

Elon College Combines RENOVATION With CHEMIGATION

For nearly a century Elon College, a small private liberal arts college in Burlington, NC, had maintained its campus landscape like most other colleges, through its physical plant department. A growing enrollment and ongoing construction of dormitories and classrooms were putting a strain on the maintenance staff and condition of the 300-acre campus.

College President Dr. Fred Young knew that just as students and faculty are inspired by certain subjects, so are the individuals on any maintenance staff. He asked Robert Poindexter, vice president of administrative services, to find an inspired landscape specialist to bring new life to the campus landscape and sports fields.

For 20 years, Lewis Simpson had developed a reputation in Burlington as a landscape contractor who did a thorough job. When the college wanted to landscape around new buildings, Simpson frequently got the job. He immersed himself in any project, whether it was a flower bed at a local bank or a school baseball field. He knew the problems involved in growing turf in the transition zone, and in Burlington in particular.

President Young set progressive goals for the campus landscape, including renovation of the college's 25-acre sports complex. Tall fescue planted into the hard clay soil rarely survived more than a single season. The typical result was severe infestation of both grassy and broadleaf weeds. The irrigation system, pump station, and reservoir would become clogged with algae during the summer when the turf needed water most. Fall rains turned the heat and drought stressed fields into mud.

Simpson knew the college was the focal point of the community. He was tired of competing with a rash of new "mow and go" contractors. The first time Poindexter approached him about working for the college, Simpson rejected the idea immediately. But the more he learned about the college's plans, the more involved he became. He wasn't playing hard-to-get. He just knew that if he wasn't working for him-



The Tifway bermudagrass athletic fields are cut three times each week with a triplex reel mower.

self, he wanted to work for someone progressive, someone who would support his ideas and encourage use of new techniques.

In a surprise move, Poindexter offered Simpson the chance to run the campus landscape staff separate from the physical plant department. But there was also a problem with equipment. He would need tractors, pulverizers, rakes, and better mowers. This hurdle was also removed with a commitment to leasing and buying the necessary equipment. Finally, Simpson said yes.

In April 1986, Simpson undertook the assignment of renovating the entire sports complex. The site consisted of three practice football fields, one soccer field, and a baseball stadium. Many people in the community use the track around the soccer field. Each year the college hosts local youth soccer and baseball camps. These fields had the greatest exposure in the community. President Young wanted these facilities to make a good impression.

Most turfgrass managers at private colleges dream about making their sports fields look and play like professional fields. Simpson was determined to get as close as possible by using basic fundamentals of renovation and a sound cultural practice program.

To learn a few of the special techniques used by professional teams, he attended a Mantek Opti-Gro seminar given by Dr. Ed Kajihiro in Atlanta. Kajihiro helped Simpson relate his experience as a landscape contractor to sports fields. He emphasized the interaction of soil texture, irrigation, drainage, turfgrass selection, nutrition, and various soil conditioners.

Two or three professional head groundskeepers speak at each seminar. They go into the fine points of mowing, aeration, topdressing, overseeding, and staff management. They also share their experiences with pregame preparation, postgame repairs, and special events.

Simpson came back from Atlanta armed

continued on page 22

with a complete game plan for meeting the president's goals to present to Poindexter. His years as a contractor had taught him how to justify necessary investments for long-term improvements. Since the landscape budget was separate from the physical plant's for the first time, Poindexter could clearly see the benefits of Simpson's request.

All the work was to be performed with campus staff, except for part of the installation of a new irrigation system and pump station. The soccer and football practice fields had previously been irrigated with a single row of heads down the middle. As a result the center of the fields was too wet and the sides were too dry.

For the soccer field, Toro 640 heads were installed around the perimeter. A third row of heads was added for the center of the football practice fields to provide better con-

The track surrounds the main soccer field. All irrigation heads are located off the field. Since many Burlington residents use the track, the soccer field is maintained to present a good image for the college.

trol of soil moisture between the hash marks. Smaller heads were used in the infield of the baseball stadium to regulate the amount of moisture for both the turf and the skinned area. Valves and an automatic controller were installed to break the 60 plus heads into zones.

