

THIS PRESENTATION INCLUDES:

- About Phytophthora ramorum
- Regulations in Quarantine and Non-Quarantine Counties
- Program Updates
- Positive Nursery Protocols

- Nursery Guidance
- Prenotification
- Positive Nurseries
- Resources



ABOUT PHYTOPHTHORA RAMORUM

- In 1995 Sudden Oak
 Death was detected in the environment in California.
- APHIS issued an interim rule published in the Federal Register in 2002.
- In 2004 P. ramorum was detected in a major interstate shipping nursery.
- Sudden Oak Death is terminal in several oak species.





- A water mold
 - Recently reclassified as a Stramenopile
- Prefers moist, humid conditions.
- Naturally spread through wind-driven rain and water; artificially spread through plant material and human activity.



CDFA Phytophthora ramorum Regulations and Program Overview

Preventing the spread of *P. ramorum* is important for protecting natural resources and safeguarding trade.

Phytophthora ramorum is the cause of several plant diseases, including Sudden Oak Death which has killed over 50 million oak and tanoak trees in California and Oregon.

The presence of *P. ramorum* can also cause interstate and international trade issues for timber, wood products, and nursery stock.





The authority to regulate *P. ramorum* comes from the U.S. Code of Regulations – 7 CFR Part 301.92 Subpart X: *Phytophthora ramorum*. These regulations apply to all states and territories and all interstate plant shippers. These regulations derive from the interstate commerce clause of the U.S. Constitution. State Miscellaneous Ruling 3700 Oak Mortality Disease Control is a state-specific authority to regulate *P. ramorum*.

Frequently Positive Genera in California:



Loropetalum



Camellia



Rhododendron



Viburnum



Pieris

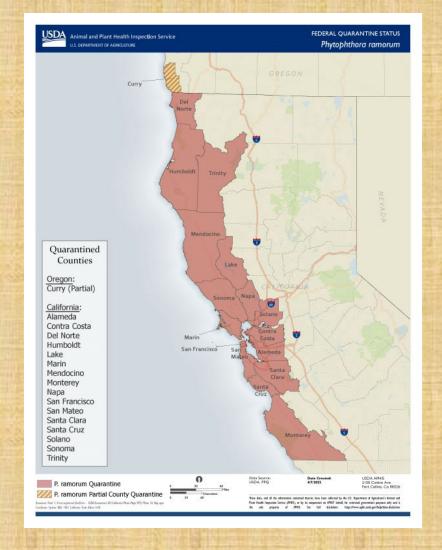


Phytophthora ramorum has been detected in 16 California counties

- Alameda
- Contra Costa
- Del Norte
 (2022)
- Humboldt
- Lake
- Marin
- Mendocino
- Monterey

- Napa
- SanFrancisco
- San Mateo
- Santa Clara
- Santa Cruz
- Solano
- Sonoma
- Trinity

Quarantined Counties



QUARANTINED COUNTY Nursery Regulations

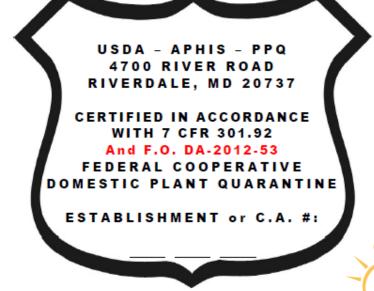
Host or Associated Host Plant (HAP):

- Annual inspection and sampling
 - Minimum of 40 samples
- Samples taken from symptomatic plants
 - If there is no symptomatic tissue, then asymptomatic plants must be sampled with bias toward proven hosts
- 30-day pre-shipment inspections
- Ship with Federal Shield (interstate) or Certificate of Quarantine Compliance for CCR 3700 (intrastate)

Non-HAP in Soil Must:

- Annual inspection for the presence of regulated articles of nursery stock
- Remove duff from pots before shipping
- Ship with Federal Shield or Certificate of Quarantine Compliance





