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practitioner plant doctors that will parallel the MDs and veterinarians of the sister professions. Graduates will be trained to diagnose, and offer recommendations for management-control, of anything that adversely affects plants: from weeds to diseases, and everything in between.

Plant doctors are expected to provide a greatly needed truly expert service to commercial and urban plant growers, and to the agricultural and general economy of the state and nation. They

will also help to better protect our environment and water supplies of the areas in which they are employed.

For more information about the program contact Dr. George Agrios, director, Doctor of Plant Medicine Degree Program, University of Florida, 1453 Fifield Hall, Gainesville, FL 32611-0680; phone 352-392-3631, Fax 352-392-6532, E-mail GAN@GNV.IFAS.UFL.EDU; web site: [Http://plantpath.ifas.ufl.edu](http://plantpath.ifas.ufl.edu).

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Golf Retirement Plan for Superintendents

TO: Affiliated Chapter Presidents and Executive Directors/Secretaries

FM: Don Bretthauer, Director of Member/Chapter Services

RE: GCSAA's newest member benefit: Golf Retirement Plus

Recent GCSAA studies show that 70% of golf course superintendents do not have access to a retirement plan through their golf facilities.

Why? Because the cost, tax and regulatory burdens are prohibitive for most "small businesses" like golf facilities.

That's why GCSAA recently partnered with the PGA of America and the CMAA to offer our members an easy and affordable new retirement benefit: Golf Retirement Plus.

Golf Retirement Plus gives our members a convenient way to save for retirement. And now, we're counting on your leadership to communicate this new benefit information to your members.

Golf Retirement Plus provides members with the following benefits:

- **Affordability:** GCSAA golf course superintendents and assistant superintendents only need \$50 to start an account. This low minimum requirement makes it easy and affordable for members to build a retirement account and save on a regular basis. Contributions can also be made at the member's own pace. A customized program - based on the member's situation - can tailor an investment schedule to fit any budget.
- **Accepts individual and employer contributions:** GCSAA members and their employers can contribute to their accounts. These contributions are tax-deductible for employers. Employers can add to employees' accounts, whether as a yearly bonus, employee-employer contribution match, or percentage of salary. And the employers won't have to worry about the Employee Retirement Income Security Act (ERISA) concerns, tax liabilities, investment decisions or administrative burdens of maintaining their own plan. (Please note: members will be taxed on employer contributions.)
- **Convenience:** Saving for retirement is so important in our industry - that's why GCSAA teamed with the PGA and CMAA. And by including all three association members in one retirement program, employers will have the convenience of handling one program for all the key staff at their clubs.
- **Reliable provider:** The Golf Retirement Plus investment provider, Security Benefit Life Insurance Company (SBL), is one of the nation's top-notch annuity providers and is one of the most respected names in the industry because of its expertise in variable annuities and financial strength and stability.
- **Numerous investment options:** With SBL, members can choose among 10 various investment options, depending on their age and risk tolerance.
- **Personalized retirement counseling:** GCSAA members have a dedicated Golf Retirement Plus services team available to provide program or account information and answer any questions they may have. Golf Retirement Plus Specialists know the program inside and out and are just a toll-free phone call away at 1-877-RET-PLUS (1-877-738-7587).

If you have any questions about the program or about this memo, please contact me directly at (785) 832-4418. Additionally, I would like to hear what your members are saying about this program.

Orangebrook West Course Reopens Completing Phase 1 of 6-Year Master Plan

The City of Hollywood and Golf Hollywood, a local golf course management company, are finalizing preparations for the re-opening of the 18-hole, par-71 West golf course.

"West Brook," closed since late April 1999, received \$300,000 in improvements from a city public bond project. Sanford Associates prepared a West course master plan for all 18 holes and construction drawings for the front nine. Tifton Golf Services completed the project in July.

The scope of work included renovation of the entire greens complexes including new bunkers, and slope and green surface contour changes on holes 1 through 9 and the practice putting green.

