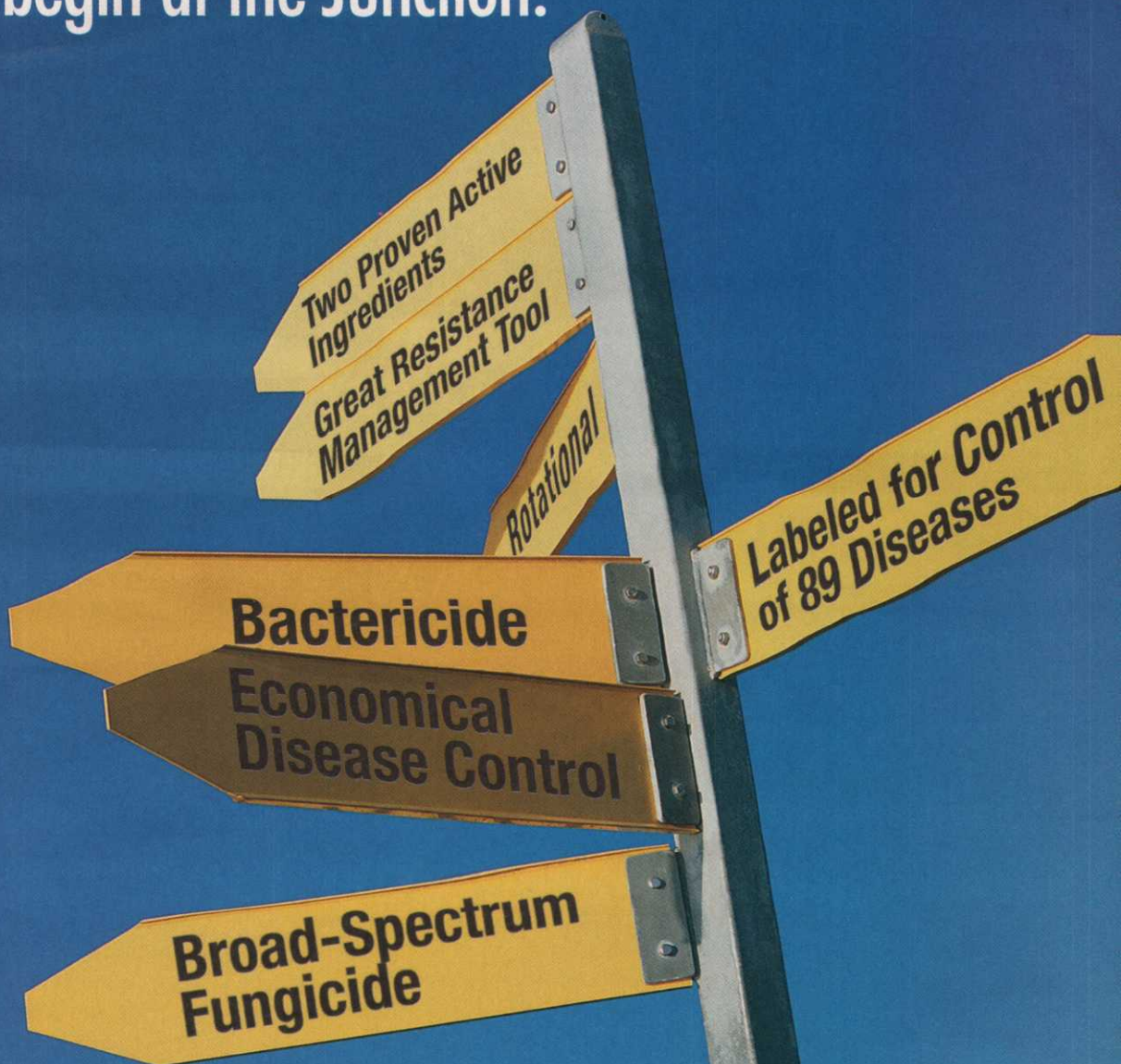


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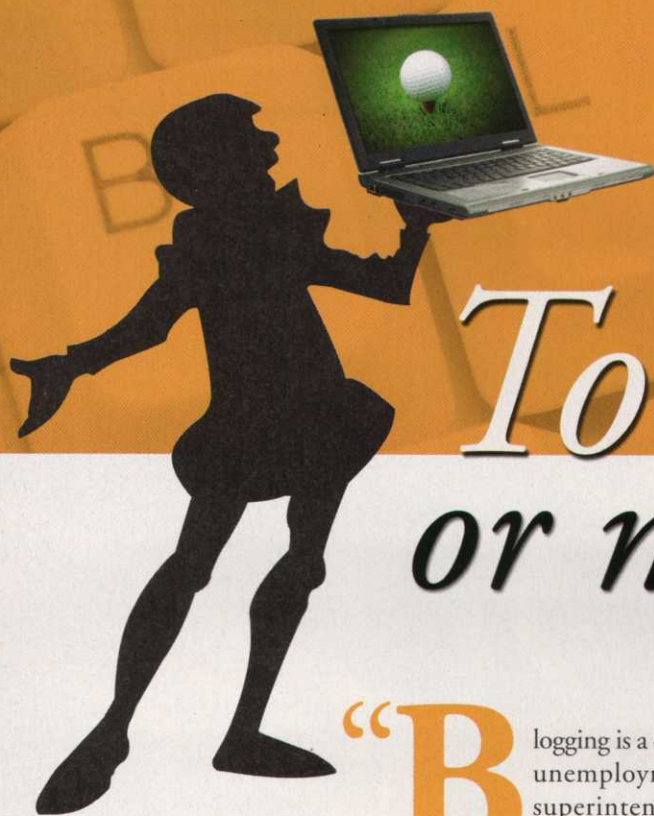
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# To Blog... or not to Blog

**B**logging is a one-way trip to the unemployment line for a superintendent ... you can quote me on that."

That word of warning came from a respected industry veteran who had been asked to list golf course superintendents who host web logs, the latest Internet craze.

As a "blogger" who has gone to bed only to wake up wondering what dumb thing I had posted the night before, I might agree. Except that a blog could just as easily become the most important communications tool in a superintendent's arsenal.

So what's all this blogging madness and what do you need to know about it?

Let's get the nitty-gritty out of the way for those who aren't even sure what's being discussed here.

According to Wikipedia.org, the free online encyclopedia (and a handy online information resource):

*A web log (usually shortened to "blog" but occasionally spelled "weblog" or "web log") is a web-based publication consisting primarily of periodic articles (normally in reverse chronological order). Although most early web logs were manually updated, tools to automate the maintenance of such sites made them accessible to a much larger population, and the use of some sort of browser-based*

*software is now a typical aspect of "blogging."*

So in a nutshell, a blog is an Internet site that you host as a journal for the entire world to see. Sort of.

Wikipedia again: *Like other media, blogs often focus on a particular subject, such as food, politics or local news. Some blogs function as online diaries. A typical blog combines text, images and links to other blogs, web pages and other media related to its topic.*

If you know nothing about blogging or maybe glance at a few political or sports blogs each day, I could understand why you might think blogging and greenkeeping would mix as well as Primo and Scotch.

Here's the hitch: Most web hosts now make it remarkably easy and inexpensive to post photographs. Combine images and a little creative writing, and this is how blogging could transform the maintenance industry.

## To blog . . .

Those cool "before" and "after" pictures of a rebuilt bunker? Post them online for all of your members to see.

The images of storm damage along with the heroic repair efforts and news that the course is going to be closed for a few days? Hit the "publish" button.

The latest photos of your course before the

Web logging has its benefits. And drawbacks, too

By Geoff Shackelford,  
Contributing Editor



spring opening? Post them. What members won't check in for the latest update and a few pictures to whet their appetite?

