Wanted: Watertight

Superintendents turn to irrigation companies to help them conserve water
S hawn Emerson oversees six private Jack Nicklaus-designed golf courses in the scorching Southwest. Needless to say, Emerson knows a thing or two about water management.

And Emerson, the director of agronomy at Desert Mountain Resort in Scottsdale, Ariz., keeps a keen eye on what golf course irrigation companies are doing to keep up on water-management issues.

Of course, the big issue these days is that the world is running low on freshwater — dangerously low, depending on whom you ask. But don't tell Joe Golfer that. He still wants — and will outspokenly demand — lush, green turf at his golf club.

Herein lies the problem for superintendents, and not just those tending turf in the country's arid regions. Water is scarce, not to mention expensive, but many golfers are unwilling to part with verdant turf. Hence, many superintendents are stuck between a rock and a sprinkler head. They must conserve water, yet they must provide emerald-colored fairways. So superintendents are looking to irrigation companies for help. More than ever, they need equipment that can water as precise as a laser-like pass from Peyton Manning. The good news: Emerson says irrigation companies are providing it.

"The irrigation companies have made more strides in efficiency than any other part of the industry," Emerson says. "They're ahead of the game in regard to the efficient use of water. And they're getting better at it."

Emerson's comments will bring beams to the faces of the research and development staffs at Rain Bird, Toro Golf Irrigation, Hunter Industries and John Deere Golf Irrigation, as well as other companies that make golf course irrigation their business.

Dana Lonn, director of the center of advanced turf technology at Toro, says water management is a high priority at The Toro Co. Recently, Lonn attended a meeting with Toro's senior management staff, and he says water was a major topic in the discussion.

"There are very few days where there aren't conversations about water conservation and how we can help customers manage water more effectively," Lonn says. "We've certainly invested more than we did in the past in this particular area."

Gregg Breningmeyer, director of sales and marketing for John Deere Golf & Turf One Source, wonders if the 21st century will bring wars fought over freshwater. With that in mind, it's time to take action, which includes the golf industry doing its part to conserve water, Breningmeyer says.

Warren Gorowitz, the national water management product sales manager for Ewing

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BY LARRY AYLWARD
EDITOR IN CHIEF
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Irrigation and Golf Products, the exclusive distributor of Hunter Golf products in 19 states, says irrigation companies are simply responding to a crisis at hand.

“When you’re dealing with a natural resource that’s being consumed faster than it’s being replenished, you have to react,” he says.

We’re talking “precise”

How are irrigation companies reacting? With their heads. You can bet there’s a lot of brainstorming going on in any given irrigation company’s research and development laboratory. Ask irrigation company representatives what they strive for in their research and development efforts, and they start throwing around words like “precision” and “optimum.” You get the impression the companies are aiming for perfection.

“More precise applications of water,” says Rick Hill, John Deere’s product manager for golf irrigation, when asked what’s needed. Then he adds, “Sprinklers that are more optimum in performance for better distribution.”

“Uniformity of application” is a buzz phrase on golf courses these days when talk involves irrigation. Steve Snow, Toro’s director of golf renovation and sales, says the biggest improvements in irrigation efficiency are in sprinklers that feature improved uniformity of application. The newer and technologically advanced sprinklers don’t need to operate for as long as older and less-efficient sprinklers. Hence, water waste is reduced drastically.

“A sprinkler that has a 70-percent uniformity needs to run 15 percent longer than a sprinkler that has a 90-percent uniformity,” Snow points out.

Compiled over a year, sprinklers with 90-percent uniformity could save a golf course millions of gallons of water. “And when you don’t put out as much water, you don’t use as much power to run your pump station,” Snow adds.

Lonn says Toro has spent much time and money to improve uniformity of application. He notes that Toro aims to achieve uniformity similar to rainfall. Snow says the engineering technology to develop equipment to improve uniformity, such as plastic molds for nozzles, has come a long way the past few years.

“[Before], you would carve out different shapes for nozzles, and they were pretty rudimentary, such as squares, circles and rectangles,” Snow says. “That technology has really moved forward.”

Lonn says another trend related to uniformity is that golf courses are using more sprinklers to achieve more precision watering. “The more sprinklers you have, the more control you have over water and how water gets placed,” he adds.

Regarding control, Jeff Kiewel, national sales manager for Rain Bird Corp.’s Golf Division, says the company is spending more on controller...
technology because it's the area of the irrigation system where superintendents need the best technology to solve their watering challenges.

Jon Truttman, national sales manager-market development for Hunter Industries, says superintendents need controllers that provide them the ability to make "finite" adjustments. "A golf course has different microclimates and requires different irrigation scheduling throughout the property," he adds.

