

## BRIEFS



## RAIN BIRD GOLF PROMOTES LOPER...

AZUSA, Calif. — Rain Bird's Golf Division has promoted Pat Loper to the newly created position of manager of central control. In the new position, Loper assumes responsibility for new business development for Rain Bird Golf in all areas related to computer technology. His current projects include Smart Pump software for pump station control and Global Positioning System applications for golf irrigation.



Pat Loper

## ...AND ADDS FAY

AZUSA, Calif. — Rain Bird's Golf Division has named Christopher Fay national sales manager. Fay will be responsible for managing the growth and development of domestic golf sales for the entire division. Additionally, he will manage a sales team of regional and specification managers to develop sales through the company's independent distributor network.

## BAYER RESHUFFLES LINE-UP

KANSAS CITY, Mo. — Bayer Corp. Garden & Professional Care (GPC) has announced the transitions and hiring of three employees. Dan Carrothers has been appointed head of marketing for the GPC unit. Phil McNally, Ph.D., will transition within Bayer to become the field research and development representative for the Western United States. Additionally, Chuck Silcox Ph.D. has been hired to serve as the field research and development representative for the Northeastern United States.



Dan Carrothers

## HIGGINS TAKES NEW ROLE FOR PTI

SYLACAUGA, Ala. — Jeff Higgins has been named director of market development for Pursell Technologies Inc. (PTI). Higgins was previously the marketing director for PTI. He is now in charge of the PTI Tour, training and developing new products for commercialization. The PTI Tour hosts golf course superintendents for a visit to the company's headquarters and includes training, a plant tour and recreation.

## Spectrum Technologies ready with chlorophyll meter technology

By ANDREW OVERBECK

PLAINFIELD, Ill. — Spectrum Technologies, Inc., based here, has been awarded an exclusive patent from the National Aeronautics and Space Administration (NASA) to complete the development of and commercialize a plant chlorophyll meter. The hand-held plant stress detection tool has the capability to detect stress up to 16 days before plant deterioration is visible to the human eye.

"Chlorophyll is indicative of plant health," said Mike Thurow, president of Spectrum Technologies. "The meter allows fast measurement that can tell us how turfgrass responds to stress, be it heat, moisture, disease, insects or traffic. The golf course market is the perfect market for it."

The device is smaller than a camcorder and has a laser sighting that is pointed at a spot on a green or fairway.

"It is a user-friendly device," said Thurow.

"You walk around the green and shoot 10

or 15 spots and get a good representative sample. It takes a second to measure and the read-out keeps an ongoing average.

"If a person takes weekly measurements with the meter they will begin to see trends. It has the potential to show us problems before we can visually see them. Once you can see the problems, you are already in trouble."

Spectrum Technologies is a 13-year-old company that focuses on products for nutrient management, integrated pest



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## Flowtronex teams up with Turf Feeding Systems

By ANDREW OVERBECK

DALLAS — Flowtronex PSI has gained the U.S. rights to sell, market and provide service for Houston-based nutrient injection system manufacturer Turf Feeding Systems. The agreement covers the company's three models of the Nutrifeed injection system that are primarily used for grow-in on new golf courses.

"We got involved because more new courses are using nutrient injection," said Tom Male, Flowtronex's general manager. "They wind up getting attached to pump stations and tied into our controls, so it makes sense to get into marketing an injection system because it would save the customer a lot of time and grief."

Flowtronex customers will not only be able to order the injection system along with pump stations but can also have the system serviced by Flowtronex.

"Fifty percent of our business is new courses," said Male. "This is a value added service that will make it easier for our customers. We can provide it and wire it up and then all they have to do is dump in the nutrients."

Flowtronex will not be getting into agronomic consulting, said Male.

"We will leave that to the agronomy consultants," he said. "We will not tell courses what to use and what rates to apply products."



Tom Male

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## NEW PRODUCT OF THE MONTH



The Gandy Spiker/Seeder overseeds and aerates in one pass and has a 44-inch seeding width, with 1220 replaceable spikes, either 3/8 of an inch by 7/8 of an inch or 1-5/8 of an inch long. The spikes create 693 vents per square yard and are threaded into an 18-inch by 48-inch steel roller with rolled edges. Precise metering along with a rubber rotor and spread plate assures even seed distribution, including bentgrass. The unit can be used with almost any turf vehicle having a 12-volt battery. Two brushes are used, one for cleaning the drum and one to assure seed/soil contact. For more information, contact 1-800-443-2476 or [www.gandy.net](http://www.gandy.net).