If you host a course blog properly, you'll be able to drop hints on where things stand and when golfers can expect conditions to reach their best. Blogging could also provide the means to subtly inject a bit more patience and knowledge through the golfers' notoriously thick skulls.

But beyond posting photographs with informative comments, blogging presents many other possibilities for the superintendent.

Maybe there was an important article about the state of the game or agronomy that you would like golfers to read. Or there is an emerging issue affecting your course and you want the interested golfers at your course to read it.

Or maybe you simply saw a funny story from the world of golf and you want to show golfers that you love the game as much as they do.

Blogging sites make it remarkably simple to post the address of an Internet story for all to read. Many web-hosting services also create easy ways to set up forums where golfers can exchange comments or ask questions of you, the superintendent.

Perhaps you have been looking for a way to answer thoughtful questions from golfers who take the time to write, while allowing others to read the exchange? A "discussion group" or active "comments" section would do the trick.

With blogging there is an almost endless list of possible ways to educate, inform and entertain the golfers who love your course.

And best of all, you never have to talk to them. Just tell them to bookmark your Internet address and check in for updates.

Blogging is more than just an immediate, 24/7 version of the club newsletter. There are dimensions to golf course blog-

ging that haven't even been explored yet because so few superintendents are trying it.

Which brings me to the pitfalls of blogging and why so many superintendents are not trying it.

### Or not to blog . . .

There is remarkable freedom in posting your thoughts or feelings or utter frustration with the completely ridiculous ways of the 21st-century golfer. Maybe

too much freedom for some.

But assuming you can control your desire to tell customers how little they actually know about golf course maintenance and construction, I can recommend setting up a blog, with caveats.

The greatest blogging pitfall is the immediacy with which one can put something up for all of the world to see.

A very simple cure for this dilemma

*Continued on page 44*

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### Recommended Blog Hosts

- ▶ <http://www.blogger.com>
- ▶ <http://www.typepad.com>
- ▶ <http://www.squarespace.com>





### Shack's Blogging Tips

- ▶ **Writing blog posts** – Make sure you let them sit for a few hours before re-editing them and posting them. Actually, that's good advice for all writing because it's easier to spot mistakes.
- ▶ **Photo resizing** – Make sure you know how to use digital photo software and that you understand how to resize images. You don't want people getting frustrated with your site because the photos take too long to load. Also, many sites won't upload photos over a certain size.
- ▶ **Succinct matters** – Keep posts as short as possible and post as many photos as you can. People love pictures.
- ▶ **Attitude** – For some reason online readers tolerate a lot more attitude, as long as you are self-deprecating, too. This doesn't mean you pat yourself on the back relentlessly, but in posting about your course or a project, don't hesitate to be proud of what you've done. Arrogance and humorless writing do not go over well on the Internet.
- ▶ **Don't cover up mistakes** – Most blog sites offer you the chance to cross out text. Instead of editing a mistake off of a site, simply cross it out and add the correct information.

*Continued from page 43*

is to prepare a "post," then sit on it for a few hours or even days. The more you can write, get away, and come back to your copy, the more efficient your message becomes.

With a golf maintenance blog, you would rarely be posting something that could be called "breaking news." Instead, you are posting items related to your course. So take your time.

Immediacy is a secondary concern to sharing information that enlightens and entertains your golfers.

### How do I do it?

As the benefits of blogging have become apparent to businesses, writers and everyone else in the free world, more Internet "hosts" (lingo for people you pay to hold the information that becomes your site) have been embracing blogging.

Still, many have not quite refined their blogging software. Although you can make a blog out of a blank web page, that's a lot of work for which not many superintendents have time.

It's much more fun and affordable to work within the confines of a finely tuned blog framework. After trying a few, I ended up using a smaller but technically efficient site for my daily mix of posts on the state of the game and my books. I also selected a host that would allow me to keep my domain name.

