

## Making the Most of Your Diagnostic Dollars

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**T**here are many things to consider when you are sending in a turf sample to be analyzed at GTI Turf Diagnostics. Each sample requires a history and you must supply important background information. When submitting your sample, you need to give us all of the details you can about that sample and the area it comes from. That information will help us with the diagnosis and will help you get the best results.

To begin we need you to start compiling information when symptoms first appear. Symptoms can vary greatly depending on the issue at hand. The very first thing to figure out is what turf species is being affected. This is a key factor. Symptoms may be affecting only one species, as there are some diseases and insects that have specific hosts. An example of that would be necrotic ring spot affecting primarily Kentucky bluegrass. However, if all species in the area are being affected this may indicate a pest with a broad host range or an abiotic (non-living) factor such as drought, nutrient deficiency, fertilizer burn, localized dry spot, etc.

Once you look more closely at the symptoms, take note of the shape at which the symptoms are appearing in the turf

area. Spots, rings or general thinning could be a disease or insect pest. Irregular patches could represent some disease spots that are coalescing or insect damage. A more regular or random pattern would be more indicative of mechanical issues such as equipment failing to overlap spray patterns, fertilizer burn or a hydraulic leak. The part of the plant being affected, the leaves or roots, is another important consideration.

Next you need to answer some important questions. What is the environment like in that turf area? Is the area near a sidewalk or driveway? Under the heat of the summer sun a turf area can dry out more quickly in those areas. Is there a lot of wind? Wind can suck a lot of extra moisture from turf plants. Is there a lot of shade? Is there a slope and are the symptoms at the top or bottom of the slope? The top of a slope tends to dry out more quickly and the bottom may be wetter. Are there any drainage issues?

Take a closer look at your symptomatic turf by cutting out a small piece. Do you notice anything unusual about the sample? How is the soil? Does it fall away indicating perhaps a lack of moisture or is it compact and heavy? How is the thatch? Is there a foul odour? Did insects fall out of the

sample as you lifted it out of the ground? Do you see any insect frass or tunneling? Does the turf pull away easily, which is indicative of grubs feeding on the roots?

Think about the cultural practices that have taken place recently. What is the mowing height – has the area simply been scalped? What is the mowing frequency? Has the turf been fertilized recently? Certain diseases favour high nitrogen while

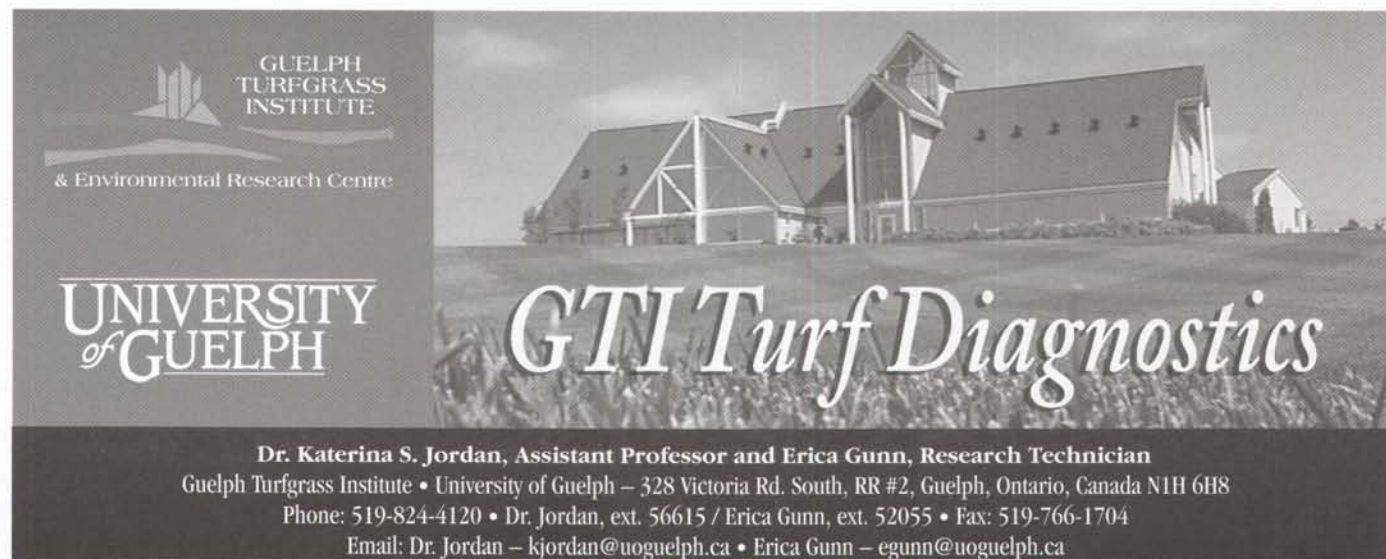
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others favour low amounts of nitrogen. Has the turf been irrigated recently? Some diseases intensify with irrigation or with none. Have there been any pesticides applied recently? Has there been any core-aeration? Some insect pests inhabit aeration holes and some diseases need the turf to be wounded to infect the plant.

