Irrigation: Ready to leap forward?

By BRUCE SHANK

Irrigation’s place as a management tool for golf courses is taking a quantum leap forward. Advances in golf course irrigation now outpace the ability of many courses to stay current, while the golf course irrigation specialist is evolving from a specialized plumber into a database manager. With this progress, however, a number of questions arise. Does your course require state-of-the-art irrigation technology to meet modern standards for quality of play? Pick a standard, then decide. But one fact remains constant: top-shelf golf requires state-of-the-art irrigation.

Today’s central controllers can do that, providing the water distribution system is equally sophisticated. Standards for play are increasing across the board. Manual, quick-coupler irrigation falls far short today. Ironically, quick couplers are now used predominantly to give irrigation managers the flexibility they can’t get from their automatic systems. They give them the ability to stretch their systems to meet the needs of plant material in more complicated golf course designs. That tells us that average automatic irrigation systems are falling short on a growing number of courses.

Meeting standards on existing courses is one thing. What about future courses? The greatest limiting factor to the expansion of golf is water. To maintain the growth of the game, golf courses will be limited by the amount of water available to them.

Continued on page 50

Sulfur dioxide generator to the rescue

By PETER BLAIS

CHARLESTON, S.C. — “It would have made life a lot easier to have this sulfur dioxide generator before the Ryder Cup.” — George Frye, superintendent, Kiawah Island’s Ocean Course

While the world focused on the drama of watching the Americans win back that coveted trophy from the upstart Europeans six years ago, Frye’s attention was on the beleaguered turf and trees that were suffering from irrigation water with pH levels of 9.0 and bicarbonate levels running upwards of 1,100 parts per million.

According to Dr. Thomas Ruehr of California Polytechnic University, when the pH level is above 7.5, large amounts of nitrogen evaporate from the water into the air through a process called ammonia volatilization. Nitrogen fertilizer efficiency is reduced and soil-borne plant pathogens frequently multiply in high pH soils. This is all bad news for turf.

Continued on page 50

ARE YOUR FLAGS THE BEST YOU CAN BUY? THEY ARE IF SOUTHERN MADE THEM!!!

Our competitors have watched us grow ever since 1983 when we first used the art of embroidery to create beautiful golf flags.

And now they want to join us in our creative arena. We wish them the best!

We have developed, tested, and improved our unique capabilities and creative talents over the past 14 exciting years.

Southern now offers the finest UV resistant flags with improved construction for better durability and a new "No-Fray" material.

Embroidered in up to 8 colors or screen printed in up to 4 colors, choose from plain and custom flags in the most colors, patterns, styles, and materials.

You decide - at no extra charge!

Call or fax us for a free sample of the new "No Fray" flag.

SOUTHERN GOLF PRODUCTS
PHONE 1-800-233-3853  FAX 1-800-277-7701
PEACHTREE CITY, GEORGIA

SOUTHERN FLAGS SURPASS THE STANDARD!
Casper keynotes
Continued from page 1
Hotel and Resort. Casper's keynote at 9 a.m. will kick off two days of educational sessions on course management and marketing, development and maintenance.
Casper's 51 PGA Tour victories stand second only to Arnold Palmer. Eight times he played on the U.S. Ryder Cup teams and in 1978 was the non-playing captain. Since reducing his playing time, the 66-year-old Casper has devoted increasing time to the course design firm Casper Nash & Associates, which he formed in 1986. From their Phoenix headquarters, he and partner Greg Nash have teamed on more than 60 mostly public-access golf courses, including nearly 27 for Del Webb's master-planned communities. The average golfer, he said, is his main target and he designs his courses "to be very flexible" and to "offer an enjoyable challenge to average players while still testing the limits of a scratch player's abilities."
Meanwhile, Billy Casper Golf Management Inc., formed in 1988, operates 16 facilities from the mid-Atlantic to Hawaii. A dozen of those properties are daily-fee exclusively or semi-private. Headquartered in Vienna, Va., the firm provides consultation services on the planning, development and construction of new courses, and offers complete turnkey management services to over 30 new and existing courses.
"We're thrilled to have Billy Casper headline our conference," said Golf Course News publisher Charles von Brecht. "He knows every side of the golf industry and has been admired for his character and integrity his entire career."
For more information about Public Golf Forum, call 207-846-0600.