But if you don't want to go to the trouble to create something that works within the confines of your course's web site, there are a few big-name, efficient and user-friendly blog hosts that can get you started. You might get a long web address such as Bushwood-Maintenanceblog.typepad.com, but don't worry. After people get to the site once, they can "bookmark" it and they never have to type the address again.

As for blog hosts, I would highly recommend checking out either blogger.com or typepad.com or squarespace.com, all of which allow you to start a free blog to see what it's all about. You can play around, test things out, see how easily photos upload, and do it all without anyone knowing. Both also provide the opportunity to easily upgrade a trial blog.

But be careful. When you publish your blog to the Internet and give the OK to make the site public, you won't believe how quickly the search engines can pick up your site.

The better hosts allow you to create blogs where a password is required for readers (ideal for private clubs), or where you can control what information gets out to the public.

In other words, the more you pay, the more control you get.

But don't worry, blogging is cheap. If you are paying more than \$25 a month, you're paying too much. If you are going the free route, you will quickly find you may be restricted in what you can do. Expect to pay something in the \$10 to \$20 per month range.

The ultimate key to blogging? Making it fun for you and entertaining for the reader.

Of course, that's the danger of blogging, too. ■

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*Geoff Shackelford is a contributing editor to Golfdom. If you want more blogging tips or suggestions, contact him at [geoffshac@aol.com](mailto:geoffshac@aol.com) or through his web site, [www.geoffshackelford.com](http://www.geoffshackelford.com).*



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**I**n areas where bermudagrass goes dormant, winter overseeding will begin shortly. The most popular area for winter overseeding is in the southwestern United States and, to a lesser degree, in the southeastern United States. A major reason for overseeding is for aesthetic purposes, which drives resort golf course revenues. An emerald green turf provided by overseeding is quite pleasing to golfers, especially those migrating to the warmer climates during winter and early spring.

Agronomic advantages of winter overseeding include providing a degree of wear and traffic protection to the bermudagrass and helping reduce winter weed pressure. Non-overseeded bermudagrass has higher soil temperatures, which enhances weed germination, and lacks plant competition to slow weed development. Thus, non-overseeded bermudagrass often requires herbicides to control winter weed invasion.

Winter overseeding, however, is costly both monetarily and from an environmental and plant health perspective. Overseeded bermudagrass often requires more water, fertilizer, and pesticides, than non-overseeded bermudagrass. Since early 2000 the cost of overseeding has become more of an issue. Cutbacks in budgets have put this practice under closer scrutiny. As an example, the cost of mowing is a concern because of rising fuel costs.

From a plant health perspective, maintaining a healthy bermudagrass year-round while overseeding is difficult because of the introduction of competing turfgrass species. To enhance autumn establishment of the overseeded turf, practices that slow the growth of bermudagrass prior to overseeding may not be ideal for its health. If bermudagrass is in poor health before entering winter — either because of fall overseeding practices (scalping, verticutting) or environmental causes (shade, poor drainage areas, pests) — getting it to transition back to the following spring is a concern. Bermudagrass is more susceptible to winter injury and slower to transition (if it survives the winter) when it is in a weakened state going into winter.

During spring transition, a phenomenon

## Overseeding: Fall's Well, Ends Well

BY KARL DANNEBERGER



SUPERINTENDENTS

MUST FOCUS MORE

ON FALL PRACTICES

THAT INCREASE

BERMUDAGRASS

HEALTH VS.

STOPPING ITS

GROWTH

called spring root decline (SRD) can occur and can devastate bermudagrass in an overseeded situation. Prior to spring greenup, soil temperatures begin to increase, promoting regrowth of stolons, rhizomes and new shoots. If soil temperatures, however, increase rapidly prior to spring greenup, rapid-shoot-growth demands on the plant's energy reserves can cause a root to die back to the crown (Sifers, Beard, & DiPaola, 1985).

