

Pebble Beach effluent study to begin after AT&T event

By J. BARRY MOTHES

MONTEREY, Calif. — Work is expected to start here at the Pebble Beach Golf Links next month on a sophisticated research project that Monterey Peninsula superintendents and several agronomists hope will provide answers for dealing with the higher salt content of reclaimed water and its affect on annual bluegrass (*poa annua*) greens.

The proposed project — which could cost between \$400,000 and \$500,000 over a 4- to 5-year period — will seek funding from a range of high-profile golf and environmental groups, including the U.S. Golf Association, the Golf Course Superintendents Association of America (GCSAA) and state and federal environmental protection agencies. Project leaders said the research findings would have wide implications.

“The work is quite important not only for golf courses on Monterey Peninsula, but really any golf course,” said Mark Mahady, an agronomic consultant based in Carmel Valley, Calif., who directs the project, “and particularly courses in the Southwest that use concepts of reclaimed water on Poa or bentgrass greens and trying to come up with good strategies of reclaimed water and its use.”

Ted Horton, vice president of Resource Management at the Pebble Beach Co., believes the study would prove widely beneficial.

“I think the information from this research would be easily extrapolated to use even on, say, bentgrass or Bermuda greens,” said Horton, a leader in developing the research protocol. “There are very few greens in America that don’t have some kind of Poa annua in their greens.”

The Pebble Beach research project was generated in the wake of difficulties on putting greens at seven Monterey Peninsula golf courses, including some of the most famous in the world. Under a \$34 million recycled water project launched by the Pebble Beach Co. nearly three years ago [GCN, June '94], each of the courses has used reclaimed water to irrigate its tees, fairways and greens. But starting in the fall of 1995, superintendents noticed discoloration, wilting and disease on their greens. The problems have been linked to a higher concentration of salt in reclaimed water.

Putting surfaces at the seven, high-profile courses are annual bluegrass (*poa annua*), which has proved the best turf to cope with the peninsula’s cool, foggy climate. But poa annua is also very sensitive to salt.

For now, Peninsula superintendents are using restricted

amounts of potable water to flush their greens of damaging salts. As another short-term fix, the Carmel Area Wastewater District has invested \$150,000 to inject gypsum into the recycled water — a process which helps move

salt away from the vulnerable root zone.

However, the ultimate goal is to find a way to use reclaimed water entirely without compromising course conditions — at sites where expectations are ex-

traordinarily high. The answers may lie in greens construction, or in several new state-of-the-art strains of annual bluegrass that could tolerate salt, or somewhere in between.

The research protocol pro-

poses a test site be built between the 11th and 12th holes at the Pebble Beach Golf Links, according to Mahady. Three different test greens and other plots of turf would be built on approximately an acre of spare land.

Each of the three test greens would represent a different construction style with different drainage characteristics. One would be built to current USGA

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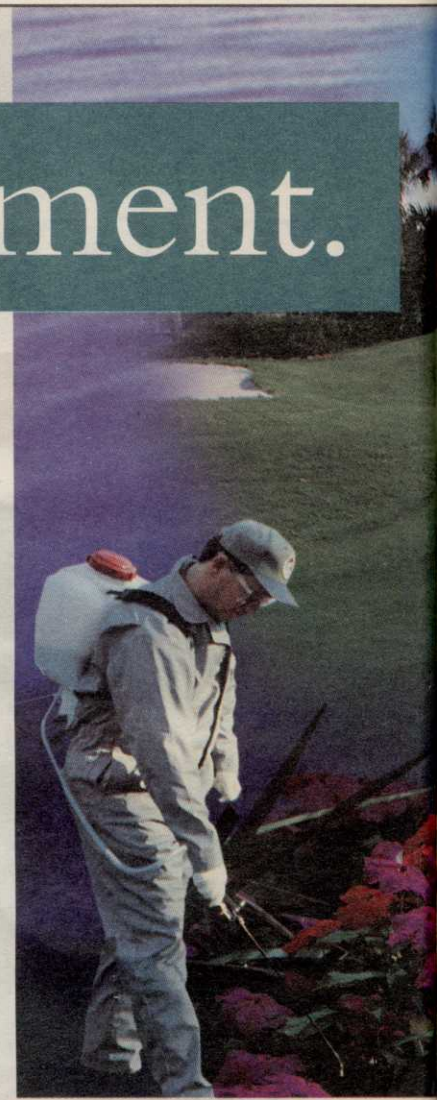
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OTF's Chafin hopeful

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gies. That task, Chafin hopes, will be completed in 1998.

The long-range plan—a working document that will be updated and changed as the OTF nears its goals—outlines the organization's vision:

- earning international recognition for the results of turfgrass research it sponsors through Ohio State University;
- conducting and supporting a world-class edu-

cational program to prepare turfgrass managers in all specialties; this would entail lining up speakers from abroad;

- providing more than \$500,000 annually toward research and scholarships, including monies earned by its endowment; OTF now gives around \$150,000 to \$200,000 a year.
- featuring a trade show with 1,000 booth spaces and 10,000 attendees.

The vision, Chafin said, is a tall order that will take years to accomplish. But he fully expects great strides to be taken this year toward those goals.

Pebble Beach ready for study

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specifications, with layers of sand and gravel.

A second test green would be a pure sand-based "California" green similar to those at courses like Spyglass and Spanish Bay. The third would duplicate "push-up" style greens that mimic those at Cy-

press Point, Monterey and Pebble Beach.

The turf selection would vary on the greens and plots. Mahady said the project would use four different creeping bentgrass selections, one annual bluegrass similar to what Peninsula courses now use, and three new annual bluegrass strains developed by University of Minnesota Professor Don White.

White would be one of the project's co-leaders. The other would be Tom Cook of Oregon State University.

Another obvious variable would be the water used to irrigate test areas—effluent or reclaimed water vs. potable water. But as of press time, it was unclear what role water would play in the project.

Mahady said project organizers aren't sure they can rely on a constant, predictable supply of effluent over a 4- to 5-year period. If they can't, he said, the project will have to be re-vised.

"Some form of the trial will continue—exactly what all the final variables will be have to be decided," said Mahady, who added that helpful information could be gleaned from the study within a year or two; other information could take as long as five or more years.

Mahady, Horton and others involved with developing the research proposal hope to get answers from potential funding sources in time to start work after Pebble Beach hosts the AT&T Pebble Beach Pro-Am in early February.

Each individual golf course and the Pebble Beach Co. is also expected to contribute funding.

"This is research that could and would be very valuable in the future across the country as more and more courses go in this direction [toward reclaimed water]," said Horton. "The more we learn the better it will be."

Horton said he and the Monterey superintendents are committed to finding workable solutions for using reclaimed water, especially in the face of shrinking potable sources and ongoing public pressure for environmentally friendly maintenance practices.

"There are challenges that we face but this project is very successful," Horton said. "We know we have a great water system."

"We have the drought years behind us. But we know we have to use it [the reclaimed water] better. Our objective is to use 100 percent reclaimed water."



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