

Briefs



EPA FUNDING RESEARCH

The Environmental Protection Agency will give \$1 million a year for 10 years to each of four universities chosen as EPA Exploratory Environmental Research Centers.

Of those chosen, the University of Maryland System at Horn Point was chosen to do multi-scale coastal marine ecosystem research, while the University of California at Davis was picked to study ecotoxicology.

The centers are being established to provide research directly related to the EPA's long-range research strategy.

An independent scientific peer review panel and site review teams recommended the grant recipients from among 87 that applied.

Along with Maryland and California universities, the Massachusetts Institute of Technology and consortium members Caltech and New Jersey Institute of Technology will study transformation, transport and control of airborne organics; and Michigan Technical University, with consortium members Wisconsin and Minnesota, will study clean manufacturing technologies.

WEST VIRGINIA ELECTS LEADERS

The West Virginia Golf Course Superintendents Association has elected officers for 1992.

President Charles A. Murray of Edgewood Country Club succeeds Past President John C. Cummings of Berry Hills Country Club.

Vice president is Arthur R. Casto of Kanawha Country Parks, while Patrick E. Lewis of Scarlet Oaks Country Club is secretary-treasurer.

Serving on the board of directors are Howard H. Lott of Bridgeport Country Club; Carl Buttrey of St. Marys Golf Club; Gary Roush of Riverside Golf Club; David A. Tennant of Lakeview Resort (North Course); Dr. John F. Banieki of WVU Extension Service; and Richard A. Piatnek of Tri-Star Soils, Inc.

The officers and directors will guide the association in 1992 through its regular monthly educational meetings, annual scholarship and research fund-raiser golf tournament in June, and annual turf conference and show in November.

40 YEARS IN FLORIDA

The Florida Turfgrass Association will celebrate its 40th year at its annual conference and trade show, Sept. 20-23 at the Prime F. Osborn Convention Center in Jacksonville.

This year's conference will feature an educational program led by national experts in turf and related fields.

The event draws more than 2,000 visitors. More information is available from the Florida Turfgrass Association and Research Foundation at 800-882-6712.

RESEARCH SUPPORTED

The New Hampshire GCSA said it will continue its support for one more year of two research studies — Stan Swier's study of using nematodes to control cut worms, and Dr. John Roberts' research on winter kill.

The chapter donated more than \$11,000 for research in 1991.

Saluting solutions

Gainey Ranch's effluent plant gets an 'A'...

By Lyn Tilton

When Gainey Ranch of Scottsdale, one of 93 golf courses in the Phoenix, Ariz. area, sought permission to build its 27-hole complex in the mid-1980s, the city fathers responded, "Sure, but if you want water you'll have to build an efficient treatment plant." So they did, then donated it to the city.

"The plant cost \$4 million," said George Corthouts, superintendent of the semi-private course. "Scottsdale owns and operates the plant, and delivers the water we need at 46 percent of the cost of potable water rates in this area." That currently translates to 62 cents per thousand gallons, compared with \$1.38 for other users.

The treated water flows at 15,000 gallons per minute over a massive waterfall on the 9th hole of the Lakes nine, then meanders through the rest of the lakes. At the lowest point on the complex, the water is drawn out for irrigation, or recycled through the waterfall. In this desert state, a waterfall is an added attraction for visitors, and helps Gainey Ranch



George Corthouts, rear, discusses water treatment with Jim Tombaugh, treatment plant manager, inside the plant.

achieve 320 rounds of golf daily in the winter months and an average of 100 golfers in the summer.

"Frankly," said Corthouts, a Connecticut native used to rain, "in this area if you don't have water you don't have a golf course."

When you use 2 million gallons per day, water costs naturally add to the cost of play, which at this semi-private course comes in three rates: \$55, \$86 and \$100, plus taxes. "We are a true semi-private course, with one-third of our tee times reserved for guests at the Hyatt," Corthouts said.

"There are a lot of golf courses in the area, but in the winter we're all booked." Even with 93 courses to choose from, a seven-day reservation is not unusual during the winter months. Summer play is less intense, but it still makes watering schedules a challenge.

Gainey Ranch uses 100 percent of the water treated by the plant, which is situated next door to the maintenance complex. "In the winter it could support four or five courses, but during the four months of summer we need all of the water," Corthouts said.

