BRIEFS

MOSQUITOS TARGETED

DOVER, Del. — In an effort to control mosquito populations, state mosquito-control workers in cooperation with the U.S. Fish and Wildlife Service are applying to the Prime Hook National Wildlife Refuge marsh near Slaughter Beach a biological technique known as "open marsh water management."

By creating small ponds and ditches in mosquito breeding areas, OMWM managers are able to promote the presence of killifish and other predatory fish which feed on mosquito larvae.

Marshes treated with OMWM can control mosquitoes for 15 or more years. At the same time, the marsh modification, in conjunction with other management techniques, can help provide valuable habitat for a variety of fish and wildlife species.

REGULATORY REVIEW AVAILABLE

A regulatory review of key occupational safety and health administration standards specifically applicable to grounds management is available from the Professional Grounds Management Society.

Included is an overview of federal regulations and a copy of the specific regulation under review. Information is broken down into individual packets. Packets include hazard communications, storm water/wetlands, small chemical disposal and record keeping.

Contact PGMS at 410-667-1833.

TAAGEN SUPER AT CORDILLERA

EDWARDS, Colo. — Cordillera has named Timothy T. Taagen golf course superintendent, responsible for construction, operation and maintenance of the 7,500-yard Hale Irwin-designed course, which is scheduled to open in 1994.

Taagen has worked for three of the top golf courses in the country, most recently Green Gables Country Club in Denver. He was assistant superintendent at Cherry Hills Country Club in Denver before that.

He began his career in the superintendent training program at Augusta National Golf Club, where he supervised reconstruction of the course's famous 16th green. He later worked at Crooked Stick Golf Club in Indianapolis, where he helped in the reconstruction of the Pete Dye track for the 1991 PGA Championship.

Cordillera is a luxury resort and golf community.

GCSAA NAMES EDUCATION MANAGER

The Golf Course Superintendents Association of America has named Alan Hayes education manager for technical training.

Hayes will conduct and refine spray technician seminars and help develop other topics for the organization's technical training.

Fescues add flair, savings to more courses

By MARK LESLIE

Texture. Accent. Words from golf course architects that speak to the usefulness of fescue grasses.

Drought-tolerant. Low-maintenance. Descriptions from course superintendents that tell why fescues — predominant on Scottish links for 200 years — have found new life on American courses.

You could say fescues have been rediscovered.

David Whelchel, senior design associate at Hurdzan Design Group in Columbus, Ohio, said: "We're using both fine and tall fescues in the rough areas of a lot of golf courses. A lot of people are doing that in the North. We use fescues because they require little or no maintenance, irrigation or fertilization. They are very environmentally compatible.

"They also give us a very textural change from low-flowing soft mounds to manicured grass. When it turns golden brown it looks like waves. It softens the look of the course and gives it a more natural feel."

Architect Rees Jones of Montclair, N.J., said he has been using more fescues in recent years.

"It's a good drought-tolerant grass," Jones said, "and an accent grass. The accent is in color and height. We're mixing 80 percent hard fescue and 20 percent chewings. The hard fescue gives the look. Chewings holds it all together."

Don Knott, senior designer for Robert Trent Jones International, said designers are using fescues more now for their "wild and woolly" look as well as their drought-tolerance.

Continued on page 16

See page 16 for other charts and information on test sites.

Creeping red fescue cultivars ranked in tests

Name	NJ1	NJ2	NJ3	OR2	OR9	PA1	PA2	RI1	SK1	UB1	WA1	Mean
PST-4R3	5.9	4.3	5.7	4.4	5.7	4.7	3.5	3.0	4.4	4.6	5.6	4.8
PST-43F	5.3	2.9	3.7	5.4	6.0	5.1	4.0	3.8	4.7	3.7	5.9	4.8
Cindy	3.7	3.5	2.8	5.7	6.2	5.2	4.3	3.5	5.8	3.0	6.8	4.7
PST-4C8	4.2	3.4	3.9	5.6	6.1	5.6	4.2	2.8	4.9	3.3	5.9	4.7
Jasper	3.8	3.5	4.3	5.5	5.6	5.4	4.0	3.3	5.1	3.8	6.0	4.7
Salem	3.7	3.5	3.5	4.8	5.5	5.3	4.2	3.2	4.9	4.2	6.0	4.6
Herald	3.8	2.9	3.4	5.3	5.7	5.1	4.3	3.2	4.9	3.7	5.9	4.6
Vista	4	3.7	3.0	5.7	5.1	4.8	4.3	2.7	4.6	3.7	5.9	4.6
LSD Value	0.8	1.0	0.9	1.5	0.6	0.8	0.9	0.8	0.8	0.5	0.8	0.2

