

SEEKING TURF'S HOLY GRAIL

by Helen M. Stone

A look at some of the available turf types that offer playability, heat resistance and reduced water use.

Water conservation is nothing new in the golf course industry. Although golf course superintendents have been struggling with the mistaken public perception as water spenders, water savers is a more accurate label.

New technology saves millions of gallons (and dollars) worth of water as irrigation systems are fined-tuned, weather data incorporated and soil science extracts the most from every drop applied. Maximum water conservation is a medley of several elements, each of which play a part in stretching this precious resource.

"We try to develop bents that tolerate heat and need less total water," says Leah Brillman, Ph.D., director of research and technical services at Seed Research of Oregon in Corvallis, Ore. "But you need good soil and efficient irrigation, since you end up irrigating to the driest point on the course. It's always got to be a combination of turfgrass breeding, management and irrigation

systems to maximize water savings."

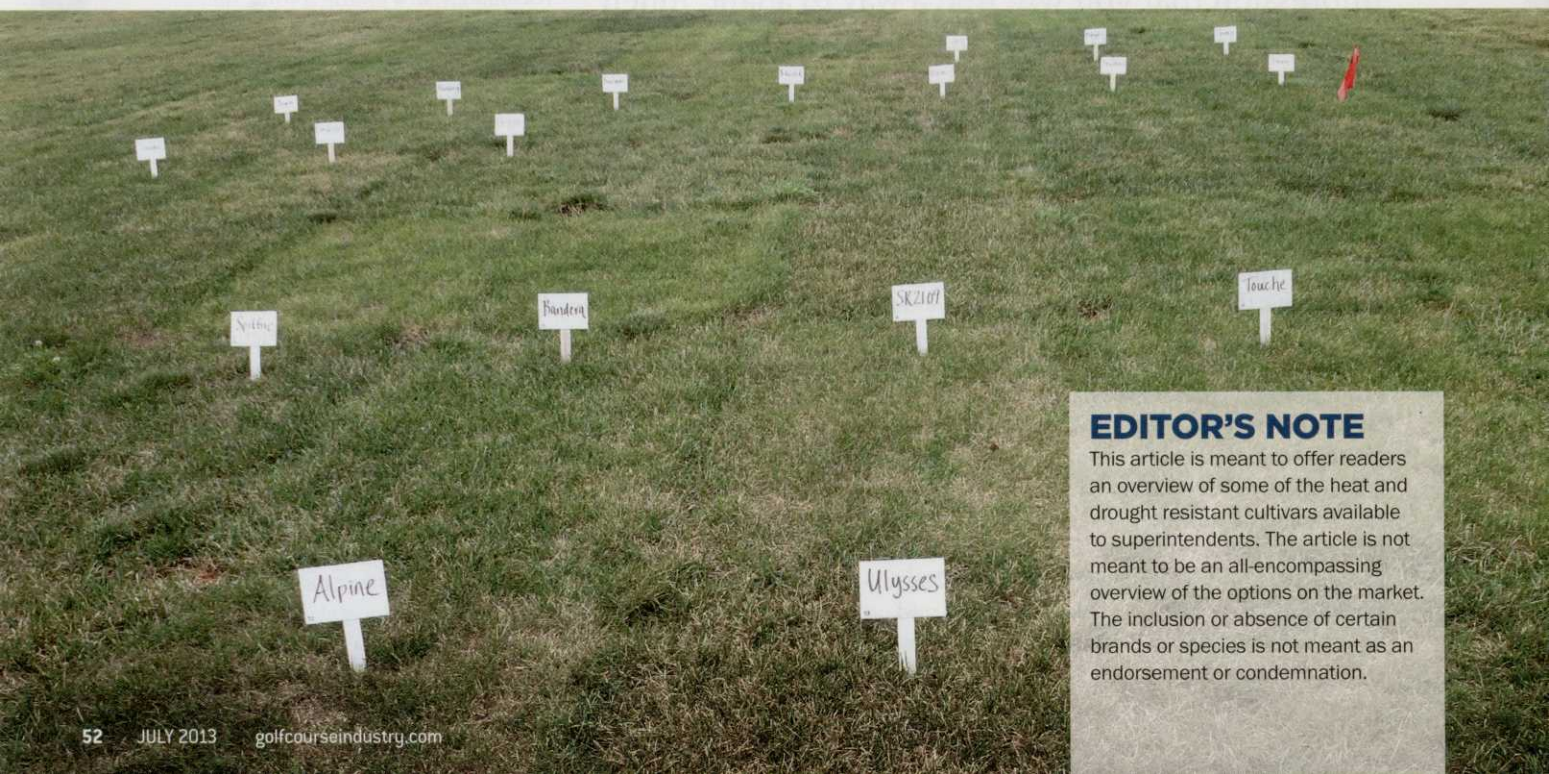
Brillman notes grasses that show good heat tolerance can also be water savers. "Some of our newer creeping bentgrasses, especially 007, Tye and MacKenzie (yes, it's named after golf course architect Alister MacKenzie) have done really well under heat and drought stress."

Developed with germplasm from Rutgers University, the new "super bents" show better overall performance on golf courses. In addition to water conservation, they tolerate heat and are less attractive to typical turf insects while resisting turf diseases as well.

