Drainage, chemical controls are the key, says Carolina Country Club super Bob Rogers.

Back in 1987, members at the Carolina Country Club could tee off almost any time, particularly during summer. Play dropped off dramatically as rainfall and sunshine took their annual toll on the course's aging bermuda/bentgrass greens.

"When the greens would start regressing, rounds would drop way off," says Bob Rogers, who became the course's superintendent that year. "The better players wouldn't even play here. They'd just go somewhere else."

Rogers says that it didn't take a scientist to recognize the thinning turf and slimy dark circles caused by algal scum, a key problem on the greens.

"I've often joked that many golfers can't distinguish between one strain of grass and another," he says, "but everyone knows the difference between grass and dirt."

The deteriorating condition of the club's aging greens led to a dramatic renovation of the 92-year-old course.

Working from a design by course architect John LaFoy, Rogers rebuilt the aging greens to updated specifications, using a sand/peat/topsoil mixture of 83:12:5, instead of a typical 90:10 or 80:20 mix.

"The new greens perc at 14.5 inches per hour," Rogers says, adding that the five percent topsoil component improves cation exchange capacity and reduced nutrient leaching.

The improved percolation rates are a major help in coping with the longstanding... continued on page 50
Algal scum problem, Rogers says. "On our old greens, we had perc rates as low as 0.1 inches per hour. So, under periods of heavy rainfall, together with the heat we get here in North Carolina, the greens would tend to start thinning out. As the sunlight hit the soil surface, algae would begin to form."

Although completion of the new greens in the fall of 1990 virtually solved the drainage problem, Rogers says that even the new greens tend to thin out during extremely warm, wet summer periods, opening the way for algal scum outbreaks. **Experimenting—** "Since algae was a major problem here, I did a lot of experimenting," says Rogers. He tried a mancozeb fungicide, and then hydrated lime as a curative, at rates of 1 lb./1000 sq.ft.

"Spraying hydrated lime is very tricky," he says. "If you overlap, if your calibration is off, or if you fail to water it in properly, lime can cause a lot of damage. It will actually burn the bentgrass. That's what made me look into alternatives."

Following the 1990 season, he first improved air circulation on several greens where severe mounding and undulations caused air to stagnate, and he began a chemical control program.

"In a trade journal article, I learned that some superintendents found that applications of Daconil 2787 at higher label rates had the side benefit of preventing algae on greens. In 1992, I decided to try it," Rogers notes.

The program began with weekly applications in May, at a rate of 8 oz./1000 sq.ft., which were reduced to 6 oz./1000 sq.ft. by summer's end.

"The results were that we had virtually no algae formation on any of the greens last summer," he notes. "We did have some greens thin out, as we expect every year, but no algae was forming on them. The greens stayed in good shape."

In addition, there was virtually no disease.

"In the past, I had used fungicides on a preventive basis, usually with lower rate applications every 10 to 14 days," he explains. "We used a rotation to avoid any resistance problems, but we still had brown patch cropping up. We found this year that by upping the rates of Daconil 2787, we seem to have solved both problems."

"In 1992, we felt that we had the best greens in the city, and some of the best in the state. Not a single green had any serious problems."

Total rounds went from 16,000 in 1987 to 37,000 in 1992, without a change in the club's membership.