

Fairway Maintenance - A New Approach

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In 1969, the members of the country club, along with the United States Golf Association Greens Section, made a decision to try to eradicate Poa annua from the fairways.

The method used at that time for the control of Poa annua was to apply tri-calcium of arsenate twice a year. The material was applied to the par 4 and par 5 fairways. Beginning at the same time, the par 3 fairways and the upper half of #15 fairway, a par 4 hole, were being mowed with tri-plex greens mowers with grass catchers.

The reason for using the Tri-plex greens mower on the par 3 fairways was to see what reaction there would be in catching the grass clippings, and at the same time, capturing the seedheads of the Poa annua. From this result, we were noting what was happening to our bentgrass, so that in the future we might consider this operation on a large scale.

The chip-cal program was in use until 1979. At that time there was no more tri-cal available, so we knew we had to try some other method. The par 4 and par 5 fairways had 65% bent in general. Some fairways in the deep woods had much less.

The summer of '79 was a wicked year for growing grass. Our #3 fairway, our most difficult fairway for grass development, suffered quite a turf loss. Going back to 1969, our par 3 fairways and the upper half of #15 fairway were always mowed with greens Tri-plex at 3/8" height of cut. After the third year of this type of mowing, we noticed the rapid development of bent in these areas.

We were mowing these fairways at the same time we were mowing tees and aprons. Many of our aprons are mowed at least 70 to 100 ft. in front of the greens; they are all solid bent.

Now I am going to show you a slide of our #2 apron taken at close range so you can see the results of this type of mowing, which should be on the left, and on the right where the gang mowers were used.

As the members and guests had seen the results over the years, they were wondering why we couldn't mow the entire course and catch the clippings with some type of mower. They wanted the fairways to look like the upper half of #15 someday, which was our largest area of Tri-plex mowing, which you see on the screen. All the slides you will see from now on were taken on August 15, 1981. I did this for the reason that the critical time of summer was coming toward the end. If we were to have problems with disease or loss of grass, it would have happened by now. This is how the upper half of this fairway has looked the entire seven years that I have been at the country club. In 1979, we had a loss of grass to our #3 fairway, which I stated before. We wanted to see what would happen to the grass on this fairway if we would catch the clippings for an experimental program.

So, in 1980 we used an extra Tri-plex, set at 7/16", which eventually was the forerunner of Tri-plexing at our club. We knew at the end of 1980 that the loss of grass on this fairway was less than any of the par 4 and par 5 fairways. This fairway with the short height of cut changed from the worst to the best in playing condition in one year.

One day, a group of prominent members called me into the club and asked me to get facts and figures and let the board of trustees and the membership at large know what it would cost to mow all the fairways and the back lawn, which is an

acre and a half, with Tri-plex mowers. So now I started to research to find someone who had tried this plan who could give me some advice on what to do.

Through the help of the United States Golf Association, I was told about Cal Gruber at Coldstream Country Club in Cincinnati, who in 1980 mowed all the fairways at his club with Tri-plex mowers. He was using Toro 84-inch Turf-Pros. In September of 1980, my greens chairman, co-chairman, a Toro salesman, and myself visited Coldstream to see the operation which Cal was undertaking for the past year. To our amazement, I say the fairways we saw had to be without doubt the most beautiful fairways we had ever seen. We spent the entire morning with Cal and asked all the questions which came to mind.

Our biggest concern was what to do with all the clippings and all the remaining details along with this operation. At this time, I would like to give credit to Cal Gruber, who is probably the "father" of Tri-plex mowing. Before I go any further with my speech, I would like to say that there are other superintendents who are also trying this program. Tom Vogel at Portage Country Club has cut seven holes with a Tri-plex and the remainder of his fairways with gang mowers, so he can show his members the difference in grass condition. Ron Boettger, Brookside Country Club, Columbus, has mowed his entire course with Tri-plex mowers this past year. There is another gentleman in the Cincinnati area whom I met at an O.T.F. golf tournament, and I apologize that I forgot his name. I understand he is also mowing on this same program.

We had to figure what it would cost to buy the mowers, purchase trailers, and what to do with the clippings. We chose the Toro 84-inch Turf-Pro because it was the largest machine which had baskets. The cost of these machines (three) was close to \$30,000.00. In addition to the mowers, we bought six trailers to haul the clippings off the course to a 12 yard dump box. Trailer cost, \$1600.00.