Unfortunately, in overseeded bermudagrass this also corresponds to the time for cool-season turfgrass growth. The ability for the bermudagrass to compete for light, and thus plant energy, in an overseeded situation is greatly reduced, which only exacerbates SRD.

There are some advances in winter overseeding that may help minimize the worry of spring transition. New herbicide chemistry (sulfonylurea) and use strategies are available for effective control of *Poa annua* prior to and after overseeding. These products and use strategies may help reduce the intensity or severity of fall overseeding practices.

Superintendents must focus more on fall practices that increase bermudagrass health vs. stopping its growth. A healthy overseeded bermudagrass going into the winter and early spring will provide a greater level of confidence or security when the overseeded turf is transitioned out in the spring either chemically or culturally.

Overseeding is neither right nor wrong, just another agronomic or business decision, which requires distinct planning and execution over a period of several months. So spend the necessary time to critically evaluate the advantages and disadvantages of overseeding.

---

Contact Karl Danneberger, Ph.D., *Golfdom's* science editor and a turfgrass professor from The Ohio State University, at [danneberger.1@osu.edu](mailto:danneberger.1@osu.edu).



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# TURFGRASS TRENDS

## REMOTE SENSING

# System Pinpoints Stressed Turfgrass

By Jason Kruse

**T**urfgrass managers spend a significant amount of time monitoring their turfgrass fertility and irrigation programs to ensure the most efficient use of their resources while minimizing potential environmental impacts.

Characterizing the spatial variability of nutrients across a golf course or large sports facility requires careful observation and periodic collection of soil and tissue samples. Remote sensing techniques have been shown to be valuable tools in quickly and reliably identifying stressed plants through the use of various vegetative indices. Research has shown that remote sensing data can be related to turf chlorophyll content, turf injury and quality (Trenholm et al., 1999). As a result, there has been an increased interest in using remote-sensing tools as a non-destructive tool for determining the nutrient status of plants due to the potential time savings that could result when compared to traditional sampling methods.

Handheld chlorophyll meters have been used to rapidly assess plant nitrogen status in agronomic crops (Piekielek and Fox, 1992; Schepers et al., 1996; Wood et al., 1992) by measuring optical density at two wavelengths and converting to a value that has been positively correlated with chlorophyll and nitrogen. While handheld chlorophyll meters are an attractive option for monitoring turfgrass health, they are limited in the amount of spectral information collected from the turfgrass canopy.

An alternative to chlorophyll meters is to measure light reflected from the turfgrass canopy with a multispectral radiometer that is capable of measurements at numerous wavelengths along the electromagnetic spectrum, thus increasing the amount of information that might be gathered and interpreted from the canopy.

Research in turfgrass science often involves using controllable variable (factors) to explain or predict other variable (responses). For instance, we may be interested in the influence of nitrogen (N) concentration on the biomass production of a particular turfgrass. When these factors are few in number, not highly collinear and have a well-understood relationship to the responses, then multiple linear regression (MLR) can be a good way to turn data into information (Tobias, 1997). Partial least-squares (PLS) is a method developed for constructing predictive models when there are a large number of highly collinear factors (Tobias, 1997).

The research was conducted during a two-year field experiment at the Iowa State University Horticulture research station in Gilbert, Iowa, on a creeping bentgrass (*Agrostis stolonifera* L., Pennncross) putting green constructed according to United States Golf Association specifications to determine the correlation between nitrogen concentration of plant tissue and remotely sensed multispectral scanner data. Plots were 5 feet by 5 feet in size and arranged in a randomized, complete-block design with four replications per treatment.

