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HARRELL’S FERTILIZER
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#4 North, a 440 yard par 4, built in 1968 is a good example of greens bunkering and run up approach areas in the Von Hagge/Devlin design. Photo by Daniel Zelazek.

This picture of the green on the par-4, 390-yard #7 North shows how a golf course offers peaceful natural surroundings even though located in an urban residential area. Photo by Daniel Zelazek.
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YOUR SMITHCO DISTRIBUTOR HAS ALL OF THE ANSWERS FOR BETTER, SAFER SPRAYING
which provides good sport for residents and some off-duty staff members, reports Mike Perham, CGCS, director of golf course maintenance.

"Managing the waterways is definitely a balancing act," said Perham. "We have to time our irrigation cycles and aquatic weed control versus rainfall events and storm water discharge. You have to pay attention to the needs of the turf and the algae and weed populations. Unfortunately we can't control the quality of the water we bring in from the county's drainage canal to recharge our lakes. It can be infested with weeds at times, which means we have to deal with them eventually."

Mike has been real busy since his arrival at the Fountains in May, 1995. "We have had a major renovation project each year since I've come on board. With 27 holes that are 30 years old, we have had to update and upgrade some of the infrastructure and

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Golf course superintendents like yourself are making plans to get their courses in top shape for the new season. And irrigation is at the top of their lists. Century golf professionals can show you how to maintain a highly-playable course, and can help solve any irrigation or drainage problems. They can also show you what's new in clubhouse landscape lighting, water features and more. Call today for a FREE catalog and on-site consultation: 800-347-4272.

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playing surfaces. Two of the most important improvements have been to the irrigation systems on both 27-hole complexes. We did the North complex last year and this year, we are doing the South complex.

"Although it has made for some nonstop summers around here, I'm glad the members have been willing to support the improvements. It just means we are being given the tools and resources necessary to provide more consistent playing conditions." (See Major Renovations on page 38).

Directing the operations for a 54-hole complex is quite a change for Perham. He made the decision to come to the Fountains after spending 11 years at The Moorings Club, an 18-hole golf course in Vero Beach. Perham said, "Professionally for me, it was the most dramatic change I had ever contemplated. It meant leaving the confines of a 75-acre golf course with a staff of 12 and taking on 325 acres of golf course with 54 employees."

"I now have two superintendents with their respective crews, an equipment manager, a landscape crew, and an administrative assistant that I depend on for the day-to-day operation of the facilities. I talk to each superintendent in the morning for updates at

It meant leaving the confines of a 75-acre golf course with a staff of 12 and taking on 325 acres of golf course with 54 employees.

Think Before You Leap

Mike once offered this advice to superintendents who may be contemplating taking on a multi-course operation which requires more administration and less hands on.

1. "Feel comfortable with the immediate professionals you will be working with on a daily basis. I never would have accepted this position if I had not felt good about my relationship with the general manager and director of golf."

2. "Hire good people and hold them accountable. This advice is never more important than in a large operation like this. If someone is not doing their job, and you have to do it, you do not need that individual. That may seem harsh, but you must realize this is the only way you will accomplish the job for which you were hired in the first place."

3. "Have fun! It is imperative to maintain a positive mental attitude about your job. Truly enjoy what you do, and take pride in your accomplishments."
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and questions between 6:30 and 9:00. By 7:15 I am riding the courses checking on the progress of projects and checking holes for general turf conditions. This is the most peaceful time of day and usually the only time I get to see the courses consistently.”

Perham makes it habit to have lunch with the director of golf or the club manager three or four times a week to keep communication flowing. Lunches also provide the opportunity to meet with other club officials and his green committee chairman to discuss ongoing or upcoming projects. In the afternoon Perham tries to get out on the course again for a quick tour to catch other areas missed in the morning.