Phytophthora ramorum Protocol

- Major changes to the Confirmed Nursery Protocol include:
 - Increased minimum sample numbers at previously positive nurseries for biannual inspections.
 - 199 became 332 (20,000 regulated plants) samples required
 - Block destruction trigger
 - An entire block of plants can be destroyed after 2 positive delimitations in the block
 - Soil must be remediated under positive plants if regulated plants are to be placed there.
 CDFA Phytophthora ramorum Program Update





Phytophthora ramorum Host List

Arctostaphylos alauca§

Arctostaphylos hooveri[§]

Arctostaphylos montereyensis§

Arctostaphylos morroensis§

Arctostaphylos pilosula§

Arctostaphylos pumila§

Arctostaphylos silvicola§

Arctostaphylos viridissima[§]

Berberis aquifolium[§] (=Mahonia aquifolium)

Chamaecyparis lawsoniana§

Chrysolepis chrysophylla§

Larix × eurolepis[§]

Larix decidua§

Lophostemon confertus[§]

Notholithocarpus densiflorus (=Lithocarpus densiflorus)*

Phoradendron serotinum subsp. Macrophyllum[§]

Vaccinium parvifolium§

Vinca minor[§]

Abies alba§

Abies procera§

Alnus cordata

Arctostaphylos glandulosa§

Arctostaphylos montaraensis§

Arctostaphylos pallida§

Arctostaphylos peninsularis[§]

Arctostaphylos rainbowensis[§] Arctostaphylos viraata[§]

Arctostaphylos viscida§

Betula pendula

Ceanothus oliganthus[§]

Cornus capitata§

Fothergilla major[§]

Hydrangea seemannii[§]

llex latifolia§

Larix occidentalis§

Lonicera periclymenum

Magnolia acuminata§

Magnolia delavayi[§]

Magnolia lotungensis (=Parakmeria lotungensis) Picea sitchensis§

Pickeringia montana§

Pinus ponderosa§

Polystichum munitum[§]

Quercus phillyraeoides[§]

Quercus robur§

Rosa hybrida 'Radrazz'§

Rubus ursinus

Salix babylonica

Sarcococca hookeriana[§]

Schima argentea§

Sorbus aucuparia§

Syringa meyeri[§]

Syringa pubescens§

Tsuga heterophylla[§]

Vaccinium intermedium[§]

- The USDA P. ramorum host list link: https://www.aphis.usda.gov/plant_heal-th/plant_pest_info/pram/downloads/pd-f-files/usdaprlist.pdf
- 55 new hosts added to CCR 3700 in 2022. Approximately 190 hosts total.
- §New additions to the proven host list
- *Unmanufactured wood and wood products, including firewood, logs, and lumber of species listed above are not regulated. See Federal Regulations, 7 CFR 301.92 301.92-2.

CDFA Phytophthora ramorum Program Update

Positive Nursery Response

If *P. ramorum* is detected at a nursery, follow steps listed in the Confirmed Nursery Protocol in the <u>Phytophthora ramorum Domestic Regulatory Program Manual</u>.



Animal and Plant Health Inspection Service
U.S. DEPARTMENT OF AGRICULTURE

Phytophthora ramorum Domestic Regulatory Program Manual

Chapter

3

Interstate¹ Confirmed Nursery Protocol

For Interstate Nurseries Confirmed Positive for P. ramorum

Chapter 4

Intrastate Retail Nurseries and Retail Nursery Dealers

Positive for P. ramorum



Trace Forward Protocol



The positive nursery is required to provide trace records to county or state officials within five business days.



Trace records are sent to the USDA P. ramorum National Operations Manager within five business days of *P. ramorum* detection.



Trace records are distributed to county agricultural offices for inspections at locations that have received suspect plant material from the positive nursery within the last six months.



Inspect any suspect plants from the positive genera and all other high-risk genera: *Camellia* spp., *Kalmia* spp., *Pieris* spp., *Rhododendron* spp. (including azalea), and *Viburnum* spp. regardless of their location in the nursery.