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# QUICK TIP

On a dry weight basis, leaf clippings may contain 2 to 6 percent nitrogen, 0.1 to 1 percent phosphorus and 1 to 3 percent potassium. If the clippings are recycled to the soil, they act as a slow-release fertilizer. Turfgrasses grown on fine-textured soils, where leaching of nutrients from the soil is limited, can benefit from recycling of clippings. Annual nitrogen needs can often be reduced by 10 to 35 percent after two years of recycling. Turfgrasses grown on coarse-textured soils can also benefit from recycling clippings, but leaching losses of the mobile nutrients (N and K) from the soil can occur. If clippings are removed, additional fertilizer will be needed to compensate for the loss of these nutrients.

**TABLE 1**

Effect of fertilizer nitrogen (N) on canopy N concentration, biomass production, chlorophyll concentration and visual quality ratings for creeping bentgrass in Gilbert, Iowa, in 2002-03.

N Rate	Nitrogen Concentration (g kg <sup>-1</sup> )	Biomass (g m <sup>2</sup> d <sup>-1</sup> )	Chlorophyll Concentration (g g <sup>-1</sup> )	Quality
lb 1000 ft <sup>-2</sup> 15 d <sup>-1</sup>	2002			
0.0	30.30	1.82	991.6	4.55
0.25	33.96	2.82	112.93	6.25
0.50	38.57	4.26	1211.5	7.2
LSD0.05	3.96	0.81	96.45	0.81
	2003			
0.0	35.05	1.40	1096.90	4.69
0.25	39.41	2.15	1124.14	6.59
0.50	43.32	3.04	1205.23	8.47
LSD0.05	3.49	0.85	54.14	0.54

*Continued from page 49*

Three N fertilizer treatments were applied at 0, 0.25 and 0.5 pounds per 1,000 square feet on a 15-day interval as urea in solution with a carbon dioxide (CO<sub>2</sub>) sprayer. In addition to the N treatments, all plots received uniform phosphorus applied as phosphoric acid and potassium applied as potassium chloride.

Plots were mowed four times a week at a height of 0.15 inches, removing clippings after each mowing. Irrigation was applied as needed to maintain optimum turfgrass quality and prevent drought stress.

Remotely-sensed data was collected with a field-portable fiber-optic spectrometer (Model S2000, Ocean Optics Inc., Winter Park, Fla.) on a 30-day interval, corresponding with the collection of clippings.

To reduce variability because of cloud cover and solar zenith angle, the tip of the fiber was mounted inside a rectangular plastic and rubber hood that extended down to the turf canopy. Auxiliary lighting was provided by two 12-volt halogen lights to provide a uniform and consistent light source, thus minimizing the introduction of variability in the data. Radiance values were expressed as percent spectral reflectance after standardization with a white standard.

Canopy reflectance was measured on days with minimal cloud cover between 11 a.m. and 2 p.m. central standard time (CST).

Reflectance at individual wavelengths and several spectral indices was examined for comparison to PLS regression results. They included: normalized difference vegetation index (NDVI) = (R800 - R600)/(R800 + R600); IR/R = (R780/R600); Stress1 = (R706/R760); Stress2 = (R706/R813); and WL550 = R550; WL710 = R710, where Rx is the reflectance value at the x wavelength.

Nitrogen treatments resulted in a wide range of responses for N concentration, biomass production, chlorophyll concentration and turfgrass quality in creeping bentgrass plots during 2002 and 2003.

The N treatments resulted in different N concentrations that increased from 30.30 grams (g) per kilogram (kg) in the 0 pounds per 1,000 square feet every 15 days treatment to 38.57 g per kg in the 0.5 pounds per 1,000 square feet treatment during 2002 (Table 1).

Nitrogen treatments succeeded in establishing tissue concentrations that ranged from low to sufficient according to the sufficiency values reported by Jones et al. (1991). Similar results were observed during 2003. Biomass production, chlorophyll concentration and visual quality ratings also increased with increasing N rate during 2002 and 2003 (Table 1).

The 0 pounds per 1,000 square feet every 15 days N treatment resulted in visual quality that was below the minimally acceptable level of 6.0 along with the lowest chlorophyll concentration

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