Colorado State University Extension

How to Submit Samples to a CSU Extension Plant Diagnostic Clinic

Fact Sheet No. **7.246** Gardening Series | **Basics**

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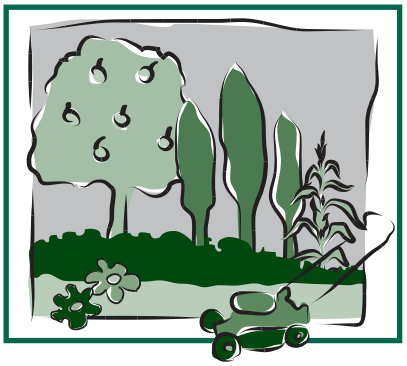

Plant problems are common to every grower. There are hundreds of plant diseases, insects and weeds that occur in Colorado. Some plant problems are very common and easily recognized; others require more advanced laboratory techniques to identify. Most county Extension offices have staff trained in basic plant problem diagnostics. Samples can also be sent to trained specialists at a CSU Extension Plant Diagnostic Clinic located throughout the state.

Good sample collecting and handling are necessary to obtain an accurate diagnosis of your plant's problem. Follow the steps below to properly collect, package and ship plant samples.

General Sample Collection Guidelines

- Collect a fresh sample. Diagnosis is difficult to impossible with dead or dried plants.
- Collect samples the same day you ship or drop off. Don't leave samples in vehicles overnight. Intense heat or cold will destroy the sample.
- Whole plant samples, including the roots, are more desirable than individual leaves or branches whenever possible.
- Include soil with whole plant samples, if requested, so it can be tested for pH, salts and evaluated for textural issues.
- Keep soil off foliage by separately bagging root system.
- Provide a detailed history of the plant and site.

Turf

Golf course personnel should bring a cup cutter size piece of turf. Others, including professional turf managers, sports field managers and homeowners, should dig a 2-3 inch deep shoebox-sized rectangular sample showing transition from healthy to affected turf. Cover roots with aluminum foil to prevent soil from shaking loose and contaminating blades.

Trees and shrubs

Collect a 12-24 inch long branch with leaves attached. Sample should show transition from healthy to affected foliage.

Weed/plant identification

A fresh sample (not dried) is usually required. Include as many plant parts as possible–entire plant, leaves, twigs, flowers, fruit and roots. A single leaf or grass blade is not sufficient.

Insect identification

Insect should not be squashed or dried. Place insects in vials or other rigid containers. Larvae should be placed in 70% alcohol.

Turf sample.

Quick Facts

- There are hundreds of plant diseases, insects and weeds that occur in Colorado.
- Good sample collecting and handling are necessary to obtain an accurate diagnosis of your plant's problem.
- Clinics are not open on weekends or holidays.
- Ship early in the week so samples don't sit in the post office over the weekend.
- Its important to include as many details as possible for a better diagnosis.

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Good branch sample.

How to ship samples

- Clinics are not open on weekends or holidays. Ship early in the week so samples don't sit in the post office over the weekend. Use overnight services whenever possible.
- Wrap sample in dry paper towel and place in sealed plastic bag. Do not add any additional water.
- Wrap rootball/soil separately from plant. If not separately wrapped, movement and vibration during shipment can spread soil to foliage and contaminate it.
- Place wrapped sample in a box with crumpled newspaper or similar material to stabilize sample.
- Place your sample information in a separate bag. Moisture from the sample can disintegrate paper and cause ink to run.

Providing plant history/information

Each plant diagnostic clinic has a sample submission form. Go to the clinic's website and download the form. It's important to include as many details as possible for a better diagnosis.

Accompanying images

Photographs to supplement a physical sample can be very helpful in diagnosis. For example, if you are submitting a tree sample, take a photograph of the entire tree and another of the affected area. You can e-mail digital images, or put hard copies in with the sample. Care must be taken to place the prints in a separate ziplock-type plastic bag to ensure that they won't get wet or otherwise damaged.

Colorado State University Extension Plant Diagnostic Clinics

CSU campus:

Located in Fort Collins, this is the main diagnostic clinic for the state.

Contact: Tamla Blunt
http://plantclinic.agsci.colostate.edu/services.html

Denver metro area:

The CSU Extension/Jefferson County Plant Diagnostic Clinic is located in Golden, Colorado. This plant clinic was established to serve the greater Denver metro area focusing on landscape plant pathology and golf course turf for both private homeowners and commercial green industry professionals. Areas of expertise include disease diagnosis, insect identification and plant/weed identification.

Contact: Curtis Utley
www.coopext.colostate.edu/jeffco/hort/clinic.htm

Western Slope:

Located in Grand Junction this clinic provides disease and insect problem diagnosis and identification along with basic water and soil testing services.

Contact: Curtis Swift, Ph.D. (commercial horticulture) or Susan Rose (home horticulture)
www.colostate.edu/Depts/CoopExt/TRA/features.shtml