

## Testing for *Phytophthora*

### You will need:

#### *All samples*

Rhododendron leaf baits – On the day of baiting collect one rhododendron leaf per sample to be tested. Use healthy rhododendron leaves that are free of any symptoms such as leaf spots. The best varieties of rhododendron are those that do not have any surface features such as indumentum (fuzz) or scales.

*Phytophthora* test strips - <https://orders.agdia.com/agdia-immunostrip-for-phyt-isk-92601> . These cost around \$145 for 25 test kits. Or send bait samples to your local Plant Clinic\* for testing.

#### *Plants*

Ziplock bags or plastic cups - Use bags that will fit over the bottom of the pot. You may need to double bag if they leak. For smaller pots, cones, or plugs you can use large SOLO cups (Figure 1).

#### *Soils*

Gallon Ziplock bags for soil samples

Containers - Use plastic containers or cups for baiting soil samples (Figure 2).

Trowel or plastic spoon for scooping up soil samples.

#### *Water*

Containers - Use bottles for stream and pond samples and smaller containers for puddles. (Figure 3).

Smaller container for scooping up water samples.

### Procedure:

The day before baiting, irrigate plants to insure soil wetness and sporulation. Label all plants with a unique number and species ID.

On the day of baiting add water to the pot. Water around the base of the plant so that the water soaks into the root zone and does not run down the sides of the pot. Collect runoff (soil leachate) in a 1 gallon plastic bag held under the pot. If the bag leaks it may be necessary to double bag.

Each bag is labeled with the plant identification number and species. The final leachate in the bag or cup should be about one inch above the bottom of the pot. Remove pots from the bags or cups.

In each bag one intact Rhododendron leaf is added so that the leaves are contacted with leachate (can be submerged).

Bags or cups are incubated in a cool dark location. If you use cups, cover with a paper towel or plastic while incubating.

After 48 hrs incubation in the bags, the leachate is poured off and the leaf baits are placed on a paper towel inside the labeled bags. There is enough moisture in the bag to dampen but not saturate the paper towel. If you use cups, incubate leaves inside a sandwich sized ziplock bag with a moistened paper towel.

Incubate leaves for 4-7 days until symptoms are visible (Figure 4). Test symptomatic areas for *Phytophthora* with test strips by following the instructions (Figure 5) or send to Plant Clinic\* for testing.

\*Your local plant clinic may be able to do the ELISA test for *Phytophthora*, for a fee.

Washington - WSU Puyallup Plant Clinic:

<https://puyallup.wsu.edu/plantclinic/>

Oregon - OSU Plant Clinic:

<http://plant-clinic.bpp.oregonstate.edu/>

For more information on *Phytophthora*:

<http://ppo.puyallup.wsu.edu/sod>

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Figure 1. Pots can be baited in gallon ziplock bags or small pots in plastic containers.





Figure 2. Soil baiting procedure: A) soil sample in gallon size Ziplock bag, B) example containers for soil collection and baiting, C) soil and water in containers, D) rhododendron leaf bait immersed in sample.

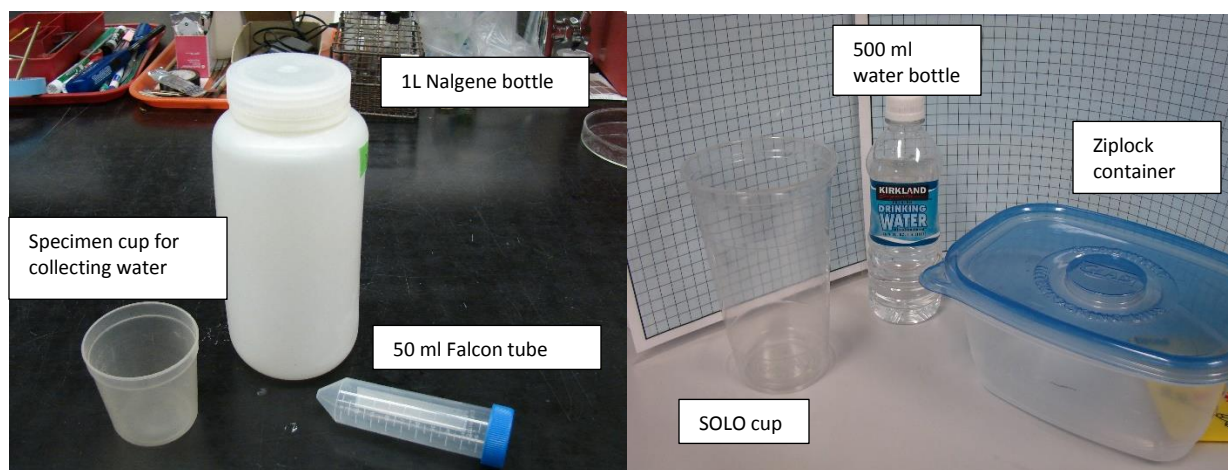


Figure 3. Sample containers for water baiting. Smaller containers can be used for puddles and larger containers for ponds and streams.

