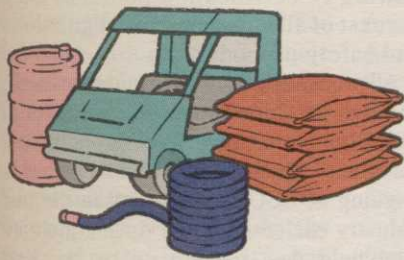


BRIEFS



**WILLIAMS NEW IRRIGATOR SALES HEAD**

RIVERSIDE, Calif. — Mark Williams has been named national sales manager at Irrigator Company, Inc., a Riverside-based manufacturer of soil moisture measurement and control systems. For the past three years, Williams has served as sales representative for the Southern California landscape market. Prior to that, he served as director of communications for the Irrigation Association.



Mark Williams

**BENNETT HEADS UP CELPRIL MARKETING**

Brad Bennett has been appointed CelPril's new marketing representative for the Southern United States. Bennett will serve as product coordinator for CelPril's new longer lived Rhizo-Kote XL Legume seed coating. Other responsibilities include working with vegetable seed and grass seed customers in the area of product support. Bennett was formerly with Pioneer Hi-Bred International. He will serve Texas, Oklahoma, Arkansas, Tennessee, North Carolina, South Carolina, Florida, Georgia, Mississippi, Alabama, Louisiana and Southern Missouri.



Brad Bennett

**NEW MARKETING DIRECTOR AT E-Z-GO**

AUGUSTA, Ga. — E-Z-GO Textron has named David L. Davis Jr. director of marketing. Davis was previously branch manager at E-Z-GO's Chicago facility. Davis joined E-Z-GO in 1985 as a sales representative for the Chicago branch. He was promoted to branch manager in 1986. Before coming to E-Z-GO, he was marketing manager for Public Risk Managers, Inc. in Atlanta.

**SMITH JOINS HYUNDAI**

SANTA ANA, Calif. — Barry Smith has been named Eastern Regional Sales Manager by Hyundai Golf Cars, U.S.A. Based in Atlanta, Ga., Smith is now responsible for overseeing Hyundai's Eastern regional sales division. In addition, he will coordinate Hyundai's manufacturing and distributor efforts to ensure that Hyundai fleets are promptly delivered and properly serviced. A graduate of Jones College in Jacksonville, Fla., Smith had spent the previous five years with Club Car.



Barry Smith

**Mergers & Acquisitions**

**Watertronics, Commercial Pump Service join forces**

Two manufacturers of packaged pump stations have joined forces in marketing their products and services.

Commercial Pump Service of Swanton, Ohio, and Watertronics Pumping Systems of Hartland, Wis., are integrating their sales, service and engineering capabilities. It will now be known as Watertronics-Commercial Pumping Systems.

The companies will continue to operate autonomously, integrating certain product lines and operations to better serve their customers.

This alliance creates a comprehensive line of pre-designed and custom-built pump stations and control systems available for golf courses, sports stadiums, turf growers and residential irrigation requirements, as well as a multitude of commercial, environmental and fire safety applications.

Continued on page 49

**Sandoz, O.M. Scott team up to develop Rizolex**

Sandoz Agro, Inc. and the O.M. Scott & Sons Company have signed a limited time, exclusive agreement for the development and commercial introduction of tolclofos-methyl fungicide (Rizolex).

As a stand-alone product or in combination as a fungicide premix, Rizolex will utilize a new chemistry developed in North America by Sandoz Agro. This unique chemistry is designed to provide superior cost-effective brown patch and snow mold control for both cool and warm season turf applications.

Scotts and Sandoz have been screening tolclofos-methyl fungicide since the mid-1980s. The exclusive agreement between Sandoz and Scotts leverages Sandoz' strong basic position in control technology and Scotts' applied R&D and marketing strength.

Continued on page 49

**Deere, Marsh Design sign on with Golf Asia**

By HAL PHILLIPS

SINGAPORE — Add John Deere Intercontinental the growing list of exhibitors scheduled to attend Golf Asia '93, the region's largest golf industry trade show, scheduled here for March 25-28, at the World Trade Center.

John Deere Intercontinental — Deere & Company's marketing arm in Asia, Latin America and the Caribbean — has been a participant in Golf Asia since its inaugural exhibition in 1990.

"Deere and Company's growth in the Asian golf and turf maintenance market, particularly within this past year, has been truly phenomenal," said Roy Wilson, territory manager responsible for Deere's development of the Southeast Asian turf maintenance market. "Much of this success we can attribute to the fine support that the Golf Asia Exhibition receives from all sectors of the Asian golf and turf maintenance community."

Also on board is Graham Marsh Golf Design, whose namesake — one of Australia's most noted touring professionals — recently christened the first nine holes of Negri Sembilan's Staffield Country Resort in Malaysia.

"Participation in Golf Asia once again is one I look forward to very much, knowing the core of the golf course development industry in Southeast Asia will be represented," said Marsh.

While Golf Asia '93 is designed to be a one-stop shopping venue — with playing and maintenance equipment under roof — the roster of maintenance, design and management firms continues to expand. Excluding manufacturers of clubs, balls and attire, here is a sampling of those company's that will exhibit at Golf Asia:

Agricultural Tractors Spares Pte. Ltd. (E-Z-Go Textron); American Golf Centers Ltd. (golf facilities); Austin Hills Country Club, resort wing; Australasian Golf Masters Pty. Ltd. (course design); Bay Bronze Industries (course accessories); Beaver Sports Pte. (course accessories); Berleburger Schaumstoffwerk GMBH (outdoor rubber tile); Bowie Weyerhaeuser Silver-Fiber Mulch (hydroseeding/hydrosprigging); Ditch Witch International (trenchers); Emerald One Golf & Country

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Ground water at Fripp Island GC is naturally high in salt, which crippled many fertility programs.

