. Oregon Department of Forestry photo.

Dead and dying tanoak trees inside the Quarantine Area in Curry County, Oregon. Red trees are current year mortality, gray trees have been dead more than one year. All images taken in 2013. Oregon Department of Forestry photo.

SOD in California

Coast live oak mortality in Santa Clara County, in the vicinity of Watsonville. June 17, 2013. Zachary Heath, USDA-FS, Forest Health Protection photo.

Tanoak mortality on the Monterey Coast. June 21, 2013. Jeffery Moore, USDA-FS, Forest Health Protection photo.

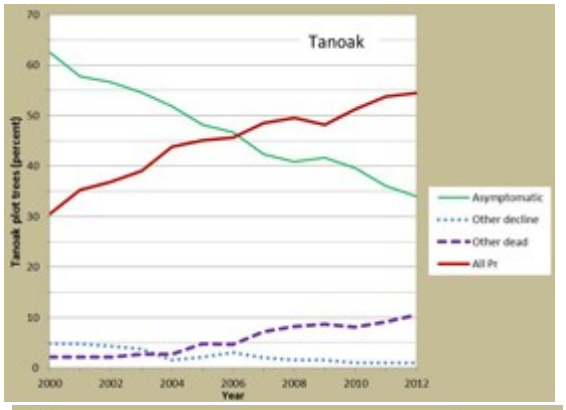


Oak and tanoak mortality among houses near Pt. Reyes National Seashore in June, 2013. Zachary Heath, USDA-FS, Forest Health Protection photo.

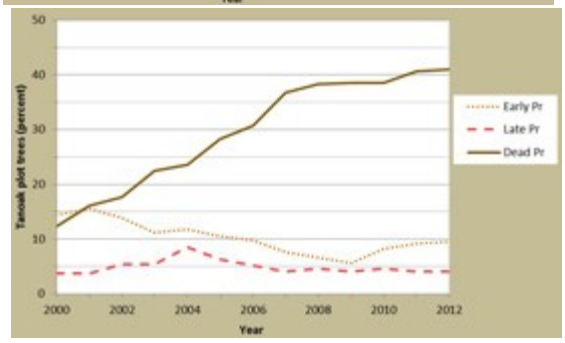
SOD in the UK

Infested Japanese larch plantation in Wales undergoing mandatory felling to comply with UK *Phytopthora ramorum* regulations. Credit: Forestry Commission Wales.

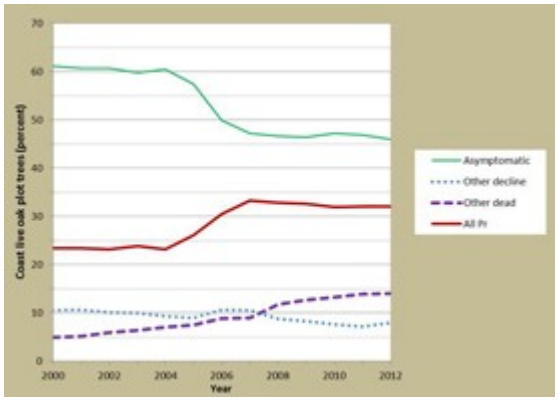
Mortality and Infection Trends in CA



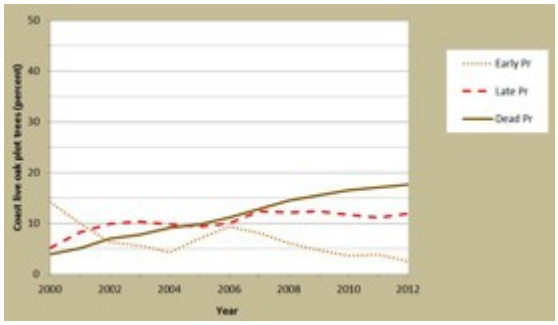
Percent *Phytophthora ramorum* infection of tanoak - 2000 to 2012. Changes in disease status of tanoak (*Notholithocarpus densiflorus*) in 26 plots in Marin and Sonoma Counties from 2000 to 2012. In 2012, over half of the tanoak trees showed some symptoms. Phytosphere Research, Vacaville, CA.



Percent *Phytophthora ramorum* mortality of tanoak - 2000 to 2012. Percent dead tanoak (*Notholithocarpus densiflorus*) in 26 plots in Marin and Sonoma Counties from 2000 to 2012. Approximately 40% of the tanoak trees were dead from *P. ramorum* infection in 2012. Phytosphere Research, Vacaville, CA.