Chewings fescue grass varieties evaluated in national test report

Name	AL1	IA1	ID2	IL1	IL2	IN1	KY1	MD1	MI1	MN1	NE1	NJ1	NJ2	NJ3	OR2	OR9	PA1	PA2	RI1	SK1	UB1	WA1	Mean
PST-4CD	5.6	7.7	7.1	3.8	4.6	3.8	6.3	4.4	6.3	6.3	6.1	6.0	4.1	5.4	5.2	6.5	5.7	4.5	4.4	5.1	5.5	5.8	5.5
Bridgeport	5.0	7.7	6.9	4.6	5.2	4.2	5.8	4.5	5.8	6.0	6.1	5.6	4.3	5.7	5.5	6.1	5.7	4.3	4.2	5.4	5.8	6.0	5.5
Longfellow	5.1	7.7	6.9	4.1	5.8	4.2	5.1	4.6	6.2	6.3	6.1	6.0	4.2	5.5	5.0	6.1	5.8	4.5	3.7	5.3	5.6	6.2	5.5
89.LKR	—	7.7	—	—	—	—	5.3	4.9	—	—	5.9	5.0	4.9	5.4	5.6	6.2	6.5	4.3	3.8	—	4.3	6.3	5.4
Jamestown II	5.3	7.8	6.3	4.6	5.1	3.9	6.0	4.9	6.5	6.3	5.9	5.3	4.9	5.3	4.8	5.6	5.9	4.8	3.8	4.9	5.9	5.9	5.4
Southport	5.6	7.7	6.3	4.2	4.9	4.1	5.8	4.0	6.0	6.0	6.6	5.6	4.9	5.7	5.4	6.0	5.8	4.2	4.3	4.7	5.3	6.2	5.4
SR 5000	5.4	7.4	7.3	4.3	5.3	3.7	5.2	4.7	5.8	4.3	5.8	6.0	4.7	5.6	4.9	6.0	5.3	4.3	3.9	5.4	6.0	5.7	5.3
Proformer	5.4	7.4	6.0	4.8	4.6	4.1	5.4	4.5	6.3	6.3	6.4	4.9	4.3	5.1	5.1	5.8	5.2	4.2	3.8	5.1	5.5	5.8	5.3
LSD Value	0.5	0.7	1.5	0.8	1.0	0.7	0.8	1.1	0.9	1.4	0.8	0.9	1.1	0.9	1.4	0.6	0.8	1.1	0.8	1.0	0.8	0.8	0.2

Setting up is so very easy to do

By TERRY BUCHEN

Setting up the golf course as the architect intended it to be played can be accomplished much easier with a hole location chart and corresponding tee marker placement arrangement.

Dividing each green into nine sections — in other words, three in front, three in the middle, three in the rear — and numbering each section differently will greatly diversify how the course is played. It will equally balance left, right and middle placement of shots.

This will help ensure the course is set up equally for all types of players. Having nine positions on each green will also scatter foot traffic, which pleases the superintendent, and use the entire putting surface, which pleases the golfer .

We made a drawing of each green, divided it into nine sections, and then shaded areas where cups should not be placed because of the severity of the slope. The chart has nine greens on either side of one piece of paper and it is laminated to be waterproof and durable.

Continued on page 13

A certified golf course superintendent at Double Eagle Club in Galena, Ohio, Terry Buchen served from 1979-80 as associate agronomist for the PGA Tour and was on the USGA Green Section Greens Committee from 1977-84. He was on the Rules of Golf Committee for the 1984 U.S. Open.

