

Finding the Clinic*

From the West

From U.S. Hwy. 12 or U.S. Hwy. 14, take University Ave. east onto campus.

Turn left (north) onto Charter Street.

Turn left (west) onto Linden Drive.

Travel west to the intersection of Linden Drive and Babcock Drive. Russell Lab is the building on the northwest corner of this intersection. The PDDC is in Rm. 183.

From the East

From Interstate 90, take U.S. Hwy. 12/18 (the "Beltline") west.

Take the Park Street exit north into the city.

Turn left (west) on University Ave.

Turn right (north) onto Charter Street.

Turn left (west) onto Linden Drive.

Travel west to the intersection of Linden Drive and Babcock Drive. Russell Lab is the building on the northwest corner of this intersection. The PDDC is in Rm. 183.

Parking

Public parking is available in front of Babcock Hall (to the south of Russell Labs) and in the parking ramp located to the north of Russell Labs.

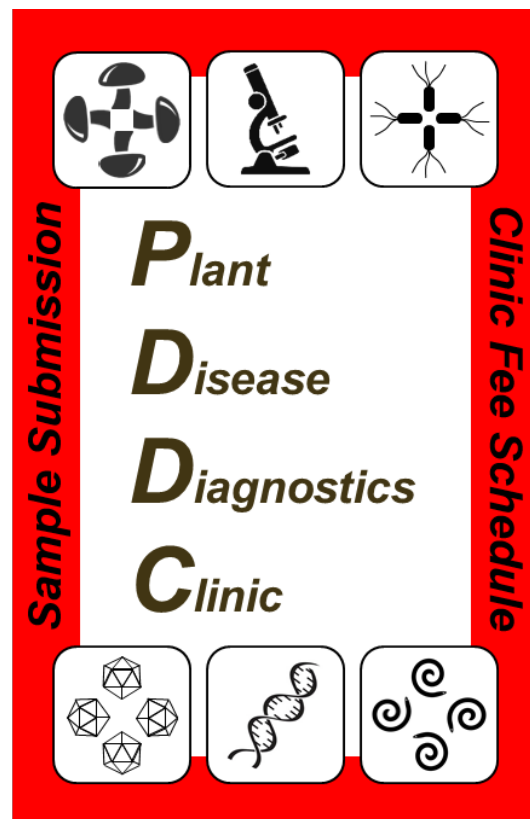
Clinic Hours

Samples can be dropped off at the PDDC whenever Russell Labs is open (weekdays 6:30 am - 5 pm except for UW-Madison holidays). Clinic staff is typically available most weekdays between 8:30 am and 4:30 pm.

***Due to construction, call the PDDC for up-to-the-minute directions on how to reach the clinic. Also feel free to call to verify staff availability.**

University of Wisconsin Extension, Cooperative Extension, in cooperation with the U.S. Department of Agriculture and Wisconsin counties, publishes this information to further the purpose of the May 8 and June 30, 1914 Acts of Congress; and provides equal opportunities and affirmative action in employment and programming. If you need this material in an alternative format, contact the Plant Disease Diagnostics Clinic at (608) 262-2863.

Revised 1/1/2018



Providing plant disease identification and control recommendations to homeowners, businesses and agricultural producers

Plant Disease Diagnostics Clinic (PDDC)

Department of Plant Pathology

University of Wisconsin-Madison

1630 Linden Drive

Madison, WI 53706-1598

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How to Collect a Sample

Collect whole plants when possible.

Often growers first realize that they have a plant disease problem when they notice abnormalities in their plants' growth above ground. However many times, symptoms observed above ground are an indication of something going wrong below the soil surface. Therefore, samples that include entire plants are more likely to provide the information needed for Clinic staff to make a proper diagnosis

Always dig, never pull plants. Often diseased root tissue or pathogen structures associated with roots are very delicate. Pulling plants from the soil may shear diseased tissue or pathogens away, making diagnosis more difficult.

Collect more than one plant. Diagnosis of a plant disease often involves performing several tests on a sample. Sending more than one symptomatic plant ensures that there is enough tissue for all of the required tests.

Keep collected plants as fresh as possible. Disease problems on fresh plants are more easily diagnosed than those on plants that have wilted or rotted prior to their arrival at the Clinic. If possible, collect plants immediately before they are to be mailed or brought into the Clinic. If there will be a delay between the time that plants are collected and their arrival at the Clinic, keep the plants cool. Plants collected from home gardens can be kept in a refrigerator. Plants collected in a remote location should be placed in a cooler with ice. **DO NOT** place samples on your car or truck dashboard as they can overheat and deteriorate very rapidly.

