At Duke: **Improved design, same old weather woes**

The reworking of the Duke University golf course improved play, but changing weather patterns provoked lower fertilizer rates and increased aerification.

by LESLEE JAQUETTE

The Duke crew usually aerates three greens per day, every four to six weeks.

Better sight lines and reworked fairways made the Duke University golf course faster and fairer, but weather extremes last summer required greens be spoon fed and aerified often.

"The tailor cut a fine suit," is how Rees Jones referred to the Duke University golf course his dad Robert Trent Jones designed in 1957. Seeing it was time for some new "alterations," however, the younger Jones was hired in 1993 to "refine the design."

The reworking cost $2 million, and was completed over an 11-month period.

Duke superintendentEric Shields says the renovation was a "wild" experience, and included some major bulldozer work, greens rebuilt to USGA standards and major fairway improvements. Shields, who was then assistant superintendent, was active in the entire renovation.

The goal of the Duke renovation was to repair poor greens drainage and have a course that meets modern standards.

Inconvenience followed, however, with a month of rain followed by a month of intense heat and dry weather.

Greens...unplugged

Prior to the rework, the greens at Duke were not draining well, and nine of the 18 holes had blind tee shots.

"Rees Jones' philosophy was simple," says Shields. "Make the course easier to drive off the tees and more difficult on the greens."

A legion of bulldozers recontoured half the fairways and most of the greens. According to Shields, fairways were ditched out because players could not see landing areas or the greens. Some areas were recontoured to be eight to 10 feet lower, and embankments were added.

On number 11, the green was brought forward close to the water haz-

Shields: aerification reduces algae growth.

ard to make it a more challenging hole.

The renovations have helped to speed up play. A full round takes four and a half hours, with 8- to 10-minute tee time intervals.

Lower fertilizer rates

The weather of the summer of 1995 inspired Shields to fertilize more often, but at lighter rates.

Normally, he says he would fertilize in the spring and fall with no nitrogen in the summer to avoid stimulating roots during the hot, humid summer. Now with sand greens, Shields and his crew have learned that improved drainage can also mean poor nutrient retention. To counter this situation, he plans to apply fertilizer every two weeks, with a quarter pound of nitrogen, and a potassium spray fertilizer in between.

A mid-range fertilizer helps lower maintenance costs. Fans on four holes were run for 24 hours during the heat wave to flush out the stagnant air. This year, Shields was to install fans on four additional greens.

Shields analyzes turf tissue samples monthly, to learn which nutrients might be deficient, and finesse the course through summer.

A side effect of heavy rain followed by a heat spell is algae, which developed on several greens. Because the algae cuts off airflow to the rootzone, Shields has moved to aerifying the greens more often than normal, every four to six weeks, using increasingly smaller tines as summer approaches.

He also uses the Toro Hydroject aerator to aerate without disrupting the turf surface.

The Duke crew usually water aerates three greens per day, so that any one green is aerified every two weeks.

Shields has not identified the source of the algae, but notes that the aerification schedule has kept algae growth to a minimum.

His plan is to strengthen turf health to the point that infestations of this sort are unable to take hold.

Few instructions

Shields manages his staff of 10 with a great deal of flexibility. They know the course so well he doesn't have to supervise very much. He trusts them to do their jobs. He also encourages staff to play golf because he feel they learn to appreciate the course from every perspective.

"I'm lenient, but when it's time to get things done, we all turn out and meet that expectation," says Shields. **LM**

New industry consultant

Charles B. "Bud" White, long an agronomist with the USGA Green Section, now has his own turfgrass consultation company to provide technical and managerial assistance. Also a past national manager of agronomic services for Toro, White will be involved with domestic and foreign projects. Total Turf Services, Inc. is headquartered in Watkinsville, Ga. Phone number is (706) 769-4570. □

Athletic field review

The Sports Turf Managers Association (STMA) has published its fourth annual issue of *Sports Turf Topics*, a compendium of STMA articles. The nearly 40 articles, written by STMA members, have appeared in major green industry journals. To order, call (800) 323-3875. □

GCSAA posts agenda

The Golf Course Superintendents Association of America has proposed a legislative and regulatory agenda for the 1996-97 fiscal year. Federal concerns include the Worker Protection Standard, Environmental Protection Agency, and Americans with Disabilities Act issues. State level topics include pesticide posting and notification and state preemption of local regulation of pesticide and hazardous chemical use, worker safety, wetlands and environmental quality laws.

In other GCSAA news, golfer Ben Crenshaw has been chosen as the next recipient of the association's Old Tom Morris Award, to be presented in February, 1997. □

Golf & wildlife manual due

The United States Golf Association reports that a new book on wetlands management should be published in early 1997. Donald Harker and Gary Libby, environmental researchers in Frankfort, Ky., were awared a grant from the USGA to write the booklet, with the working title of Wetlands Manual for Golf Courses. The illustrated booklet will contain narrative, drawings, case studies and key restoration techniques to help golf course superintendents understand wetlands, and create programs to create, conserve and manage them. The manual is part of the USGA's Wildlife Links program to investigate the relationship between golf and wildlife. □