North Carolina State University Chancellor Larry K. Monteith signs the $700,000 endowment papers. Behind him, left to right, are NCSU Vice Chancellor Jeff McNeill, College of Agriculture and Life Sciences Dean D.F. Bateman, Turfgrass Council of North Carolina President Terry Baughman, TCNC Executive Director Gene Maples, and NCSU Turf Work Group Chairman Charles Peacock.

N.C. turf research reaps $700,000

N.C. State makes major commitment to program

CARY, N.C. — The North Carolina Turfgrass Industry has announced a $700,000 commitment to North Carolina State University's Century II capital campaign and establishment of the Turfgrass Research and Extension Endowment.

The endowment is a transformation of the former Turfgrass Research and Extension Fund established in 1980. The change provides a more predictable and permanent source of supplemental funding for the program.

Terry Baughman of Raleigh, president of the Turfgrass Council of North Carolina, made the announcement at a luncheon at Prestonwood Country Club.

Also recognized was the independently established Zucker Turfgrass Scholarship Endowment, a $100,000 scholarship funding being created by the owners of Outdoor Equipment Distributors of Raleigh, and other companies and individuals as well as the Turfgrass Council of North Carolina and its members.

Larry Monteith, NCSU chancellor, an avid, low handicap golfer, said: "I have seen and very much appreciate the dramatic improvement in our golf course and other turf areas the past 30 years, a direct result of the turfgrass industry. You have provided many great pleasures in my life."

Dr. Durward F. Bateman, dean of the College of Agriculture, said turfgrass majors are one of the largest groups at the college in both the two- and four-year programs.

"And the industry is doing such an excellent job in employing our graduates that we have many more students waiting to get in," he said.

Superintendents offer advice on reducing hurricane damage

Continued from page 1

fered mightily.

So we asked several superintendents who fared slightly better to do some Monday morning quarterbacking. What did they do right in preparation for the most violent hurricane of the century and what do they wish they'd done differently.

Here are a few of their answers.

Fred Granger, Miami Lakes Country Club, Miami, Fla.: Although north of the main storm track, Granger's course still lost 400 trees, 200 shrubs and many broken limbs that were piled up throughout the course, he said. Satellite boxes suffered some minor damage. Knowing the storm was on its way, Granger's crew spent the hours before its arrival pruning dead branches near homes and cutting dead trees. He raised computers off the floor, moved them away from windows, covered them in plastic and took all his records home.

"We only got five inches of rain," he reported. "But our maintenance building is in a low area. If we had gotten more, it would have flooded and the computers would have been underwater.

"There was one tree next to the maintenance building that we should have cut down. It got knocked over and put a big dent in the building. It was the one tree that could have reached the building, and it did."

Nick Naccarato, Naples Beach Hotel and Golf Club, Naples, Fla. — Naples Beach was fortunate to escape with tree damage, 200 down and 200 tilting that will eventually come down, Naccarato said. The hotel and course have a standing hurricane plan followed whenever a warning occurs. Loose materials are stored, nursery plants brought inside and golf cars moved from their beach-side storage home to higher ground. When the tide swelled during Hurricane Donna in the early 1960s, one golf car ended up three blocks away.

"We know what to expect and prepare for the worst," Naccarato said.

However, Naccarato wishes he had topped off more of his trees, particularly the eucalyptus, well before the storm hit. Many were too top heavy and were more susceptible to the 100-mph winds.

"They are shallow-rooted and will fall over very easily if they aren't cut back," he said. "We'll do a lot more tree work, well before any storm hits this time."

Jack Lawrence, Oakbourne Country Club, Lafayette, La.: Lawrence had his crew take in everything loose on the course — flags, benches, trash receptacles, tee signs — and shut off the power before he left. The 100-mph winds knocked over a giant water oak that crushed the maintenance building. Approximately 75 ornamental trees were destroyed along with several pieces of maintenance equipment. Lawrence estimated the damage at $80,000 to $100,000. The course re-opened four days after the storm. This is his third hurricane in 20 years at Oakbourne.

