Scientists make breakthrough in drought-resistant tall fescue

By JAY FINEGAN

GRIFFIN, Ga. — University of Georgia turfgrass scientists have developed a new drought-resistant strain of fescue that promises to be a boon to golf courses. The so-called Southeast Tall Fescue is the first release to emerge from the university’s fescue breeding program, started in 1992. The seed is expected to be marketed by Landmark Seed Co. and available sometime next year.

Ronny Duncan, Ph.D., professor of breeding and stress physiology in the department of crop and soils sciences, headed up the painstaking development project. His search for grass samples that could be used in the experimentation took him to South America, Africa, the Bahamas and all over Georgia.

Duncan’s colleague in the fescue breakthrough, Bob Carrow, Ph.D., professor of turfgrass science, said the new variety will likely see duty on golf courses as rough and fairway framing and on clubhouse grounds. He said recommended mowing heights — two inches in southern climes, an inch and a half in more moderate regions — would bar fairway use.

When the breeding program began, the goal was to develop turf-type tall fescue with the attributes necessary to persist under Georgia conditions. The primary goal was to come up with a fescue that could withstand drought, acid soil complex, and high soil temperatures, while generating enough carbohydrates — plant food produced by photosynthesis — to maintain strong roots during hot summer months. Additionally, the scientists sought a fescue strain with good turf quality, in shoot density, color and growth rate, and which would exhibit pest-resistant qualities and strong seed production.

BOOT CAMP FOR PLANTS

It took eight years, but finally Duncan and Carrow produced a strain, through natural selection, that met the criteria. “Southeast Tall Fescue,” Carrow said, “is very, very drought resistant.”

The scientists subjected their various experimental strains to severe stress and water deprivation during a “plant boot camp” that killed between 95 and 99 percent of them. “That’s the only way you can identify the ones that have super

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At Montreux, Heinricks thrives on annual Reno Tahoe Open

By DOUG SAUNDERS

RENO, Nev. — The long, hot, sunny days of Nevada summer never come quickly enough for Doug Heinricks, head superintendent here at Montreux Golf and Country Club.

The Iowa native is in his second year caring for the bentgrass fairways of this massive Jack Nicklaus-designed golf course on the eastern slope of Mount Rose, just south of Reno — “The Biggest Little City in the World.” His challenge is nurturing lush, consistent fairways and greens, not only for the discerning members of this private facility, but also for the recently held Reno Tahoe Open, a PGA Tour event.

“I love it when the warm weather sets in, because I need to have my soil temperatures come up in order to stimulate microbial activity and root growth,” he said. “The soil at the base of the mountains is decomposed granite, which makes it easily compacted and hard to penetrate. Irrigation water seems to run off rather than soak in. But it is a challenge that I am glad to take on just to be in this region.”

Montreux opened in 1997 in the midst of a golf construction boom in these parts. More than 140 holes have been built in four years. Montreux has established itself as the premier private club on the eastern slope of the

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Supers rate Audubon program highly

SELKIRK, N.Y. — A survey by Audubon International has found that taking part in the Audubon Cooperative Sanctuary Program for golf courses (ACSP) brings verifiable environmental benefits. When queried on a number of measures to improve wildlife habitat, protect water quality and reduce chemical use, ACSP members — primarily course superintendents — reported significant improvements in their environmental management practices. They also reported that they sacrificed little if anything in terms of playing quality or golfer satisfaction.

Audubon International launched the ACSP in 1991, in conjunction with the U.S. Golf Association, as an environmental education program designed to help golf courses enhance and protect wildlife habitat and natural resources. Today, 2,140 courses in the United States are enrolled in the program, and

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ISTRC adds new greens to list

OLATHE, Kan. — International Sports Turf Research Center (ISTRC), based here near Kansas City, recently created a second company, ISTRC NML, to provide physical properties analysis for the construction and reconstruction of greens.

ISTRC developed the first ISTRC system of physical properties analysis mainly for existing golf course greens. Their system of undisturbed core analysis has produced data from thousands of cores that has resulted in the guidelines for new bent and Bermuda grasses that refine U.S. Golf Association (USGA) specs.

ISTRC NML (New Mix Lab) was created to conduct tests required to meet USGA Green Section guidelines for new construction and reconstruction of greens. ISTRC NML qualifies for USGA recommendation by meeting the criteria and earning the accreditation of the American Association for Laboratory Accreditation (AALA).

Dave Doherty, founder of both companies, said that ISTRC NML is a natural extension of the firm’s capabilities. “Imagine the benefits of the data that we have already compiled when applied to New Mix Lab technologies. As the only company with two labs, one for existing greens and one for new construction, we have combined an operation that will be an invaluable asset to the new course from inception through maturity,” he said. “We’re excited about all that we can offer our clients today.”

