## **PROFILE:**

# **Straight Talk From Turf Diagnostics & Design**

By Bob Tracinski estled in the center of America's heartland, in Olathe, KS, stands a laboratory where scientists delve into the heart of the earth — the soil. Those facilities are the nerve center for Turf Diagnostics & Design Inc., a physical evaluation laboratory and agronomic consulting company serving the golf and sports turf industry.

According to its literature, the company applies the innovative use of technology in the design implementation and agronomic operation of high-performance turf systems. TD&D services include evaluation of design specifications, laboratory evaluation and selection of construction materials for new facilities or renovation, quality control for adherence to design specifications and proper implementation of high-performance turf systems, on-site agronomic assessments and diagnostic evaluations of high-performance turf systems.

If it all sounds a little complex — it is. It's founders, however, are a plain-spoken yet unlikely pair, at least on the surface. Charles "Chuck" Dixon, president of technical operations, handles the technological aspects of the company. He works with systems in the lab, consults on site, and conducts seminars on soils and soil-related issues. Stephen "Steve" McWilliams, president and CEO, handles management, sales and marketing for the firm.

"My job is to provide Chuck with the lab and the people to do the job, to support the data that we generate and to make sure the money is there to provide what he (Dixon) needs to accomplish the goals on the technical end," says McWilliams.

#### **Mix of Talents**

Dixon holds a bachelor of science degree in agronomy-soil science, and a master of science degree in agronomysoil microbiology, from the University of Arkansas at Fayetteville. In addition, he has spent 40 hours of post-master's study at the Texas A & M University in agronomy-soil microbiology-forage production. He's also taken a 40-hour OSHA Safety Training Course for handling hazardous materials through the Chemical Engineering Extension Service Training School at Texas A & M.

Dixon "followed the economy" to the turf field, first working in the food and fiber industry, then in the environmental arena with hazardous materials. He's been "into turf" since 1985. With his diverse background, he brings an integrated approach to his work, looking at the complete component of any situation. ket and tracked the trends. Approached to raise money for a client, he assessed the industry and found it to be a viable market for good technical information, and the place he wanted to be.

How did the company begin? "We jumped in a car together one day, discussing the industry during the ride, and by the time we stopped we'd started a business," says Dixon.

The ride was from Kansas City to the East Coast. Proceeds from the sale of the car provided seed money to begin putting the business together. Turf Diagnostics & Design was incorporated



The team at Turf Diagnostics & Design Inc. (clockwise from left): Chuck Dixon, Steve McWilliams, Jeanne Fell and Jennifer Sutch.

McWilliams entered the industry from the investment side. Prior to college, he spent six years in the Navy running nuclear power plants for the submarine service. After working his way through Connecticut College in New London, CT, as a tennis pro, he took his degree in economics to where the money was. As a broker for Shearson Lehman Brothers, he followed the marofficially on May 7, 1991, and the lab was equipped by August of that year.

Both see the company as a means of helping sports turf and grounds managers become more effective. "In seminars and in individual consultations, I focus on helping the grounds manager understand the concepts, to understand how the whole system works," says Dixon. "Once the concepts are mastered, the system can be applied anywhere. Then I can help grounds managers gauge their expectations accordingly. It's pretty tough to expect a Formula 1 race car and end up with a Volkswagen Beetle."

The backgrounds and strengths of McWilliams and Dixon are clearly different. Yet together, their talents mesh well.

"Chuck is an incredibly intelligent person, a kind of Renaissance man, yet he doesn't have a big ego," explains McWilliams. "He just wants to improve conditions and minimize problems. He focuses on the technology, keeping us on track and to stay within what we know how to do. He's quick to recognize mitigating circumstances and pulls in consultants in other specialties for their scientific input to attack complex problems."

Says Dixon, "I've seen too many companies fail because they have only one part of the equation, the technical expertise, and no one concentrating on sales and marketing with a focus on the business angle. Steve has picked up the turf business where it is and done a great to try to wake it up. He's always thoughtprovoking and, in discussions, he always brings an innovative angle. He keeps his eyes on the big picture.