USGA-spec greens were installed, and Quality Grassing sprigged the greens with Tifdwarf.

The summer season was busy on "East Brook," the par-72, 18-hole track that shares the 230 acres of city property with the West course. Orangebrook members and guests are excited about the changes that Sanford has made to the West.

Grand Opening of "West Brook" took place Sept. 1. The Grand Opening golf tournament and ribbon-cutting ceremony followed Sept. 9.

Golf Hollywood is very excited about the City of Hollywood's commitment to improve the golf courses at Orangebrook. In July, a capital construction surcharge was approved to generate fees for ongoing construction projects.

Upon completion of the six-year master plan, all 36 holes will have fairway drainage improvements, USGA-spec greens, new bunkers, new forward tees, and all existing teeing areas will be renovated.

ROBERT KLITZ CGCS
General Manager

UF Field Day/ Gulf Coast Turf Expo Draws Crowd to Panhandle



Over 300 golf course superintendents and other turf professionals from northwest Florida, southwest Georgia and southeast Alabama attended the combined UF Field Day/Gulf Coast Turf Expo at the WFREC in Milton this past June. All Expo photos by Joel Jackson.



From left, Dr. John Cisar, UF Turf Coordinator; Dr. Terril Nell, Dean of Environmental Horticulture; Dr. Bryan Unruh, Field Day Host and Organizer; and Dr. Richard Jones, Dean of IFAS Research survey the education, equipment demonstrations and product information booths at the Field Day.



Dr. Bryan Unruh, left, thanks Wiley McCall of Emerald Isle Turf, Inc. for providing the food for the Milton Field Day. Emerald Isle Turf, based in Punta Gorda, Fla has gone the extra mile this year by catering and cooking the food for the South Florida Turf Expo in Ft. Lauderdale and for the UF Field Day in Milton. That's a lot of miles on that barbecue rig.



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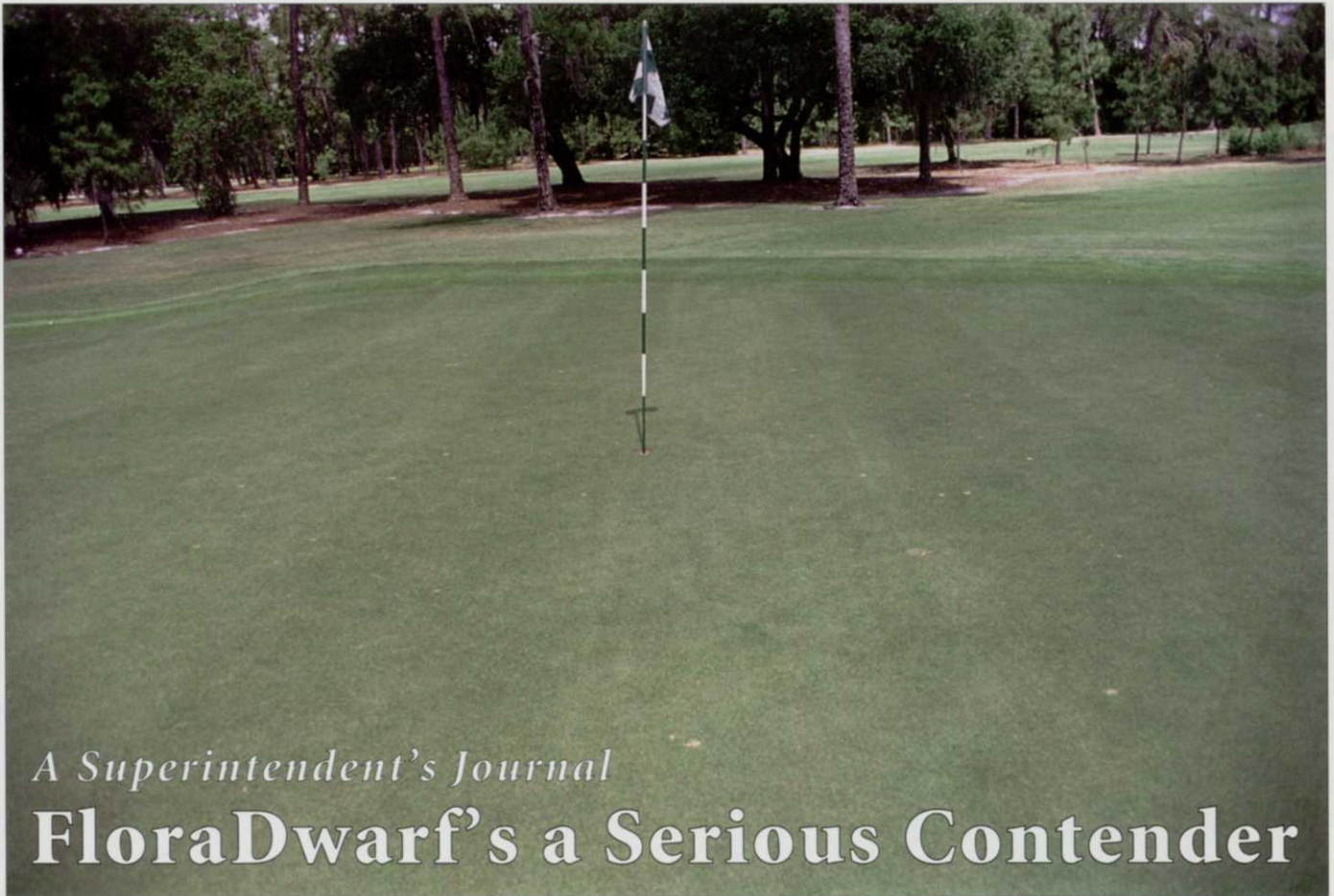
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A Superintendent's Journal

