



BRIEFS

TULLY NAMED SUPERINTENDENT AT KEMPER LAKES GC

NORTHBROOK, Ill. — KemperSports Management has named Dan Tully superintendent at Kemper Lakes Golf Course in Long Grove, Ill. The Chicago-area native has over 15 years of experience in the golfing industry. Since January of 1998, Tully has been superintendent at the 27-hole, 650-acre White Hawk Country Club in Crown Point, Indiana. He also has worked at the Michael Jordan Golf Company in Aurora, Ill.



Dan Tully

DELHI COLLEGE RECEIVES NYSTA SUPPORT FOR LIBRARY

DELHI, N.Y. — The New York State Turfgrass Association has contributed \$2,000 in support of reference materials for students of Delhi College's golf, turf management and landscape programs. The collections of materials will be available to students at the university's Resnick Library. According to Dominic Morales, dean of Applied Sciences, the grant is a good start in developing a resource room dedicated to students of these majors. Industry support has played a key role in the development of golf-related programs at Delhi. The college receives over \$100,000 in equipment and supplies for student use each year from the industry, along with more than \$15,000 in scholarships.

SEVERANCE JOINS CRYSTAL MOUNTAIN

THOMPSONVILLE, Mich. — Scott Severance has joined Crystal Mountain here as the new superintendent. He will be responsible for managing turf conditions and maintenance on the facility's two golf courses and the Crystal Mountain Golf School's 10-acre practice center as well as overseeing renovation work being done on the resort's Betsie Valley layout. Severance previously held a superintendent position at the Florence Country Club in Florence, S.C.



Scott Severance

EDITORIAL FOCUS: Irrigation & Pump Stations

Technology and innovative ideas drive new irrigation product development

By JOEL JOYNER

RIVERSIDE, Calif. — The golf course irrigation industry has sunk millions into research and development to bring to market a slew of new products and services designed to improve efficiency, conservation and ease of operations.

Superintendents are continuously striving to conserve water and energy. Applying the right amount of water to turf where they need it, when they need it, is essential to course operations. Irrigation supply companies are looking to assist those efforts by developing products like wireless rotors, handheld control devices, upgraded central control systems and advanced software.



Toro's 720G

Headquartered here, the Toro Co.'s irrigation division is preparing to launch its first line of new sprinklers in 10 years. The 800 series will eventually be replacing the 700 series line and offers new features like a low-power solenoid.

TORO

"It requires less than half the amperage that the current solenoid requires," said Kristina Spindler, golf marketing manager for irrigation. "It means that golf courses can run more heads simultaneously than what they could before. Or they can reduce the



Toro's new 800 series sprinkler head

size of their wiring."

The product also has more than twice the surge protection, according to Spindler. "Many currently offer up to 7,000 volts of protection. This product has been tested up to 20,000 volts and has yet to fail," she said.

Another new sprinkler, released last month, is the 720G series. "It doesn't spray as far, and superintendents can adjust the trajectory," said Steve Snow, director of golf renovation and sales. "It provides more precision and control.

"They can dial in the amount of water to be used, the trajectory and radius of the sprinkler with a twist of a screwdriver," explained Snow. "It's perfect for tee boxes, between cart paths and greens and where superintendents need to water 15 feet to 20 feet rather than 60 feet."

SIGNATURE CONTROL SYSTEMS

Signature Control Systems, based in Irvine, Calif., is working to release software that integrates irrigation into more areas of the golf course. "We're now looking at our equipment as more of a management integrator rather than just an irrigation controller," said Bruce Smith, president.

Fertigation injection system software has been in testing for close to a year and is scheduled to be released toward the end of December. "It's capable of handling nine hole courses right through to 36-hole sites," said Smith. "As long as



Rain Bird's Freedom Pad pocket PC

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Floodgates open in Conn. for permitting, water conservation

By JOEL JOYNER

FARMINGTON, Conn. — Superintendents here and across the state are getting another chance to comply before officials crack down on courses without water diversion permits.

The floodgates opened when a new Public Act for compliance was passed by the Connecticut General Assembly. It involved golf courses that use a private water supply for irrigation and have not registered for state permits for water diversions.

The Connecticut Water Diversion Policy Act, first initiated in 1982, requires any person or municipality pumping more than 50,000 gallons of ground or surface water a day to register each diversion. The state's Department of Environmental Protection estimates that there are at least 75 golf courses throughout the state — old and new — diverting water without authorization.