Both principals are quick to credit the expertise and efficiency of their staff. Jeanne Fell serves as soil scientist and assistant to Dixon. She holds a bachelor of science degree in geology from Oklahoma University and master of science in agronomy-soil classification from Oklahoma State University. Her unbiased attitude to the pure physics of soil science and her performance with TD&D have earned her international respect. Jennifer Sutch serves as soil scientist and laboratory manager. She holds a bachelor of science degree in botany, with a minor in geology, from Olivet Nazarene College, and masters of science in agronomy-soil science from Purdue University. She has eight years of experience as a field agronomist with a strong soils laboratory background. Both Fell and Sutch have lived in Africa, and their experiences in the country were instrumental in TD&D's assistance with the development of the African Veldt Exhibit for the Kansas City Zoo.

#### **On the Record**

Ask either McWilliams or Dixon a question and you'll get an answer often a spirited one. "Yes, we're up front about how we see things," says McWilliams. "Frankly, for the industry to succeed and grow we must be self-critical at times. We need to see how we got to where we are and to bring things out that need to be discussed.

"The golf course superintendent or groundskeeper can put his job on the line based on the technical data he receives," McWilliams adds. "The technical part of the industry needs to be utilized by the pros in the field. There are 474,000 sports fields in the U.S. with some sort of budget, and maybe 5 percent of them are high-performance sports fields."

Dixon says that while working on high-visibility sport fields, with the budgets and motivation to make changes, is rewarding personally and for TD&D, the company is also in business to help field managers with lower budgets manage their resources successfully.

"There's high-speed development in the sports turf and golf areas," Dixon explains. "There are new products and a new boom of development of technol-

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#### **Turf Diagnostics & Design**

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ogy in turf. It's not a static industry, and I like that. I'm drawn to innovation. I want to know what happened. Did it work or not work, and why?"

Education and technology, Dixon asserts, must be combined. Technology can help promote better management practices, which he hopes will be economically feasible.

"Biotechnology from other industries will help us manage Mother Nature," he says. "We try to promote the best possible practices and explain why we are recommending them. Then, if people have to step down a notch or two from that, they can better gauge their expectations according to their budget, and they can minimize any possible harm to the environment.

TD&D clients come looking for answers, says McWilliams, who estimates they spend 30 percent of their time educating people.

"That [education] may be in explaining the ramifications of certain test results, or it may pertain to the use of a specific product," he says. "Products must be used in the right situation at the right time to produce the results anticipated. Since our clients risk their careers with every decision they make, we want to make sure they have the best information possible on which to base those decisions."

"We view turf as expendable and renewable, but there is a limit to what it can take," adds Dixon. "A field the performs well can is efficient is an asset in the greenscape. But a 'basket-case' system with nutritional problems and disease infestations, where harsh chemicals are used to compensate for poor performance, is not an asset. Good turf biodegrades inputs. Irrigation water passes through the living filter and the turf and soil to arrive cleanly back into the hydrologic cycle. The acreage in properly constructed and managed golf courses, sports fields, and parks and recreation departments, where inputs are minimized and their fate is controlled, make turf a positive factor."

According to McWilliams and Dixon, TD& D looks at the total picture for it clients. They perform physical evaluations in-house and send the fertility nutrient sampling to another lab. Clients are supplied with a total system analysis, incorporating the impact of the total data. "Because of the considerable impact of the Walkley-Black organic matter content test, a major innovation of TD&D, on the improvement of the quality of golf green construction, the test has been incorporated in the 1993 USGA Guidelines for Methods of Putting Green Construction and is the foundation for many of the major changes currently sweeping the golf course construction industry," says McWilliams.

Adds Dixon, "The 1993 USGA greens guidelines redefine how materials are tested and how work is performed. We can take some of that technology to the sports fields."

Both principals assert that during field construction all steps of the process must be monitored. Material must be tested to ensure that standards are maintained. Each site is different — even the climate

inside and outside a stadium can be different.

The golf industry has provided extensive research on sand-based fields. However, McWilliams sees an information void when it comes to native soil fields.

"There's been little done on native soil fields," he says. "For some areas, a native soil field is the best they can manage. Proper grading, lateral drainage and managed play will help. Core aerifying and topdressing with sand will let air and water penetrate to get drainage. If the practice is repeated as often as possible, a better field will result. The groundskeeper will then have to manage a hybrid field. Testing for nutrition will be even more critical."

Dixon admits that where budgets are too limited for top-quality field construction, some compromises must be made. Those measures could include creating more fields on the "intermediate level" and rotating play to allow adequate recovery periods. TD&D attempts to help clients make those decisions — where to spend their dollars and how to manage their resources to achieve the best results — and those decisions should be based on understanding technology.