FloraDwarf's a Serious Contender

One-year-old FloraDwarf green at the Lake Region Y. & C.C. in Winter Haven. Photo by Joel Jackson.

(Part 2 in a series on management of the new ultradwarf bermudagrasses)

In the summer issue, Matt Taylor kicked off the discussion of management practices for the new ultradwarf bermudagrasses with an article on his experiences with Champion at Bonita Bay East Golf Club in Naples. In this issue Jay Reister, Ponte Vedra Inn & Club in Ponte Vedra Beach; Alan Puckett, Lake Region Y. & C.C., Winter Haven; and John Lammrish, CGCS, Orange Lake Resort, Kissimmee answered the "Call for Articles" to tell you about what they are doing to grow in, cultivate and manage greens with FloraDwarf.

Ponte Vedra Inn & Club

Turfgrass Density

The density in FloraDwarf is far greater than any dwarf on the market today.

The density is equal to the density of Champion ultradwarf. I just returned from playing bentgrass greens in Las Vegas.

I would say that FloraDwarf is equal to the density I saw on those greens. I am sure if you compared the two under a microscope, the bentgrass would have more density. But that is only because the bentgrass leaf blade is smaller. To the naked eye you could not tell the difference.

The density is so great, you will never have to worry about replacing greens every 10 to 12 years because they have been encroached upon so severely. Weed infestation will also be very difficult in this turf due to its density.

Low Growing

Obviously this grass has a low-growth habit. I have been on some fields that had not been mowed in over six months. The height of that grass could not have been more than a quarter inch. You would not

want to maintain this turf at .187 inches or higher. I don't believe it would be a good turf for tees, fairways or collars and approaches.

Purity

From what I have seen so far, this turf is as pure as it gets. It has been two years now and I have not found any off types.

Mowing Heights

I have never cut this turf above .155, including grow-in. This is very important. You can't treat this turf like Tifdwarf. You need to start mowing it low and continue to a point you feel comfortable with. Normally I keep my greens at .110 to .125. During stress situations, I go up to .155. If you have severely sloped greens you need to invest in some training wheels for your walk mowers or you will not be able to go as low as you want without scalping the slopes.