If courses fail to at least begin the application process by July 1, 2003, officials are going to get tough — threatening a variety of enforcement actions. "Our intention is to reach out to superintendents and help them understand what they need to do to comply — without penalty — with newly enacted state laws," said Carla Feroni, environmental analyst for the Inland Water Resources Division of the DEP.

COMPLIANCE IS NO PICNIC

Unfortunately, even voluntary compliance is no picnic. Superintendent Tim O'Neill at the Country Club of Darien first became aware of his club's need for a water diversion permit in July of last year when



Tim O'Neill

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So-called 'native' plants offer no guarantee of water conservation

TEMPE, Ariz. — Superintendents take note: using plants identified as 'native' may alter your water conservation objectives.

Reported studies from the American Water Works Association Research Foundation and plant biologists at Arizona State University here both found that so-called xeriscape or native landscapes were actually receiving more water than traditional style landscapes.

ASU scientist Chris Martin, Ph.D., found that desert plants such as acacia, brittle bush, creosote bush and mesquite could use two to three times as much water as flooded alfalfa or turfgrass.

According to the findings, the problem is not necessarily with the plant, whether it's a desert plant or lawn, but with watering management

practices. Desert plants survive because they are capable of absorbing large amounts of water very quickly in order to survive in an area with infrequent rainfall.

When landscape water is made available, most plants act as "water pumps" and absorb the resource rapidly while growing at tremendous rates.

The studies recommend that landscape managers learn the growth cycles and true water requirements of managed plants to conserve water effectively.

According to researchers, even properly established turfgrass can survive on very limited water if it is allowed to go dormant during hotter, dryer times of the year, as long as the plant's crown is kept hydrated with as little as one-quarter inch of water a week.



Superintendents should embrace Hispanic workforce

By KEVIN ROSS

As the labor market continues to tighten, more golf courses are relying on Hispanic labor for staffing needs. As this trend continues, course operations must develop relations that will ensure a cohesive, hard-working team.

An important factor is integrating Hispanic crew members into the overall operation and making them feel comfortable. Also, taking time to recognize cultural differences will benefit both workers and employers.

Here at the Country Club of the Rockies, I have created a system that pulls from both my working knowledge and ideas gleaned from other superintendents.

GOLF LESSONS

Educating Hispanic staff about golf will not only teach them the game but will also increase their understanding of their duties on the course.

The best way to do this is to have your professional golf staff give an employee golf clinic. Our clinic is lead by our director

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GOLF COURSE NEWS

Irrigation

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there is a pipe in the ground with water in it, we can put fertilizer in it."

There are superintendents across the nation professing that fertigation is the next step for agronomic engineering, said Smith. "Fertigation is a very sophisticated entity," he added. "It's very well to have a product, but without an experienced user there could be trouble."

Once established, the fertigation system can literally be put on autopilot and run, according to Smith. "But there's a lot of education provided up front," he said.

Costs are dependant on the size of the site and the fertilization regime the operator wants



Rain Bird's RVDU

to maintain. "It can range from less than \$10,000 upwards to \$25,000," said Smith.

RAIN BIRD

The new wireless rotor by the Rain Bird Co. is set to be released in coming months. It will be a first generation product that communicates from a central control or hand-held unit without the use of underground wiring or additional satellite controllers.

The wireless rotor operates through a commercial paging system. "The electronic board is inside the head of the rotor," said Paula Knop, rotor brand manager. "There will be a small monthly cost paid to individual paging companies, and it will operate like a hand-held pager. There are around 700 to 800 heads that can operate off what we call a cap coder which is basically a pager number."

As far as storage capability, a superintendent may program the rotor to a 14-day schedule retaining up to 16 start times per day, according to Knop. "There's been discussion on the costs, but there hasn't been a price release yet," she said.

New accessories and mobile devices also have been added to Rain Bird's central control product line. The Freedom Pad pocket PC allows activation of the system from anywhere on the course with a range of two-to-five miles depending on terrain.

"It includes a map of the layout that allows a customer to identify a specific sprinkler, take notes, and make adjustments to the main central control system database," said Pat Loper, manager of central control. "When they return to the office, they drop the device into its cradle where it automatically makes the changes to the database."

The product has a list price of \$5,000 and was made available in September. Another product called the Remote Video Display Unit [RVDU] functions like the Freedom Pad but works in real time. "It offers a larger screen

and can be mounted to a maintenance vehicle," said Loper. "The exchange of data occurs as you are in the field."

The cost is between \$10,000 and \$15,000, according to Loper.