Sulfur dioxide
Continued from page 30
Major cations: sodium, potassium, calcium and magnesium.
Likewise, sulfur dioxide-treated water that contacts soil reduces the soil pH while reducing sulfate and sodium levels.
Frye installed a sulfur dioxide generator at a cost of $27,000. The results? The Ocean Course's turf and trees were able to utilize 80 to 90 percent of the irrigation water applied to the course, up from 30 to 40 percent previously. The improved efficiency allowed Frye to cut water use between 20 and 30 percent, a number that found favor with state environmentalists.
"(Course architect) Pete Dye couldn't believe the difference in the quality and health of the turf and trees when he came back recently, particularly the trees," Frye reported.
"You can always replace turf, but not a 40-year-old live oak."
Likewise, sulfur dioxide-treated water that contacts soil reduces the soil pH while reducing sulfate and sodium levels.
Frye installed a sulfur dioxide generator at a cost of $27,000. The results? The Ocean Course's turf and trees were able to utilize 80 to 90 percent of the irrigation water applied to the course, up from 30 to 40 percent previously. The improved efficiency allowed Frye to cut water use between 20 and 30 percent, a number that found favor with state environmentalists.
"(Course architect) Pete Dye couldn't believe the difference in the quality and health of the turf and trees when he came back recently, particularly the trees," Frye reported.
"You can always replace turf, but not a 40-year-old live oak."
"I heard Raymon Finch [one of the developers of nearby Wild Dunes] say once that water had more influence on the success of a golf course than any other single thing. I think he's absolutely right."
The Ocean Course is preparing to host the World Cup on Nov. 17-23, the facility's first pro event since the Ocean Course's turf and trees were able to utilize 80 to 90 percent of the irrigation water applied to the course, up from 30 to 40 percent previously. The improved efficiency allowed Frye to cut water use between 20 and 30 percent, a number that found favor with state environmentalists.
"(Course architect) Pete Dye couldn't believe the difference in the quality and health of the turf and trees when he came back recently, particularly the trees," Frye reported.
"You can always replace turf, but not a 40-year-old live oak."
"I heard Raymon Finch [one of the developers of nearby Wild Dunes] say once that water had more influence on the success of a golf course than any other single thing. I think he's absolutely right."
The Ocean Course is preparing to host the World Cup on Nov. 17-23, the facility's first pro event since the Ocean Course's turf and trees were able to utilize 80 to 90 percent of the irrigation water applied to the course, up from 30 to 40 percent previously. The improved efficiency allowed Frye to cut water use between 20 and 30 percent, a number that found favor with state environmentalists.
"(Course architect) Pete Dye couldn't believe the difference in the quality and health of the turf and trees when he came back recently, particularly the trees," Frye reported.
"You can always replace turf, but not a 40-year-old live oak."
"I heard Raymon Finch [one of the developers of nearby Wild Dunes] say once that water had more influence on the success of a golf course than any other single thing. I think he's absolutely right."

Sulfur dioxide
Continued from page 30
Major cations: sodium, potassium, calcium and magnesium.
Likewise, sulfur dioxide-treated water that contacts soil reduces the soil pH while reducing sulfate and sodium levels.
Frye installed a sulfur dioxide generator at a cost of $27,000. The results? The Ocean Course's turf and trees were able to utilize 80 to 90 percent of the irrigation water applied to the course, up from 30 to 40 percent previously. The improved efficiency allowed Frye to cut water use between 20 and 30 percent, a number that found favor with state environmentalists.
"(Course architect) Pete Dye couldn't believe the difference in the quality and health of the turf and trees when he came back recently, particularly the trees," Frye reported.
"You can always replace turf, but not a 40-year-old live oak."
"I heard Raymon Finch [one of the developers of nearby Wild Dunes] say once that water had more influence on the success of a golf course than any other single thing. I think he's absolutely right."
The Ocean Course is preparing to host the World Cup on Nov. 17-23, the facility's first pro event since the Ocean Course's turf and trees were able to utilize 80 to 90 percent of the irrigation water applied to the course, up from 30 to 40 percent previously. The improved efficiency allowed Frye to cut water use between 20 and 30 percent, a number that found favor with state environmentalists.
"(Course architect) Pete Dye couldn't believe the difference in the quality and health of the turf and trees when he came back recently, particularly the trees," Frye reported.
"You can always replace turf, but not a 40-year-old live oak."
"I heard Raymon Finch [one of the developers of nearby Wild Dunes] say once that water had more influence on the success of a golf course than any other single thing. I think he's absolutely right."

Ready to leap
Continued from page 30
forced to use only that water necessary to meet standards.
Which leads to the next question: Is state-of-the-art irrigation necessary to deliver water most efficiently? The answer is "Yes," in the long term. Present-day automatic systems have application efficiencies in the 80-percent range.
Can we cut another ten percent with better control and delivery? The answer is "Yes," with improved sensor/controller feedback.
A great savior for golf is recycled water. Irrigating with treated effluent is a very promising short-term solution. However, the efficiency of irrigation systems, not recycled water, will determine the growth of the sport in the long run. Consequently, state-of-the-art irrigation technology is the long-term key to the growth of golf.
How quickly can current superintendents, irrigation specialists and other golf course personnel be trained to understand and manage advanced, central-computer irrigation systems? With the database of these systems expanding beyond irrigation, the superintendent can no longer delegate operation of his central computer to one person. Chances are, irrigation specialists, mechanics, pesticide applicators, and equipment operators will need some access to the information gathered and organized by the central computer. At the same time, the information in the database must be secure from mistakes and unauthorized use.
This is a sizable training challenge. Will training from the manufacturers and distributors of these central systems be enough? If not, can irrigation consultants handle the job?
If you have read about the new total management packages from irrigation manufacturers, you know that implementation requires a very tight survey of your course so its layout can be digitized for the database. Who will do this? The course have to be added to the database. Who will do this for thousands of courses in the coming years?
You can see how important it is to improve your irrigation system on a regular basis. By staying knowledgeable through training and making reasonable upgrades, you not only protect the future of your golf course, you protect the future of the sport.

The efficiency of irrigation systems, not recycled water, will determine the growth of the sport in the long run.