

Bermuda Fairways Made Good*

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IF YOU WANT to maintain good fairway turf, economically, the time to start is before the fairway is constructed. See to it that the turf has the proper soil, water system, and surface drainage.

Without these three things it will be necessary to have top and costly maintenance. It is far cheaper over a period of years to build right in the first place. And, of course, this works backwards too. If you have a good soil, irrigation system, and proper surface drainage, without proper maintenance, you will still have a poor grade of turf.

I do not mean to infer that it is impossible to develop and maintain a good fairway on poor soil. This can be done but it requires a much larger yearly budget for labor and maintenance; such as more frequent cultivation, fertilization, and weed control. This is economically unsound. One of the best examples of this that I know is my own course which is being gradually transformed into fine fairway condition.

When I took over at the Everglades Club in January, 1948, the fairways were at least 60 per cent weeds, including every type of weed known to man in South Florida.

Starting in early spring we sprayed them with a boom spray three times, at 10 day intervals, using sodium arsenite at from two to three times recommended strength.

We aimed to spray when the ground was moist and the leaves of the weeds were in a succulent condition so they would absorb the mixture readily. We used from 10 to 12 pounds sodium arsenite each time and approximately 200 gals. of water per acre.

Ten days after the last or third spraying we renovated severely with a disc harrow, following the renovation with a heavy application of fertilizer. The actual amount per acre of nitrogen was 120 lbs., of phosphoric acid 90 lbs. and of potash 60 lbs.

One month later we sprayed them twice at three week intervals, with a 2,4-D ester type formulation at recommended strength to get rid of weeds that sodium arsenite

*(GCSA conference address)

did not affect; (such as, dicandra, pennywort, nut grass, etc.)

Sodium arsenite was used first because it will eradicate most of the weeds. It weakened dicandra and other weeds by defoliating the plants so they were more easily killed by 2,4-D. But the surface foliage of Bermuda was burned quite severely. The 2,4-D was used later on in the summer and took care of the few types that were not affected by the sodium arsenite, with very little injury to the Bermuda. To eliminate St. Augustine grass we found it best to spray with a mixture of sodium arsenite and 2,4-D.

After the sodium arsenite treatment, some sprigging in of Bermuda was necessary, but in most areas there was enough Bermuda to spread over, even where there had been a covering of St. Augustine grass.

I am mentioning these two weed control chemicals because they were the two I was and am familiar with. They did a good job for us. Others might have done as well, yet I am told my selection was and still is sound.

After two summers of this treatment we had fairways that we were proud of, and only spot spraying with a hand nozzle, or applying chemicals with a large paint brush was necessary.

Chemical Reaction Varies

If you plan to carry out this program I would advise you to consult with someone who has had experience with weed control chemicals in your locality, as the reaction is different on various soils, types of grasses, and localities.

After obtaining good fairway turf, I think you should cut fairways at least once a week, and sometimes, under very favorable growing conditions, twice a week; as long as you cut any clippings at all. It is a known fact that the more you cut off the grass blades of Bermuda at the top, the more it will spread laterally and develop a good thick turf. I would say that a safe height would be between $\frac{3}{4}$ and one inch, or lower if the turf will stand it.

In my opinion, the frequency of cutting is much more important than the height of

EXPERTS EYE GRASS LEAF



At Penn State College Field day a leaf of a Merion bluegrass plant is examined under the glass by (L to R) Prof. H. B. Musser; Arden Jacklin, seed grower; J. M. Duich; and Dr. A. L. Land of Washington State College.

cut. The less leaf surface you can remove at a time, the less the shock is to the plant. Conversely, the more leaf surface removed at one cutting the more the grass is weakened.

Bermuda turf should be fertilized at least three times a year (or more if your budget will stand it) with a good grade of fertilizer at $\frac{1}{2}$ to 1 ton per acre. Basic needs can be determined by having your soil analyzed. Remember always that the easiest and cheapest way to have good weed free turf is to grow grass.

Water Thoughtfully

There is no one person who can tell you the exact amount, and how often to water on all courses. That is determined by different conditions on each course. The soil should be kept moist at all times, and care should be taken not to over-water. Over-watering can cause a very shallow root system; it will encourage sedge grass; other water grasses; and numerous detrimental weeds that thrive on too much moisture. Too much water can cause as much or more damage than not enough.

I would renovate severely in the early spring with an aerator, rotary hoe, or disc harrow — or all three, if necessary. This will thin out a heavy turf of grass and dead clippings, promote new healthy grass and encourage thin areas to cover over.

Then, renovate lightly in early fall, planning your fertilizer program to take place after each renovation.

Routine Spraying

It seems to me that in the last ten years of developing better turf, we have also promoted bigger and hungrier worms and other insects, in larger quantities. It has proven very beneficial in my experience to carry out a routine spraying of an economical insecticide every 30 to 45 days, with a boom spray. On a limited budget, spot spraying of infested areas with a hand nozzle is justified and essential.

I particularly would like to stress the importance of routine maintenance. You all know the old saying about the man with the "Green Thumb". I think the secret of his "Green Thumb" is that he religiously waters, fertilizes, and cares for his turf. About 90 per cent of the time outside expert advice and so-called miracle remedies are not needed, provided routine and sound maintenance practices are followed.

TURF RESEARCH FOUNDATION FORMED FOR MARKETING AID

Turf Research Foundation, with Frank Jacobi at general offices at 208 S. LaSalle St., Chicago 4, and Margaret Herbst at 101 Park Ave., New York, has been formed to develop markets for various strains of grass and issue "seal of approval" to seed producers.

The organization currently is engaged in sales promotion for Merion bluegrass and announces a Merion Bluegrass Assn. 16 mm. 12 minute Kodachrome sound film for sale to dealers.

GOES HIGH AT TREES



National Shade Tree conference at Atlantic City (N. J.) CC outdoor demonstrations feature new equipment for tree care. Among new devices is the tower making work easier and better high in the trees.