“The North Course takes the brunt of play,” Perham said. “It is situated next to the main clubhouse and the

---

**Major Renovations/Projects**

- **1998** — South Course: Installation of new Rain Bird Cirrus irrigation system. 1400 heads. 2500 gpm Flowtronex/PSI pump station.
  Contractor: Fleming Brothers; Greens, tee and bunker renovations South 27 holes. Contractor: Quality Grassing; Installation of pesticide mix-and-load bay and equipment wash rack at South Course maintenance complex. Contractor: Eco Soil Systems;

- **1997** — North 27 holes irrigation upgrade. Rain Bird Maxi 5 Control system. Dual head system around greens. Replaced swing joints and re-tubed all heads. Contractor: Fountains GC staff;

- **1996** — Rebuilt North GC greens to USGA specs. Improved driving range tees and mounding.
  Contractor: Haverland Blackrock.

- **1995** — Reconstruction of holes #2, 3, 4 on South Course.
  Excavation of four lakes, fairway drainage, mounding, tees and cart path construction. Irrigation installation on three holes.
  Contractor: Haverland Blackrock & Fountains GC staff.

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**Michael Perham, CGCS**

**Originally from:** Charleston, South Carolina. Raised in West Palm Beach, Florida.

**Family:** Wife, Marcy (Married 20 years in November). Children: Laura (15), Christopher (12).

**Education:** Lake City Community College, 1978. Cardinal Newman High School, West Palm Beach.


**Professional affiliations:** Member of: Florida GCSA (Treasure Coast Chapter board 1985-91, president 1986-87); (Palm Beach Chapter board 1983-84); Florida Turfgrass Association (FTGA board 1983); and the Golf Course Superintendents Association of America. Served on various GCSAA committees.

**People who have influenced your life and career:** I think the most important thing that I was taught was to have a good work ethic. Do a day’s work for a day’s pay. This was ingrained into me early in life by my father. During the early formative years of my career, I was fortunate to work for two true professionals: Jim Ellison at the Bay Hill Club and Dan Jones at Turnberry Isle. The ability to work for these two individuals and observe the manner in which they conducted themselves influenced me greatly.

**How did you get into the business:** I started playing golf in elementary school. Family had a membership at original PGA Club, now Ballenlsles. Played quite often with and Dad and my brothers. The summer between my junior and senior year in high school, My brother John was doing an OJT at Boca West. He got me the job. I hated it! After high school, John had graduated from Lake City Community College and was working at Indian Springs. I decided to try golf maintenance again for one more summer. I enjoyed it more and went to see Dr. Nutter at LCCC in the summer of 1975. Entered the Golf Operations program in 1976 and been doing this line of work ever since.

**Memorable moments:** The many friendships developed over the years. Being involved with various associations enables you to meet people from different parts of the state and country. I enjoy going to meetings and playing other courses primarily for the learning experiences, but also for the chance to renew old friendships.

**Hobbies and interests:** Aviation, golf and cycling.
DISCOVER THE ROOTS
OF ENVIRONMENTAL SUCCESS

Beneficial Microbes®
The Natural Solution

"The benefit we have noticed the most since using the Green-Releaf programs is the improvement in the overall uniformity and consistency of the quality, density and color of our turf. In my opinion, in the golf business, consistency is the key. Our golf course gets a lot of traffic each year, upwards of 60,000 rounds, and not with a lot of area for the carts to disperse as they play each hole. We still have very few bare areas from traffic or stress. To me, that is a big improvement. Another strong benefit we've seen since using the Green-Relief organic programs has been the ability to cut down on our chemical use. We have cut our fungicide applications to almost nil, we might have to use them once or twice a year, while at the same time, cutting our chemical fertilizer use in half. I would have to say, I'm a firm believer in the use of "Beneficial Microbial Products."

Superintendent Garth Boline of the Chi Chi Rodriguez Golf Club-Home of the Chi Chi Rodriguez Youth Foundation in Clearwater, Florida.

Garth's experience illustrates why more superintendents around the world now specify GREEN-RELEAF® Beneficial Microbes® as the leading non-toxic course-conditioning product.

Hearty deep root growth is essential for turf that consistently handles heavy wear and seasonal stress while maintaining overall plant health.

