Director's Column

"If I Only Had a Half Million Dollar Budget"

by Bruce Williams, CGCS
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This article is not intended to defend those clubs with higher budgets but rather to show how that money is utilized to provide the best golf courses possible. Without a doubt there is a direct correlation between the amount of money spent on the golf course and the quality of the playing conditions.

No matter what size your budget is the money must be managed effectively. Contrary to popular opinion the "open checkbook" country clubs do not exist. It is so important that as Superintendents we have budgets that will meet the desired objectives of our memberships.

In the case of clubs desiring the best conditions the budgets in the Chicago area are in the $400,000 - $500,000 range. These clubs normally employ 13-16 employees in the growing season and 5-6 employees during the Winter. Labor normally comprises 60% of the total budget. What follows is a brief explanation of the activities at Bob O'Link Golf Club.

Our Assistant Superindent, **Rick Bowden**, is in a supervisory position which I like to refer to as a Production Mgr. He makes sure the jobs get done. Our mechanic is kept busy with equipment maintenance 40 hours a week. Our gardener spends the entire workweek on the bedding plants, clubhouse, landscape, and parking areas. The irrigation technician is responsible for the pumping plant, irrigation applications, system upkeep and repairs. We use our apprentices or interns for chemical and fertilizer applications.

On a daily basis four men mow greens, two men change cups and tees, and two men rake bunkers. Fairways, approaches, tees, and collars are mowed three days per week with clippings collected on all areas. The remaining bluegrass areas including the rough and green banks are mowed once a week. Hazards are marked once a week also.

Even with the use of Embark tree bases are rotary mowed 4 times per year. Bunkers are edged 3 times per year and lake banks are trimmed twice a month. Flagsticks and cups are replaced once a month and then we paint the spare sets.

Fungicides are applied with the preventative approach to greens, tees, and fairways. Greens and tees receive up to 10 applications annually and fairways average 7 applications per year. Fairways are treated for Ataenius as well as two insecticide applications for cutworms. We are currently establishing methods for earthworm suppression on the fairways. Greens and tees are treated with insecticides for cutworm control as needed. Topdressing on greens is monthly and we use sand topdressing on our tees four times per year. Wetting agents are applied to all playing surfaces 3 times per year.

In the Spring we spend 2 weeks aerifying 35 acres of fairways with Greensaires followed by an overseeding of Penneagle creeping bentgrass. In the Fall we run blowers and mulchers 8 hours a day until the end of the season. We prepare the golf course in the same manner for 20 players as we do for 150. This includes the slow days in the Spring and Fall as well as Mondays throughout the playing season.

The bottom line is that given the same budgets and tools to work with most all of us could provide the same quality playing conditions on any given golf course. If only the golfers would understand that you get what you pay for.

The Specialized Management of "Fast Putting Greens"

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There has been a great deal of discussion in our industry the past few years about the growing trend toward faster and faster putting surfaces on golf courses. We've heard university researchers describe the technical methods a superintendent must employ to produce fast greens in the first place. We have heard debates over the merits of fast greens, especially from the viewpoint of the average or high-handicap player. One area, however, that has received way too little attention has to do with the fact that golf course superintendents who embark on a fast greens maintenance regimen invariably suffer a certain degree of decline in the quality of the turfgrasses on those greens.

This decline can manifest itself in a number of ways. It is most frequently observed as simply a thinning of the grasses, a general overall decrease in the turf density, if you will. During severe summer stress periods, a yellowing or chlorotic appearance may develop on these fast greens, for no apparent reason other than the added stress of the fast greens regimen. There is also a definite decrease in the tolerance of these grasses to wear and tear. Things like ballmarks, spike marks, and the plugs from old cups are much slower to heal than they are on a slower green. Of course, the rock bottom of this vicious decline cycle occurs when we observe the encroachment of moss and algae into the thin areas that have formed on these greens.

I first began the switch to fast greens around 1980. After about a year or so (there does appear to be a grace period between the time you initiate a fast greens program and the time turf decline begins), I started to experience exactly the type of decline symptoms that I just described, and about the same time I also began to search for an answer to the question: "Can fast greens co-exist with a quality stand of turfgrass?"

Before I go any further, I want to draw a distinction between two types of "fast greens programs", only one of which I am alluding to in this discussion. The first type is where the superintendent normally maintains his greens at moderate speeds, and only throttles them up to 10 feet or so during major tournaments and club events. This method appears to be quite safe and will generally not lead to the type of decline I'm referring to. The second type, which is the type I am referring to, is where greens are maintained at fast speeds (if I had to assign a stimpmeter reading, I would say 9½ feet or greater), but the important distinction is that they are maintained that way day in and day out, all season long. This is something we are seeing more and more of in the northeast, and as I stated earlier, it is usually accompanied by a decline in the turf quality.