"We did just about everything we could as far as taking the loose stuff in," Lawrence said. "We wouldn't have lost as many ornamental trees if we had staked them all down. But I don't think I would do that even if I knew another storm was coming. The man-hours to do them all would have been too great.

"I would definitely recommend cutting down water oaks near any building, though. They have very shallow root systems and will go over in a big wind. I've seen hundreds of them down the last few weeks."

•••

Just before press time, Hurricane Iniki struck the Hawaiian island of Kauai. Information was sketchy regarding the worst-hit courses since phone lines were down in many places. Golf course architect Rodney Wright, who has an office in Honolulu and has designed many courses on the islands, offered these thoughts on hurricane preparation.

An ongoing tree program that thins out existing trees and keeps their mass down is the best policy, he said. The shallow-rooted kiawe tree dominates many Hawaiian courses. Supplementing them with deeper-rooted varieties, like banyans, and encouraging the roots to burrow deeper with root collars will help minimize tree loss, he added.

Coconut trees are another good option because they can usually be propped back and will grow again following a storm.

Keeping storm drains free of obstructions can stop water from backing up and flooding a course, Wright said.

Do you know your fescues?

There are two major types of fescue grasses — fine and tall — and five varieties of fine fescues.

The fine fescues are:

- strong creeping fescue, which spreads and fills in well;
- slender creeping fescue, which creeps but not nearly as much as strong creeping;
- chewings fescue, which has more bunch-type growth;
- hard fescue, also with a bunch-type growth habit; and
- sheeps fescue, which is bluish-green.

Hard and sheep fescues are more tolerant to heat, so they perform better in the transition zone.

Fine fescues are finer textured than tall fescue. They also tend to live long in heavy shade and have a more natural look.

Tall fescues are quite different. Less attractive, they nevertheless work best in transition areas and the South, performing well in the shade. Their main attribute is tolerance of heat and summer stress.

On the down side, it tends to have more top growth and thus needs to be mowed.

Five leading hard fescue cultivars as ranked across the country

Name	AL1	IA1	ID2	IL1	IL2	IN1	KY1	MD1	MI1	MN1	NE1	NJ1	NJ2	NJ3	OR2	OR9	PA1	PA2	RI1	SK1	UB1	WA1	Mean
Warwick	—	6.1	—	—	—	—	5.0	4.4	—	—	—	6.8	6.6	6.4	—	—	—	—	3.1	—	6.6	6.4	5.7
SR 3100	5.5	6.6	4.6	3.9	4.6	5.1	4.5	5.0	6.2	5.7	6.1	6.8	6.7	7.8	5.4	4.9	6.1	5.2	3.8	4.6	7.7	7.0	5.6
PST-4HD	5.1	5.9	3.7	3.3	4.7	5.0	5.4	4.5	5.8	5.3	6.4	7.1	6.8	7.6	7.2	6.0	6.8	5.3	3.9	4.0	7.0	6.2	5.6
SR 3000	4.9	5.6	5.7	3.3	4.5	4.5	4.0	4.6	5.2	5.0	6.0	6.2	6.2	6.4	4.4	5.4	6.9	5.8	3.5	4.6	6.9	6.8	5.3
Aurora	4.8	6.3	4.2	3.0	4.3	4.6	5.1	4.3	5.7	5.7	5.1	6.1	6.0	6.3	5.4	5.4	7.1	6.2	3.3	4.4	6.5	6.3	5.3
LSD Value	0.6	1.4	1.6	1.3	1.6	0.6	0.9	0.9	1.2	1.1	1.7	1.0	0.7	0.7	1.7	0.8	0.6	1.1	0.7	0.9	1.2	0.6	0.2

