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RUTGERS LEADS THE WAY IN TURF MANAGEMENT
what the New York Yankees are to baseball, Rutgers University is to the turf industry. The university’s Center for Turfgrass Science is renowned throughout the golf industry.

Headquartered on the Cook Campus in New Brunswick, the center was founded in 1995 but Rutgers’ ties to the turf industry go back decades. In 1923, the school established a series of turfgrass evaluation plots for the first time. In 1925 it hired its first full-time turf faculty member, Dr. Howard Sprague, who by some accounts was the first full-time turf faculty member anywhere in America.

Four years later Rutgers began offering a five-day short course in turfgrass management. By 1932 the university had established a turf advisory service that assisted golf courses throughout the New York metropolitan area.

The end of World War II brought the arrival of Dr. Ralph Engel, the university’s first full-time turf scientist, who would spend three decades at Rutgers, and in 1956 by Dr. C. Reed Funk, who started his career as a corn breeder. He would go on to spend four decades at Rutgers and was celebrated over the course of his career for his expertise at breeding cool-season turfgrasses.

Most recently, the program has expanded thanks to the efforts of Dr. Bill Meyer and Dr. Stacy Bonos, two world-renowned turfgrass breeders, as well as Dr. Jim Murphy (who specializes in turfgrass management), Dr. Bingru Huang (turfgrass physiology), and Dr. Albrecht Koppenhofer (turfgrass entomology).

Over time, the Rutgers turfgrass program has constructed a three-semester mission. It provides education and training to the men and women who spend their professional lives tending to turf. It conducts wide-ranging research in the field of turfgrass science. And it provides assistance and outreach to turf managers around the globe within and outside the golf industry who are dealing with real-world concerns that require practical and often immediate solutions.

The university’s Center for Turfgrass Research is headed by Dr. Bruce Clarke, who has worked in the turf field for more than three decades.

Clarke earned his undergraduate degree from Rutgers in Forestry Management and later earned a Ph.D from the university in Plant Pathology.

When he joined the Rutgers faculty in 1982 he knew little about turf. But men like Funk, Engle, Indyke and others showed him the ropes, and in 1990 Clarke moved into turf on a full-time basis and has remained there ever since.

“I found out that turf was really what I wanted to focus on,” he says. “It’s just a fantastic group of people to work with, both in the industry and here at Rutgers.”

Students enrolling in the turfgrass management program at Rutgers have the option of pursuing either a two or four-year course of study (a graduate program is also available). Surprisingly, the four-year program has typically featured a smaller number of students than similar programs at other schools.

“The four-year program has never been a huge program at Rutgers,” Clarke says. “There have been programs at Iowa and Penn State and other programs which may be 120-150 students in their program at one time. Rutgers has never had more than 30-40 in the program at a time.”

Today there are only about 20 undergraduates enrolled in the program. Clarke says that statistic is part of a nationwide trend amidst changes in the golf industry.

At one time 90-95 percent of the students at the university’s two-year program had designs on a career in the golf industry. Now, perhaps 50 percent of them do while the remainder aspire to careers in sports-field or landscape management.

“But the students we have are outstanding,” Clarke points out. “They have no problem getting jobs out of here. We focus on some top-quality students and try to give them the best education possible.”

The curriculum includes an assortment of core courses in introductory and advanced turfgrass management. Other courses include one Clarke co-teaches that deals with insect, weed and disease issues. There is also a physiology course that is structured with aspiring superintendents in mind.

“It’s very important for superintendents or any turf manager to understand what makes plants function,” Clarke says, “and how management practices affect plant health.”

Other courses cover everything from irrigation issues to the basic mathematics that go along with maintaining a golf facility. Clarke notes students coming into the program who have been out a decade or so ago. “In the past, we always got students right out of high school,” he says. “Over the past 10-15 years we’ve seen a dramatic shift. We get the majority of our students now coming in from community colleges.

“The reason for that is twofold. One is that there is a lot of movement from turf managers to pathology, to business courses, to public speaking courses to budgeting courses—all they really need to know.”

The core-instructor for the two-year program are the same faculty members who oversee the four-year program. In addition, the university utilizes industry experts who come in for a day or two to give them the best education possible.

“We have an abiding passion for the the program is on growing and maintaining healthy golf courses,” Clarke says. “Facilities management and professional management.

“You find that 90 percent of your time is spent on management,” he says. “Facilities management and professional management.”

Architect Stephen Kay teaches a series of courses related to his field, such as surveying and golf course construction. Kay has brought his expertise to the program for more than three decades.

“It’s very important for a superintendant to know how to do basic surveying,” he says, “and how to deal with drainage issues, how to install drainage.”

