



Bent Can Be Grown In The South

By CHARLES DANNER
Supt., Richland CC, Nashville

Clubs all over the south are now overseeding with bent instead of rye for winter play. Several clubs have gone exclusively to bent. I know of one club that has converted over half of its Bermuda greens to bent by overseeding with Seaside. So I now can report real progress with bent for the South.

At Richland, we believe we save \$5000 a year on maintenance with bent greens instead of the old Bermuda and rye combination. Two things account for this saving: that is, one man's wages and the cost of materials for the frequent top-dressing necessary with Bermuda and rye greens. We spend more for fungicides but

this is offset by no longer having to buy rye seed in the fall and Bermuda in the summer.

When we built our greens, we provided for subsurface drainage with tile lines, a 6-in. layer of gravel underneath and good surface drainage. For our topsoil we mixed 60 per cent sharp coarse sand, 25 per cent loam and 15 per cent peat. In order to get a good uniform mixture, we ran every pound of these materials through a concrete mixer. Soil was sterilized with methyl bromide just before we planted stolons. We chose Arlington C1, thinking this to be the best strain for our climate. Stolons were planted in October and the greens were ready the following April. Cost of converting averaged \$1500 per green. We think we got that back long ago in maintenance economies.

From our experience we believe that 95 per cent of our problems through the

GCSA Convention Speeches



summer stems from either too much water or lack of it. We have 15 greens that have never given us any serious trouble from disease or wilt. These greens have good surface drainage. However, we do have three greens that gave us trouble last summer when there was 16 inches of rainfall within two months accompanied by 90-95 temperatures and humidity of 95 to 100.

These three greens drained to a flat fairway or shoulder and excess water tended to build up and back onto the green. Good surface drainage is not enough unless excess water can continue to drain away from the green. These greens were hit by pythium, by the way.

We think the worst enemy of bent is too much water. Next is lack of water when temperatures are high with a steady wind blowing. This will bring on wilt. A little water, enough to wet the leaves of the grass, will stop and control wilt. At

Richland we are set up to water our greens fast. We have, depending on the size of the green, from four to eight quick coupling valves spaced 35 feet apart. We use quick coupling sprinklers. We insert the sprinklers in valves, turn on water at the main valve and the job is done in a matter of minutes. Early morning watering probably is better than night watering. There is less chance of afternoon wilt and dew is washed in.

Fertilization Practices

We apply 30 lbs. of 8-6-4 to each 1,000 ft. in the fall and early spring. Throughout the spring, summer and fall months we use 100 lbs. of Milorganite mixed with 5 lbs. of muriate of potash. We apply this mixture each week at the rate of 5 lbs. to each 1,000 ft. with a Cyclone seeder. Each week we alternate directions across the greens to avoid streaking.

If soil tests show need for lime, we use magnesium limestone, applied early

in the spring. To correct iron chlorosis, we apply 2 ozs. of ferrous sulphate to each 1,000 ft. in 5 gals. of water. Greens quickly respond and regain color in a few hours.

We mow most of the year at $\frac{1}{4}$ in. except during June, July and Aug. Then we raise the mowers to $\frac{5}{16}$ in. We mow on Mon., Wed., Fri., and Sat. except during the winter when we mow as needed or as weather permits.

Disease Control

We start our preventative spray program around May 1 and stop around Sept. 15. We spray each week with 3-ozs. Thiram plus 1-oz. phenyl mercury for the first six weeks. Phenyl mercury helps keep crabgrass out of greens. For the balance of the summer we mix 1-oz. mercury chloride with 3-ozs. of Thiram. When we run into hot, humid weather, we spray twice weekly. The worst disease we have had has been pythium on our three poorly drained greens.

Weed Control

By adding 1 oz. of phenyl mercury to our regular fungicide sprays, we keep crab out of greens. As for crowfoot, we are still experimenting in our nursery. We have to remove crowfoot with a knife. Poa annua is plentiful around the course. It hasn't gotten into our greens.

Soil sterilization probably accounts for the absence of poa. However, last year we started applying arsenate of lead to be safe.

Insect Control

We have to fight mostly grubs, sod weh worms and cut worms and have depended on chlordane for control.

We aerify in early spring and late fall. We gather up plugs and use them to expand or repair the nursery. We use the verticut only in early spring when bent is growing well. This is to thin it out before going into the hot summer months. We have a mechanical spiker and plan to use this tool often in the summer.

At first, we had the problem of keeping Bermuda from creeping into greens. Three years ago we purchased an edger. As soon as Bermuda starts in the spring, we run the edger around the greens. This makes a cut $1\frac{1}{2}$ ins. deep and $\frac{1}{8}$ in. wide. Bermuda will creep across the cut but by running the edger around the greens every week, we cut off its tips before the node has a chance to make soil contact. We sweep the cut tips off the green.

Troubled With Wilt? Check Pumping System

By **DON LIKES**

Supt., Hyde Park CC, Cincinnati

Last summer I was having trouble with wilt again. Charlie Wilson of Milwaukee Sewerage flew in from Arizona and came out to the course. He told me about these high day time 118 deg. temperatures in Arizona. He said that when you put your hand down on the Seaside bent there the

turf was cool, and it looked good, too. Our temperature was about 90 but the greens were hot. Apparently there was some kind of a cooling system that was working in Arizona that wasn't working in Cincinnati.

Charlie said he thought that our wilt problem was due to the grass getting too hot and not because it had insufficient moisture. He added (and this puzzled me) that the pump was not working. Wilson said the blades were full of water but that it was evaporating. That was why it wilted.

80 Degrees in a Hurry

I didn't grasp what he meant. After he left, I got one of my books out and read about the effects of warm temperatures on bent. I was surprised to learn that a grass plant in the hot sun will absorb enough radiant heat to raise its leaf temperature 80 degs. every two minutes. But normally, a healthy grass plant has a cooling system that dissipates most of that heat. It is like your automobile. The roots are the water pump. They pump water into the blades. It is converted to water vapor which is pushed out through the pores in the blade. This gives a tremendous cooling effect. But if the pump isn't working, the whole cooling system runs down and the plant gets too hot. Then you have wilt on your hands.

For years everyone has been showering off greens in the afternoon to cool them. But that is getting harder and harder to do because everyone has so much play that you just can't get on that green.

I think it is time we had some kind of an automatic showering device, or some kind of chemical to spray on greens in the morning to keep them cool during those hot, miserable afternoons.

How to Speed Up Play on Public Courses

By **GARRETT RENN**

Supt., Juniata Public GC, Philadelphia

Courses that are getting the heaviest play today are ones similar in length and construction to the course that James Braid, over 50 years ago, planned in theory and set down in type, hole by hole, the yardage he thought desirable. It measured 6,240 yds.

Length (Yds.)	Description
1 360	Fairly long; not too difficult. To get the players away quickly.