Seven leading slender creeping fescue cultivars after '91 evaluation

Name	AL1	IA1	ID2	IL1	IL2	IN1	KY1	MD1	MI1	MN1	NE1	NJ1	NJ2	NJ3	OR2	OR9	PA1	PA2	RI1	SK1	UB1	WA1	Mean
FRT-30149	3.7	6.9	6.6	3.1	3.7	3.5	3.6	4.3	5.3	6.7	5.9	4.0	3.4	2.9	5.7	6.1	6.0	4.7	3.7	5.8	3.4	6.4	4.8
Barcrown	3.2	7.0	6.5	2.7	3.9	3.1	3.7	3.7	5.5	5.0	6.5	3.8	3.2	3.5	6.4	6.4	7.1	4.8	3.4	5.3	3.6	6.7	4.8
Marker	3.3	6.0	7.3	2.9	3.4	3.8	3.4	4.5	5.8	5.7	6.7	3.0	2.4	2.6	6.2	6.4	6.7	4.7	2.5	5.4	3.6	6.8	4.7
Smirna	3.7	6.8	6.9	2.8	3.6	3.7	3.5	5.2	5.7	5.0	6.3	3.0	2.8	2.3	5.4	6.5	6.3	N/A	2.5	5.0	4.0	6.4	4.6
HF 138	3.6	6.9	6.4	3.3	4.1	2.9	3.9	4.8	6.2	5.0	6.6	3.6	3.2	3.5	4.2	5.9	5.6	3.8	2.6	5.6	3.4	6.5	4.6
Barskol	3.0	7.1	7.4	2.7	3.7	3.7	3.3	4.5	5.5	5.7	6.2	3.2	2.6	2.9	5.3	6.6	5.9	5.0	3.0	5.0	2.7	6.2	4.6
Napoli	3.3	6.6	6.7	3.0	4.0	2.9	2.9	4.3	5.2	5.3	5.7	3.0	3.8	2.5	6.7	6.0	6.2	4.2	3.3	4.7	3.1	6.9	4.6
LSD Value	0.9	0.9	1.1	0.7	0.9	0.6	0.5	0.9	0.9	1.2	1.1	0.7	1.2	0.6	2.1	0.6	0.7	1.5	0.8	0.9	0.7	0.6	0.2

Here are the locations of the field tests, followed by soil texture, soil pH, pounds of nitrogen applied per 1,000 square feet, mowing height in inches and irrigation practiced.

AL1: Auburn University, sandy loam, 4.6-5.5, 2.1-3.0, N/A, N/A.

IA1: Ames, Iowa, sandy clay loam, 7.1-7.5, 2.1-3.0, 2.1-2.5, to prevent stress.

ID2: Post Falls, Idaho, silt loam and silt, 4.6-5.5, 2.1-3.0, 1.1-1.5, to prevent stress.

IL1: Carbondale, Ill. (low mowing), silty clay and clay, 6.1-6.5, 3.1-4.0, 1.1-1.5, to prevent dormancy.

IL2: Carbondale, Ill. (high mowing), silty clay and clay, 6.1-6.5, 3.1-4.0, 2.1-2.5, to prevent dormancy.

IN1: West Lafayette, Ind., silt loam and silt, 6.6-7.0, 0.0-1.0, 3.6-4.0, no irrigation.

KY1: Lexington, Ky., silt loam and silt, 6.1-6.5, 2.1-3.0, 1.6-2.0, no irrigation.

MD1: Silver Spring, Md., silt loam and silt, 6.6-7.0, 0.0-1.0, 2.6-3.0, only during severe stress.

MI1: East Lansing, Mich., sandy loam, 7.6-8.5, 1.1-2.0, 1.6-2.0, to prevent stress.

MN1: Minnespolis, Minn., silt loam and silt, 5.6-6.0, 2.1-3.0, 1.1-1.5, to prevent dormancy.

NE1: Lincoln, Neb., sandy clay loam, 6.6-7.0, 3.1-4.0, 2.1-2.5, to prevent stress.

NJ1: North Brunswick, N.J., loam, 5.6-6.0, 1.1-2.0, 1.1-1.5, to prevent stress.

NJ2: North Brunswick, N.J. (low maintenance), loam, 5.6-6.0, 0.0-1.0, 1.6-2.0, no irrigation.

NJ3: Adelphia, N.J., loam, 4.6-5.5, 3.1-4.0, 1.1-1.5, to prevent stress.