Keep foliage from becoming contaminated with soil. Wash roots gently to remove soil unless the sample is to be tested for nematodes or you are submitting a potted plant. Soil contains many microorganisms that can readily colonize dead or dying tissue. These microorganisms (called saprophytes) can interfere with our ability to recover pathogens from diseased tissue. When removing soil from roots, **DO NOT** scrub the roots as this can lead to the loss of root tissue that may be important in disease diagnosis.

Collect other important information. The diagnosis process often involves piecing together many different clues. Background information is crucial. When submitting a sample, include information about **THE PLANT** (name, variety, age); **SYMPTOMS** (unusual plant color, size or shape, severity of the disease); **THE ENVIRONMENT** (weather patterns just prior to the onset of disease symptoms, soil type where the plants are growing, amount of water that the plant has received, and the amount of sun or shade that the plants receive); **MANAGEMENT FACTORS** [previous crops, fertilizers and pesticides that you have used, pesticides used by your neighbors (if known)].

Special Samples

Vascular wilt (Dutch elm disease, oak wilt, Verticillium wilt) samples. Collect three small branch pieces, 1/2 inch in diameter, four to six inches long, from recently wilted branches. Pieces from the branches that are partially alive and partially dead are best. **DO NOT** send branches that have dried out and have a brown layer directly under the bark.

Soil samples. Collect soil samples from several locations in a field to be tested. Try to collect a sample that represents the soil from all areas of the field. These small samples (subsamples) can be mixed together for shipment. Tests for nematodes, Pythium/Phytophthora/Aphanomyces (non-specific) and Verticillium, require one to two cups of soil. Race specific testing for Aphanomyces requires two gallons of soil. Pea/bean root rot pathogen testing requires, three gallons of soil.

Turf samples. Cut plugs that are three to four inches in diameter from the edge of the affected area where healthy turf meets diseased turf.

Tree and shrub root samples. Select three to four sites around the drip line of the tree or shrub. Dig down three to six inches at each location and look for fibrous (small) roots from the tree or shrub. Roots from all locations can be mixed together for shipment. A handful of roots is needed for testing.

How to Package a Sample

Potted plants. Place the pot in a plastic bag and **LOOSELY** tie the top of the bag around the stem of the plant using string or a wire twist tie. This will keep the soil from contaminating the foliage. Place the wrapped plant in a box. Use packing material to ensure that the sample won't shift during shipment.

Whole plants. If you have removed the soil from the roots of the plant, wrap the roots in moist paper towels. Place the wrapped roots in a plastic bag and **LOOSELY** tie the top of the bag around the stem of the plant using string or a wire twist tie. Punch several holes in the bag to allow air movement.

If you need to leave soil attached to the root system (e.g., because you believe a nematode is causing your disease problem), place the root system directly in the bag and **LOOSELY** tie the top of the bag around the stem of the plant using string or a wire twist tie. **DO NOT** punch holes in the bag.

Place the wrapped plant in a box. Use packing material to ensure that the sample won't shift during shipment.

Leaves. Press leaves flat between alternate layers of very lightly moistened (**NOT WET**) and dry paper towels. Put leaves and toweling between two pieces of cardboard and put into a plastic bag. Tie the bag closed. Punch several holes in the bag to allow air movement. Place the wrapped leaves in a box. Use packing material to ensure that the sample won't shift during shipment.

Seedlings. Remove seedlings from the soil and **GENTLY** wash them. Lay them on a moist (**NOT WET**) paper towel; cover with another layer of moist paper towel. Place the seedlings and toweling between two pieces of cardboard and put into a plastic bag. Tie the bag closed. Punch several holes in the bag to allow air movement. Place the wrapped seedlings in a box. Use packing material to ensure that the sample won't shift during shipment.

Woody branches. Cut branches into sections if necessary. Place the branches/branch pieces in a plastic bag and tie the bag closed. If sending

more than one branch (we typically recommend sending at least three), put branches/branch pieces from different branches in different bags. Place the bagged branches in a box. Use packing material to ensure that the sample won't shift during shipment.