Hunter's Genesis III site map

"We have them at pilot sites today, and we anticipate having them at full release for the GCSAA show in Orlando."

HUNTER GOLF

The continuation of the 800 series is one of the main projects for Hunter Golf - in particular the 870 sprinkler. A glimpse of the product was shown at the



Hunter's 870 sprinkler

GCSAA show in Dallas this year, but now it is in full production.

"It's the first gear-driven, electric valve and head where everything is serviceable from the top without disturbing the turf," said Rich Dunn, product manager.

"The inlet valve, pop-up riser, Continued on page 27

Embracing Hispanic workforce

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of golf and his assistants. The clinic is taught on the driving range with all staff being required to attend. It starts with a group discussion of the golf swing. Then individual attention is given analyzing everyone's swing while hitting balls. After the instruction is complete, the staff is allowed to stay on the range to hit balls and practice.

The true impact of this clinic can be measured in the days ahead, as many lively discussions in the lunchroom involve who hit the ball the farthest, who took the biggest divot, and who has the best swing.

In October, our club has one day set aside for a complete staff tournament. All departments are divided in a scramble format with dinner and prizes following golf. Each member of the foursome is from a different department, so everyone can get to know each other over the years.

THE LITTLE THINGS

Investing time in the little things can go a long way in maintaining crew relations.

- Break down the language barrier. For those who can't speak Spanish, you can show your dedication to the staff by

continually improving your Spanish speaking skills. This works both ways. Hiring someone to teach your staff English or simply having a word-of-the-day can improve communication. You can also give them incentive to learn English by increasing wages to



Workers learn the game at Ross' course

those who show improvement.

- Many course operations are arranging housing in advance for the Hispanic staff. Some operations even pay for the housing as part of their compensation package.

- A separate conference and training facility offers a great place for the crew to be educated, in a private setting, concerning the work requirements of the job. Spanish training videos are also a great way to bridge the language barrier while showing concern for employees' proper job execution.

- Providing shirts, windbreakers, pants, hats and rain gear are a great way to build morale. This year at my club our Hispanic employees chose the style of golf shirt for the season's uniforms. Having this type of input contributes to a team feeling.

- Each employee should Continued on next page

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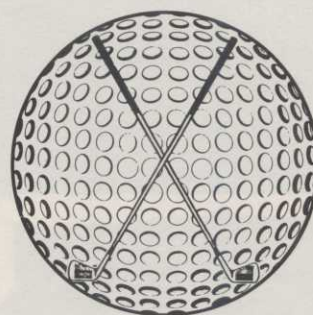
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Pesticides in turfgrass clippings

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clippings in roughly a 60/40 ratio with tree leaves. We placed the mixture in home composters to monitor the disappearance of pesticides over time," said Stephenson.

The researchers harvested one study the day after pesticide treatments were applied, and multiple-loaded studies were harvested at week intervals. "In about four to five weeks, the pesticide residues were not detectable in the multiple-loaded scenarios," Stephenson said.

"In the once-loaded scenario, although the pesticides were disappearing, the dry weight of the compost was decreasing as well," he said. "The concentration of the pesticides didn't change."

CHANGING CULTURAL PRACTICE

Superintendent Rob Brown at the Martindale Country Club in Auburn, Maine, used to compost clippings at the facility. "We weren't under any restrictions to change our practice at the course, it just seemed the sensible thing

PERSISTENCE OF PESTICIDES

Estimated total dry weights of compost, 2,4-D, mecoprop, dicamba, chlorpyrifos and chlorothalonil in each composter at the beginning and end of the "once-loaded" composting process.†

Material	TOTAL DRY WEIGHT (KG/COMPOSTER) +		
	0 Time	9 to 10 wks	Percent decrease
Compost	7.7	3.69	52%
2,4-D	0.818 X 10 ⁻³	0.115X 10 ⁻³	86%
Mecoprop	0.644 X 10 ⁻³	0.137 X 10 ⁻³	80%
Dicamba	0.336 X 10 ⁻³	0.090 X 10 ⁻³	74%
CompostX	12.85	4.21	67%
Chlorpyrifos	1.400 X 10 ⁻³	0.200 X 10 ⁻³	86%
Chlorothalonil	5.040 X 10 ⁻³	0.017 X 10 ⁻³	99%

†Compost consisted of treated grass clippings plus untreated tree leaves (60/40, v/v).

+Mean of 3 composters.

XThe studies with chlorpyrifos and chlorothalonil were conducted in a different year than the study with 2,4-D, mecoprop and dicamba.