## Harmony building new organic fertilizer facility

CHESAPEAKE, Va. — Harmony Products, Inc. is constructing a new organic fertilizer plant in Harrisonburg through its subsidiary, Harmony-Shenandoah Valley, LLC (HSV).

The plant will have the capacity to produce approximately 65,000 tons of fertilizer a year. HSV will utilize Harmony's patented technology to manufacture its organic based Bridge fertilizers, which combine organic materials with synthetic fertilizer materials to form a granular, homogeneous, organic base fertilizer. In addition, the facility will manufacture granular, organic fertilizers. The products will be sold to the professional and commercial markets.

"This project will help Harmony meet the demand for our products on a very cost effective basis," said Greg Gill, president of Harmony.

The HSV plant will utilize poultry waste from nearby poultry growers as the primary feedstock for the manufacture of the fertilizer as well as fuel for a waste-to-heat conversion facility. The heat will be used to dry the finished product.

Rocco, Inc., a poultry processor located in Harrisonburg, will be a minority owner in HSV and will have an ongoing role in providing management expertise in the construction and operation of the plant. Rocco will also provide the conduit to local poultry growers, who will supply poultry waste. Funding for the project will be provided by a Rocco equity contribution, a matching grant from the Virginia Poultry Litter Transportation Fund and Duke Solutions, Inc.

## Golf Course News STOCK REPORT (5/15)\*

Company	Symbol	Stock Price	%Change 1/1/00	%Change 4/17/00	P/E	52-week Range	Proj. 5-yr Earn. Growth
Astrazeneca	AZN	43.75	4.79	2.34	31.7	31-47.88	10.8%
Deere & Co.	DE	44.5	5.01	11.42	45.43	30.31-48.5	9.5%
Dow Chemical Co.	DOW	117.31	-11.55	9.25	18.32	92-141.5	7.8%
Family Golf Centers	FGCIQ	0.3125	-97.78	-50.00	N/A	0.25-9.5	N/A
Golf Trust of Amer.	GTA	16.875	-0.37	0.75	13.34	14.5-25.75	8.8%
Ingersoll-Rand	IR	47.1875	-14.30	8.48	12.55	34.25-70.125	12.0%
Lesco Inc.	LSCO	15.5	-8.82	5.08	10.8	12.25-19.5	17.5%
Nat'l Golf Prop.	TEE	19.75	0.00	-0.94	14.37	18.38-27.75	9.1%
Toro Co.	TTC	30.875	-17.25	-1.59	11.75	29-39.5	12.0%
Textron Inc.	TXT	65.8125	-14.18	11.08	14.37	51-95.625	14.2%

\*DATA PROVIDED BY VALUE TREND LINKS, LINKS FUND UP 3.40% IN '00, [WWW.GOLFMUTUALFUND.COM](http://WWW.GOLFMUTUALFUND.COM)



## GPS on the way

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what has taken place over the last few years. That way he can hit the ground running," he said.

ParView's golf car system is in use on 70 golf courses and Whurr expects that the maintenance equipment GPS system will go into beta testing in the next few months.

Toro's Center for Advanced Turf Technology is working with ProShot's GPS technology to adapt it to maintenance applications.

"Toro is attempting to take the GPS technology and couple it with Geographic Information Systems (GIS) and take it to another level and apply it to our own equipment," said Chip Engdahl, marketing manager for Toro's commercial division.

"One of the big ideas is precision turf maintenance and management. By coupling GPS, GIS and variable rate spraying technology you can be more precise on rates—tracking where, how much and when you put stuff down."

The ProShot system is being used on more than 150 courses nationwide and Engdahl said that maintenance related product testing is ongoing.

### RESEARCH AND DEVELOPMENT

GPS research and development has

been time-consuming. In addition to developing maintenance-specific systems, companies have to solve reliability, durability, cost and marketability issues.

"You can't simply apply the technology that is being used on golf cars to equipment," said Engdahl. "Data capture needs to be more precise, it needs to communicate more often and it needs to be more durable. A mower gets more abuse than a golf car because you have grass, water, pesticides and dirt going through the unit as opposed to driving over it."

Textron has been working with superintendents to determine what features and systems will be the most helpful.