Hill says Deere's controllers were manufactured with evapotranspiration, water flow and water pressure in mind. The controllers make sure water is managed efficiently as soon as an irrigation system is turned on, he says.

Irrigation manufacturers have also improved trajectory on sprinklers so they can water into the wind, under trees and up hills more efficiently. Rain Bird recently introduced rotors addressing these issues.

"Effluent isn't the be-all solution to water conservation," Gorowitz says. "Everybody is looking for an advantage. I don't see that changing."

Today's golf irrigation equipment will be even more complex, experts say.

Out of technological advancements, irrigation companies are getting in the education game to show they're serious about water conservation and to improve their public relations in the process.

Rain Bird has held five educational programs, each titled "The Intelligent Use of Water," since 2004. The programs were created "as a forum to further define the relationship between water conservation and landscape water use," according to Rain Bird. That includes the golf industry.

Why did Rain Bird decide to get into the education business? The answer is simple, says Barbara Booth, director of the company’s Golf Division. "While products are near and dear to our hearts, products alone will not enable people to make intelligent choices when it comes to water uses and irrigation systems," she says.

The summits also help Rain Bird in its quest to help golf courses in their public relations efforts to convince the public that they promote watering wisely, Kiewel says.

"Take 'em to school"

Jeff Kiewel
Rain Bird

Angier, marketing manager for Toro Irrigation, says the event achieved its goal. Angier says he sat next to a woman during the event who admitted she knew little about how the golf industry operated and assumed that courses used water at will to provide lush conditions. But after she witnessed a presentation by Sandy Clark, the certified superintendent at Barona Creek Golf Club in San Diego who talked about how golf courses are "very con-
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Irrigation equipment is tested repeatedly at Toro’s Riverside, Calif., facility, home of its irrigation division.

“I think we’re ready for some groundbreaking new technology.”

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JON TRUTTMAN
HUNTER INDUSTRIES

“conscious” in regard to the water they use, the woman changed her views.

“I was happy to hear her say, ‘I had no idea the golf industry was doing so much and cared about this issue,’ ” Angier says.

Breningmeyer, aware that the golf industry is an easy target for water conservationists who know little about how the industry operates, says John Deere will join the education game when the time is right.

“We’ll do it when we have something important to say that covers a need that hasn’t been met,” he says. “But I applaud Toro and Rain Bird for sharing their information.”

Patents pending

So how precise can irrigation equipment get? Will manufacturers eventually hit a wall in their pursuit of new technology?

Lonn says he has heard people say that the patent office should close its doors because everything has been invented. But he doesn’t agree. He says there will always be opportunities to make equipment more precise in golf course irrigation. Lonn also points out that “resource conservation is the mother of all invention,” and manufacturers will invest in improvements as long as money is available. “It won’t stop as long as the business stays healthy and as long as people don’t turn off the water,” he adds.

Breningmeyer says technology will arise as needs arise in the marketplace. “I don’t think there’s a finite end to innovation,” he says. “Market demand spawns innovation in ways we didn’t dream about.”

Future technology could dictate that a certain amount of water needs to be placed on a square meter of a golf course relative to its microenvironment, Breningmeyer says.

New technology could come from related industries and be adapted to the golf industry, Hill points out. “There will be people from other fields that come up with ideas, and it will be up to us to look at those ideas and say, ‘That’s something we can use in our market,’” he adds.

On the horizon

One thing is for sure: The cost of water will continue to escalate, Angier says. At the same time, water availability and water quality will decrease. And because of the freshwater shortage, Angier says more golf courses need to irrigate with more effluent or water from other sources, further challenging irrigation manufacturers to invent relevant equipment.

Breningmeyer expects John Deere to be on the forefront of technology. He says Deere wants to adopt some of the successful irrigation programs the company has created in agriculture, such as GreenStar, a program designed to help farmers with resource management. A similar program could benefit superintendents in water management.

“That said, we’re doing specific things for the golf industry in terms of product development and innovation,” Breningmeyer adds.

Kiewel says golf has a healthy future. “And tomorrow’s golf irrigation will be even more complex,” he adds.

Truttman agrees. “I think we’re ready for some groundbreaking new technology,” he says.

If it sounds like the golf irrigation segment is about to become more competitive, it probably is. While all of the manufacturers are on the same team when it comes to water conservation, they’re still competitors when it comes to outdoing each other with water-efficient products.

Everybody is looking for an advantage,” says Kiewel, citing his company’s “fierce” rivalry with Toro. “I don’t see that changing.”

While Breningmeyer realizes that John Deere Golf Irrigation is a relatively new player in the market, he believes there’s “a hunger” for more golf industry irrigation offerings.

“Competition breeds innovation,” he adds. “The more competition, the better the customer is served.”

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