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Turfgrass Problem Samples

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Turfgrass Problem Samples
Jeff Leiton and Clark Throssell, and Zachary Reicher
Extension Specialists

Periodically, various insect, weed, brown spot, and problem-area samples become a challenge to diagnose. Your first step is to develop a working relationship with your local county Extension agent. He has access to various technical publications and knowledge that can help you in your analytical process.

The second possibility is to submit a sample directly to the technical specialists at Purdue University. The methods for submitting samples and the names and addresses of the various specialists are given below:

A. Weed and/or Grass Samples:
1. Place three or four weed and/or grass samples between two pieces of cardboard. Make sure two or three of the leaves lay flat. Put several books on top of the cardboard to help flatten the sample. Let it stand overnight.

2. Keep the sample between the pieces of cardboard for shipment. Tape the edges so that the sample will not slide out. With large samples, discard the underground structures. However, indicate that the sample had rhizomes, stolons, tubers (nudged) tap (dandellion) root system, fibrous (bluegrass) root system, etc.

3. When mailing small samples, wrap the specimen in aluminum foil. Do not add moisture.

4. Place the sample in an envelope or mailer and mail to the address below:
   Plant and Pest Diagnostic Laboratory
   Department of Botany & Plant Pathology
   Purdue University
   West Lafayette, IN 47907

B. Turfgrass Disease:
1. Send at least a 6-inch square section with at least 1 inch of soil attached. Collect the sample from the transition area of the healthy and affected turf; this should include portions of the diseased and healthy turf.

2. Wrap the sample in a slightly dampened newspaper. Enclose this in additional newspaper or a perforated plastic bag. DO NOT add excess moisture, as this will encourage rotting.

3. Enclose the sample in a strong box. Include as much information as possible on the nature of the problem. Photographs of the affected area are often helpful.

4. Relevant information
   - Name, address, and phone number of the submitter and client
   - Type of grass (Kentucky bluegrass, ryegrass, etc.)
   - How old is the lawn? Seeded or sodded?
   - Situation (park, golf course, home lawn, etc.)
   - What is the damaged area? (i.e., 20% of the lawn, under trees only, in low-lying areas, near the sidewalks and driveway, etc.)
   - Describe the size, shape, and color of the affected area.
   - When was the problem first noticed?
   - Has the same problem occurred in the same area in previous years?
   - How is the lawn cared for?
   - Environmental conditions (rainfall, etc.)
   - Soil type (subsoil, clay, sand, etc.)
   - Signs of insect or animal activity? (large number of birds; moths flying across lawn, etc.)
   - DO NOT send a sample on Thursday or Friday. It could dry out in the post office.
5. Send the sample to:
   Plant and Pest Diagnostic Laboratory
   Department of Botany &
   Plant Pathology
   Purdue University
   West Lafayette, IN 47907

C. Turfgrass Insects:
1. Place the sample in a vial containing rubbing alcohol.

2. Describe any unusual circumstances:
   - large number of birds
   - sod pulls up easily
   - large number of holes or tunnels in the turf area
   - large number of moths

3. Place newspaper around the vial and mail to:
   Plant and Pest Diagnostic Laboratory
   Department of Botany &
   Plant Pathology
   Purdue University
   West Lafayette, IN 47907

D. Soil Sample:
1. Sample to a 3-inch depth.

2. Take approximately 10 to 15 cores per lawn, green, fairway, and combine to make one composite sample. Do not mix soils of different texture and color. Do mix soils from high and low areas. Do not mix soils from disturbed sites and nondisturbed sites.

3. Remove the living plants and thatch layer when taking the soil cores.

4. Recently fertilized areas should not be sampled.

5. Contact your county Cooperative Extension office for the fee structure, mailing containers and information sheet.

6. Air dry the sample before sending.
   The address is:
   Purdue Soil Testing Lab.
   Department of Agronomy
   Purdue University
   West Lafayette, IN 47907

E. Nematode Sample:
   Soil samples for nematode analysis may be taken any time the soil temperature is 50°F or above, at a soil depth of about 3 to 6 inches. Avoid taking samples if the soil has been overly wet or dry for extended periods, because at that time the active nematode population will be reduced. Using a soil sampling probe, collect 12 to 20 cores (3 to 4 inches deep) in a random design throughout the affected area. A turf sample from another area, in addition to the soil sample from the affected area, would also be desirable. This second soil sample should be taken from areas of healthy grass and should be taken for comparative purposes.

   Place individual samples in a plastic bag, not allowing the soil to become overheated or dried out. Overheating or drying will kill many of the nematodes, resulting in an artificially low count. Storage and shipping procedures are the same as for the disease sample.

   Note: Nematodes do not cause the magnitude of problems in the north that they do in the south. In general, nematodes should be suspected only after other potential problem sources have been eliminated.

   Submit the sample to:
   Department of Entomology
   c/o Nematologists
   Purdue University
   West Lafayette, IN 47907