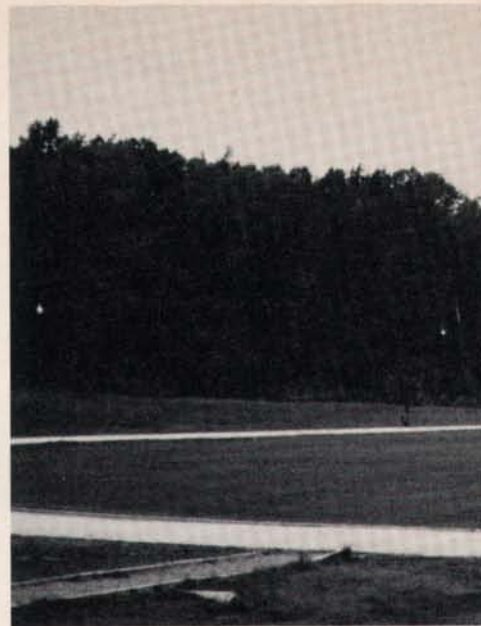
The old pump was scrapped and a new pump house was constructed. The new pump and controller gave Simpson the ability to match the flow rate of the pump to the designed output of the zones. A fertilizer injector pump was added upon the recommendation of Kajihiro.

The big job was rebuilding more than ten acres of turf between the end of spring semester and the beginning of the fall semester. All the fields were seriously compacted and infested with broadleaf and grassy weeds, such as plantain, dandelion, ground ivy, white clover, nutsedge and wild garlic.

Before renovating the fields, a number of things had to be determined. The first was the cause of turf decline and heavy weed infestation. Soil tests carried out by Mantek indicated the primary culprit was poor soil texture aggravated by irrigation coverage. The heavy clay was easily compacted when wet. Compaction decreases soil pore

Lewis Simpson (left) was a Burlington landscape contractor for 20 years before joining Elon College. He runs the campus landscape department as it were his own business.

The baseball stadium (below) receives meticulous care. The infield dirt, edges, and lines are restored weekly. Turf irrigation heads do not spray onto the dirt. Light feeding keeps the bermuda thick and the weeds out.



space, inhibits aeration and water infiltration, and results in shallow rooting. The tests also revealed the soil was too acid and lacked key nutrients. It was clear the clay soil had to be modified and the pH raised to above 6.5.

Simpson did not want to rebuild five fields. He decided to modify the soil of the baseball stadium and one football practice field with heavy aeration and topdressing. The topsoil of the soccer field and two remaining practice fields would be completely modified by using heavy equipment.

Before disturbing any soil, Simpson applied glyphosate to the sports complex to kill all existing vegetation. He wanted to establish Tifway 419 hybrid bermuda in all heavy wear areas of the campus, beginning with the athletic fields.

After aerifying the baseball stadium and single practice field, the soil cores were removed. A mixture of washed sand and a small amount of peat was spread on the surface and dragged into the core holes.

This also helped smooth the surface of these fields. The task of tilling, amending, and regrading the other three fields was immense. Extra tractors and dump trucks were brought in to pulverize the clay and mix in sand and peat. The pH of the soil was adjusted to 6.8 and two pounds of nitrogen per 1,000 square feet were applied in the form of a 30-5-10 granular fertilizer.

Tifton Turf Farm of Tifton, GA, then sprigged all ten acres of fields with 419. More than 600 bushels per acre of certified sprigs were row planted on six inch centers with a special machine in less than two hours. The sprigging was done in sections to match the irrigation zones. As each section was completed the heads in that zone were turned on.

From the day the fields were planted until the first mowing, a Mantek product called Stimigro was injected into the irrigation water every four days. The liquid 5-20-10 fer-



the spring and more than 2,000 chrysanthemums just for parents' weekend.

Most campus turf is mowed with reel gang mowers three times per week. Simpson is treating the many slopes around campus with Embark growth retardant and iron so he can concentrate his efforts on high wear areas with high visibility. All fields are marked weekly and before big games. He uses a compressed-air, walk-behind sprayer for the lines. Every border, whether it's the edge of the basepaths or the perimeter of plant beds, is trimmed weekly.