Percent *Phytophthora ramorum* infection of coast live oak - 2000 to 2012. Changes in disease status of coast live oak (*Quercus agrifolia*) in 128 plots in Marin, Sonoma and Napa Counties from 2000 to 2012. In 2012 approximately 30% of the coast live oak trees showed some symptoms. Phytosphere Research, Vacaville, CA.

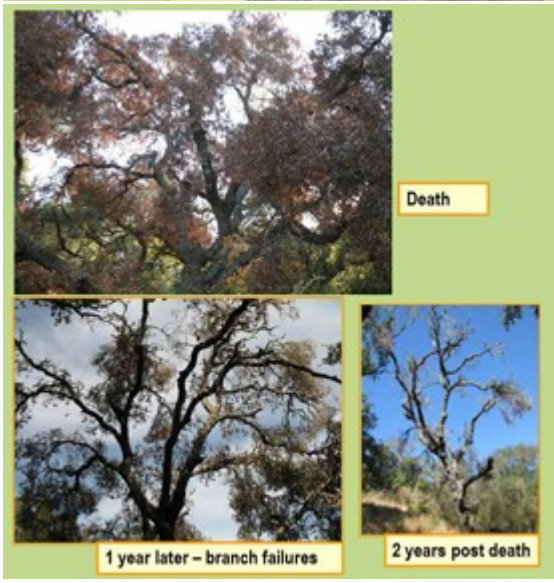


Percent *Phytophthora ramorum* mortality of coast live oak - 2000 to 2012. Percent coast live oak killed by *Phytophthora ramorum* in 128 plots in Marin, Sonoma and Napa Counties from 2000 to 2012. Approximately 18% of the coast live oak trees had been killed from *P. ramorum* infection by 2012 and 12% were showing severe infection. Phytosphere Research, Vacaville, CA.

Disease Progression

Recovering from *Phytophthora ramorum* infection. Some trees can stop infections, such as this California black oak, *Quercus kelloggii*, that callused over this trunk infection. Phytosphere Research, Vacaville, CA.

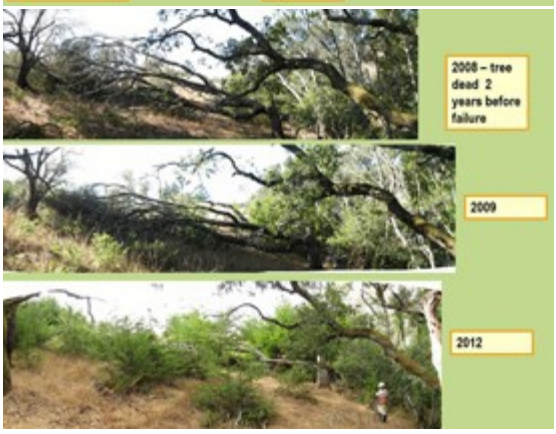
Disease progression on a coast live oak, *Quercus agrifolia*. This tree had been infected more than 10 years before it collapsed due to *P. ramorum*, beetle activity and decay fungi. The rate of sudden oak death disease progression is highly variable. Phytosphere Research, Vacaville, CA.



The pattern of branch and tree failure after a tree dies from *P. ramorum* is highly variable. Two years after dying, this coast live oak, *Quercus agifolia*, primarily retains only its main scaffold branches. Phytosphere Research, Vacaville, CA.

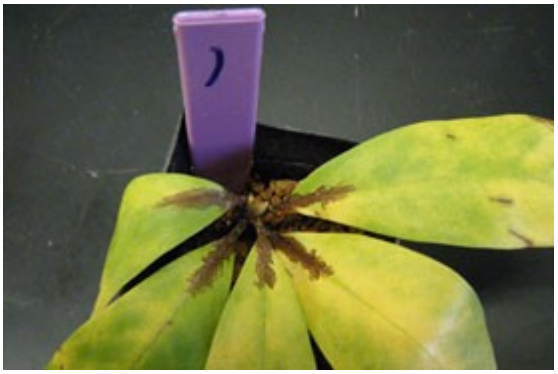
On this failed coast live oak, *Quercus agrifolia*, most of its leaves are gone 2 years post failure. The top was alive at the time of failure. Phytosphere Research, Vacaville, CA.

