

# Laboratory Diagnosis of Turfgrass Diseases

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**T**urf grasses are attacked by a number of diseases and pests which can cause rapid deterioration in the health, appearance and uniformity of turf. To minimize problems caused by diseases and pests, it is important to have the problem diagnosed as quickly as possible.

Diagnosing turf problems is not always an easy task. Most infectious turf diseases are caused by fungi which, unlike insect or weed problems, are microscopic and not visible to the naked eye. As a result we must base our diagnosis on symptoms – the response of the turf to the disease-causing agent. To further complicate matters, symptoms caused by a particular pathogen may resemble those caused by other diseases or environmental stresses and will vary depending on the type of grass, cultural practices and environmental conditions. In these situations, a laboratory diagnosis can prove useful to the turf manager.

In the laboratory, trained diagnosticians are able to examine turf samples microscopically and use other laboratory tests to detect and identify or rule out pathogens. Based on microscopic features of the fungi, they are able to distinguish between those diseases which produce similar symptoms.

Laboratory diagnosis of turf grass problems is available through the Laboratory Services Division at the University of Guelph. Diagnoses are based on microscopic examination of the sample with follow-up culturing if required. The fees for diagnosis are \$50 and a 24-hour turna-

round time for a preliminary diagnosis is guaranteed.

Given that laboratory staff do not have the opportunity to view the problem in the field, it is critical that samples submitted be representative of the problem and that they be received in as fresh a condition as possible, accompanied by complete background information. Following are important considerations when submitting samples for disease diagnosis;

## How to Sample

1. A 10-15 cm square of turf is required. The sample should include the foliage, thatch and roots of the grass. A collection of small (loonie) size pieces of grass is not suitable.

2. Sample from areas which have recently developed symptoms. Diseased and dead grass can very quickly be overgrown by secondary fungi, which mask the primary pathogen and symptoms.

3. If symptoms are general, sample from areas with intermediate symptoms; little can be determined from grass which is completely dead.

4. If patches of grass are affected, sample from the edge of a recently developed patch and include healthy, newly affected and severely affected grass.

5. For rings or "frog-eye" symptoms, sample across the ring and include healthy, newly affected and severely infected grass.

6. Sample BEFORE you treat with fun-



gicide. Fungicides destroy physical evidence of the pathogen and inhibit its growth, making pathogen detection very difficult.

7. Include as much background information as possible with the sample. Include distribution and severity of symptoms, when the problem first developed, weather conditions, etc. Be sure to include your complete address and telephone and fax numbers. Submission forms are available from Laboratory Services Division, but information sent in letter form is also acceptable.

8. Wrap samples in newspaper and then in plastic and place in a sturdy box. Never add water as this will encourage deterioration in transit. Deliver the sample to the laboratory in person or send it by courier to: Turfgrass Diagnostic Service, Laboratory Services Division, 95 Stone Rd. West, Guelph, ON N1H 8J7. Tel: (519) 767-6258. Fax: (519) 767-6240. Email: mdykstra@lsd.uoguelph.ca. ♦

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**Editor's note:** This article is to clarify the misinformation published in Volume 13, Issue 3 of the *Sports Turf Manager*. We apologize and regret any inconvenience it may have caused.



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