Type of Equipment

I use Toro 1000 walk mowers. I highly recommend the use of walk mowers on the new ultradwarfs. I also believe you need to use a direct-suspension walk mower, not a floating-head mower like the Series 5 Toro unit. By using the floating head mower, you are promoting a biomass buildup that will eventually cause you problems.

Top Dressing

When the turf is actively growing, I topdress lightly every other week. If the turf is not actively growing — and by that I mean, when nighttime temperatures drop below 55 degrees — I would not topdress. If you do topdress when the turf is not actively growing, all you will do is pick the sand up with your mowers even if you mow without buckets for a couple of days.

Equipment I recommend for topdressing: Either the Terra Topper or the new Meter Matic light topdressing unit. These two units seem to distribute the sand at the rate you need for these new grasses, which

is very light.

Verticutting

I verticut once every two weeks when the turf is actively growing, I verticut at a depth of 1/32 inch. Sometimes, depending upon the amount of growth I am receiving, I go two directions at the same depth: 1/32. If you don't use verticutting as a tool with these new varieties, you're dead. The biomass will overtake you.

While you are growing in this turf, you need to be on an aggressive verticutting program. In my grow-in, I verticut once a week after we reached 50 percent coverage. This turf really likes to be verticut lightly and often.

Fertility

For grow-in, we incorporated the following pre-plant materials: 50 lbs. of Milorganite/1,000 sq. ft.; calcium carbonate CEC at 25 lbs/1000 sq. ft.; 0-0-59 Polyon at 5 lbs. of K/1000 sq. ft.

After one week, apply Bio-Pro 12/3/9 at

1 lb. N/1000 sq. ft.; Apply .75 lbs. of K From Sul-Po-Mag weekly. Apply 1 lb. N from ammonium sulfate /1000 sq. ft. once every two weeks. Grow-in should be accomplished in six to eight weeks.

For established turf, we foliar-apply 1/8 lb. N, 1/16 lb. P, and 1/2 lb. K per 1,000 sq. ft. We add a micronutrient package as indicated by tissue sample analysis. I apply this every five to seven days year round. I do tissue samples once every two weeks to establish the needs of my turf. I think this is very important. Once a week I also apply .75 lbs K/1000 sq. ft. in granular form. I prefer a 0-0-28 from Lesco.

During the winter, the only granular fertilizers I use are Potash and it needs to be a material that will break down with one night's irrigation or you will end up picking it up with your mowers even if you go without buckets for a day or so.

Water

I irrigate as needed. Presently it seems we need to irrigate every other night 10

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Overseed programs

I have never overseeded.

Summary

If treated properly this turf is far and above the quality of Tifdwarf. It will definitely be the turf of the future. If you are not growing it now, you will be in the next three to five years.

JAY REISTER

Golf Course Superintendent

Lake Region Y. & C.C.

Establishment/Grow-In Program

At Lake Region we reconstructed our green surfaces during the summer of 1998. We started the project on June 22 and opened the greens Oct. 1. We cored them out to a depth of 6 inches and put in a No.1 sand greens mix. We filled in the 6 inches with the new mix and rototilled them to a depth of 13 to 14 inches. We basically created an 85/15 mix.

We also made a few changes to some greens' contours but mostly just rebuilt them as they were. As to the establishment of the new greens, we first wanted to grow them in as fast as possible. We had a very tight window to pull this off. We planted the front nine July 23 and the back nine on Aug. 3. We upped the sprigging rates on the front nine to almost 30 bushels per acre with the norm being 20 bushels.

When we got to the back nine, our grow-in window was getting smaller so we used almost 35 bushels back there. This helped us get to the date we needed. Prior to the last floating of the new surfaces, we prepped them with Triple-Super-Phosphate, Milorganite, and Dol-Lime. Then we made our final tilling and leveling while working in these three products. Then we sprigged them and cut them in two different ways.

From this point on we poured the water to them. We started running 20-minute programs per green throughout the entire day.