Upon application, GREEN-RELEAF® Beneficial Microbes® move rapidly into the root zone forming a symbiotic relationship with plant roots. The resulting microbial network improves plant performance by facilitating the uptake of nutrients and water, while simultaneously aiding in pathogen defense.

GREEN-RELEAF® products increase your turf's natural microbial activity for a vigorous, hearty soil ecology which lessens the need for chemical controls. Since our Beneficial Microbes® also amplify nutrient uptake, you can apply less fertilizer and still produce higher quality turf.

Other advantages include:
- 50% faster seed germination
- Fast, full overseeding and grow-in
- Higher tolerance for heat, cold and physical stress
- Reduce seed rates by 25%
- Deeper root growth

Take our no-risk 90-day challenge:
Test the GREEN-RELEAF® program on your course and see the results of higher beneficial microbial populations within 90 days! If agreed that there were no quantitative results after 90 days, GREEN-RELEAF® will donate the entire cost of your program to your local chapters research & development or scholarship fund.

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microbes@green-releaf.com

or
Du Cor International
(800) 382-6735
Location: Lake Worth.
Ownership: Membership
Playing policy: Private.
Designed by: Robert Von Hagge and Bruce Devlin. Greens, tees and bunker work by Jeff Myers of JCM Group.
Management: William O'Connor - general manager; Mike Nedrow - director of golf; Donald Honig - club president; Ed Freedman - green committee chairman; Mike Perham, CGCS - director of golf course maintenance; golf course superintendents: North 27 holes - Pasi Pussinen; South 27 holes - Aki Polvikoski; administrative assistant - Mary Lips.
Acreage under maintenance: 325 acres of turf.
Tees: 4 acres. Turf type: Tifway 419. HOC = .450. Overseeding: Perennial ryegrass = 15#/M.
Fairways: 140 acres. Turf Type: North 27 holes = Heinz 57 variety. South 27 = Tifway 419. HOC = .575 -.675. Overseeding: North Course = Perennial ryegrass @ 350# per Acre.
Waterways/Lakes/Ponds: 50 Acres. Recharge water for the lakes is drawn from a large Lake Worth Drainage District canal. This canal is infested with numerous aquatic weed varieties, causing constant weed control problems in the golf course lakes. In addition, the golf course lakes serve as storm water retention and discharge for the property.
Irrigation: North 27 holes has three separate pumping stations with 1950 gpm capacity. 978 heads (Toro and Rain Bird), 47 Rain Bird MSC plus controllers. South 27 holes (See major renovation projects section on page 20.)
Staff: Total including superintendents 54. 2 assistants. 5 mechanics. 4 pest control techs. 2 irrigation techs. 4 clubhouse landscape maintenance. 2 tree crew.
Special or unusual conditions: Biggest challenge is the lack of a monostand of turf on the North 27 holes due to the age of these holes. The different varieties respond differently to conditions and maintenance practices and create a challenge to manage.
Cultural programs: Greens - Light verticut every two weeks. Hollow tine aerify 2x per year. Deep drill 2x per year. Hydroject 8-9x per year. Tees - aerify 3x per year. Verticut and topdress 3x per year. Fairways - Verticut once per year. Core aerify 3-4x per year. Roughs - aerify 3-4x per year.
Wildlife inventory: The lakes have very mature largemouth bass. Herons and other wading and water birds. Flocks of wild parrots can be noisy at times.
and TORO present...
REELMASTER® 5200-D & 5400-D

TWO LIGHTWEIGHT FAIRWAY MOWERS THAT RELIABLY PROVIDE A SUPERIOR QUALITY OF CUT.
Durable in design and powered for performance, these mowers deliver the clean, consistent cut that superintendents and players expect.

