

BRIEFS



**EPA STARTS ENVIRONMENTAL SERVICE**

WASHINGTON — The U.S. Environmental Protection Agency has unveiled a new service to help the public access environmental information. The Government Information Locator Service (GILS) is an electronic service through the Internet that provides a decentralized location to anyone who needs to locate, access or acquire government information. GILS is available on the world wide web at <http://www.epa.gov/gils>.

**MECHLING IS OHIO MAN OF YEAR**

COLUMBUS, Ohio — The 29th Annual Ohio Turfgrass Foundation Regional Conference and Show was highlighted by presentation of the Man of the Year Award to Paul Mechling of Heather Downs Country Club in Toledo. John Fanning was honored for Professional Excellence, while Dr. Jim Beard and Doug Halterman were given special recognition and Gene Probasco was presented an honorary lifetime membership.



**E/T EQUIPMENT BACKS DELHI**

DELHI, N.Y. — A major distributor of turfgrass products has donated two new state-of-the-art mowers to the golf education program at the State University College of Technology at Delhi. E/T Equipment Co. of Croton has supplied the Delhi College Golf Course with a John Deere fairway mower and walk-behind greens mower, according to Delhi's Dominic Morales.

**CANADIANS SUPPORT AUDUBON**

HALIFAX, N.S. — The Royal Canadian Golf Association (RCGA) has awarded \$75,000 to the Canadian Turfgrass Research Foundation to continue its turfgrass and environmental research projects, while Audubon International received \$31,000 to fund a separately run Canadian office that will be instrumental in protecting the environment's relationship with golf courses.



**RUTGERS' ROYALTIES ADDING UP**

SOMERSET, N.J. — Jon Loft, president and CEO of Lofts Seed, and Dr. Richard Hurley, Lofts' director of research and professional sales, have presented Drs. C. Reed Funk, T. M. Casey and Bruce Clark of Rutgers University with a royalty check in the amount of \$713,150. To date, Lofts Seed, through the marketing of its turfgrasses, has contributed over \$3.5 million in royalties to Rutgers.

# Cold stressed at the Maine turf conference

By MARK LESLIE

ROCKPORT, Maine — Hardening off cool-season turfgrasses is the most important factor in turf surviving a winter of freezing stresses, according to Dr. William Torello, turf program director at the University of Massachusetts at Amherst. Speaking at the Maine Turfgrass Conference and Show here March 7, Torello said superintendents should make every effort to accumulate volumes of carbohydrates within the turf plant. Higher carbohydrate levels mean less internal ice

crystal formation — "the kiss of death" — within the plant, he said.

Torello told superintendents to enhance the hardening process by:

- Increasing mowing heights, which "does great things for you. Even if you only bring it up 1/8 inch, it makes a big difference because you have increased leaf area and green tissues, which means higher carbohydrate production during the fall, increased storage, and increased concentration of stored carbohydrates in the crown which is going to give you a

much better-prepared turf."

• Decreasing or eliminating soluble nitrogen (N) applications as the fall progresses. "Make no N applications after Oct. 15 — earlier in Maine," he warned. "How does nitrogen interfere with the hardening process? The more N picked up by the plant, the more protein it makes. Protein is made by taking carbohydrate and attaching ammonium nitrogen to it. It takes away carbohydrate." Dormant applications are an exception, he said.

Continued on page 19

# Determined: All sprinklers are not 'created equal'

By AL KLINE, CGCS



Photo by JoAnn Kline

Tim Cavellier (left) and Jim McPhilomy are shown in 1990 making a practice run on the PITOT PSI test soon after the test stand was activated.

Technical advances in irrigation equipment closely parallel the rapid gains made in all areas of turf management. Today, many of us think most, if not all, mysteries have been solved and maybe things have become a bit ho-hum. Yet, why do we continue to be plagued with "localized dry spot," wet areas, dry areas (that require continual attention from "hot spot" or "sponge" crews), less-than-acceptable results from pesticide and fertilizer applications, black layer, and just plain old-fashioned non-uniform turf.

