

to try early spring fertilizers as a partial control of *Poa annua*.

During the next five years I studied each green individually and experimented on some greens and on parts of others. Each green that had been fertilized early in the spring showed a decline in annual bluegrass and a strengthening of the bents. Some of you may feel that with the early fertilizing *Poa annua* will grow more luxuriantly and therefore crowd out the bents but from my experience I found just the reverse was true.

Do not worry about the heavy growth of *Poa annua* for it will soon die out. If the soil conditions are favorable and there is sufficient amount of nitrogen available the bents will make a strong, deep rooted, sturdy turf good for the golfers and hard for the next crop of *Poa annua* to penetrate.

When I resigned at Pelham last fall to accept the position as Principal Park Supt. at James Baird State Park, *Poa annua* on the greens had ceased to be a problem at Pelham.

I do not say this is a cureall. I do know that under our soil and climatic conditions the combining of a P H level of about 6.5, frequent aeration (six times last year), careful watering and the fertilizing procedure I described did reduce *Poa annua* to a great extent. What I did not eliminate I was able to hold throughout the season. If you make conditions more favorable for the growth of the permanent grasses and maintain a program of adequate fertilization to keep the bents strong and vigorously growing, *Poa annua* will cease to be a problem.

Greenwood Experiments to Improve Its Course

By Johnny Cochran
Pro-supt., Greenwood (Miss.) CC

Our turf experiments at the Greenwood CC started back in 1946, about the time or just before the beginning of the Tifton Experimental Station. There were many things we didn't know about Bermuda grasses and since there was no Tifton to give you the answers, we set out to try and find them.

Our first experiments were started after we had established a nursery of perhaps 500 sq. ft. of common Bermuda. After a good putting surface had been provided various heights of cutting were used. One half inch, $\frac{3}{16}$, $\frac{1}{4}$ and $\frac{1}{8}$ inch cuts were made. Some strips were cut twice daily, every other day, and some every third day. At the end of the season it was found that the strips we started out with and maintained with a daily cut of $\frac{1}{4}$ inch in early part of season and later in drier and hotter part of year switched to

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$\frac{1}{2}$ inch cut had much more grass on them at end of season and were quicker to come back in spring. Since that time we have used this procedure and have never been without grass on our greens in the past five years.

Other experiments conducted with this same grass plot were with the application of fertilizers. Some strips were tried with ammonium nitrate, nitrate of soda, sulphate ammonia, Milorganite 6-8-8, 5-10-5, guano, Cyanamid, dried blood and sewage sludge, straight phosphate and potash. Various application methods were used. We achieved best results on greens by using a four-foot spreader, applying solutions dry and following with water.

In 1947 we were supplied with centipede seed grown by Tifton. This was grown and developed in seed bed, and later transplanted to fairways and tees. It did not work out too well. Season was too extremely hot and soil too tight. It would not take punishment in fairways with same height of cut as Bermuda and other grasses. We still have it but it is slowly being choked out.

Also in 1947 we developed a plot of velvet Bermuda #101 from strains furnished by Tifton. Attempts were made to get this in with the other Bermuda on the green. We have been unable to get this to take. It is a very fine Bermuda that compares with bent in many respects. It is very delicate and will not take a lot of punishment. It will not stand daily cutting unless cut is made at $\frac{1}{2}$ or $\frac{3}{4}$ inch. This is reason why it is hard to introduce into the other Bermuda. If left to several inch cuts in rough it will spread faster than ordinary Bermuda. It has very little resistance to weeds and is very easy to become infested with foreign seeds after windy weather.

In March, 1949, we started with three cup changes of Tifton 57. By breaking them down we have today produced 500 sq. ft. in one season without too much trouble. This past year we started introducing this strain of grass into our greens with 4 and 8 inch cup plugs. However, Fred Grau tells me that faster and better results can be obtained with a 2 inch insert. We hope to have enough Tifton 57 to provide turf for three greens by the end of the year.

Some limited work has been done with St. Augustine grass. We started with 6 square yards this past July and have perhaps 36 sq. yds. now. We hope to use this in shady spots around the course.

Other experiments we have tried are with Zoyzia, Japonnica, Zoyzia Matrello, and Zoyzia 53. The Matrello happens to be the only one we have had over one season. We are trying several tees with Zoyzia Matrello and Merion bluegrass.

In October, 1950, we planted into our regular practice green 5 different types of cool weather grasses; Italian rye, red fescue, Illahee fescue, Highland bent and Merion bluegrass. Up to January 1, the Illahee had developed so much faster and looked so much better we were thinking about trying some of it in our other greens next year. Since that time I have sowed all the other plots again and top dressed. Now the Highland bent and the red fescue are making rapid strides to catch up. But I believe the Illahee was much easier to get started, thus the reason for shaping up faster. Merion Blue hasn't gotten a good start yet so can't say what it is going to do.

Our experiments with carpet grass have led us to believe that by aerifying again in March and sowing with a whirlwind spreader we will get an established turf strong enough with carpet grass to overgrow Dallisgrass. For the past two years we have tried this on a small scale and had wonderful results. Unfortunately, our club has never had too much pride in their fairways. No fertilizer was ever used.

We have stopped top-dressing our greens. Since we have gotten them free of weeds some of our greens haven't been top-dressed in five years. We aerify thoroughly many times a season but the only top-dressing brought in is when we plant our rye. We use our dressing from the aerifier plugs brought to the surface. We in turn profit not only by the labor and time saved in preparing top-dressing, but also do not have the problem of fighting weeds brought in by top-dressing.

PART OF A PRO'S TOUGH JOB?



Alice (L) and Marlene (R) Bauer of the Spalding staff starred in an exhibition match at B. F. Goodrich Co. annual Tee Party held at the Goodrich Fairlawn CC, Akron, O. After the round the girls were entertained by Ed Kirby who has been pro at the club for 26 years. Ed does not seem to be regarding his overtime work as unpleasant.