**Combating fertilizer inefficiency by addressing pH levels and high salinity**

By FRED REHRMAN

When irrigation water is of poor quality due to either high pH or high salt content, nutrient availability problems can potentially result. Such is the case with many coastal courses in South Carolina.

Dr. Charles Peacock, associate professor in the Department of Crop Science at North Carolina State and chairman of the NCSU Turf Work Group, visited several coastal courses and believes the water being used

comes from aquifers of generally poor quality with high salt contents.

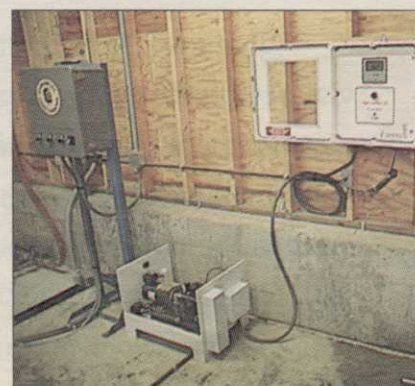
"The water used at Kiawah and Seabrook (both near Charleston) contains high levels of bicarbonates and carbonates that combine with high sodium levels to create soil pH problems," said Peacock, who added that pH is only part of the problem. "High sodium levels in irrigation water will displace calcium and magnesium in the soil, which are favorable for plant growth. Eventually, you start to develop nutritional problems."

Peacock said the excess of undesirable salts in the water create an osmotic stress within the plant that interferes with nutrient uptake at the point of absorption in the roots. If the salts are absorbed, then the plant has to deal with them internally.

South of Charleston, another course that perennially deals with these problems is Fripp Island Golf Course. Kevin Lashley, superintendent at Fripp Island, said well water and effluent used for irrigation is so high in salts that fertility programs have often been failures.

"With the water and soil pH so high, our fertility programs never really

Continued on page 50



After treating irrigation water, soil analyses showed salts dissolved and pH levels lowered.

## Sports Turf show at Cal-Poly Pomona set for March 23

POMONA, Calif. — California State Polytechnic University at Pomona will hold its 10th annual Sports Turf Institute and Exhibition on March 23. The Institute, sponsored by the Horticulture/Plant Soil Science Department and the Los Robles Club, will feature seminars conducted by experts in turf management and a trade show complete with field exhibit areas. For more information, call Dr. Kent Kurtz at 909-869-2219.

## Turfgrass Institute March 30-31

FALLBROOK, Calif. — The 34th annual Turfgrass and Landscape Institute, sponsored by the Southern California Turfgrass Council in cooperation with the University of California Cooperative Extension, is scheduled for March 30-31, in Buena Park.

Co-chaired by Fred Eckert and Raymond Davies, the Institute will present three primary seminars on basic turf and landscape (English and

Spanish sessions), advanced turf and landscape, and pest management.

Held at the Sequoia Athletic Club, the Institute is an educational opportunity for apprentice-level and top-level managers alike. Attendees can register in advance by mail or at the door for one or both days of the Institute. For more information or to receive a registration form, call Linda Knoche at 619-723-0255.

## Treating high salinity and pH

Continued from page 45

worked," Lashley explained. "We would add fertilizer and wouldn't see a difference. The water quality would overwhelm our fertility program and to overcome that would be expensive."

The pH of the irrigation water used on Fripp Island generally runs about 9.0. Additionally, high bicarbonate and sodium levels in the water build up in the soil with each irrigation. The result, according to

Lashley, is weaker plants with a shorter time to wilting.

Because Fripp Island currently has minimal storage capacity and sandy soils that drain rapidly, irrigations are needed daily and rain is necessary to supplement the storage. If rains are infrequent, the course dries out quicker.

"We end up with sort of a chemically induced drought," Lashley said. High winds also make the course prone to rapid periods of drying, which seem to concentrate the salts quicker, he added.

To combat the water quality problems on these courses, Peacock suggested applying flushing type irrigations, although he acknowledged that many of the courses don't have the drainage systems or the water availability to over-irrigate.

He also suggested the acidification of the water and soil to neutralize or dissolve salts, particularly sodium. "Some type of acid injection or acid-forming fertilizer can counteract the alkalinity at the source," he said. "Acidifying the soil would make the undesirable ions leach more readily."

Lashley recently began using pHairway, a water treatment additive from Unocal, that is injected into irrigation water and helps to dissolve salts and lower pH.

"Since we've started using pHairway, we've seen positive changes on our soil analysis reports," Lashley said. "By improving the quality of the water, our fertilization programs seem to work more efficiently and the plants look healthier."

Coosaw Creek Golf Course, an Arthur Hills design scheduled to open this summer in North Charleston, has also experienced poor quality well water: pH of 8.4 and high salt levels. John Betts, director of golf operations and Superintendent Tom Arneman have installed a pHairway injection system in an attempt to prevent nutritional problems from developing.

"We have the luxury of having a lot of storage capacity for good quality rain water," said Arneman. "But if we need to tap into the ground wells the pHairway will help offset the salt content."

While many superintendents regularly do water and soil analysis, Peacock also recommends doing tissue analysis.

"Soil analysis will tell you the potential for problems or plant response," Peacock said, "but tissue analysis gives an indication of what plants are doing at a particular time. "To get the highest visual quality, you must keep track of what's in the plants."

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