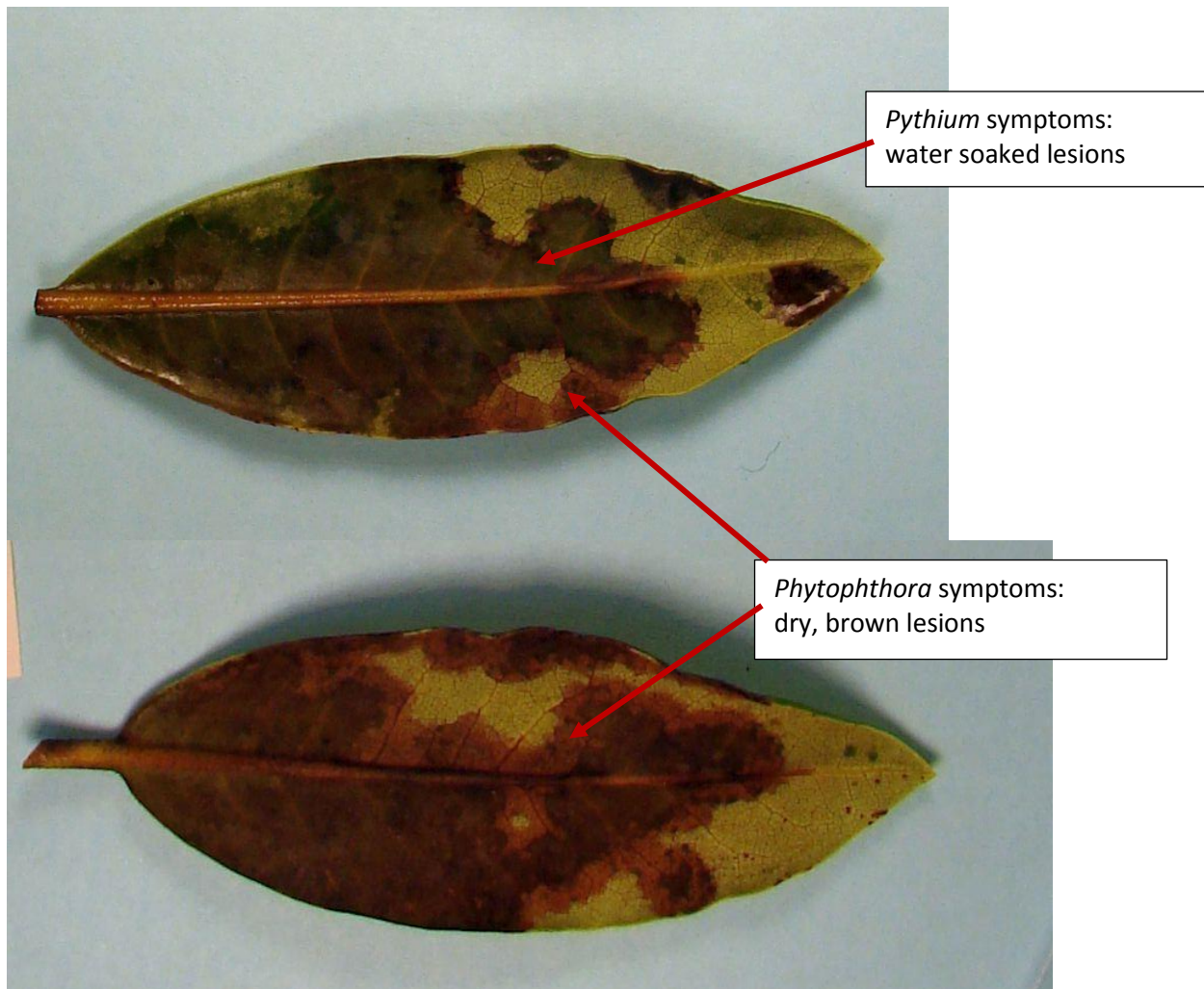


Figure 4. Symptoms on rhododendron bait leaves after 5-7 days of incubation. *Phytophthora* typically produces dark brown, dry lesions and *Pythium* spp. produce water-soaked lesions.





Figure 5. Positive (top photo) and negative (bottom photo) test strips with symptomatic leaves. A positive test has two pink lines and a negative test has one line. No lines on the test strip indicates that the test failed.