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The strong bentgrass shoot growth response to the Humact-G raises the question of the nature of the response. Was it purely nutritional or were some other growth-stimulating factors involved? This question was addressed in two ways. One was to analyze the clippings from the control and Humact-G treatments. The other was to determine the nutrient content of the Humact-G itself.

Application of the Humact-G clearly altered the nutritional status of the bentgrass (Table 3). Clippings from this treatment contained 34% more N, 85% more P, 14% more K, and considerably less Fe and Cu than did the clippings from the control treatment. Could the additional N, P, and K in the Humact-G clippings have come from the product itself?

Table 3. Bentgrass clipping analysis for the control and Humact-G+Fe treatments.

Clipping nutrient concentrations	Control	Humact-G
Nitrogen	3.54%	4.75%
Phosphorus	0.40%	0.75%
Potassium	3.29%	3.76%
Calcium	0.67%	0.56%
Magnesium	0.43%	0.44%
Sulfur	0.36%	0.53%
Zinc	89.6 ppm	110 ppm
Manganese	66.7 ppm	83.8 ppm
Iron	624 ppm	176 ppm
Copper	229 ppm	118 ppm

The N content of the Humact-G was measured by way of the Kjeldahl method and the other nutrients in a nitric acid + hydrogen peroxide digestate. The analysis revealed that the Humact-G contained as its main nutrient components 6.27% N, 4.80% P, 2.34% K, 4.44% S, and 4.10% Fe. If one assumes that all the P and K in Humact-G are plant available, the two applications of the product were equivalent to applying 12 lb/M of a 6.3-10.9-2.8 grade of fertilizer. This totals 0.76 lb N, 1.3 lb phosphate, and 0.34 lb potash/M. When this information is combined with the fact that there was no growth response to the liquid humate, H-15 (Table 2), the implication is quite strong that shoot growth response to the Humact-G was to the nutrients contained in the product.

The excessive levels of Fe and Cu in the clippings from the control treatment were reduced by the application of Humact-G (Table 3). This is evidence that the humate has chelation properties. It is a well-established fact that when plants are provided Fe and Cu in ionic forms, uptake is greater than when the nutrients exist as chelates. The reductions in clipping Fe and Cu concentrations in the Humact-G treatment may also have contributed to the shoot growth response to the product.

The bentgrass growth responses observed in this study are clearly very short-term. It is entirely possible that different responses would have been observed had the study been conducted for a longer period of time. The short-term responses measured did not substantiate the majority

of the claims made by the manufacturers of the non-traditional products tested and it is quite possible that the response to the Humact-G could have been duplicated by applying a conventional fertilizer.

Editor's Note: Tim Wegner will graduate from the University of Wisconsin-Madison Turf and Grounds Management Program in December 1997. This summer he is interning at the Pine Tree Country Club in Boynton Beach, Florida. 🏌️

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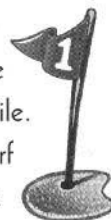
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Summer Field Day Wants YOU!

By Audra Anderson
Executive Secretary, Wisconsin Turfgrass Association

The Field Day Planning Committee has made many improvements with the hopes that more of you will attend the WTA annual Field Day. With the changes that we have made, you will have a better opportunity to gather all the useful information that is available at Field Day.

The biggest change is that Field Day will be two days, Tuesday, August 19th AND Wednesday, August 20th. Both days will offer the same information but at different times of the day. Tuesday will start mid-morning and Wednesday will start early morning.

The best change is that we have added more studies for the research tour. With all the management practices that you read about, you will be able to see first hand what our research shows will work. The research tour will allow you to ask specific questions about the research and how it can help you manage your golf course and/or business.

The trade show and demonstration area will be in the

new acreage that was added in 1996. You will have a much larger area to look at and test the equipment. The new and larger area will also ease the congested trade show walkway that has been a problem in the past.

We have added an evening meal on Tuesday. This will provide you with extra one-on-one time with the researchers, professors, people you haven't talked to in awhile, or vendors that have product that you have more specific questions on. The meal will consist of BBQ Pork ribs, chicken, side items and a beer or pop. This meal is not included in the price of Field Day. It is an extra \$15.00.

With all these changes and improvements, you should plan now to attend Field Day '97 on August 19th or August 20th, whichever day fits your schedule better. If you have questions, call Audra at 608-845-6536 or fill out the registration form below and mail it in.

The schedule of events is as follows:

Tuesday

6:00 - 9:00am	Trade Show Setup
9:30 - 10:00am	Registration
10:00 - 1:30pm	Trade Show & Equipment Demo
12:15 - 1:15pm	Lunch
1:30 - 3:30pm	Research Tour
5:00pm	Supper

Wednesday

7:30 - 8:00am	Registration
8:00 - 10:00am	Trade Show & Equipment Demonstrations
10:00 - 12:00pm	Research Tour
12:00 - 1:30pm	Lunch
12:30pm	Results of Silent Auction (you do not need to be present to have the highest bid)

WTA FIELD DAY '97 REGISTRATION FORM

Name of Registrants (Print legibly)

Company _____

Mailing Address _____

City/State/Zip _____

Phone () _____

Main area of interest: Golf Course _____

Lawn & Landscape _____

Do you plan on attending: Tuesday _____

Wednesday _____

Pre-registered WTA Members _____ X \$20.00 = _____

Pre-registered Non-Members: _____ X \$25.00 = _____

Evening meal: _____ X \$15.00 = _____

Make check payable to Wisconsin Turfgrass Association (WTA).

Return this completed form along with check by **August 11th** to:

Wisconsin Turfgrass Association
O.J. Noer Turfgrass Facility
3101 Highway M
Verona WI 53593-9537