Information provided was originally printed by the International Turfgrass Society Research Journal Volume 9, 2001, in an article titled: Persistence of 2,4-D, Mecoprop, Dicamba, Chlorpyrifos, and Chlorothalonil in Composted Turfgrass Clippings.

to do," he said. "About three years, we stopped composting grass clippings altogether and decided to leave them on the course and in our rough areas."

For Brown, environmental awareness and responsibility prompted his proactive measure toward changing the cultural practice at the course. ■

Farris at Black Hills

Continued from page 1

constructed by two local businessmen as a part of a housing development, is projected to cost less than \$3 million.

The low-cost construction has been achieved, in part, because very little earth has been moved.

"Ron did a great job routing the course," said golf course builder Timothy Furness. "He has laid it into the ground as well as can be done, so there has been minimal earthwork. We did most of the work with just a dozer. It will be a very cost effective project."

There has been some luck as well, admitted Farris. "We were worried about two things – water and topsoil," he said. "The Black Hills are typically light on topsoil, but we found pockets of it as we began digging and have not had to import any. We also drilled wells that gave us access to a local aquifer."

OLD FRIENDS

This is not the first time that Farris and Furness have worked together.

While Farris honed his design skills working with Pete Dye as a project manager in the United States and Japan, Furness was doing the same as a shaper. Farris also designed two courses in Japan – Aygami Golf Club and Miyazaki Sunshine Golf Club – before relocating to South Dakota in 1989.

Back in the States, Farris hooked up with Furness on a job

renovating Scenic Golf and Country Club in Pigeon, Mich.

According to Furness, Farris is doing something special at Red Rocks. "This is going to put Ron's name on the map," he said.

Furness' crew has all 18 holes at Red Rocks roughed in and for the first time is also installing the irrigation system. They will also seed nine holes before winter hits and put down dormant seed for the rest of the course.

"We want to have a head start in the spring," said Farris. "We are putting low-mow bluegrass on the fairways and tees and L-93 on the greens."

Superintendent Rick Witt, formerly the assistant at Minnehaha Country Club in Sioux Falls, is already on board to oversee the grow-in of the course.

AFFORDABLE GOLF

Green fees at Red Rock will be low to compete with the surrounding market.

"The green fees will be around \$30, which will be affordable" said Farris. "We aim to increase the quality of golf but still keep the price reasonable."

The developers plan to recoup most of the construction costs from the sale of the 300 homesites on the 360-acre property.

After having a season to grow in, the course is scheduled to open in spring 2003. ■

Effluent

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With this storage lake configuration come environmental issues. In some cases, the lake will need to be lined with an impermeable material to ensure the separation of the effluent from the groundwater. Courses should consult with a civil engineering firm to make sure they are in compliance.

• **Storage tank option** – The other on site storage method is the use of a storage tank. The use of a tank can be problematic, as this configuration can be restrictive because of the finite amount of water stored in relation to the fluctuations in daily irrigation demands. Also, it is usually difficult to find a location on a typical course for a tank large enough to store a daily requirement of irrigation water, let alone providing any buffer.

• **Direct supply** – The least favorable way of receiving water is "direct supply." In this method, the course receives the water directly into the irrigation mainline, or booster pump, for direct distribution through the system. This configuration can result in inadequate operating pressure required for proper irrigation equipment performance.

The method of boosting the pressure is difficult, due to fluctuations in the supply pressure. This is primarily due to the fluctuation in flows that are typical of an irrigation system operation. If the supply pressure fluctuates substantially, the irrigation booster pumps cannot respond quickly enough. This is even true with variable frequency drive (VFD) controls. The result can be a high- and low-pressure shutdown of the pump station.

With all of these points to consider, it is important to note that each can have an effect on the amount you will pay for the water. The fees are set on a "cost per thousand" basis. This averages around 20 cents per thousand gallons. This cost fluctuates based on whether the effluent provider will be required to store the water after treatment or if they deliver the water as it is treated. Your effluent provider will want to set a minimum water delivery amount. This should be carefully considered, as this can commit you to water that you cannot use or dispose of. ■

Hal Kilpatrick is president of Irrigation Services Group, Inc. in Delray Beach, Fla.

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New irrigation products

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Genesis III central control system with integrated graphics. "You can scan a golf score card or layout rendering and create hot spots," Dunn said. "A superintendent can place the mouse over a portion of the course and click to bring up the program opening – larger than anything in the industry – to flush contaminants through."



The company also has released to full production the