

Measuring Air Movement for Better Grass

by **STANLEY J. ZONTEK**

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IPM, IPM, IPM. Integrated Pest Management. We have all heard about it many times. Turf managers have practiced some phases of it for years, and more golf course superintendents want to know even more about it so they can grow better grass with fewer chemicals. It all sounds great, and it is, but sometimes IPM programs and practices are difficult for the layman to understand.

The following IPM-related turf tip is not difficult to understand, though. In fact, it is a very easy, inexpensive, explainable, and tangible expression of IPM at work for better turfgrass. What is it?

Let me begin by reminding you of the importance of providing good air circulation for producing less stress, less disease, and better-quality grass. Though air circulation is not so easy to see, it is something which is easy to feel.



The Turbo Meter, a handy tool to measure wind velocity. The wind speed is in an easy-to-read, digital format.

When you walk onto a green or tee in an area with poor air circulation during hot, humid weather, you can feel your body become wet and clammy with perspiration. You start to sweat. Actually, your body may have been perspiring at the same rate before you entered the "pocket," but the cooling moisture your body was giving off was evaporating into the air without you really appreciating it. In a pocket of poor air circulation, this does not happen. You are uncomfortable, but how about the grass?

Actually, much the same is happening with the grass underfoot, but it is probably worse. Air circulation is usually much lower at ground level than it is six feet off the ground. It is hard to imagine a better place for diseases to develop than in a hot, humid pocket with poor air drainage. It is almost like having your own growth chamber —

Igniting a smoke bomb vividly illustrates the amount of air circulation, or the lack of it.



not for grass, but for fungi! Diseases such as *Pythium* and *Rhizoctonia* occur in these areas first, and tend to be more severe.

What does all of this mean and how can you use it for better grass on your golf course? My tip involves techniques for actually showing and measuring air circulation or the lack of it.

Several different techniques combine to produce the desired results. One is the Turbo Meter, from Spectrum Technologies of Plainfield, Illinois. Another, air circulation fans, are available from a number of different sources. The final element is the use of

a smoke bomb (or similar device) to show actual air movement direction, rather than simply feeling the air movement on your face or measuring it with the Turbo Meter.

The Turbo Meter is often used by Bob Brame, Green Section agronomist, to illustrate air circulation problems during Turf Advisory Service visits in the Mid-Atlantic Region.

The Turbo Meter, air circulation fans, and smoke bombs are all used by the professional staff of the Resorts of Pinehurst, Pinehurst, North Carolina, to grow better grass. In fact, Brad Kocker, Director of Golf Course Main-

tenance, and Bob Farren, Assistant Director of Golf Course Maintenance, have been so impressed with the effects of fans around their pocketed greens that they will have 62 fans in operation for the 1992 season.

They use the Turbo Meter to help locate the fans so that sufficient air movement is achieved (at least 3 mph). It works. The goals of having better grass, which the golfers *can* see and appreciate, and less disease with less chemicals are achieved.