This coast live oak, *Quercus agrifolia*, is slowly decaying 7 years after it collapsed due to infection with *P. ramorum*, beetles and decay fungi. *Phytophthora ramorum* is not a decay organism, secondary organisms break down tissues after tree death. Phytosphere Research, Vacaville, CA.



The trunk of this coast live oak, *Quercus agrifolia*, failed two years after it died from an extensive *P. ramorum* canker. Leaves had already fallen off by that time. Within a year, the debris pile has flattened out considerably due to decay of fine branches. Four years later, only large branches are left. Note the amount of Douglas-fir growth that has developed over this period in the opening created by the loss of SOD-killed oaks. Phytosphere Research, Vacaville, CA.

Submissions from USDA Agriculture Research Service, *Phytophthora ramorum* Research, Frederick, MD

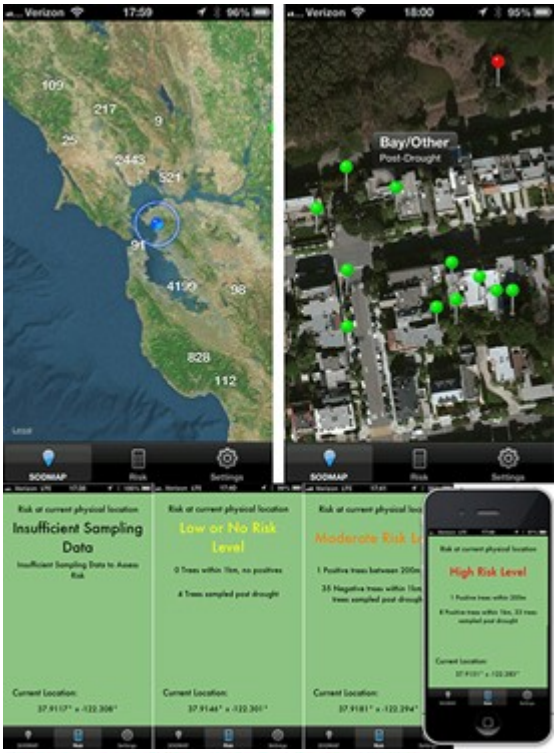


Rhododendron inoculated on the roots showing above-ground symptoms after *Phytophthora ramorum* traveled up the stem tissue.Nina Shishkoff, USDA Agricultural Research Service, Frederick, MD.

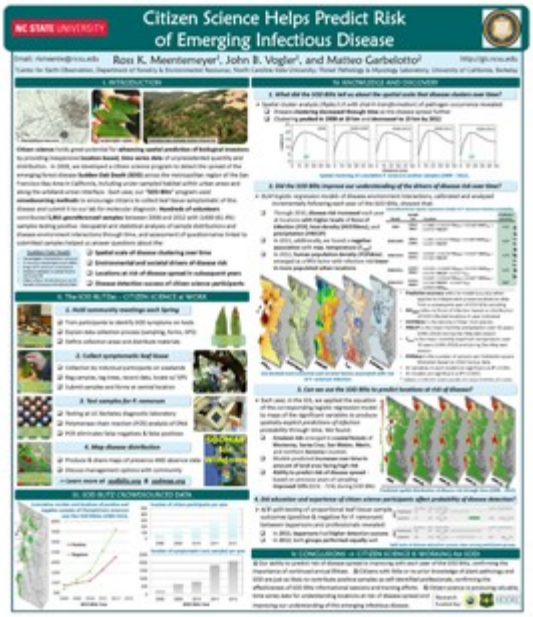
Germinating chlamydospore of *Phytophthora ramorum.* Chlamydospores can germinate to form as many as eight sporangia.Paul Tooley, USDA Agricultural Research Service, Frederick, MD.

Thunder, the dog that can smell *Phytophthora*, at work at the USDA ARS facility. See more of him at work on the Videos page.Paul Tooley, USDA Agricultural Research Service, Frederick, MD.