Well, howdy to the real world where so many of us are frustrated and looking for answers. Indeed, a few people think sprinklers may be the key to solving the unsolvable and should be put under the old magnifying glass!

That's what we did at the University of New Mexico Championship Golf Course. Tim Cavellier, a local Toro irrigation specialist, and I built what appears to be the best outdoor sprinkler test stand in the world and are using the SPACE (Sprinkler Profile And Coverage Evaluation) computer program for sprinkler head evaluation as produced by The Center for Irrigation Technology at California State University-Fresno. Key players at CIT whom we have worked with, and are indebted to, are Dr. Ken Solomon, Dave Zoldoski and Joe Oliphant.

Continued on page 26

## The play's the thing, say supers who hit the links

By PETER BLAIS

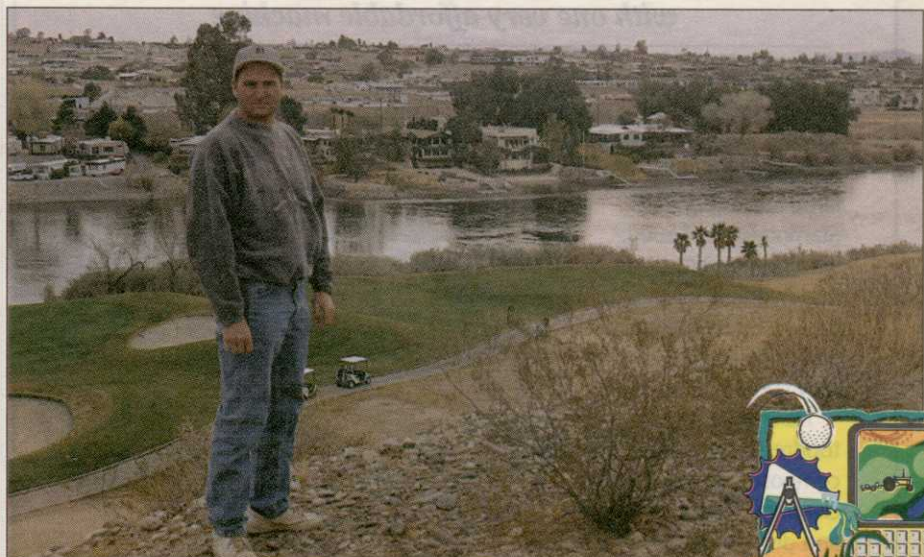
All superintendents may not play as much or as well as Jim Dusch of Atlanta National Golf Course in Alpharetta, Ga.

"But it's hard to see how you can do this job and not play the game," said Dusch, winner of this year's GCSAA Championship and a self-described 1-handicap player. "My goal is to get the course to the point where it is agronomically sound and playable in my eyes."

Dusch tries to play his course at least once a week. He watches how the ball rolls on the greens, how bunkers are raked and how worn the tees are as both a superintendent and a golfer.

"You don't have to be a great golfer," he said. "But you should know what the course looks like to the people playing your course. Playing helps you understand what is good and what is bad from the player's perspective. I'm not saying someone who doesn't play can't have a great course. But it would be tougher if you weren't a player."

Charles Passios, head superin  
Continued on page 25



Jay Long pauses above one of Emerald River's most picturesque holes. The Colorado River flows in the background.



## Beating the water woes in Nevada

By ALTON PRYOR

LAUGHLIN, Nev. — Emerald River Resort and Country Club stretches for four miles along the Colorado River where it is carved out of rough and unforgiving desert. Built in 1989 on 380 acres of desert base, it requires huge amounts of water to cope with high summer temperatures. For golf course superintendent Jay Long, water is his biggest concern. Even though he pumps from the giant Colorado River, flowing only a fairway from the course, water is an expensive commodity and Long has had to discover ways to reduce that expense.

"We pump out of the river, but cost for water is very high," Long said. "I'm budgeted \$250,000 a year for water and that isn't enough. We are charged \$1.94 per thousand gallons, which is the residential rate, and there are meters on the pumps to make sure we don't cheat. When the courts broke up the water rights among the states on the Colorado River, Nevada didn't get a very big share."