Another important thing to consider is of course the weather. Different diseases and insects appear at different times throughout the year. Some diseases require high humidity, excess water, snow cover,



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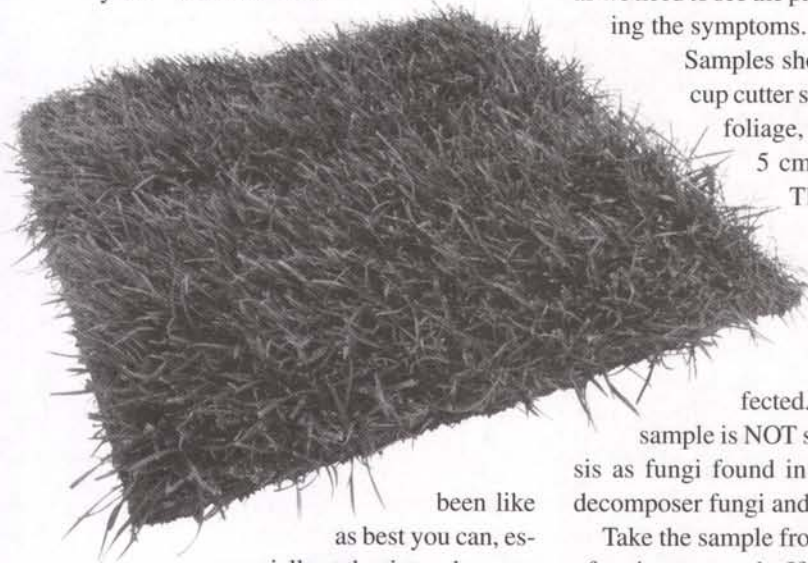
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**GTI Turf Diagnostics**

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high day time temperatures, or high night time temperatures, etc. Pathogens sometimes spread with moisture and then cause symptoms when the area is dry. Depending on your geographic location, it's very important to let the lab know what your weather has



been like as best you can, especially at the time when you first notice the symptoms. Also, take note if the problem is getting worse or improving under certain weather conditions.

When in doubt, send in a sample for analysis. Make sure you get a senior turf manager to look at the sample before you send it in just to be sure they can't solve the problem on their own. By sending in a sample you'll be able to provide the proper treatment, either chemical or cultural, and could save time and money in the long run. Also, by having a diagnostician look at

your sample, management issues may be discovered.

Always take your sample before you treat with fungicides as fungicides do their job and destroy the pathogens. Otherwise this really makes diagnosing impossible as we need to see the pathogen that is causing the symptoms.

Samples should be 10-15 cm<sup>2</sup>, cup cutter size is ideal. Include foliage, thatch and at least 5 cm of roots and soil.

The sample should show a range of symptoms from healthy, slightly affected to severely affected.

A completely dead sample is NOT suitable for diagnosis as fungi found in dead turf may be decomposer fungi and not the real cause.

Take the sample from the outside edge of a ring or patch. If the symptoms are general, take the sample from an area where they are of intermediate severity. Try and submit your sample as soon as possible. If you take a sample, please send it in the same day. If that is not possible you can store it in a cooler or fridge overnight. Wrap the sample in newspaper and then in a plastic bag and place it in a sturdy box. Do not add water and do not allow the sample to dry out or be exposed to excessive heat or cold. Please do not send over a weekend or by mail. Same day cou-

rier service or dropping it off at the lab is the best for an accurate timely diagnosis.

Please make sure you fill out the sample submission form as completely as possible. Your sample is just a fraction of the size of the total turf area under your care and it may be difficult for us to diagnose your problem if we can't see the bigger picture. If you provide us with the most information you can, it will help us to diagnose the issue at hand and make the best recommendation for management. All of the questions and considerations mentioned pertain to us as well, so help us help you!

For more information about sending in a sample, submission forms and payment options, please visit GTI Turf Diagnostics: [www.uoguelph.ca/GTI/turf\\_diag](http://www.uoguelph.ca/GTI/turf_diag). You can also contact Erica Gunn, [egunn@uoguelph.ca](mailto:egunn@uoguelph.ca) or Dr. Katerina S. Jordan, [kjordan@uoguelph.ca](mailto:kjordan@uoguelph.ca). For information with regards to pest issues and IPM, check out OMAFRA Publications 162 and 816. ♦

## QUOTABLE QUOTE

There is nothing like looking, if you want to find something. You certainly usually find something, if you look, but it is not always quite the something you were after.  
~ J.R.R. Tolkien, 1892-1973.

## Unhealthy turf?



Why not send a sample to GTI Turf Diagnostics for analysis?

The Diagnosticians will respond to your concern within one business day.

For submission form, sampling tips & payment options visit [www.uoguelph.ca/GTI/turf\\_diag](http://www.uoguelph.ca/GTI/turf_diag)



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