Evergreen branches. Cut branches into sections if necessary. Place the branches/branch pieces in a plastic bag and tie the bag closed. If sending more than one branch (we typically recommend sending at least three), put branches/branch pieces from different branches in different bags. Place the bagged branches in a box. Use packing material to ensure that the sample won't shift during shipment.

Fleshy fruits and vegetables. Wrap fruits and vegetables in dry newspaper. Place fruit/vegetable and newspaper in a plastic bag and tie the bag closed. Punch several holes in the bag to allow air movement. Place the wrapped material in a box. Use packing material to ensure that the sample won't shift during shipment.

Roots. **GENTLY** wash roots to remove excess soil. Wrap roots in moist (**NOT WET**) paper towels and place them in a plastic bag. Tie the bag closed. Punch several holes in the bag to allow air movement. Place the wrapped roots in a box. Use packing material to ensure that the sample won't shift during shipment.

Turf. Lightly moisten plugs of turf if needed prior to packaging to prevent over-drying during shipping. **DO NOT** over-water. Wrap turf in dry newspaper. Place turf and newspaper in a plastic bag and tie the bag closed. Punch several holes in the bag to allow air movement. Place the wrapped material in a box. Use packing material to ensure that the sample won't shift during shipment.

Mail Samples to:

Plant Disease Diagnostics Clinic (PDDC)
Department of Plant Pathology
University of Wisconsin-Madison
1630 Linden Drive
Madison, WI 53706-1598

Fee Schedule

Fees Effective January 1, 2018

Fees subject to change without notice

Standard Diagnostics

Standard Analysis

\$20.00

Includes visual and microscopic examination, and incubation in a moist chamber where needed.

Standard Analysis Plus

\$25.00

Includes "Standard Analysis" plus use of standard techniques for isolation of fungal or bacterial pathogens.

Digital Analysis

\$20.00

Examination of digital photos of diseased plants submitted via email.

Virus Analysis

Variable
cost
starting
at \$25.00

Includes "Standard Analysis" plus additional tests for specific viruses. Exact cost will depend on the number and type of viruses assayed. Available virus tests (at \$5 per test) include Tobacco mosaic virus (TMV), Cucumber mosaic virus (CMV), Impatiens necrotic spot virus (INSV), Tomato spotted wilt virus (TSWV), Arabidopsis mosaic virus (ArMV), and potyvirus (POTV). Other virus testing is available upon request. Call for details.

Phytoplasma Analysis

\$35.00

Includes "Standard Analysis" plus testing for phytoplasmas using PCR

Specific Crop Diagnostics

Turf Diagnostics

Homeowner

\$20.00

Commercial with phone report

\$100.00

Commercial with written report and phone consultation

\$150.00

Site visit and written report

\$300.00

(site visit only made following a sample submission)

Hop Diagnostics

Select from one or more of the following tests: carlaviruses, Apple mosaic virus (ApMV), ArMV, CMV, downy mildew, powdery mildew and Verticillium wilt. Call for pricing details.

Variable
cost
up to
\$135.00

Fee Schedule

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Specific Disease/Pathogen Diagnostics

Aphanomyces Soil Analysis (Race Specific)

\$150.00

A minimum of 1½ to 2 gallons of soil per 40 acre area is required.

Aphanomyces/Pythium/Phytophthora Soil Analysis (Non-Specific)

\$35.00

Call for details and to discuss limitations of this test prior to submitting a sample.

Pea/Snap Bean Root Rot Soil Analysis

\$75.00

A minimum of 1½ to 2 gallons of soil per 40 acre area is required.

Potato Dickeya Test

\$50.00

Call for details on proper sample collection and submission.

Soybean Cyst Nematode Analysis

\$22.00

A minimum of 2 cups of soil is required.

Vascular Wilt Analysis of Trees

\$20.00

Includes Dutch elm disease, oak wilt, and Verticillium wilt testing.

Vascular Wilt Analysis of Trees Plus

\$25.00

Includes "Vascular Wilt Analysis of Trees" plus "Standard Analysis Plus".

Verticillium Quantitative Soil Analysis

\$35.00

Call for details and to discuss limitations of this test prior to submitting a sample.

Unless specific tests are requested at the time of submission, PDDC staff reserve the right to determine which tests are needed for a given sample. Most samples require Standard Analysis or Standard Analysis Plus testing. Payment at the time of sample submission is not required. Clients will be billed for work after their analysis has been completed.