Long said he applies about 50 acre feet per year to his green areas — about 75 acres. During the summer, when temperatures soar to as high as 125 degrees,

Continued on page 28

## Long tackles water challenges

Continued from page 17

the water applied to the course climbs to as much as 500,000 to 800,000 gallons per day. Colorado River water maintains a fairly steady temperature of 68 degrees year-round.

"We take care of the greens first, then the tees, and then the fairways," Long explained. "The rough always gets neglected, because we just don't have the funds."

One cost-cutting measure Long uses is filling his irrigation lakes during off-peak hours. The two lakes hold about 15 acre feet.

Also, irrigation is normally done at night to take advantage of special night-time water rates, as well as reduce evaporation losses. Long's computer controllers are set to start the pumping system at 10 p.m. and the course watering is usually completed by 7 a.m.

A central control system allows Long to operate the water from his office. "It has a cycle-and-soak feature, so we don't put the water on all at one time," he said. "Because the course has so many slopes, we try to prevent runoff."

A weather station on the course records the evapotranspiration rate (E.T.) and sends the information to the computer, which calculates the amount of water that should be applied.

"We have to adjust those rates considerably, or we would run out of water the first 10 days of the month if we applied what the computer figures," Long stressed. He said the highest recorded ET on the course was .51 inches.

Long is quick to have his crew maintain the course's sprinkler equipment. If a sprinkler head leaks, it is repaired immediately. The maintenance crew also does spot watering during the summer months, which decreases sprinkler time.

In addition to his \$250,000 water budget, Long is allotted \$350,000 for labor and other costs to operate and maintain the course.

It is recognized by the U.S. Golf Association as the most challenging course in Nevada and the 8th most difficult in the Southwest, primarily because of the daunting distance and unflagging desert rough. Golfers casually mention after a round, "I lost a dozen golf balls, but the view was worth it."

While the course is located in rugged desert, golf course designers insisted on intense reshaping of desert terrain, pushing up mounds and creating depressions to make play tougher and more interesting.

"The course was designed to look natural, but it required a lot of shaping," Long said. "This whole facility was originally designed to be a master-planned casino operation. The course was designed to be an exclusive type of club for high rollers."

Emerald River was to be a master-planned hotel and casino, with an outdoor amphitheater. Its developers were anticipating the facility would be the nicest destination resort facility in Laughlin. The skeleton of the unfinished casino stands on the course, a reminder of how shifty the sands of junk bond financing can be.

Along with the unfinished casino is an unfinished water pipeline which was supposed to bring effluent from Laughlin to water the golf course. The pipeline was abandoned after an investment of about a half million dollars.

In June 1993, Paine Webber

took control of the development and hired Golf Enterprises, Inc. to manage it. Since then, more than \$300,000 has been invested in the course. Long was transferred from the Great Southwest Golf Club in Dallas, also managed by Golf Enterprises.

While the course was originally designed for about 40 rounds per day during the peak season in January, it gets about 120 rounds each day.

One of Long's first priorities on arriving was to aerate wall-to-wall. "A lot of the water put on the golf course was running off into the desert," he said. "Dur-

ing the past year, we have aerified eight times."

Not only does Long have to contend with high water prices, but with 50- to 60-foot changes in elevation at various points and the length of the course from end to end — four miles. That is a drag on the pump station.

"At our pump stations, we are running at 140 psi pressure just to move the water around the course," he said. "By the time water gets out to our furthest and highest point, we are down to 80 psi. We get a lot of pressure loss."

The pump has a capacity of 3,200 gallons of water per minute, but in

his normal daily operations, Long pumps about 1,100 gpm.

Heavy thunderstorms are prone to hit the area, causing some flash flooding. This causes Long some headaches in maintaining golf cart paths. "The main damage is from mud washing onto the paths. It never really damages the course itself."

Emerald River has all the stuff of which legendary golf courses are made. There is the natural landscaping, beautiful vistas of both the mountains and the wide Colorado River, and a layout that challenges all levels of players — and superintendents.