When I first set out to find the solutions to the problem, I was initially disappointed by the fact that there was little or no formal research being geared twoard the specific turf problems associated with fast greens. However, in looking for that research, I had a number of informal conversations with turf researchers, with USGA agronomists, and with a number of superintendents who had been on fast greens programs longer than I had, and who were already confronting these problems. Out of these conversations came a number of excellent suggestions and "home remedies", many of which dramatically improved my greens. (cont'd. page 13)

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The most frequently mentioned reason for the turf decline on fast greens was something as seemingly simple as poor drainage. I say "seemingly simple" because everyone knows that bad drainage will cause a problem on any green regardless of its speed. The difference, here, is that on slow greens, you can generally identify a limiting drainage problem based on simple visual symptoms like "puddling". On fast greens, the tolerances are much much tighter, and you might not have any visual symptoms of bad drainage, yet still have a drainage situation that is contributing to turf decline. The only way to determine this is to have the soil on your greens tested by a lab. If the "Rate of Permeability", which I feel is the key measurement, is not up to the USGA specs of 6-10 inches an hour, you are very likely to experience a turf decline on these fast greens that you wouldn't experience if you were still maintaining them at slower speeds, even given identical drainage situations.

To correct this problem, we increased the number of annual aerations, went back to removing the cores (where we had been chopping them up and dragging them back in), and most importantly switched to what I call a "high permeability topdressing". I use that term instead of "high sand topdressing", because there are topdressings on the market with 70-80% sand that actually do nothing to improve the permeability of a green, usually because the remaining 20-30% contains a large amount of "fines" — silt and clay — that simply clog the pore space you're trying to create with the sand. So don't just test your greens' soil, test your topdressing material as well, and make sure the "Rate of Permeability" is up to spec. in both cases.

A second observation that I found extremely helpful is that several very common green maintenance procedures that are perfectly safe on moderate-speed greens, prove to be too abrasive when they're performed on a green which is already being stressed by a fast greens program. The best example of this is the traditional matting techniques that are used to work in topdressing, referring here to the steel-mesh type of dragmat. Another example is the steel-bristle brushes and steel combs which attach to green mowers for grain control. They do a good job of grain control, but they can cause problems on fast greens because of their abrasiveness. One agronomist I spoke with even felt that the verdict was not yet in on the "rotating fiber-bristle brush" which has become as popular on green mowers the past few years. Again, it is unquestionably an excellent grain control system, but there are early indications that it, too, may be too abrasive for the sensitive nature of these very fast greens.

A third suggestion has to do with the fact that virtually everyone who is maintaining greens for peak periods is using what we refer to as a "weihle" or grooved-type roller. Another excellent method of reducing turf problems is to switch to solid rollers, just for the brief period of peak summer stress (generally July and August in my region). If you've used weihle rollers the rest of the year, this brief switch-over seems to have little impact on slowing down the speed, but it does go a long way toward preserving the turf quality during these most difficult weather spells.

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The next suggestion came from the turfgrass research program at Penn State University. In one of the tests that they ran in their earlier study on how to achieve fast greens, several "plots", all of which were being maintained like fast greens, were fertilized at varying rates from a low of one pound nitrogen per thousand per year to a high of six pounds of nitrogen. The interesting part came when they happened to encounter a severe summer drought spell, and elected to observe the effects of this drought on fast greens at various nitrogen levels, rather than irrigate the plots through the drought. What they found was that the most severe wilt occurred in the plots that had received five and six pounds N, while at the lower rates, the wilt was less severe. So here we have a situation whereby most superintendents on fast greens programs are already using low nitrogen rates strictly to increase the speed! One might conclude based on this observation, that perhaps low nitrogen not only increases speed, but also increases the chances of preserving good turf.

Another interesting sidelight of that same study at Penn State occurred when they were evaluating the effects of multiple daily mowings on green speed. They found as they probably suspected that by double-cutting at a slightly higher mowing height, they could produce the same green speed as if they were cutting only once a day at a higher height. What they also noticed, that they weren't necessarily looking for, was that the plots that were double-cut daily at a higher mowing height showed less turf decline than plots cut once a day at the lower height. Again, both regimens achieved the same speed!

The last solution that I would recommend is that when you are coming out of winter dormancy, delay implementing your fast greens program for a month or so, and give the grasses a chance to start growing, to develop some hardiness and durability, before you subject them to the stress of low mowing and the other components of your fast greens program. Then, do the same thing in reverse, slow down your greens, before you head into winter dormancy to reduce the chance of winter injury. Your golfers will still have their fast greens in May, June, July, August, and September, and it appears that the turf quality benefits greatly from this "break" you give it during the very early spring and, again, in the very late fall.

In conclusion, let me say that, in spite of the success I've had with some of these suggestions, I'm not convinced that we will ever see the day when we can **guarantee** the dependability of the turf on greens maintained at fast speeds on a season-long basis. Better bentgrasses will help; more research is clearly needed; but we, as professional golf course superintendents must be the ones to encourage that research.

The bottom line is that if we encourage the research to find the answers to the problems associated with fast greens, and the answers are found, everyone benefits! If the answer we get back from researchers is that it simply is **NOT** possible to guarantee the dependability of fast greens, that's OK too. Because at least at that point, we will have made a genuine good-faith effort on behalf of the golfers we serve, and more importantly, if we want to be perceived, as we're always claiming we do, as resourceful, conscientious professionals, we won't just have to tell our golfers that we don't know how to do what he is asking; we will be able to tell him intelligently, "Here are the scientific reasons WHY it can't be done."