Submissions from UC Berkeley Forest Pathology and Mycology Laboratory

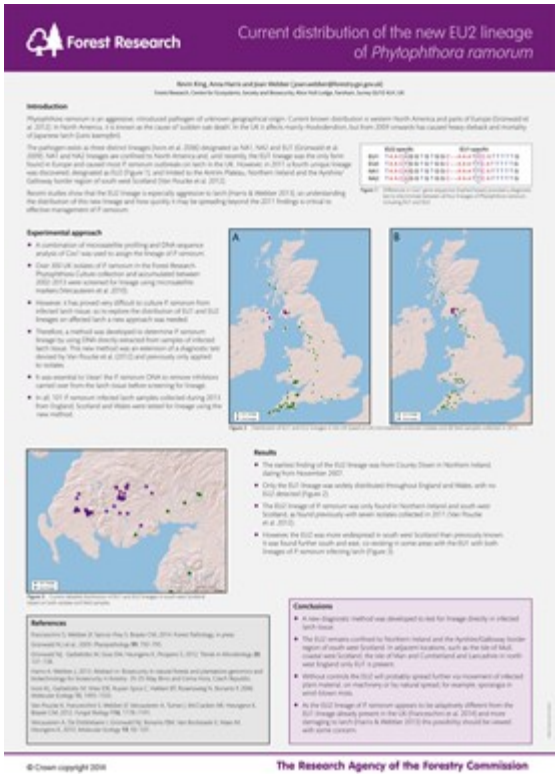


SODMAP mobile app and 2014 SOD Blitz. Matteo Garbelotto, UC Berkeley.



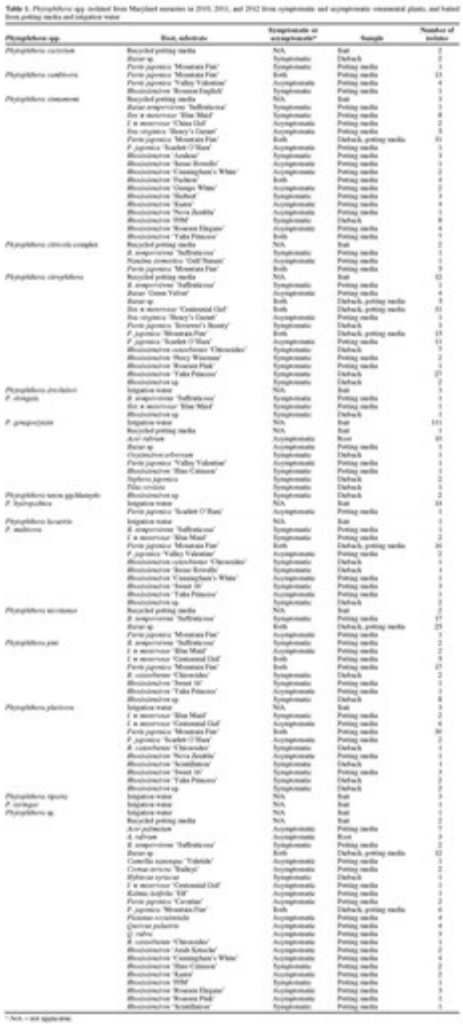
Citizen Science Helps Predict Risk of Emerging Infectious Disease. Click to read larger version. Ross K. Meentemeyer, John B. Vogler, and Matteo Garbelotto.

EU2 in the UK



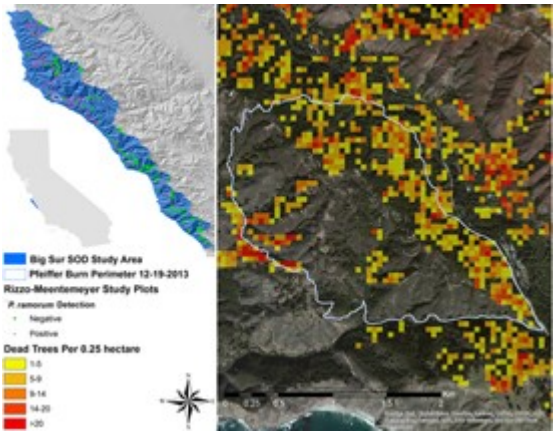
Current distribution of the new EU2 lineage of *Phytophthora ramorum.* Click to read a larger version. Kevin King, Anna Harris, and Joan Webber, UK FERA.

Phytophthoras in Nurseries



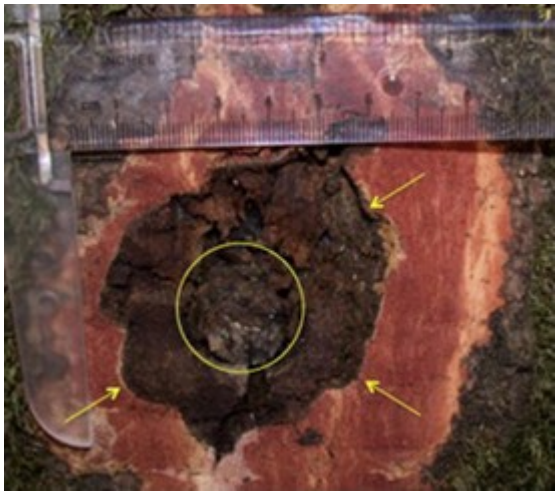
Phytophthora spp. isolated from Maryland nurseries in 2010, 2011, and 2012 from symptomatic and asymptomatic ornamental plants, and baited from potting media and irrigation water. Click to read a larger version.Bienapfl, J. C., and Balci, Y. 2014. Movement of *Phytophthora* spp. in Maryland's nursery trade. Plant Dis. 98:134-144.