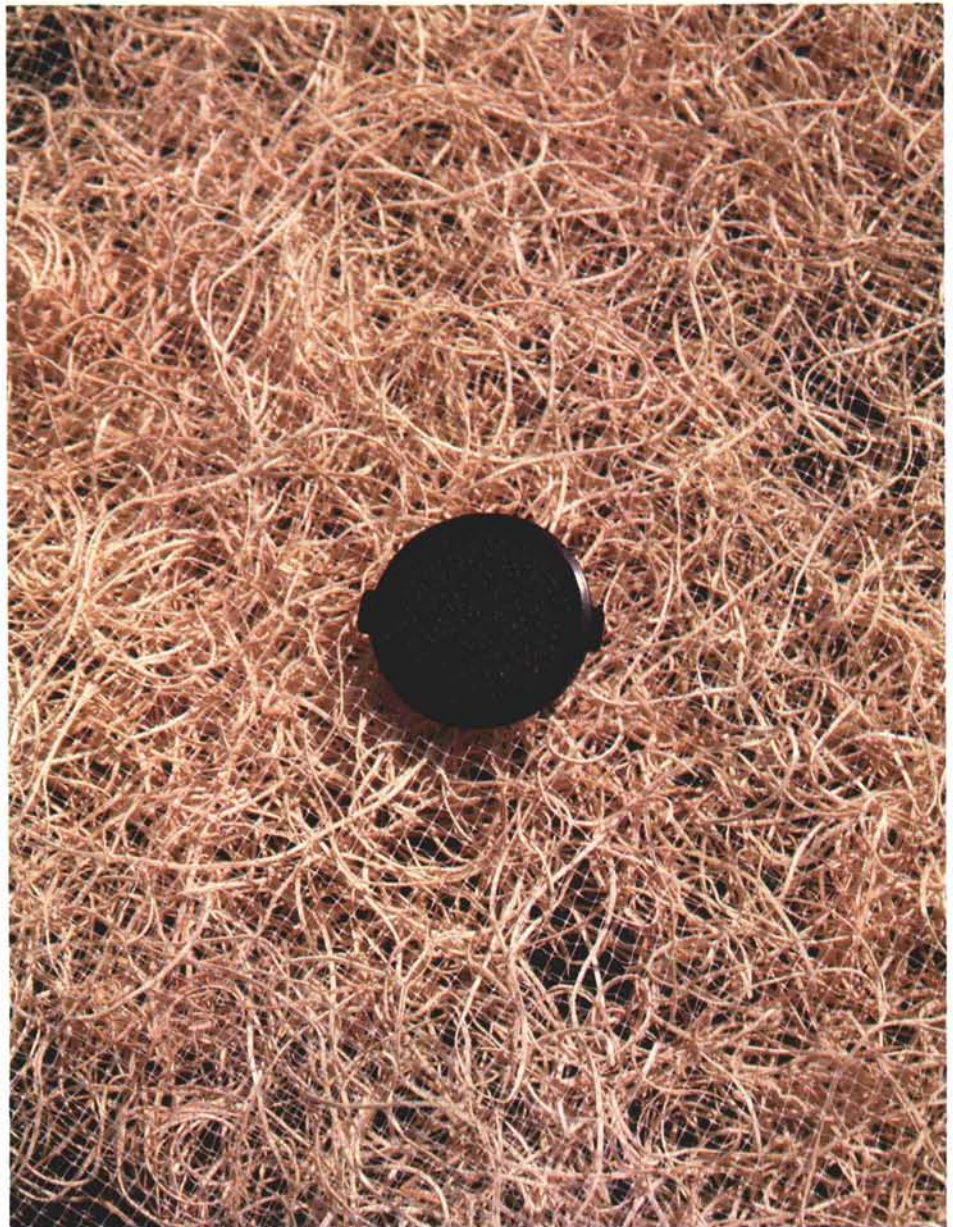
The Turbo Meter, fans, and smoke. It's better than licking your finger and sticking it up in the air!

EXCELSIOR GREEN COVERS

by **ROBERT C. VAVREK, JR.**
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EXCELSIOR is thin, curled wood shavings commonly used as a packing material before the days of bubble-wrap and styrofoam "popcorn." Curlex Greensavers are turf covers made from a layer of aspen wood excelsior loosely held together by fine netting. Similar products are used by landscape contractors as a mulch and to control erosion on new seedings. Excelsior mats are a common sight along steep banks adjacent to highways, sites especially prone to washouts and sheet erosion.

Several superintendents in the Minneapolis/St. Paul area have had good success using excelsior mats as green covers to minimize turf injury caused by wind desiccation and crown hydration during the long Minnesota winters. Unlike the thin geotextile fabrics, the aspen shavings swell when wet to provide a substantial layer of insulation. Once the greens freeze, they tend to remain frozen despite short freeze/thaw cycles that occur during the winter.



Aspen wood excelsior mats swell when wet, which provides more protection during freeze/thaw cycles than geotextile fabrics.