

# Ramorum Blight Survey Plant Sample form

(Please include completed form w/sample)

Name of Plant: \_\_\_\_\_

Approx. Date Purchased: \_\_\_\_\_

Planting Date: (M/Y) \_\_\_\_\_

No. of Plants: \_\_\_\_\_ No. of Plants Affected: \_\_\_\_\_

Date sample collected: (M/D/Y) \_\_\_\_\_

Plant Purchased From (Name, Location): \_\_\_\_\_

## PLANT PART(S) AFFECTED

Leaves	Crown
Twigs/branches	Trunk
Stems/stalk	

## SYMPTOMS

Browning/scorch	Defoliation
Canker	Leaf Spot
Dieback	Yellowing



Fig 3. Ramorum twig blight symptoms on rhododendron

Survey samples may be submitted from February through May. A second sampling period will start in September and last through the end of November.

## Sampling Information:

1. Determine the identity of your plant before sampling. *Phytophthora ramorum* and other plant pathogens often infect plants in the same genus. Plants in the host and associated plant list ([http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/pram/resources.shtml](http://www.aphis.usda.gov/plant_health/plant_pest_info/pram/resources.shtml)) are listed by common name and also by genus and species. Plants in the same genus are closely related. For example, *Camellia japonica*, the common camellia, and *Camellia sasanqua*, the sasanqua camellia, are in the same genus. Once written out, further references to the organism may use the first letter to abbreviate the genus, e.g. *C. japonica* or *P. ramorum*.
2. Collect as much recently affected plant tissue as possible, in order to represent all stages of the problem. Include at least 10 affected leaves with blotch symptoms like those shown in this brochure. Sample leaves should show various stages of decline, but none should be totally dead. Also include twigs and branches if they are turning dark and dying, but make sure there is live tissue on the branch below the dying part.
3. Wipe any soil or excess moisture off the sample tissue and place in a plastic zip-lock bag. Do *not* include wet paper towels or any other source of moisture. **Enclose a dry paper towel in the bag with the sample and place this bag in another zip-lock bag. Place double-bagged sample in a shipping box and seal all seams of the box with packaging tape.** These precautions must be taken because if your sample is infected, we must prevent any spores of the pathogen from escaping into the environment. If you are submitting through the county office, make sure that they are aware of these requirements.

## Ramorum Blight Residential Survey

## The Disease, Hosts and Symptom Identification



Camellia Leaves with Ramorum Blight

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# Ramorum Blight: History, Hosts and Symptom Identification

## History

The water mold, *Phytophthora ramorum*, is the causal agent of Ramorum blight. It is an exotic plant disease-causing agent (pathogen) that was recently detected in the United States. Its origin is unknown, but it was first discovered in Europe in 1993, causing a blight of rhododendrons and viburnums in nurseries. In the U.S., it was first discovered in the mid 1990s, causing death of oaks in coastal California forests. An epidemic moved through these forests and eventually spread into southern Oregon

Since shrubs were infected in Europe, scientists investigated that possibility in the U.S. and soon found the pathogen blighting foliage and causing dieback of rhododendrons, camellias, viburnums, lilacs and a number of other shrubs in California nurseries. In 2004, distribution of infected nursery stock from California nurseries resulted in detections of *Phytophthora ramorum* in 21 other states, including South Carolina. Plant scientists and regulatory officials are worried that this pathogen may move into eastern forests and kill oaks on a large scale as it is doing in California. We are conducting this survey to help insure that this does not occur.



Figure 1. Ramorum stem blight symptoms on *Pieris*. An older leaf on the bottom right has somewhat different symptoms.

## Symptoms and Host Range

Symptoms on woody shrubs are generally confined to blighting of foliage and twigs. Initial symptoms are usually seen on foliage and consist of irregularly shaped, brown lesions with a water-soaked appearance (Fig. 2). As the disease progresses, the lesions may enlarge blighting entire leaves. In some hosts, such as pieris and rhododendron, blight moves into twigs and small branches, (Fig. 1) while in others, such as camellia, only foliage is blighted, and it often defoliates. The host range is large; as of May 2008, 45 plant species had been confirmed as hosts. The pathogen has also been associated with symptoms on another 72 species, but studies to prove that it's the pathogen are incomplete.

## Transmission

Local spread of *P. ramorum* likely occurs in wind-blown rain and contaminated irrigation water. It can be recovered from soil, but is not known to cause root rots, like many other *Phytophthora* species. Moist, cool conditions are favorable for disease development and spread of the pathogen. These conditions occur mainly in the spring and fall in South Carolina.



Figure 2. Ramorum foliar blight symptoms on rhododendron

Questions?? Call the Clinic (864-646-2133) or the  
Home and Garden Information Center  
at 1-888-656-9988

## Survey Questionnaire

### 1. What plant or plants are affected?

- A. The plant is a camellia, rhododendron, viburnum, *Pieris*, (andromeda), *Kalmia* (Mt. Laurel) or lilac purchased since 2004 - go to #3. (If not, go to B.)
- B. The plant is **adjacent** to one of the above plants that was purchased since 2004 - go to #2. (If not go to C.)
- C. None of the above - unlikely to be caused by *P. ramorum*. Do not submit sample.

### 2. Is the plant known to be a host for *P. ramorum*? See the host list attached to the email or go to:

<http://www.aphis.usda.gov/ppg/isp/sod/usdasodlist.html>

- A. **Yes** - plant name appears on list of hosts or associated hosts for *P. ramorum*, or plant belongs to the same genus as a listed host or associated host - go to #3.
- B. **No** - plant name does not appear on the list of hosts or associated hosts, nor does the plant belong to the same genus as a listed host or associated host - unlikely to be caused by *P. ramorum*. Do not submit sample.

### 3. Does the plant display foliar symptoms of leaf spots, defoliation, or stem dieback similar to those shown in the photos of plants infected with *P. ramorum*?

- A. **Yes** - Submit with this form through your County Extension office or directly to the Plant Problem Clinic.
- B. **No** - Unlikely to be caused by *P. ramorum*. Do not submit sample.

Name \_\_\_\_\_

Address \_\_\_\_\_

County \_\_\_\_\_ Phone - A/C + Number \_\_\_\_\_

E-Mail \_\_\_\_\_