We wanted to keep the soil profile as wet as we could. We ran this program for two to three weeks and then started to back off some. We went to 10-minute cycles

eight times a day. This seemed to keep them with good moisture throughout.

Now we started to get into the fertility. We put at least a pound of N out per week. We used ammonium sulfate one week, a complete 10-10-10 one week, and ammonium nitrate one week. We continued this throughout the majority of the grow-in.

As we got closer to our opening date the last three to four weeks, we began hitting them twice a week with ammonium nitrate to push them really hard. This helped close up some thin spots. We were able to redo 21 greens and get them opened on time.

We started to roll them after four to five weeks. We put a large 7-foot-wide roller with water in the cylinders on them to begin the smoothing phase. We would roll three times a week in different directions. This worked really well and from there we started to topdress them.

We would open the topdresser wide open and cover them thoroughly. We began our topdress regime about five weeks into the grow-in. We continued this throughout the grow-in and with the rolling and topdress together we ended up with some very nice surfaces.

When we were 70 percent grown in, we began to mow them. We used solid rollers and a mowing height of .170. We continued to mow every couple of days for a week or two, and then began mowing almost daily.

We were still topdressing and rolling as we continued mowing. All three operations went well and the surfaces started to look pretty good.

After a couple of weeks at that height, we went to .150 and at opening we were at .125 using Wiehle rollers with tournament bedknives, which we were using anyway.

Routine Cultural Practices

A. Mowing

Our mowing program today uses Toro triplexes. We keep them at .120 with Wiehle rollers and we use tournament bedknives. We spin grind our reels weekly. We use 11-bladed reels and we're getting eight to ten weeks out our bedknives. We use a greens roller twice a week and we also use Primo at a rate of 1-1/2 ounces per acre every two weeks.

This helps on a daily basis in two areas: It seems to minimize clippings and keeps good speed in the late afternoon. We are able to provide a quality surface for our membership with triplexes and will continue to use them as long as we are able to do so. We add one new mower to our fleet each year and rotate the older mower out.

B. Verticutting

We use a Toro mower with their standard verticut reels. We verticut our surfaces biweekly. With each application we are set to go at 1/4 inch in two different directions. We adjust those two directions on each verticut cycle. We make a cleanup mowing and follow that with a light topdressing. We also plan to use verti-groomers this season.

C. Topdressing

We use a 90/10 mix with Canadian peat. We topdress behind the verticutter twice a month. We use a Ransome topdresser which we set at just over 1/2 inch. We drag it in with a triplex and we pull a carpet. This drags in the light sand and is easier on the green surface than a golf cart. We will do this operation on a Monday morning and play is held to a noon start. We have never interfered with play. We feel light and frequent is the best for us.

D. Fertility Program

We apply a granular mix every two weeks. We also put out a tank of liquid each month. For granular blends, we use a 17-1-10 and rotate with a 9-3-9 mini prill through the growing season and will use IBDU through the winter. During the season we apply almost 3/4 lb. every two weeks. We also spray weekly with a minor package. The liquid normally is a 32-0-0 and at times we will put out 8-0-8. We try to keep them pumped up and very healthy.

E. Aerification

We start to aerify greens as early in the season as we can. We will come in with 1/4 inch solid tines in February to March depending on the weather and temperatures. We will punch them monthly with 1/4 tines til the middle of May when we will bring in an outside service to do a deep-tine aerification. They use a 5/8-inch-di-

ameter tine and go 8 inches deep. We topdress heavily behind them.

We use our small tines through the summer if needed for compaction or hot spots. In August we will come in ourselves and aerify with a 5/8 tines on Coremasters. We will also topdress heavily behind this operation. We also spike greens monthly in the winter with every topdressing.

F. Irrigation Practices

We irrigate on a daily schedule normally. We are always adjusting the amount that we put on them. We are a test site for Toro Irrigation and are presently testing a new controller system for them. We run set amounts and change percentages almost daily. We use a rain gauge for automatic shut off. We will put a wetting agent on them biweekly and will hand-water them on a regular basis during the week.