Chris Carson, the golf-course superintendant at Echo Lake Country Club teaches a class on budget issues and another on professional development. Carson, himself a graduate of the Rutgers four-year program, has been teaching there since 2000.

“I got involved,” he says, “was to try to ensure that the people coming out of Rutgers had their eyes thoroughly opened as to what they were getting into and the issues that they would have to deal with.”

Carson points out that while the focus of the program is on growing and maintaining healthy golf courses, the students in the program are also learning how to perform in the real world. “The curriculum features a graduate student’s job description includes a host of manage- ment and administrative responsibilities.

“It’s a lot cheaper to go to a community college and if they prove themselves and get a B average at a community college in New Jersey have an excellent chance of get- ting into Rutgers. If the four-year program is intended to train the turf managers of tomorrow, the two-year program is designed to enhance the knowledge base of those already in the profession.”

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“We have an abiding passion for the
two-year certificate from Rutgers is a prized commodity in the turf industry.

“The program has a good reputation,” Clarke says, “and I think it’s deserved because we really focus on the student’s needs, and the instructors will bend over backwards to help the students gain the information they need.”

Over the course of the last 92 years, the university has continued its commitment to turf research. Currently it maintains three research farms. One is located adjacent to the Ralph Geiger Turfgrass Education Building in East Brunswick, where the focus is on golf research. Some 40 minutes to the south near Freehold is a second facility featuring a sandy loam soil where researchers tackle turf-breeding issues. A third, in Piscataway, covers an additional 400 acres, roughly 10 of them turf, and features a different soil type.

“We can evaluate in three different venues,” Clarke says, which gives us three different climates, if you will.

The center focuses its efforts on cool-season grasses. Through the years Rutgers breeders have developed such varieties as Manhattan perennial ryegrass, Midnight Kentucky Bluegrass and the Rebel series of fescues, among others. These grasses are not only pleasing aesthetically but will thrive in a changing climate.

“No one is going to argue what the cause is. But we all know that it’s changing,” Clarke says. “People argue what the cause is. But we all know that it’s changing. The fact of the matter is we’re developing grasses which are now much more heat tolerant than they were in the ‘50s and ‘60s. They’re more drought tolerant, and they’re grasses that to a large extent resist insect and disease problems. They often learn about those problems from superintendents on the ground.”

“We follow trends in the industry,” Clarke says. “If we go to a turf conference and we present our data and get questions, if we can’t answer those questions we often wind up working on solutions for those questions. We’re constantly hearing from superintendents out in the field about what their problems are.”

Clarke notes that Rutgers is situated in an ideal location to conduct in-depth research of issues. “We are in a transition zone,” he says, “which is unlike anywhere else in the world. You get all of the warm-weather problems, the cool-season problems, the drous heat, tremendous cold. It’s perfect.”

Eventually a treatment protocol was created, with some financial help from superintendents in the field.

“Superintendents in the tri-state area contributed well over $150,000 over a 10-year period,” Clarke says, “and we developed a very sound best management practice recommendation that is still used to this day.”

“It’s not uncommon for researchers at Rutgers to join forces with colleagues at other institutions to find solutions to problems. The university has been taking part in these multistate turf regional research projects for more than 30 years.

“We’ll collaborate with colleagues at other universities like Penn State,” Clarke says, “and try to attack the problem from multiple angles.”

In 2001 researchers from Rutgers and elsewhere took up the fight against anthracnose. The battle is not yet won but the work is continuing.

“We’ve had scientists from 12 different states, and Canada working on it,” Clarke says. “We take on problems as they start emerging, we utilize a collaborative research team approach.

“We have very strong teams at Rutgers but, we also have strong collaborative teams with other universities which really provides the solutions to the more complex problems that are developing now.”

Clarke notes the turf industry as a whole has been steadfast in its support of all that he and his colleagues are doing.

“The superintendents’ industry has been tremendously supportive of not only the Rutgers turf research program but many programs throughout the country,” he says. “And that has led to a very close partnership with the superintendents, with sports field managers, with other groups. They’re putting money where their mouth is, so to speak. It shows us I think the importance of these issues.”

“It shows they really value the issues we are working on and appreciate the research that we conduct in support of their industry.”

“We had superintendents losing their jobs because they couldn’t control summer patch,” he says. “We didn’t even know the cause at the time. We thought it was Fusarium blight that was first identified back in the late ’50s as a patch disease, and it turns out it’s a root disease.”

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Rutgers also works with an assortment of seed companies to develop new varieties of seed. The university does not produce the seed itself but licenses the rights in return for royalties; those dollars are funneled back into the turf center.

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