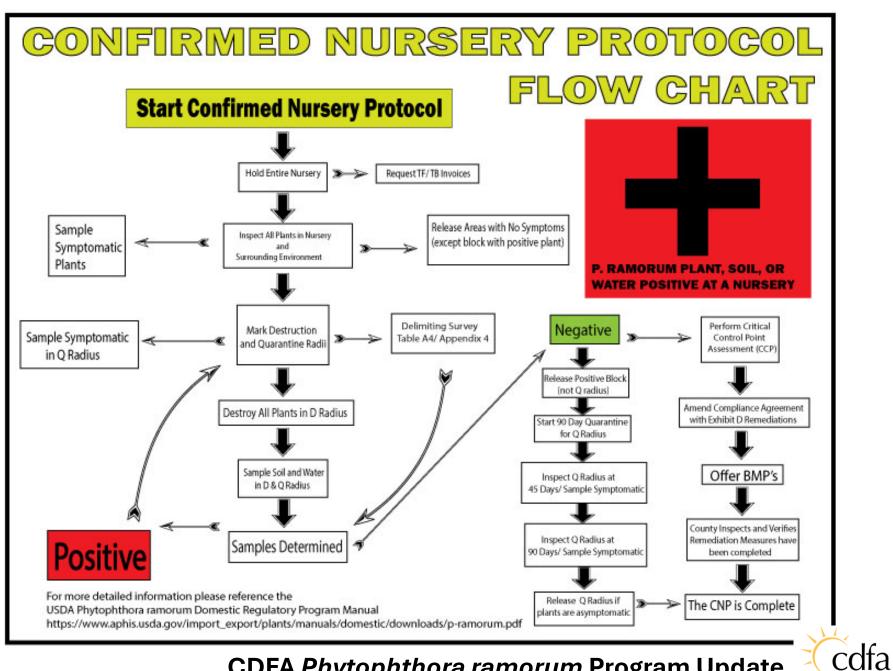


If symptoms are seen, plants are sampled, flagged, and put on hold pending laboratory results. Use the Sampling and Submission Protocol on page 8-1-1 of the Phytophthora ramorum Domestic Regulatory Program Manual.

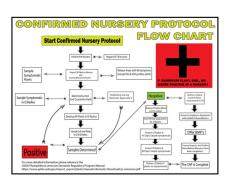
CDFA *Phytophthora ramorum* **Program Update**

Response at **Positive Nurseries:**

CONFIRMED **NURSERY PROTOCOL** Flow Chart

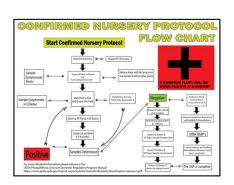


PHYTOPHTHORA RAMORUM: CONFIRMED NURSERY PROTOCOL CHECKLIST



- \Box Notify relevant officials and nursery of the positive plant(s).
- Issue a compliance agreement.
- Issue the nursery a hold notice. The entire nursery will remain on hold until the delimiting inspection is performed.
- Request trace forward/back records. Submit trace records to the NOM within 5 business days and perform trace investigations at establishments that received positive or high-risk genera or supplied positive plants.
- Perform a delimiting inspection by visually inspecting and sampling symptomatic plant(s) in the entire nursery (outside of the blocks containing positive plants).

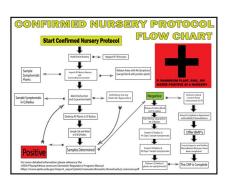
PHYTOPHTHORA RAMORUM: CONFIRMED NURSERY PROTOCOL CHECKLIST



- Release blocks of plants that are asymptomatic (except positive blocks).
 Sampled plants remain on hold until lab determinations are made.
- Mark Destruction (D) and Quarantine (Q) radii (2 meters) around the positive plant(s).
- □ To avoid the minimum 90-day quarantine period the nursery can choose the Alternative Quarantine Release Strategy and destroy all the plants in the destruction and quarantine radii.
- \square Collect prescribed number of delimiting samples in the positive block.
- Destroy all plants in the Destruction Radius.



