

Karsten reports analysis breakthrough

BY MARK LESLIE

Karsten Turf Co. has introduced an advanced technology that allows superintendents to quickly analyze the health of their turf at the source: the grass itself.

Karsten's research team has used near infrared (NIR) spectroscopy instrumentation to develop the Model 491 Scanner to analyze the nutrient content of grass tissue samples.

Research Manager Dr. David York said the scanner now analyzes 10 nutrient elements: nitrogen, phosphorous, potassium, calcium, magnesium, sulfur, iron, zinc, manganese and boron. The researchers are investigating the possibility of adding sodium, molybdenum, cobalt and silica to the scanner's capability.

The prevailing method of analysis is testing the soil. As successful as this has been, York said it does have drawbacks. He said that while a soil test finds what is in the soil, those nutrients don't necessarily get to the grass.

The pH and chemistry of soils and the soil texture — whether it is clay or sand — influence the availability of the essential nutrients to the grass.

"We think this is much more useful," York said, speaking of the \$14,000 scanner which is IBM computer-compatible. "We're very optimistic. The initial response is that this is something that will really help superintendents better manage their golf courses."

The procedure is simple and fast. The superintendent takes a small (50- to 100-gram) sample of grass, rinses it in water and dries it in a microwave oven. The dried sample is ground into a fine powder using a small cyclone grinding mill. The sample is placed in a small cup and inserted into the Model 491 Scanner. The preparation of the sample to this point takes about 15 to 20 minutes.

One minute after the sample is placed in the scanner, the computer it is connected to displays a complete nutrient profile.

"For the first time, this gives the superintendent a tool with which he can attempt to apply or meet the actual fertilization/nutrient requirements of his golf course," York said. "He can provide that grass with what it needs to keep it growing in a healthy, vigorous state."

"Until now he had to send a sample off to a lab and wait, perhaps for weeks. Now if he has had a serious problem with nutritional deficiency or excess he can find out quickly and get a jump on resolving it."

Citing Karsten's accompanying liquid nutrient products, York said: "We don't worry about soil pH because we have a lot of things in our nutrients that buffer the plant from pH. We are putting nutrients on the leaf so they react foliarly. We're attempting to bypass the problems that occur when granular fertilizer is applied to the soil and the problems of nutrient tie-up."

While many companies offer nutrients, Karsten's scanner is unique to the industry and to turfgrass analysis. The infrared tech-

Oklahoma

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Proctor estimates the state has saved 13 percent on new purchases since the courses started buying as a group.

Each course had its own way of tracking sales, golfers, free passes, number of members, gift certificates, etc. before this year. Proctor installed uniform cash registers and financial record-keeping at all nine courses shortly after assuming his new position.

"Now we can all pull together as one," he said.



Dr. David York with Model 491 Scanner

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— Dr. David York

nology has been used in the agriculture industry for 10 years, analyzing forage for protein, crude fiber, digestibility, et cetera.

York worked with project coordinator Bernie Atutis, Penn State Professor John Shenk of Shenk's Infrasoftware International, and Karsten's research staff on the scanner. He feels the equipment is a breakthrough for groundskeepers, providing them an ecologically and environmentally sound approach to maintaining healthy turf.



LPGA choosing course architect

The Ladies Professional Golf Association is reviewing applications for an architect to build the group's new, 36-hole home course in Daytona Beach, Fla. LPGA media services coordinator Beth McCombs said it wasn't known when a decision would be made among the 37 applicants. The course, scheduled to open in 1991, will host the annual LPGA qualifying tournament.

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