**PERFORMANCE PLUS**

- **PERFORMANCE PLUS**
  - ROPS is standard on 4-wheel drive model, optional for 2-wheel drive
  - High reliability 28 hp or 35 hp Kubota 3-cylinder diesel engine provides abundant traction and hydraulic cutting power
  - Easy to operate joystick conveniently raises, lowers cutting units
  - Standard on-unit backlapping keeps reel maintenance quick and easy
  - 5 or 8-blade fairway cutting units ensure superb ground following and excellent cut
  - Manually adjustable variable reel speed lets you adjust machine's performance to the specifics of your course
  - HIGHLY RELIABLE 28 HP or 35 HP KUBOTA 3-CYLINDER DIESEL ENGINE provides abundant traction and hydraulic cutting power
  - EASY TO OPERATE JOYSTICK conveniently raises, lowers cutting units
  - STANDARD ON-UNIT BACKLAPPING keeps reel maintenance quick and easy
  - 5 OR 8-BLADE FAIRWAY cutting units ensure superb ground following and excellent cut
  - MANUALLY ADJUSTABLE VARIABLE REEL SPEED lets you adjust machine's performance to the specifics of your course

**TWO POWERFUL CHOICES**

The Reelmaster® 5200-D offers 28 hp — plenty of muscle for many applications. Or, choose the 35 hp Reelmaster 5400-D for more challenging terrain, grasses or climates. Durable Kubota 3-cylinder diesel engines power both models, with easy service access.

**OPERATOR COMFORT**

Deluxe seat, convenient hand controls, easily visible gauges and an uncluttered floorboard increase operator comfort and productivity. A simple joystick raises and lowers cutting units for cross cutting or transport.

**SUPERIOR TRACTION**

Choose from 2 or 4-wheel drive. Hydrostatic transmission coupled to a mechanical drive axle ensures sure-footed performance on hillsides or soft turf. On-demand 4-wheel drive means power is always available at both front and rear axles when needed most.

**PRECISION CUT**

Choose from Toro's high quality 5 or 8-blade cutting units. Free floating cutting units, with variable down pressure, ensure superb ground following. Manually adjustable variable reel speed allows you to adjust the machines cutting performance to your mowing conditions. On-unit backlapping keeps reel maintenance easy and convenient.
THE REELMASTER 5200-D is available in 2 or 4-wheel drive. The mower's 28 hp Kubota diesel engine offers ample power for traction and cutting in a wide range of conditions. Yet, its light weight is easy on the turf.

THE REELMASTER 5400-D, also available in 2 or 4-wheel drive, packs an impressive 35 hp Kubota diesel engine. This mower is well-suited to hilly golf courses, those in higher altitudes, or other more demanding conditions.

ATTACHMENTS AND ACCESSORIES

THATCHING REELS Quick-attach thatching reels offer greater versatility. Standard configuration includes 3/4" spacing, a Wiehle front roller with scraper and a solid rear roller with scraper.

FRONT AND REAR ROLLER SCRAPERS Effective cleaning action helps keep cut consistent by preventing clipping build-up. Scrapers mount easily and are adjustable for different turf conditions.

HEIGHT OF CUT EXTENSION Extends mower height up to 1 1/2" for flexibility to maintain a wider range of course conditions.

COMB Abrasion resistant nylon comb gently grooms grass for optimum cutting. Assists in preventing excessive horizontal growth. Regular use may help control grain and thatch.

GRASS BASKET KIT Easy to handle, high capacity baskets provide thorough clip collection. Baskets mount to carrier frame, not cutting units, to ensure cutting unit stability.

TORO ACE™ SYSTEM Hand held diagnostic tool permits easy machine troubleshooting. It can determine whether a problem is hydraulic or electrical, saving the mechanic time.
**Engine**

Kubota liquid cooled diesel, 3-cylinder, 28 hp (20.9 Kw) gross @ 3000 RPM. 68.5 cu. in. (1123 cm³) displacement. Pressurized lubrication system with 4.0 quart capacity. Heavy duty two stage, radial seal air cleaner with dust bowl. Fuel filter/water separator with visible bowl. Electric fuel pump.