PHYTOPHTHORA RAMORUM: CONFIRMED NURSERY PROTOCOL CHECKLIST



- Begin minimum 90-day quarantine when all delimitation samples are determined negative.
- Inspect all HAP in the nursery and sample symptomatic material halfway through the 90-day quarantine (45-day inspection).
- □ Inspect all HAP in the nursery and sample symptomatic material near end of 90-day quarantine (90-day inspection).
- At the end of the minimum 90-day quarantine, release the Quarantine radius if samples are determined negative.
- Post quarantine release monitoring with six biannual inspections during environmental conditions conducive to symptom expression.

Biannual Inspection Protocol

Used to detect the presence of Phytophthora ramorum in positive (or previously positive) nurseries

Enhanced protocols for nurseries that have been positive for *P. ramorum*:

- Approximately 300 foliar samples collected twice a year
 - Number of samples depends on amount of HAP in nursery (See table 3-1-5 in the <u>USDA Phytophthora ramorum</u> <u>Domestic Regulatory Program Manual</u>)
- Timed during periods conducive to disease
 - Spring and Fall
- Samples Collected From
 - Plants
 - Water
 - Cull Pile
- Biannual inspections end after six negative inspections



SHIPMENT PRENOTIFICATION REQUIREMENT FOR POSITIVE NURSERIES

Interstate shipments of Camellia, Kalmia, Pieris, Rhododendron (including Azalea), and Viburnum nursery stock from POSITIVE nurseries must provide written notification to non-regulated states.

Nurseries can send invoices attached to an email to the Notify mailbox. Invoices are stored and an email message will be sent to the receiving state's regulatory offices.

PERDUE NURSERY NOTIFICATION SERVICE:

https://notify.ceris.purdue.edu/





Chronology of Positive Nurseries in California

	Year	Non-Quarantine		Quarantine		Total
8		Production	Retail	Production	Retail	
	2025	1		3	2	6
2	2024			3	1	4
IJ	2023		1	4	1	6
H	2022					0
	2021	3				3
	2020	2		3		5
	2019	2	3	5	5	15
	2018	2	3	2	4	11
	2017	1	3	5	7	16
	2016	1			1	2
	2015					0
	2014	1				1
	2013			1		1

2025 Phytophthora ramorum Nursery Detections

Trace forward inspections from six positive nurseries in 2025 have yielded no additional positive samples. However, a trace back inspection to a production nursery yielded four positive Camellia and three positive Viburnum plants.

5,082 plants were destroyed at these six positive nurseries.

635 samples collected in response to positives. 4,092 P. ramorum samples processed total year to date by the CDFA Plant Pest Diagnostics Center.

Camellia, Loropetalum, Rhododendron, and Viburnum species were positive this year.

One out of state trace back inspection from Oregon was negative.



Number of Plants Destroyed at Positive Nurseries in 2025

Nursery	Number of Plants Destroyed
Production	72
Retail	120
Production	450
Production	93
Retail	35
Production	4,309
Total	5,082



CDFA Phytophthora ramorum Program Update

Nursery Best Management Practices Resources

National Ornamental Research Site Best Management Practices Manual

Presidio Phytophthora Management Recommendations

Safe Procurement and Production Manual: A Systems Approach for the Production of Healthy Nursery Stock

UC Davis Best Management Practices for Phytophthora ramorum

Phytophthora Online Course: Training for Nursery Growers

Accreditation to Improve Restoration (AIR) Nursery Program

USDA/APHIS/PPQ

https://www.aphis.usda.gov/plant-pests-diseases/pramorum



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Phytophthora ramorum Resources



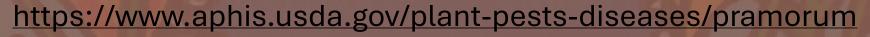
California Department of Food & Agriculture

www.cdfa.ca.gov

PHPPS Extranet Site

http://phpps.cdfa.ca.gov/pbuilder/FileReader.asp?pageid=982
CDFA Plant Quarantine Manual

http://pi.cdfa.ca.gov/pqm/manual/htm/pqm_index.htm
USDA/APHIS/PPQ



USDA *Phytophthora ramorum* Domestic Regulatory Program Manual

https://www.aphis.usda.gov/import_export/plants/manuals/domestic/downloads/p-ramorum.pdf

California Oak Mortality Task Force

http://www.suddenoakdeath.org