G. General Comments

During our greens construction, we did make several minor changes to some of the greens with severe contouring. We took areas that had a 9 to 10 degree fall to 3 to 4 degrees of fall. They still have very good movement but now have more cup locations.

Scalping with the new surfaces has not been a factor.

The greens seem to get a little harder and drier under drought conditions, but overall in their first year have done very well. As for ball speed, they are not as quick as I would have thought from changing grass types, but they have the ability to become very fast without stressing the turf.

We rebuilt 21 greens and completed seven other projects and we only spent \$217,000. We opened in 110 days. We are very happy with the FloraDwarf!

ALAN PUCKETT

Golf Course Superintendent

Orange Lake Resort

Orange Lake is a time share resort. The decision to use FloraDwarf on the new Legends Golf Course was recommended by the architect, Harrison Minchew of Palmer Design, and one that I was very excited about.

After numerous meetings with Orange Lake management discussing the pros and cons of using this new grass, we decided to use FloraDwarf.

I. Grow-in and Establishment

On July 8, 1998 the first green was sprigged with FloraDwarf at the rate of 30 bushels per 1,000 sq. ft.. The greens were built to USGA specifications (no choker layer) with an 85/15 greens mix. I was alarmed by the initial appearance of the sprigs. In comparison to Tifdwarf sprigs, they looked more like clippings instead of stolons.

A. Irrigation

We watered the new sprigs for 10-15 minutes every hour from daybreak until 7 p.m. This watering schedule continued for two weeks. At that point we reduced the watering to two daily cycles and adjusted as conditions dictated. As the turf filled in and a root system developed, we backed off to a single cycle during the evening hours.

B. Fertility

Prior to sprigging, a preplant fertilizer was applied. One week after sprigging, we alternated 21-0-0 and 15-5-15 weekly for the next five weeks. During the fifth and sixth weeks, we were not pleased with the results. Soil testing showed calcium and magnesium deficiencies. This was corrected by an application of dolomitic limestone at 20 lbs./1,000 sq. ft.

In the sixth week we began applying 14-4-14 with an increased minor package alternating with the 21-0-0. All applications were calibrated to apply .5 - .75 lbs. of nitrogen/1,000sq. ft. During the tenth week we started fertilizing on a two-week interval using 13-2-13 or 17-1-10. Soil tests were conducted three times during the grow-in phase to assure proper nutrients were being applied.

C. Rolling

We started rolling the greens during the fourth week of the process. A 1.25-ton roller was used only once due to concerns of flattening or reducing the original contours in the putting surfaces. We shifted to a standard Speed Roller and rolled weekly or as needed.

D. Mowing

In week three we began mowing the green with John Deere 220A walk mowers set at .187 inches. Some of my peers suggested mowing them at .125 during grow-in, but we were not happy with the results. A couple of the greens were nearly mowed to death at this height in less than two weeks. Needless to say I became very conservative and the HOC was raised to .150

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until the greens were fully covered, which took about eight to ten weeks.

We had three greens that could have been considered playable in six to seven weeks. As we approached opening day, the HOC was lowered to .130 and provided a quality putting surface with a stimpmeter reading of 8.5. The goal for opening day was 8.5 - 9.0. This is when we realized that we could achieve good speeds under normal daily mowing conditions.

E. Topdressing

This program also began in the third week of grow-in. Great care was taken not to rut or disrupt the putting surfaces with the turning motion of the equipment. A Meter-Matic with the gate set wide open was pulled behind a John Deere Gator 4x2 to apply the maximum amount of sand.

The first three applications of 85/15 were made once a week. Then we switched to 90/10 in week four and began using a Terra Topper for lighter applications. The gates were also wide open but we adjusted our ground speed to apply the necessary amounts of mix.

We verticut before topdressing during the fifth week after sprigging. The bench setting on the verticut reels was 1/8 inch. Verticutting was performed on a 14-day cycle during grow-in and continues to this day.