"We want to make sure that the product we have is what the customer wants," said Whurr. "We can put all sorts of bells and whistles on this and show people how clever we are, but that doesn't necessarily mean that a superintendent will find it useful."

A GPS system for golf cars costs between \$100,000 and \$300,000 depending upon the number of features and cars

involved. While none of the companies have set prices for maintenance-only systems, a total course GPS system would work off the golf car price baseline.

Meanwhile, companies are still working on reducing costs.

"We have to make sure that this is something that courses can afford and find value in," said Meyers.



ProShot's GPS readout.

For communication alone, Bruce Williams, superintendent at Los Angeles Country Club, thinks GPS systems will be very useful on courses.

"This is a communication vehicle. Many courses didn't have radios 20 years ago; now we have radios, cell phones and two-way pagers for upward, downward and lateral communication," he said. "This is another way to stay in

touch. It is just as important to know where your staff is if you have four guys or 40 guys."

While Scott Cybulski, superintendent at Falmouth Country Club outside of Portland, Maine, thinks GPS may be a little overly sophisticated, he too sees the po-

tential value.

"Marking out sprayed areas with GPS may be the most handy," he said. "Knowing area sizes and where valve boxes and irrigation heads are would be great. ... If I could do it, that is why I would do it."

### MARKET POTENTIAL

According to those in the industry the market potential is large.

"The industry is booming right now," said Nate Yoder, vice president of marketing for ParView. "We sold more systems in the last quarter than we had in the previous three years."

Of the nearly 17,000 golf courses in the U.S., Engdahl believes that every course will eventually be touched by GPS or GIS.

"At some point the technology will effect every course," he said. "GIS for irrigation, GPS for cars, and at some point it will be everywhere. The management of the golf course will be more unified because of these technologies."

According to Whurr, GPS systems will be well suited to the needs of course management companies. "The biggest concern from a management perspective is monitoring equipment and preventative maintenance," he said. "This would be a benefit to management companies because they'd know that they are getting the best out of their equipment." ▴

## Chlorophyll meter

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management (IPM), soil and water quality and environmental monitoring. They currently have a prototype of the meter and are testing it with superintendents and turfgrass researchers this summer. Thurow plans to unveil the meter early next year.

Dan Dinelli, superintendent at North Shores Country Club, in Northbrook, Ill., will be using the meter in a compost study that he is doing this summer.

"We are working with compost and the dynamics of nitrogen," he said. "We are doing a weekly analysis of different plots that have different rates of compost."

Dinelli will be using the chlorophyll meter as an early-warning signal to see what changes the plant is going through. As a result, Dinelli hopes to correlate the compost/nitrogen study with the chlorophyll meter to see if the tool can be used for nitrogen assessment.

"Stress can be caused by a lack of fertility and nitrogen," he said. "This won't tell you what the problems are, but it clues you in to dig deeper. You have to open the IPM tool box, get soil cores and send in samples. The point is to get as early a jump [on stress issues] as possible."

Through this summer's research Thurow hopes to gain some insight into how the meter can be used.

"We will be trying to develop general guidelines to get people through the learning curve faster and correlate it with fertility conditions," he said.

Initially, Thurow said, the meter would be used by higher-end courses or more innovative superintendents. The final price has not been set, but it will likely cost around \$2,000.

Dinelli thinks the tool could have a universal use to back up fertilization practices.

"The tool could help us justify what we do from an environmental perspective," he said. "It could help reduce nitrogen applications or justify the ones we do." ▴

## PGC launches site

DENVER — Professional Golf Commerce has launched its web site ([www.pgsgolf.com](http://www.pgsgolf.com)), an online, one-stop-shop that directly links PGA golf professionals and golf course superintendents with golf and golf-related manufacturers, distributors and merchandisers.

First previewed as a demonstration at the 1999 PGA Merchandise Show in Las Vegas, the site currently hosts products from more than 40 vendors and is available to buyers and sellers all over the world.



## Flowtronex

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Turf Feeding Systems, however, will provide technical expertise and support to customers.

Three models of the Nutrifeed system are available and they cost between \$8,000 and \$12,000.

The 1000 is suited to small courses and has a single head for the control of one nutrient at a time. The 2000 is for medium sized courses and has two heads and a 60 gallon-per-minute capacity. The 3000 is for large courses and has three heads and can provide three separate nutrients at once.

All Nutrifeed systems will be fully integrated into the pump system's controls. ▴



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