

PLANT PROBLEM DIAGNOSTIC SERVICE

The University of Massachusetts Extension Plant Diagnostic Laboratory serves farmers, horticulturists, landscape contractors, turf managers, arborists, nurseries, and others in agriculture and the green industries. The laboratory also assesses ticks for Lyme disease as a service to the public.

The UMass Extension Plant Diagnostic Laboratory is located at UMass Amherst. Each diagnosis performed by the laboratory includes a written report with pest management strategies that are research based, economically sound, and environmentally appropriate for the situation.

Diagnostic Sample Submission

A completed Diagnostic Form is required for each specimen (or particular problem). Diagnostic forms for various types of samples, along with instructions, can be accessed by following the links below. Remember that accurate diagnosis requires both a representative sample and sufficient information about the cultural practices and environmental conditions associated with the problem. The information you record on the form can be more important to the diagnosis than the sample itself! Photos of the problem are also extremely helpful. *Samples will not be diagnosed without a completed submission form.*

There is a fee per specimen (or particular problem) payable to the University of Massachusetts, and the appropriate fee must accompany each sample. For a list of fees and to obtain a submission form see <http://www.umass.edu/agland/diagnostics>. The UMass Extension Plant Diagnostic Laboratory will call and/or send a written report when a conclusion has been reached on the diagnosis or identification. Detailed management recommendations are included with pest diagnoses.

Preparing Samples to Submit to the Diagnostic Laboratory

Submit as much of the plant as possible

The accuracy of a disease diagnosis can only be as good as the sample provided. To provide a good sample, be sure that the sample contains the right part of the plant. Symptoms may appear in parts of the plant that are not infected with the pathogen. For this reason, if possible, submit as much of the plant as possible. Ideally, this would be an intact plant.

Send several plants with a range of symptoms

Secondly, the samples must be fresh and in good condition. Dead plants tell no tales. Due to secondary infections in extremely decayed plants, it is difficult to determine which organism may have created the problem in the first place. If possible, send in several plants with a range of symptoms from moderate to severe.

Keep leaves dry and free of soil

Wet samples with soil on the leaves promote the growth of secondary pathogens and create problems that did not exist when the sample was originally collected. Do not ever add water to your sample.

Send detailed information and payment with the sample

Complete the required form to be sent with the sample or make sure to include detailed information including: host plant, date collected, plant history (planting date, approximate age, cultural practices), when symptoms occurred, description of the problem, pesticide treatments, and your contact information. Keep accompanying paperwork separate and do not include in the bags with the sample. Ideally, paperwork could be placed in its own Ziploc bag. Download the form: http://www.umass.edu/umext/floriculture/pdf/veg_flor_form_new.pdf
The cost for diagnosis is \$50 per sample (price in 2010). Include a check payable to: *University of Massachusetts* with the sample.

Hand deliver or ship overnight

Rapid delivery may be critical for an accurate diagnosis. Samples that take a long time to get to the diagnostic lab have a greater chance of decaying or drying up making diagnosis difficult. You may want to hand deliver the sample to the lab. If you are too far away from the lab, then ship the sample overnight. The diagnostic laboratory is closed over the weekend and you may not want to ship the sample on Friday or during a holiday. Call the UMass diagnostic lab prior to shipping to make arrangements for receiving the package.

How to select samples from plants with the following symptoms:

Leaf spots and Blights

Select leaves which show a range of symptom development. Place leaves between paper towels or sheets of paper to keep leaves dry. Place the package in a plastic bag, and then into the envelope for mailing. Never wrap leaves in wet paper towels.

Stem Cankers

When a canker occurs on a large plant, cut a section of the stem with the symptoms, wrap in newspaper and place in a plastic bag for mailing. If the plants are small (1 foot or less), shake the soil from the roots, wrap in newspaper and put into a plastic bag for mailing.

Wilt, Crown rot or Root rot

If the plants are 1 foot or less, include the entire plant. Include the root system with the plant, leaving the growing media on the roots. Place the root ball into a plastic bag and tie off at the crown to keep the media off the foliage. If the plants are large, send a portion of the plant that includes the infected tissue. For wilt diseases, include the lower stem tissue and roots.

Poor growth, Defoliation, Scorch

These symptoms are usually caused by nutritional or environmental factors. They may also be the result of root rot or vascular disease. Collect a specimen as for wilt (see above); be sure to also submit a soil sample to a soil test laboratory.

Contact Information

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