

# Superintendents offer advice on reducing hurricane damage

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ferred 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."

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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: Minneapolis, 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

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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.