Elon College President Dr. Fred Young's intuition and progressiveness are paying off. The private college's enrollment increases every year. Simpson's workload continues to grow as more dormitories and classrooms are built. "I don't mean to knock the physical plant department," states Simpson, "but working directly for the vice president has been a great help to me and to this college. Robert Poindexter is the type of boss who understands the special needs of a college landscape." ●

tilizer containing a root stimulant and hormone helped the sprigs establish rapidly. For the first six weeks the fields were irrigated lightly three or more times a day to keep the soil moist. As the frequency was cut back and the cycle times were extended, Simpson started to inject a soil penetrant into the water.

Chemigation was providing a definite advantage during the establishment period. The light rates of nitrogen, ranging from .005 to .01 pounds, are safe in sandy soils that are not adequately buffered. Frequent application with water and a penetrant permits the nitrogen to be distributed evenly in the soil profile at lower depths. Roots soon follow the moisture and nutrients.

The most important benefit of chemigation to Simpson was the ability to control the growth rate. This is important during spring transition, hot summer days, and overseeding. It is most useful during the playing season when fast recovery is crucial.

Kajihiro and Phil Einstein of Mantek put together a yearly chemigation schedule for each field. Experimenting with irrigation rates and timing, they determined that each field was unique. The baseball stadium and soccer field, which are both overseeded in late September with annual ryegrass, have different needs during the fall and winter. The other fields are carefully fed in the fall to reduce the potential for winterkill.

Two years later, Simpson reports that the hybrid bermuda sports complex is one of the leading attractions to students and their parents when they visit the campus. The football coach told the local newspaper that recruiting college athletes has been no problem since the fields were renovated.

Simpson's inspired work has spread to other parts of the campus. All heavily trafficked areas around campus are being converted to hybrid bermuda. He changes the flowers in the college's plant beds three times each year, including daffodils during



THE PROFESSIONAL'S CHOICE
... SINCE 1922

THE BASEBALL DIAMOND MIXES USED BY OVER 50 PROFESSIONAL TEAMS PLUS TOWNS AND SCHOOLS ACROSS THE U.S.A. AND CANADA. SPECIAL MIXES FOR INFIELDS, PITCHER'S MOUNDS, HOMEPLATE AREAS, & WARNING TRACKS.

Terra-Green

REDUCE RAIN DELAYS!

WITH
THE REDDER, LESS DUSTY
SOIL CONDITIONER & DRYING AGENT
THAT RETAINS MOISTURE
IN HOT WEATHER

**PARTAC[®]
GREEN SAND
FOR DIVOT REPAIRS**

*The Ultimate Solution to Unightly
Divots at Televised Golf Tournaments
and other Sports Events!*

AVAILABLE NATIONWIDE

1-800-247-2326

IN N.J. 201-637-4191

PARTAC PEAT CORPORATION
KELSEY PARK, GREAT MEADOWS, N.J.
07838

**PARTAC[®]
GOLF COURSE
TOP-DRESSING**



AMERICA'S PREMIUM
TOP-DRESSING

HEAT TREATED

CONTROL THATCH,
PROMOTE HEALTHY TURF
& SMOOTH PLAYING SURFACES

Circle 104 on Postage Free Card

**HAVE A
FIELD DAY**

Meet the nation's leading groundskeepers and specialists at the Opti-Gro™ Athletic Field Maintenance Seminar And get first-hand information on the latest techniques to improve the quality and appearance of your turf and grounds. This comprehensive, one-day seminar is designed to increase the effectiveness of your grounds care program and to optimize the return on your maintenance dollars. For more information about the seminar and how to register, call TOLL-FREE 1-800-241-3302; in Georgia, call 404-952-0228; or write: Athletic Field Maintenance Seminar, Opti-Gro Division of MANTEK®, 1775 The Exchange, Suite 300, Atlanta, Georgia 30339.

East Point, GA

January 9

Tampa, FL

January 16

San Antonio, TX

January 23

Spartanburg, SC

January 30

Elon College, NC

February 6

Memphis, TN

February 13

© 1989 NCH Corporation

Seattle, WA

February 20

Plainview, Long Island, NY

February 26

Park Ridge, NJ

February 28

Gallatinburg, TN

March 6

Little Rock, AR

March 13

Las Vegas, NV

March 27



Opti-Gro[®]
Advanced Grounds Technology

A Division of MANTEK



Circle 105 on Postage Free Card

November, 1989 23