Sudden Oak Death Interactions with Fire



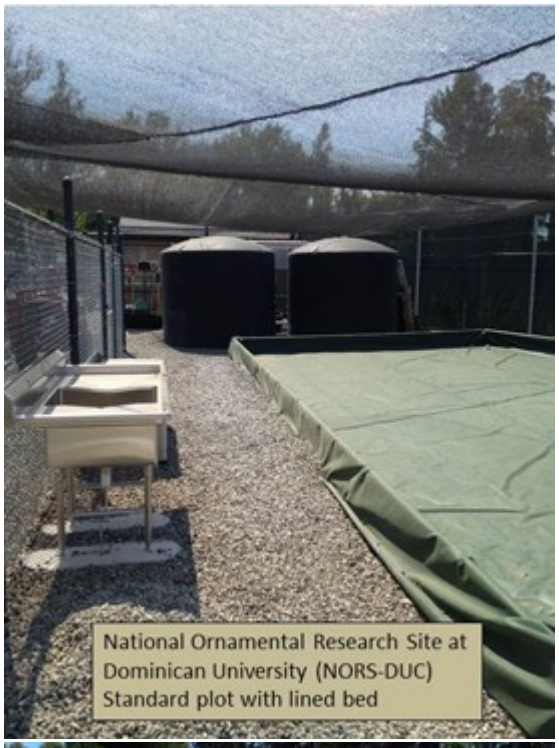
Sudden Oak Death Tree Mortality and the Pfeiffer Fire in Big Sur, California. Figure and the calculated mortality estimate produced by Whalen Dillon, NC State University. See the full description.

Resistance



How do trees fight off *Phytophthora ramorum*? Typical internal canker of a resistant coast live oak in July 2009 that was inoculated in 2002. The lesion is completely contained within a defined wound periderm (arrows) that separates the necrotic tissue from healthy phloem. The circle in the center shows the location of the original inoculation. [The bark has been cut away to show the margin between the healthy (rusty colored) tissues and the area where the pathogen killed the cells (brown).] Brice McPherson, UC Berkeley. DOI: http://dx.doi.org/10.1016/j.foreco.2013.10.009

National Ornamental Research Site at Dominican University



The National Ornamental Research Site at Dominican University (NORS-DUC) is an experimental nursery focusing on soil borne pathogens. The facility opened in 2009 to respond to the quarantine pathogen, *Phytophthora ramorum*. Funding is provided by the USDA APHIS and other cooperators. Photos courtesy of Karen Suslow, NORS-DUC, Dominican University, San Rafael, Marin County, CA.

The National Ornamental Research Site at Dominican University (NORS-DUC) is an experimental nursery focusing on soil borne pathogens. The facility opened in 2009 to respond to the quarantine pathogen, *Phytophthora ramorum*. Funding is provided by the USDA APHIS and other cooperators. Photos courtesy of Karen Suslow, NORS-DUC, Dominican University, San Rafael, Marin County, CA.

The National Ornamental Research Site at Dominican University (NORS-DUC) is an experimental nursery focusing on invasive species. The facility opened in 2009 to respond to the quarantine pathogen, *Phytophthora ramorum*. Funding is provided by the USDA APHIS and other cooperators. Photos courtesy of Karen Suslow, NORS-DUC, Dominican University, San Rafael, Marin County, CA.

Details on the 60th Conference on Soilborne Plant Pathogens can be found at http://soilfungus.ars.usda.gov

The National Ornamental Research Site at Dominican University (NORS-DUC) is an experimental nursery focusing on soil borne pathogens. The facility opened in 2009 to respond to the quarantine pathogen, *Phytophthora ramorum*. Funding is provided by the USDA APHIS and other cooperators. Photos courtesy of Karen Suslow, NORS-DUC, Dominican University, San Rafael, Marin County, CA.