Kubota liquid cooled turbo diesel, 3-cylinder, 35 hp (26.1 Kw) gross @ 3000 RPM. 68.5 cu. in. (1123 cm³) displacement. Pressurized lubrication system with 4.0 quart capacity. Heavy duty two stage, radial seal air cleaner with dust bowl. Fuel filter/water separator with visible bowl. Electric fuel pump.

**Radiator**

Mid-mounted radiator with industrial tube and fin construction. 7 fins per inch. 7.5 quart (7.1 liter) capacity.

**Traction Drive**

Power to the front drive wheels is via a hydrostatic transmission coupled to a mechanical drive axle. Toro 4-matic on-demand 4-wheel drive, consists of drive shaft connected to mechanical rear drive axle.

**Ground Speed**

0-10 mph (0-16.1 km/hr) forward; 0-4 mph (0-6.4 km/hr) reverse.

**Tires/Wheels/Pressure**

26x12-12 front drive tire provides maximum traction ability while minimizing turf abrasion. 19x8.5-8 rear tire.

**Gauges**

Hour meter, speedometer, fuel gauge, temperature gauge, cluster gauge with glow plug and charge indicator lights, low engine oil pressure and high coolant temperature warning lights (high temperature safety shut off).

**Electrical & Interlocks**

12 volt maintenance free battery. S30 CCA. Electronic control unit is a microprocessor based, solid state control unit with diagnostic capabilities. Traction pedal, operator presence in seat, PTO engage or disengage safety interlock switches.

**Reel Speed Control**

Reel drive circuit is split into front and rear independent circuits. Hydraulic functions controlled by an integrated hydraulic control block. Reel speeds are manually adjustable between 300–2000 RPM (530 RPM in backlap).

**Cutting Unit Suspension**

Equal geometry independent suspension arms with positive down pressure to each cutting unit, adjustable to five settings in eight pound increments.

**Overall Dimensions**

Height: 56" (142 cm); 81.5" (207 cm) w/ROPS Length w/o baskets: 103.5" (263 cm)

Wheel Base: 58" (147 cm)

Overall Width/Transport: 87" (221 cm)

Front Wheel Tread: 70" (178 cm)

**Weight**

2,320 lbs. (1,054 kg) - 2WD
2,370 lbs. (1,074 kg) - 4WD

**HOC Range**

'A" - 'A" (6.4 mm – 19 mm) standard, 'A" - 'A" with optional high height of cut kit (P/N 83-5300).

**Clip Frequency/Backlapping**

Manually controlled variable reel speed. On-board backlapping standard. Model 03506: .62" - 1.12" (.16 - .29 mm); 5 blade reel at 5 mph (8 km/h). Model 03509: .40" - .73" (.10 - .19 mm); 8 blade reel at 5 mph (8 km/h).

**Rollers**

Front 2.5" Wheelie roller standard. Optional solid front roller. Rear roller optionally a 2" or 2.5" solid roller.

**Certification**

This product complies with the American National Standards Institute (ANSI B71-4 - 1999) and European Community specifications (CE Certified).

**Warranty**

Two year limited warranty. Refer to the Operator's Manual for further details.

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### 5 AND 8-BLADE CUTTING UNITS, MODELS 03506 AND 03509

**Type**

Five 21" (53 cm) wide welded reels. 6" diameter. Front or rear discharge. Fully interchangeable.

**Width of Cut**

95" (241 cm) with five cutting units.

**ROC Range**

'a" - 'a" (6.4 mm - 19 mm) standard, 'a" - 'a" with optional high height of cut kit (P/N 83-5300).

**Clip Frequency/Backlapping**

Manually controlled variable reel speed. On-board backlapping standard. Model 03506: .62" - 1.12" (.16 - .29 mm); 5 blade reel at 5 mph (8 km/h). Model 03509: .40" - .73" (.10 - .19 mm); 8 blade reel at 5 mph (8 km/h).

**Rollers**

Front 2.5" Wheelie roller standard. Optional solid front roller. Rear roller optionally a 2" or 2.5" solid roller.

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