2002 NEWSMAKERS

Consistent demand needed to bring drought-resistant turf to market

By ANDREW OVERBECK

CORVALLIS, Ore. — As drought gripped much of the nation this summer, many superintendents demanded to know what progress turf breeders were making in the development of drought-resistant turfgrass varieties.

In fact, in a *Golf Course News* poll in July, 66 percent of respondents said turfgrass that offered drought tolerance would provide the most benefit (see graph at right).

According to turf breeders, work on drought-resistant varieties is ongoing, but bringing them to market will require consistent demand.

"When I started in this business 20 years ago, I thought we would be up against the wall and that drought resistance would be the major issue," said Seed Research of Oregon's Leah Brillman. "But drought-resistant varieties will never make it in the marketplace if courses don't make it a priority in their selection process and value the trait in the long-term."

RESEARCH IS ONGOING

That said, Brillman is working on several drought-resistant turfgrasses.

"We are working with Advanta Seeds and Dr. Ronnie Duncan at the University of Georgia to find drought-resistant tall fescues and perennial ryegrasses," she said. "We have a whole series of new bluegrasses and hybrid Texas by Kentucky bluegrasses from Rutgers University and we are working on drought tolerance and seed production yields on them."

However, Brillman said there is no one variety to turn to when it comes to drought resistance.

"A lot of people are interested in these new varieties, but you have to be careful because they have trade-offs depending on where you are," she said. "The hybrids may look good in Oklahoma but some get bad disease in New Jersey. In New Jersey, courses may be better off with a turf-type tall fescue and we continue to do work on those."

Jacklin Seed's Doug Brede said his breeding program has had good success with two tall fescues.

"We have been testing our experimentals and varieties at locations across the country, including Maryland, New Jersey, Ohio, Tennessee, Idaho and California for the past decade," he said. "Two tall fescues, Quest and JT-99, have shown more durability during the drought this year."

Quest was bred from components that survived drought and high disease pressure at a sod farm in Maryland and JT-99 was bred from components that performed well during drought in New Jersey. Both were entered in the 2001 tall fescue NTEP trials.

MARKETING CHALLENGES

No matter the selection, courses will generally have to make aesthetic trade-offs when going with drought-resistant varieties.

"When you put them in the National Turfgrass Evaluation Program trials they don't win the beauty contest," Brillman said. "They are not as dense, soft or as dark green."

However, if researchers could find the gene that determines drought resistance in tall fescue, they may be able to more easily incorporate it into existing turfgrasses making quality concerns a moot point.

"It would be great because you would use less water and less fertilizers and fungicides," said Brillman. "It would be an net environmental gain."

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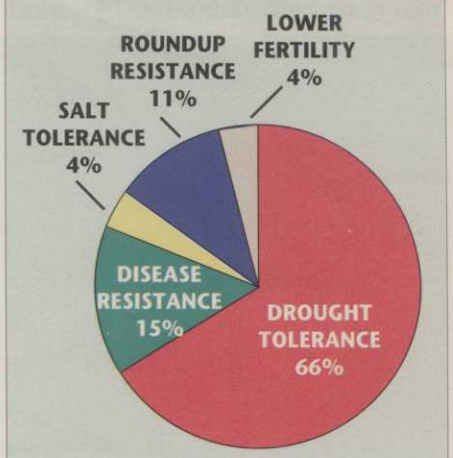
As turfgrass breeders continue to make improvements, which characteristic would provide the most benefits?



Water restrictions seen as long-term problem

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historical usage and in June it was changed to 80 percent of our allotment, which is a huge difference."

Some Pennsylvania counties forced courses to reduce historical usage by 30 percent.

Superintendent and green industry groups played a big part in shaping regulations in both states.

"Eighty percent of allotment was a very good solution from everyone's perspective," said Carson. "We pressed hard to have an equitable distribution of water and it has worked. In August after continued heat and drought, they changed the regulations again but decided to crack down on homeowners watering lawns. They left golf courses alone.

"Restrictions helped reduce water use," he continued, "but they were not so draconian that we lost a lot of turf because of them."

Wall thought restrictions in Pennsylvania were reasonable as well.

"Here government worked," he said. "We went in there and discussed it with state officials and it was not all one-sided. They collected input from everyone and came up with a reasonable plan."

Working out reasonable restrictions, however, was only half the battle.

"It stayed dry through August and the people who got hurt were the ones with reduced resources," said Wall. "When you have to reduce an already reduced supply by 30 percent, it is a problem. We did a lot of hand-watering to increase efficiencies and tackle hot spots."

Even courses in parts of the country that didn't have state mandated water restrictions had problems when they flat out ran low on water.

> *'As soon as the rains come, people forget about these issues. That is a mistake.'*
> *— Chris Carson*

"Our water is captured from runoff from the course and the surrounding development and once its gone I have to buy potable water," said Tony Bertels, superintendent at Prairie Highlands Golf Course in Olathe, Kan. "That gets pretty expensive. We purchased 60 days of water, which costs $1,000 a day. It's a budget-breaker."

Billy Lewis, superintendent at Carolina National Golf Club in Bolivia, N.C., had to buy nearly $60,000 in water last fall to complete overseeding after his lakes dropped five feet. This summer, a series of low-pressure systems hung just off the coast, bringing timely rains that held his water buying to just under $10,000.

LONG-TERM WATER SUPPLY CONCERNS

As courses move into winter and fall rains moderate drought conditions, Carson cautions that courses should remain vigilant about addressing ways to save and conserve water.

"As soon as the rains come, people forget about these issues," he said. "That is a mistake. There needs to be a unified program and protocol to make sure that restrictions make sense. The New Jersey Department of Environmental Protection is very concerned about existing use and future use of water because we are such a densely populated state."

Wall said he now assumes that each year is going to be a drought.

"I have incorporated more wetting agents into my budget," Wall said. "I am also modifying our irrigation system with 50 more quick couplers so every point of the golf course is within reach of 150 feet of hose."

Both Bertels and Lewis are looking to get more water from other sources.

"Since there is not a lot of water close to the surface here, we are considering working with the adjacent airport to build a five acre lake to augment our water supply," said Bertels. "They have a big watershed area we could use and gravity feed it into our lakes."

Lewis is banking on effluent water to fill his water needs down the road.

"We have 800 lots sold, so we should pick up quite a bit from effluent and that should alleviate the problem," he said.■

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El Niño to impact winter weather

CAMP SPRINGS, Md. — After a spring and summer where nearly half of the United States experienced drought, the National Oceanic and Atmospheric Administration (NOAA) predicted that a moderate El Niño will provide only some relief to dry areas this winter.

While the influence of the El Niño will be much weaker than the last one in 1997 and 1998, its effects will continue to be felt into early 2003. In general, the disturbance will bring only moderate relief to the Southwest and southern and central Plains states but below-normal rainfall will persist in the Northwest, Northeast, mid-Atlantic and Ohio Valley.

NOAA's 2002-2003 winter outlook predicts:

- Below-normal precipitation in the Northwest including Washington, northeast Oregon, Idaho, Montana, Wyoming, western parts of North Dakota, and northwest South Dakota.
- Precipitation will be below normal in the Ohio Valley states.
- In the southern parts of the United States, from central/southern California to the Carolinas, precipitation is expected to be above normal.
- Temperatures are expected to be above normal across the northwestern, mid-western and northeastern states.
- Temperatures are also expected to be above normal over southeastern parts of Alaska. Below-normal temperatures and precipitation are expected in Hawaii.