II. Routine Cultural Practices

A. Mowing

The greens are mowed with a combination of John Deere 220A walk mowers and 2243 triplex mowers. Walk mowing is done exclusively from November through April. All mowers have Wiehle rollers on the front only. Tournament bed knives are used and replaced every three to four weeks. The reels are ground with a spin grinder with a relief grind.

The height of cut can vary from .130 to .090. This is based on the health of the turf and the time of the year. Since we do not overseed the greens, the HOC will be raised to .150 to increase the overall plant health. This will help the turf recuperate from the cooler temperatures and 250-plus rounds during our peak season.

B. Verticutting

We verticut with John Deere 2243 triplex mowers. The depth of the blades varies from 3/16 to 1/8 inch depending on what we want to accomplish. The standing verticut schedule is every 14 days but is not always needed. During the summer we have more flexibility with this procedure. By contacting our director of golf, we can alter the schedule to meet the needs of the grass. The use of a Mat-A-Way has been considered, but at this point, it does not seem to be necessary.

C. Topdressing

This may be considered the most important aspect of maintaining FloraDwarf. We topdress every two weeks with a Terra Topper. While the amount applied can vary from green to green, it is usually light enough that a couple of turns of the heads are all that's needed to work the sand into the turf. Now that the course is open for play, a straight sand is used for all topdressings. It appears the greens are creating enough organic matter through maturity that the addition of peat moss in the mix is no longer needed. No layering is evident in the green profile.

D. Fertility

We use a combination of granular, soluble and micro-nutrient fertilizers. Granular 17-1-10 or 13-2-13 is applied every six to seven weeks at .75 lbs of N/1,000 sq. ft. Two weeks after a granular application, we spray a soluble fertilizer at a rate of 1/8 lb. N and K/1,000 sq. ft. A week later 6 oz/1,000 sq. ft of Lesco's Iron Plus (12-0-0) will be applied. After this I will alternate complete soluble and micro-nutrient fertilizers weekly.

The granular products provide a good growth spurt to promote roots and increase recuperative potential. They can also reduce green speed, so we take tournament schedules and special events into consideration. Generally in this cycle, weeks four and five produce the best putting surfaces and appearance. The sixth and seventh weeks are very lean and the use of chelated iron maintains the color. This is when our green speeds are best (9.0 - 10.0) for the resort course. After a year of monitoring this program, I feel it provides the

best playing surface and has slowed down thatch development.

E. Aerification

The greens are aerified three times per year: April, June and July. This process is performed by a subcontractor, Golf Course Services. The aerifier is a modified Core Master with 1/2-inch hollow tines that penetrate to a depth of 3-4 inches. Spiking is used only when environmental conditions favor algae growth. With the intense topdressing and verticutting schedules, I have used spiking less than my past experiences with Tifdwarf.

F. Irrigation

Typically, our greens are watered 15-25 minutes daily. This decision is made daily based on using a soil probe to check moisture and monitoring the morning dew patterns. No hand watering has been necessary nor has the use of specialized wetting agents other than the Lesco Wet we put into our liquid fertilizer applications.

Summary

In summary, the FloraDwarf has been a learning experience in all aspects. From mowing heights so low that your bedknife becomes a bulldozer blade instead of a cutting edge, to implementing different fertility programs.

The cold tolerance seems to be similar to Tifdwarf with the purplish color. Diseases have been almost non-existent with the exception of some *Helminthosporium* last November and December.

The green speed issue is one for great debate, but FloraDwarf is easier to keep at 8.5-9.0 in relation to Tifdwarf without directly affecting the budget.

We have only managed FloraDwarf for a year, and so far it still appears to be a pure stand. I have seen some Tifdwarf greens less than two years old that show signs of mutation or contamination. Hopefully, our FloraDwarf will remain pure for many years to come.

JOHN LAMMRISH, CGCS
Director of Grounds Maintenance