In 1990, Doherty and Leon Howard, who wrote the original USGA specs, began to monitor sand-based greens, a task which no one had then bothered to do. “When we first started this company, we were really just out to grow grass on athletic fields for kids,” Doherty said. “But now we do about 40 of the top 100 courses in the country.”
Audubon certifies Leatherstocking

COOPERSTOWN, N.Y. - Audubon International has officially designated the Leatherstocking Golf Course at the Otesaga Resort here a Certified Audubon Cooperative Sanctuary under its Audubon Cooperative Sanctuary System (ACSS), a program endorsed by the U.S. Golf Association.

Designed by Devereux Emmet in 1909, the classic 18-hole championship course in New York State is one of only 11 Cooperstown community to protecting its natural legacy. Leatherstocking is one of only 11 courses in New York State to receive the Audubon International honor, along with other such courses as the Winged Foot Golf Club in Mamaroneck and the Westchester Country Club in Rye.

"Gaining certification is not a simple process. Course superintendent Bernard Banas and his staff were completely dedicated to this program for four years, and they deserve a lot of credit," said Eric Straus, president of the Leatherstocking Corp., which owns the course.

"In addition to being one of the prettiest courses you'll ever play, Leatherstocking is home to a variety of indigenous wildlife, including foxes, deer and the Eastern bluebird," said Dan Spooner, director of golf. "We are proud that we can maintain a safe sanctuary for the animals while providing an enjoyable and challenging golf experience."

Fescue breakthrough

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tolerance," said Carrow.

For test samples, Duncan collected any tall fescue plants he could find growing within six inches of a paved highway. "That would bring a high heat load to the grass," Carrow said.

"Any tall fescue that survived in conditions like that had to produce enough carbohydrates to do so. With that germ plasm base, plus the strains that survived intensive screening, we had enough to begin crossing."

The cross-strains went through another boot camp, which killed at least 95 percent of them. Then Duncan took the top one to five percent and started crossing those, subjecting them to even more rigorous conditions.

"To get a typical strain," Carrow said, "once he got those initial crosses, he scalped them with a mower to remove all the green tissue, which put a further strain on the carbohydrates. Under these extreme conditions, the heavier plants will turn on their genetic capability to withstand the stresses."

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Southern Hills

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of Southern Hills overcame unforeseen obstacles that might have led less committed individuals to tell the U.S. Golf Association (USGA) to look elsewhere for a site to stage its premier annual event.

VANDALS SPARKED RESTORATION

Already faced with considerable work in order to bring Southern Hills up to the USGA Open specifications, the workers at the course were dealt a blow when tall fescues damaged nine greens in June of 1999. The vandalism was such that the putting surfaces had to be closed and regrassed.

"The club's board of governors saw what happened as an opportunity to undertake extensive restoration work," said Szklinski, who came to Southern Hills in 1992 from Desert Highlands, in Scottsdale, Ariz.

"My initial reaction to the vandalism was one of anger and disappointment," he said. "I knew after a week of watching how the greens would react that we would have to go through the process of regrassing. But I said to myself that we were going to look at this as an opportunity."

In addition to regrassing all the course's greens, work was done to upgrade the club's irrigation system, bunkers were rebuilt, the tall oak and pecan trees that form canopies over the sides of many fairways were trimmed, and longer championship tees built. It was decided that to insure the consistency of the course's putting surfaces the nine greens not affected by the vandalism would also be regrassed.

"The club was established in 1936," said Szklinski, "and we got some pretty heavy, thunderstorms during the summer. Erosion over the years can change the face of bunkers and there can be encroachment toward the greens. It's minute, but on an annual basis it adds up. We took this opportunity to restore the course to its original layout."

Noted golf course architect Keith Foster was hired to assist with the renovations.

"Every time Keith came to the front gate of the club he checked his ego," Szklinski said. "This is a Maxwell course and we needed to continue to be a pure Maxwell design. Keith did a wonderful job."

Salmon

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for the first time in 70 years," said Ed Hopper, owner of the resort.

The Wee Burn has always had some coho and steelhead in it, but the best spawning portions, including ponds, were inaccessible to fish. A significant amount of work has been done, including adding wetland and alcoves to slow the stream down, restoring some of the stream's natural headway, adding native plants and trees, adding in-stream structures for spawning and rearing areas, and building ladders to allow fish access to the upper ponds on the stream.

While most of the work is complete, much is still needed by the port and its partners to improve, maintain and monitor the changes.

"The Wee Burn's habitat has been improved fourfold, and we expect to see an increase in fish populations in the coming years," said Forester. "To bring back fish stocks to a level of being delisted from the federal endangered and threatened species list, fish habitat on private lands has to improve. This project is a great example of public and private entities working together to ensure successful stream restoration on private lands."

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