Here also is located North Carolina State University, which has had a reputation as a very good agricultural school and whose turf program recently has taken its place among the nation’s elite turfgrass-management schools.

North Carolina State tops our initial rankings among North America’s best four-year turf schools. Located in the center of the state’s $8.6 billion green industry, North Carolina State’s turfgrass program (which is under the crop science department), has a wealth of resources. Included in that list are a diverse and talented faculty, research money and grants, facilities and quality of curriculum.

“The more the companies pay to that level that is great,” said NC State alumnus Ron Gilmore, superintendent at Prestonwood Country Club in nearby Cary. “I’m very proud.”

Gilmore watched his alma mater’s turf program grow rapidly since he graduated in 1987 with degrees in turfgrass management, ornamental and landscape technology, and agricultural business. He says the people there have been the primary reason for the success and growth of the program, which has more than doubled its students and teachers in the past 20 years. As the golf industry moved in, professors and researchers such as Fred Yelverton, Ph.D., and Rick Brandenburg, Ph.D., reached out to the industry for support. They also lobbed their own administration. In turn, the faculty has grown to seven full-time professors, two associate professors, two assistant professors, one instructor and 22 graduate students working on turfgrass research projects. This spring there were 156 undergraduate students — 318 in the two-year program and 78 in the more stringent four-year degree program.

There is an onsite pathology lab, two large field labs and multiple greenhouses and classrooms. In addition, the department’s home, Williams Hall, is under renovation.

North Carolina State University has had a strong impact on the local community with its proximity to several major industry players.

Bob Bell, vice president and director of commercial sales operations for Smith Turf & Irrigation in Charlotte, is a former board member of the Turfgrass Council and also served on the advisory council of the research center. His company, a major Toro distributor in the region, donated equipment to the N.C. State field lab maintenance facility. He says having a state-of-the-art research facility is important for the state’s turfgrass industry.

“The turf group down there does a wonderful job of keeping the industry up to date on the latest technology,” Bell said.

“Having a state-of-the-art research facility is important because it allows the practitioners out there to have the latest and greatest research tools available to do their job more effectively and to be on the leading edge of the industry.”

Charles Tomlinson, executive director of the Turfgrass Council, said the N.C. State program has been a major driver of the growth of the industry for more than two decades. Giving them support only made sense.

“They’re not just learning, but they’ve come to us and asked. It’s not like we’ve had to chase them down,” Tomlinson said. “They’ve taken action and gotten the job done. That’s the bottom line. And, of course...”
course, their specialists are so accessible to the turfgrass managers of the state to listen to problems that need research solutions and to disseminate the information once they’ve gotten the results and work with people on their problems. It’s just a very great relationship.”

State and industry funding is particularly important because unlike schools such as Penn State and Rutgers, for example, N.C. State does not receive royalties from plant breeding – at least not yet – although plant-breeding plans are in the program’s future.

“It’s almost like the stars lined up correctly,” Yelverton said. “If we hadn’t had the center, we wouldn’t have gotten the money.”

Yelverton, Brandenburg and plant physiologist Tom Rufty, Ph.D., are the research center’s directors. Of course, money alone does not make a good program. What is important is how that money is spent.

On the research front, the N.C. State faculty is covering the spectrum of projects. For example, Yelverton’s group has developed extension and research programs for turfgrass weed management and growth regulators as well as investigating the relationship between pesticides and turfgrass systems and the biology and ecology of weed species.

Brandenburg heads one of the leading research groups in the country in investigating mole cricket management. His group has developed pest-forecasting systems to provide early warnings of insect activity. Brandenburg recently received a William Neal Reynolds Professorship from the university. It is the highest honor afforded to faculty members in the College of Agriculture and Life Sciences.

Plant pathologist Lane Tredway, Ph.D., has been researching the etiology and epidemiology of a new disease affecting bentgrass greens as well as evaluating the mechanisms for fungicide resistance.

Rufty’s group published results from a five-year study of golf courses and sod farms that showed proper application of nitrogen poses little threat to the environment. His group also is examining assimilation capacities of turfgrass systems and the physiological damage that can occur from an overload of effluent water.

There also is crossover from other departments. For example, soil microbiologist Wei Shi, Ph.D., is doing research to define the environmental fate of soil nitrogen and microbial-turfgrass interactions. And molecular biologist Ron Qu, Ph.D., is introducing a nematode resistance gene into Bermuda grass.

The center also funds one of the most comprehensive turf Web sites in the world (www.turf-files.ncsu.edu), which received more than 12 million hits last year. Led by Gail Wilkerson, Ph.D., TurfFiles’ Decision Aids is a Web-based application that assists in plant identification and weed management. Using information from hundreds of research trials, Decision Aids models are developed to assist in turfgrass selection for particular environments and disease identification and control.

There also is the relatively new Lake Wheeler field laboratory in Raleigh to go with the Sandhills site near Pinehurst. The 4-year-old turf field lab, which will continue to expand, spans more than 300,000 square feet, 90,000 square feet of which is bentgrass.

What sets fields like the Wheeler station apart from others in the country are the dozen or so types of grasses being grown here, N.C. State officials said. Because North Carolina is in the middle of the transition zone, grasses tested are equally divided between cool- and warm-season varieties. Consequently, the fields have been the sites for many National Turfgrass Evaluation Program studies. N.C. State field days are alternated between the two sites with the next one coming Aug. 8 at the Lake Wheeler station.

While the turf program at N.C. State has plenty of momentum, its leaders are careful not to let up. Just last year, the department added another respected faculty member, turf specialist Grady Miller, Ph.D., from the University of Florida. And the university continues its strong relationship with the industry.

Last year, N.C. State, along with Bayer ES, launched a new laboratory at Bayer’s 281-acre research facility in Clayton to study plant health initiatives.

Brandenburg says it is critical that the turfgrass program continues to build relationships with the industry.

“Our challenge,” he said, “is for this not to be a meteor that burns out.”