He noted that the local water

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...while Ocean Reef Club taps into the ocean for its H₂O

By Kit Bradshaw

Superintendents throughout the country are using effluent from wastewater treatment plants to irrigate their courses.

But Ocean Reef Club in Key Largo, Fla., which is surrounded

by the sea, uses another method to capture this needed irrigation water. The club provides its irrigation water through its own desalination plant.

The reverse osmosis plant, which takes brackish water and

converts it to irrigation-quality water, has been operating for more than two decades. This desalination system provides the 36-hole golf course with 700,000 gallons of non-potable irrigation water a day. Potable water is

provided by the Florida Keys aqueduct which brings treated water from the Biscayne Aquifer.

The reason for the desalination is simple economics. Potable water from the aqueduct costs

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Kozelnicky garners coveted Georgia honors

By Vern Putney

AUGUSTA, Ga. — Never, in his wildest dreams, did George M. Kozelnicky think he would be sharing golf's center stage with the "King of Golf," nor that he would be congratulated on his achievements by the legendary Arnold Palmer.

Twenty-four hours after being inducted in the Georgia Golf Hall of Fame for service to the game, it hit home. The impact was staggering.

"It's the biggest thing that ever happened to me," said the retired instructor of agronomy and plant pathology at the University of Georgia.

"That this honor occurred in front of 800 of the most renowned names in golf and among my friends," said Kozelnicky, "is overwhelming."

A self-described "avid hacker"



Arnold Palmer joins George Kozelnicky in his celebration.

Photo by Frank Christian

who took up golf at age 43, Kozelnicky is enshrined alongside distinguished competitive company. The Hall, launched in 1989, now has 29 members. All but "Old Koz" have sparkling playing credentials.

Yet Kozelnicky has earned equal stature for game contributions.

Kozelnicky took a circuitous route to the Golf Hall of Fame.

The 73-year-old Akron, Ohio, native as a teenager mowed bluegrass tees. After serving in World War II as an aerial gunner and later as instructor, he attended the University of Georgia, where he obtained both bachelor's and master's degrees in less than four years. He became a faculty member in 1951.

While pursuing a doctorate at Purdue University from 1958 to 1961, he discovered the specialized

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Desalination plant was the answer for Key West facility

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\$5.18 per thousand gallons for the first 12,000 gallons and then jumps to \$6.18 per thousand. The desalination plant can provide water for approximately \$3.00 per thousand gallons.

It's not cheap, compared to the rates in Boca Raton—\$0.85 per thousand gallons—but it certainly is more economical than irrigating with the potable water coming from the aqueduct.

For several years, Ray Hansen was the golf course superintendent at Ocean Reef Club. Today, Hansen is the superintendent at Delaire Country Club in Delray Beach.

"Straight salt water contains 35,000 parts per million of salt," Hansen says, "while the

brackish water that is desalinated is 3,500 parts per million. If you take this brackish water, and put it through a new, well-maintained reverse osmosis plant, it comes out at 350 parts per million. If you treat it according to health department requirements, it can be potable water.

However, this is the best-case scenario.

"As the plant gets older, the membranes within the reverse osmosis system have a tendency to clog up, and they need continual maintenance. Eventually, they become less and less effective and they have to be replaced."

Hansen says that five years ago, new equipment was installed in the desalination

plant at Ocean Reef Club. This \$700,000 project upgraded the equipment and the membranes within the plant. The membranes have a five-year lifespan, he says, and they should be replaced shortly. The remaining equipment will be functional for another five years.

Although the desalination plant provides the club with the much-needed irrigation water, some precautions are needed when using this type of water.

"As the membranes get older," Hansen says, "the salt content in the water slowly rises. The soil index must be constantly monitored. A salt ratio of 1,000 parts per million or less is acceptable for the

turfgrass. Anything above that can cause problems.

When this salt content reaches 1,000 parts per million, then the membranes in the reverse osmosis plant must be cleaned, or if they are older, replaced."

Hansen says that in the future, Ocean Reef Club may begin using effluent in combination with the desalinated water from the reverse osmosis plant.

This combination would reduce the cost of the irrigation water.

However, he adds, availability and cost will be the final determining factor in using a combination of desalinated water and effluent on the Ocean Reef Club courses.

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