One cost we didn't anticipate was the clipping removal. This cost is about \$2800.00. At first, we thought we could bury the clippings, but after a month of cutting, there was no way we could find enough space to bury all the debris. Our largest cost is the manpower used in mowing. I had set aside \$10,000.00 for additional labor; it should have been near \$12,000.00, because during the months of July and August and the first two weeks of September, we had to use an additional person for the first hour and a half to bring in one and sometimes two trailers from each mower to be dumped and taken back to the operators. This added dumping was caused from the rapid growth of grass at that time of year. We are hoping the equipment will last four years so we can divide the cost of the mowers over that period.

The amazing part of the additional expense was never questioned by the members when they saw the improvements to our fairways.

I would like to say at this time I realize not everyone can afford this type of maintenance. For the clubs that have the available funds, this may be something to think about.

My personal feelings about this program are, if I had to give someone advice about what we are doing, is to start on a small basis like Tom Vogel did at Portage Club. Use one machine and maybe buy two trailers, and with this equipment you can mow six holes. You can do two or three fairways each day. Try and see what accomplishment you get with the one machine before you go into a large scale purchase.

We bought all the machines because this is what the members wanted. As you can see from this #13 fairway, it was the answer, and they were willing to spend the money.

Let's start talking about what we did to get some organization in the mowing procedure. First, we reduced the size of our fairways from 36 acres to 30 acres. We did this by shortening the length by approximately 25 yards. Then, we contoured the sides. In one month the members were used to the size of each

fairway and there were few complaints about their reduced size. The attractiveness of the contouring made a more pleasant appearance than the so-called bowling alley style.

We use three machines to cut seven fairways each day. On Monday, Wednesday, and Friday we cut the front nine. On Tuesday, Thursday, and Saturday we mow the back nine. The men in charge of fairway mowing start at 6:00 in the morning; they are finished by 9:30. This way they are almost ahead of play. We mow in a pattern where the first fairways mowed are 1, 2, 3 and the last mowed are 7, 8, 9 or 16, 17, and 18. Mowing in early morning leaves you with no abrasion to the grass plant and no build up of heat from the rollers. The next photo shows us the equipment we are using. It is a Toro Turf-Pro with a trailer built in Canal Winchester, Ohio. The photo here shows the trailers in tandem. These two trailers normally will handle the clippings for the two or three fairways the men are cutting that day.

I'd like to show how we built the tow bar on the mower. Notice the brace attached to the tow arm. You have to have a strong towing assembly because of the weight in the trailers when they are full of wet clippings. When the trailer is full, it will weigh about 600 lbs. The next slide shows the trailer being dumped into the 12-yard box. The ramp you see was built the same height as the box, so the operator can easily back to the box and then dump.

Now I would like to discuss the mowing pattern. We use three angles: left, right, and longways. Using these angles, you will be lifting your grass and it will keep the grass growing in an upright stand, and the pattern of cut is beautiful. You are looking at our 17th fairway, which in 1980 was one of our poorest fairways as far as turf. If you will look closely to the right of the first sand trap, you can see the old outline of our apron that we had in the past. Today you see the entire fairway cut with the Tri-plex and the condition of the grass during this past summer was amazing. On #8 fairway, I want to show you loss of grass in the foreground of this picture. In prior years, we had curvularia, the disease you see was almost across half this fairway where you see the stripe mowing taking place.

This is the only grass we lost this year on the fairway. This is one reason that I believe that Tri-plex mowing is successful. On this last photo I will show you why I feel the way I do about this operation, and I think the other superintendents will verify my facts. We are looking at the tee end of the 18th fairway. In the foreground you will see loss of grass. This was the outline of our old fairway. The area is about 20 yards where we had sprayed fungicide beyond the fairway line. This grass is now being cut at 2-inch height for rough. You can see where the grass is being caught in the catchers, to where it is dropped by the gang mowers. You can notice the difference in culture. I firmly believe taking the clippings off the fairways and catching the poa seedheads in the spring and early fall, makes the difference like night and day. It has to help the spread of bent on fairways.

We are now noticing no build up of clippings. After a rain in humid weather, there was no musty smell like we had in the past. Our fertilization has been the same. The spray program was watched very closely and we applied fungicide the same as in the past, but we also realized that the summer of '81 was not a hard year on turf. At least not in the Cleveland area.

In summary, I would like to say the program we are using is not affordable by most clubs. I think if you have a problem fairway or two, and you would like to have that turf improved, try somehow to catch those clippings from that area. I think you will be surprised with the results that you will have after the first, second and third years.

It is not an easy task; it takes a lot of back lifting and hard work. The satisfaction from the members about the playability of the course, and the

satisfaction you will enjoy, will make this hard work all worthwhile.
Thank you for asking me to be part of your conference and show.