What to do.

If you suspect you have diseased plants, please contact the Clemson University Department of Plant Industry or your local Clemson University Cooperative Extension Service office.

For more information on other plant pests and invasive species, visit our website or find us on social media.

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CLEMSON UNIVERSITY INVASIVE SPECIES PROGRAM

A partnership to protect your agricultural & natural resources.

Who we are. What we do.

The Department of Plant Industry, a part of Regulatory Services in Clemson University's Public Service and Agriculture, helps prevent the introduction of new plant pests into South Carolina as well as the spread of existing plant pests to non-infested areas.

Plant pest surveys, inspections, quarantines, control and eradication programs are among the tools used to safeguard the state's agricultural and natural resources.

We help horticultural businesses - such as nurseries, greenhouse growers, transplant growers and turf grass producers - as well as farmers, agricultural industries and South Carolina consumers in shipping plant material intrastate, interstate and internationally.

Inspections and certification services help ensure that plants are pest-free, which is essential for movement of plant material to other states and foreign countries.

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Ramorum Blight, Sudden Oak Death

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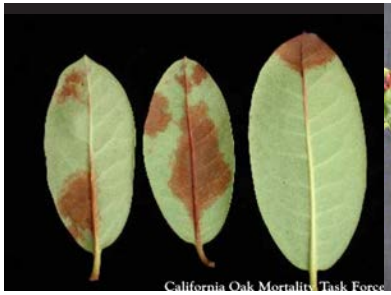
P. ramorum diseases.

The water mold *Phytophthora ramorum* causes two types of diseases: deadly bark cankers such as Sudden Oak Death, and foliar blights that serve as a reservoir for the pathogen. The spread of *P. ramorum* occurs by movement of infected plant material, wind-blown rain, and contaminated irrigation water and soil. In 2004, distribution of infected nursery stock resulted in detections in 21 states.

First observed in 1993 in Europe on ornamental rhododendrons and viburnum, *P. ramorum* was first detected in the U.S. in Mill Valley, California, on tanoak in the mid-1990s. Since its discovery in the U.S., *P. ramorum* has been confirmed in forests and nurseries in California and Oregon. For this reason, nursery shipments from the West Coast are monitored much more closely.

The Sickly Six.

As of January 2005, 31 plant species or genera are considered hosts and another 37 plant species are awaiting experimental confirmation. The six most affected genera of nursery stock are Viburnum, Magnolia, Rhododendron, Pieris, Camellia, and Kalmia (Mountain Laurel). Ramorum blight most commonly presents as a leaf spot with diffuse margins and the appearance of watersoaking.



Prevention.

Clemson's Department of Plant Industry (DPI) regulates the movement of plant material into and out of the state to prevent the transportation of plant pests.

Nursery inspectors survey the nursery environs and general condition of the plants to ensure plant safety before issuing certificates. Inspectors also confirm that all nurseries and dealers are abiding by quarantine standards when selling and importing stock.

Identification and Eradication.

Each year, DPI cooperates with the USDA-APHIS-PPQ National Survey, sampling water runoff and foliage associated with host stock, to detect *P. ramorum*.

Water and symptomatic foliage samples are analyzed at DPI's Plant Problem Clinic and Molecular Plant Pathogen Detection Lab. If a sample is positive for *P. ramorum*, DPI contacts the nursery for further information about the extent of the disease.

Trace-back and trace-forward investigations are conducted to determine where the contaminated stock came from and where it went upon sale. A delimitation survey determines which blocks of plants have been exposed to the pathogen and must be culled. Culled stock must be incinerated or double-bagged and buried at least two meters deep to ensure anaerobic conditions. All equipment and non-porous surfaces must then be disinfected with quaternary ammonium or chlorine.