Penncross bentgrass, released in 1955, was developed at Penn State and is a long-time favorite. Its progeny includes a line of "Penn" bentgrass cultivars. Two of the newest are Pure Distinction and Crystal BlueLinks from Tee-2-Green. "Pure Distinction is a brand-new bentgrass," says Lew Sharp agronomist and golf course consultant for the company in

KEY POINTS

- In addition to turfgrass breeding and management, efficient irrigation systems are required to maximize water savings.
- Grasses that show solid heat tolerance traits can also be effective water savers.
- New "super bents" exhibit solid performance on golf courses and offer water conservation, heat tolerance, as well as disease and pest resistance.
- A number of water-saving turf varieties, including tall fescue, are available for fairways, roughs and out-of-play areas.
- Only recently have turf researchers realized how some varieties of Kentucky bluegrass exhibit drought tolerance.
- Conducting your due diligence with regard to water-saving turfgrass is critical when selecting the right turfgrass variety for your course.



EDITOR'S NOTE

This article is meant to offer readers an overview of some of the heat and drought resistant cultivars available to superintendents. The article is not meant to be an all-encompassing overview of the options on the market. The inclusion or absence of certain brands or species is not meant as an endorsement or condemnation.



“You’ll likely be living with the turfgrass variety you choose for years. Research and choose the best varieties available.”

– Murray Wingate, Lebanon Turf Products

Hubbard, Ore. “It has four times the root mass of other grasses in the market. It actually likes drier conditions, so it requires less water and fewer inputs than other varieties. It will really save time and money.”

Crystal BlueLinks can also take the heat with ease. “Crystal BlueLinks requires less fertilizer, water, and fungicides to stay healthy.” Sharp says. “It establishes very quickly with very deep roots, and great lateral growth.”

Most “high density” bentgrasses require a bit more management to control thatch. Top dressing and verticutting are usually recommended. However, the water savings, plus lower inputs of pesticides and fertilizers, more than make it worth the slight extra effort.

To adapt to the drier, hotter conditions of the South and West, Bermudagrass is often used. Its biggest drawback is its brown color during winter dormancy. While some courses accept that “brown is the new green,” although most still overseed with perennial ryegrass.

There is a dizzying selection of perennial ryegrass on the market, and while quick establishment and a smooth spring transition are probably the two biggest concerns, saving water

is also a huge issue in regions where Bermudagrass thrives.

“Pennington’s APR 2015 is qualified as a ‘Water Star’ and is showing great drought tolerance for a ryegrass,” says Russ Nicholson, chief agronomist for Pennington in Madison, Ga. It will be available this fall.

Nicholson is active in the Turfgrass Water Conservation Alliance (TWCA), a non-profit organization working to establish a scientific method to distinguish water-saving turf varieties. Grasses are established under optimum conditions, then subjected to drought stress.

Integra II was bred for wear tolerance and disease resistance, but was tested and certified as a Water Star; the same goes for Applaud II. Both boast solid color and quick establishment.

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For fairways, roughs and out-of-play areas, there are many turfgrass choices that can make every last drop count. Tall fescues are a popular choice for landscapes, but double as a good choice for roughs. It's tall mowing height allows it to grow massive roots so that irrigation schedules can be stretched to the limit.

Monet or Van Gogh are recommended if you are renovating, says Murray Wingate, turfgrass marketing and sales manager at Lebanon Turf Products. Monet received consistent high rankings in NTEP (National Turfgrass Evaluation Program) trails for overall quality, traffic stress and fall density. Van Gogh was singled out for its outstanding drought tolerance amid a field of low-water-use tall fescues, and was high in overall quality as well.

Hard fescues can be allowed to go without mowing for weeks, notes Nicholson. "A new one released this fall is Survivor. It's good for out-of-play areas; kind of an ecology mix meadow setting," he says. "If you don't fertilize heavily you only need to mow once a month or not at all. It's shorter than your knee, and you can still go out and find a ball in it. A lot of guys will add wildflowers so you have some color there, too."

Kentucky bluegrass has fallen in and out of favor for fairways, but with improved varieties over the past five years, is now once again recommended. "Mallard, Monte Carlo and Ridgeline all have disease resistance and tolerate wear very well," says Nicholson. "But it's only in the past couple years that we found out how drought tolerant they are. It gave them a new lease on life and we are pumping out a lot of seed now."



Desert Mountain in Scottsdale, Ariz., The Cochise Course.

Choosing the right Kentucky bluegrass can make a noticeable difference in a water budget. "Kansas State University ran drought trials with bluegrasses," Dr. Brillman explains. "Over the course of four months, some only needed eight inches of water; others needed 22 inches."

Whatever your need, there is a water-saving turfgrass to fill it. Do your homework to find out which cultivars do the best in your region. Use the research by universities and NTEP. "You'll likely be living with the turfgrass variety you choose for years," says Wingate. "Research and choose the best varieties available." **GCI**

Helen M. Stone is a West Coast freelance writer and a frequent GCI contributor.



FOR MORE

For more information about the National Turfgrass Evaluation Program (NTEP) enter www.ntep.org into your web browser to check out the website. Enter bit.ly/16dShA7 into your web browser to read the Green section Record article, Report Card for Turfgrasses. You can also check out the July 2011 Green Section Record article, Searching For the Right Stuff: Tolerating Hot and Dry, by entering bit.ly/16EsS3y into your web browser.

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