"No matter how limited the budget we can a least say, 'Here's where to put the



Jeanne Fell in a section of the TD&D laboratory.

money — do this with the soils, set up this type of irrigation, use those grass types and set up a maintenance program to sustain it," says Dixon. "It's amazing how many fields are constructed with no budget for continued maintenance. At least we can offer the low-end user some guidance at affordable levels."

Dixon believes that as the understanding of soil management grows within the professional ranks it will "trickle down" to junior college and high school levels. He is amazed at the amount of money spent on a sports complex, while little is spent on the field itself. Until the system accepts the importance of sports fields as resources for "the reservoir of athletes for the future," Dixon notes, the budget for athletic fields won't be there.

McWilliams agrees, "The total education process must reach the student athlete, coaches, athletic directors, parents, school boards, architects, athletic trainers, sports turf managers and the general public."

The partners also mesh ideas when it comes to trends within the turf industry.

"As the country becomes more older demographically, we'll see more older players and probably more field-related injuries," says McWilliams. "With older players, the quality of sports fields becomes even more important. We'll see the use of the Clegg Impact Hammer in compaction studies on sports fields. But I hate to see the industry grow just because the liability factor is waving a stick at us."

Says Dixon, "Interest in soccer is growing rapidly. Currently, older people in soccer are almost nonexistent, but the generation coming up will want to play. The majority of stadiums in use now are too small for a standard soccer field. The excitement following the 1994 World Cup play will generate the need for more fields."

Parents always want better fields for their children to play upon, McWilliams observes. He suggest a "check-off system" for people to designate \$10 to sports fields for the community, where those funds would actually be spent on fields. He also suggests that professional sports teams assist sports turf managers by holding sports turf management day at stadiums to support field care within their communities.

With so much energy, enthusiasm and dedication — and sparks — flying from McWilliams and Dixon, it's no wonder that Turf Diagnostics & Design has made such in-roads in a few short years. It's client list is impressive (see "TD&D's Broad Base") and as the firm continues to grow, expect more progress and sparks.

Much of the future of sports turf

**TD&D's Broad Client Base** Golf Course Architects — Gene Bates, Fred Bliss, PGA Tour, Bob Cupp, Pete Dye, P.B. Dye, Robert VonHagge, Steven Burns, Larry Flatt, Gary Player, Keith Foster, Denis Griffiths, Arthur Hills, Mike Hurdzan, Robert Trent Jones II, Bob Lohmann, Jim Spear, Baxter Spann, Craig Schreiner, Jack Nicklaus, Warner Bowen, Arnold Palmer, Tom Waton, Dick Nugent, Don Sechrest, Dale Seimens, Bobby Weed, Tom Fazio, John Allen.

**National Football League**\* — Los Angles Raiders, Atlanta Falcons, New England Patriots, Cleveland Browns, Kansas City Chiefs, Washington Redskins.

Major League Baseball — Atlanta Braves, Texas Rangers, Boston Red Sox, Seattle Mariners, San Diego Padres, Baltimore Orioles, Colorado Rockies, Cleveland Indians. Minor Leagues\* — Shiloh Eagles, Norfolk Mets, Durham Bulls, City of Salt Lake, Pilot Field, Buffalo, Albany Polecats, Baltimore Bay Sox, San Antonio Missions, Wilmington Blue Rocks, Thurman Thomas Field.

NCAA — University of Florida, University of Buffalo, University of Houston, University of Tennesse.

Olympics 1996 — Main Track & Field Stadium, Atlanta, GA.

Horse Racing — Santa Anita Park, Los Angeles Turf Club.

\*Turf Diagnostics & Design is recommended by the National Football League and the National Association of Professional Baseball Leagues. industry can be molded by organizations within it working closely together, says McWilliams.

"There are lots of organizations out there meandering in the same direction as the Sports Turf Managers Association: the National Federation of High School Associations, the National Youth Sports Coaches Association, the National Foundation for the Prevention of Athletic Injuries, the National Athletic Trainers Association," he concludes. "Many of the goals we're all trying to accomplish are the same. If we could harness all that association power to work together we'd get better and faster results. I'd like to see representatives from each organization make it a point to attend the national conventions of the others to update each other and find out who and what can help. It would help the industry to become more focused, informed and centered."  $\Box$ 

Editor's Note: Bob Tracinski is the manager of public relations for the John Deere Company in Raleigh, NC, and public relations chairman for the Sports Turf Managers Association.



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