OR2: Hubbard, Ore. (uniform shade), silt loam and silt, 5.6-6.0, 4.1-5.0, 2.1-2.5, to prevent dormancy.

OR9: Halsey and Hubbard combined, N/A.

PA1: University Park, Pa., silt loam and silt, 6.6-7.0, 0.0-1.0, 1.6-2.0, only during severe stress.

PA2: University Park (mowed 4 times/year), silt loam and silt, N/A, 0.0-1.0, 3.6-4.0, no irrigation.

RI1: Kingston, R.I., silt loam and silt, 6.6-7.0, N/A, 1.1-1.5, to prevent stress.

SK1: Saskatoon, Saskatchewan, Canada, silty clay and clay, N.A, 3.1-4.0, 1.6-2.0, no irrigation.

UB1: Beltsville, Md., sandy loam, 6.1-6.5, 1.1-2.0, 2.1-2.5, only during severe stress.

WA1: Pullman, Wash., silt loam and silt, 6.6-7.0, 3.1-4.0, 1.6-2.0, to prevent stress.

Fescues more popular today

Continued from page 11

Ken Wright, superintendent at Devil's Pulpit and Devil's Paintbrush in Caledon, Ontario, high above Toronto, said fescues have grown in very well at both courses.

While only the extreme rough at Pulpit is fescues, the links-style Paintbrush has fescue tees, fairways and roughs.

Wright said Paintbrush's fairways and tees sport creeping red and chewings fine fescues, and its extreme rough has hard fescues.

Noting that he heavily overseeded with chewings fescues on fairways and tees, Wright said: "It's only been seeded for a year, and it's taking quite awhile to get a dense turf. We expected that. It's looking like two or three years to get dense enough. It will never be dense like bentgrass. But it is 100-percent better now (September) than two months ago."

Wright said he hasn't sprayed a fungicide for anything other than snow mold since Pulpit was built. He expects to use even less on Paintbrush because fescues are more disease-resistant than bentgrass.

Whelchel said fescue use is "becoming an accepted practice in areas you don't want to maintain. Also, people like to use fescues because it gives the Scottish or Irish look: long, tall grasses on the mounds."

Hurdzan chose chewings fescues for the Paintbrush fairways to create a real hard fairway, like Irish or Scottish courses, giving the ball a roll and allowing a bump-and-run game, Whelchel said.

Rees Jones has used it at his Atlantic Golf Club in Bridgehampton, N.Y., The Country Club in Brookline, Mass., Oxfordshire (England) Golf Club; Huntsville Golf Club in Lehman Township, Pa.; and Cherry Valley Country Club in Skillman, N.J.

"It is spectacular looking at Atlantic," Jones said of the new track on Long Island.

Knott said fescue is "doing wonderfully in the fairways," where poa annua is a minor problem. The greens were seeded with a mixture of 80 percent fescue and 20 percent bentgrass by weight, or 50-50 by seed count. The grounds crew overseeded with bentgrass a year ago to add more bentgrass and speed up the greens.

Jones said in the rough areas he is calling for a mix of 80 percent hard fescue and 20 percent chewings fescue. The hard fescue gives the course the good look while the chewings holds it together, he said.

TREAT FESCUES CORRECTLY

Wright said superintendents must keep nutrient levels down in maintaining fescue grasses. "They are more susceptible to cold and damp diseases," he said, "more in the spring than the summer."

Kevin Morris, national director of the National Turfgrass Federation, Inc., which oversees the National Turfgrass Evaluation Program, agreed.

Morris said disease problems with fine fescues "tend to be worse when fertilizer rates and irrigation are heavier. In more humid areas, people tend to over-manage fine fescues, and that encourages disease problems."

He added that some fine fescues develop "significant levels of thatch very quickly. That thatch encourages disease and insect problems. "

Tall fescues, on the other hand, are flexible regarding nitrogen and water use. And while fine fescues don't survive well in the transition zone and South, tall fescues thrive in heat and humidity.

With continued improvements and new varieties, the future of fescues is as bright as it was in Scotland and Ireland.