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 nor-
manly. We are always adjusting the
amount that we put on them. We are a
test site for Toro Irrigation and are pres-
ently 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 loca-
tions.

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 recom-
mended 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.

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 ad-
justed 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 al-
ternating with the 21-0-0. All applications
were calibrated to apply .5 -.75 lbs. of
nitrogen/1,000 sq. ft. During the tenth week
we started fertilizing on a two-week inter-
val 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 con-
tours 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 sug-
gested 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 con-
servative 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 sprinkling. 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. Tournamnet 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 K1,000 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 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 LAMBRISH, CGCS
Director of Grounds Maintenance