



Let's Get (the Best) Bent

Top bentgrass gives courses like Cog Hill in Lemont, Ill., distinction because the turf remains lush at all cutting heights.

MIKE KLEMME

BY MARK LESLIE

**Superintendents
want the finest
varieties money
can buy**

What do superintendents want in bentgrass? "Bragging rights," says turfgrass breeder Milt Engelke of Texas A&M University.

Forget science and technology. Don't even be concerned about grounds crew members spending 18 to 36 hours daily on their hands and knees digging out *Poa annua*. If it's bragging rights they want, then bragging rights they'll get.

The best modern bentgrass has a great look, especially at lower heights with frequent mowing, says Terry Buchen, an agronomic consultant from Williamsburg, Va. "The grass has a sheen over it, no matter how low it's cut ... sort of a waxed-car look."

In this case, it's a Lexus or Rolls Royce look. For as a Lexus is to a Grand Am, bentgrass is to bluegrass. It's far more expensive, of higher quality and has a flashier paint job, but it's also more costly to maintain. That's the rub for manag-

ing the newest and highest rated bentgrass — the Penn A and Penn G series of cultivars.

Their extraordinary density and color, combined with good disease resistance, have won the hearts of many cool-season and transition-zone superintendents, whose clubs can afford the cost of extra cultivation efforts necessary to keep them healthy — such as mowing below one-eighth inch, frequent topdressing and grooming, and light verticutting.

Engelke underscores the point about his SYN 96-1, 2 and 3 varieties that ranked fifth, sixth and eighth behind the As and Gs (which filled the first four slots) in recent National Turfgrass Evaluation Program (NTEP) studies. "These [SYNs] will make another significant step toward moderate maintenance levels and improving the quality of the golf course without breaking the budget," he says.

But Bill Rose, president of Hubbard,
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Ore.-based Turf-Seed which produces the Penn As and Penn Gs, defends his bentgrass for their many strengths and adds that improvements are coming.

"We intend to improve them in herbicide resistance and more disease resistance," he says. "We're not far away from resistance to Roundup or glufosinate. When we get there, it will be possible to take out *Poa annua* and *Poa trivialis* [without killing the bentgrass]. That's the big one.

"In the meantime, our bentgrass are so good that we have three-year data showing that, with time, they crowd *Poa* out on their own," he says.

Meanwhile, as the plant breeders of the world do scientific battle, superintendents are reaping the benefits. According to Kevin Morris, director of NTEP, the newer grass will stand up better than the older grass over time. The older grass is material from the last test which ended in 1998 — a testament to how quickly progress is being made. The first results of the newest test were released in June, illustrating that breeders are edging nearer to perfection in creeping bentgrass and are even making progress with velvet and colonial bents.

"There's no doubt the As and Gs and a few others are a lot better in the heat than a few years ago," says Jim Snow, national director of the USGA Green Section. "We're slowly moving toward greater stress and pest resistance, particularly disease resistance in the North. Maybe biotech research will come up with larger breakthroughs in disease resistance, salt tolerance and other stress problems that bentgrass has."

Snow notes that Roundup- and glufosinate-resistant bentgrass await approval from regulatory agencies. Turf-Seed's Rose points to great improvements resulting from a regimen of subjecting all the company's grasses to the harshest stress situations possible — cold, heat, salt, drought and herbicides. That makes them stronger plants, he says.

"It's not surprising," Rose adds. "When you make a stronger athlete, they

get stronger at everything. We're finding that if our plants are strong in one severe test, they are strong in the others."

The biggest difference between the newer grasses from the older established varieties, Buchen says, is that they handle the lower mowing heights — even thrive on it. L-93, the As and Gs and SYNs are excellent for low mowing heights and have excellent color. They are a high-maintenance grass, however, Buchen notes.

"They save money on water because they have such good root systems, and they save money on fertilizer," he says. "But more money is spent on grooming, verticutting and topdressing compared to the older standbys."

Engelke said when the As and Gs first came on the scene, USGA research director Mike Kenna "asked me when I would come out with high-density bentgrass."

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— Bill Rose, Turf-Seed

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Aggressive management practices can compromise the health, quality and playability of traditional bermudagrass varieties. Tifdwarf, Tifgreen, and even some of the new superdwarf varieties become stressed when subjected to reduced mowing height, frequent verticutting, increased topdressing and minimal irrigation. TifEagle, on the other hand, was created to withstand just this kind of abuse. In test after test, TifEagle's quality rated superior to Tifdwarf and other warm-season grasses. Improve the speed, consistency and playability of your greens. Insist on TifEagle.

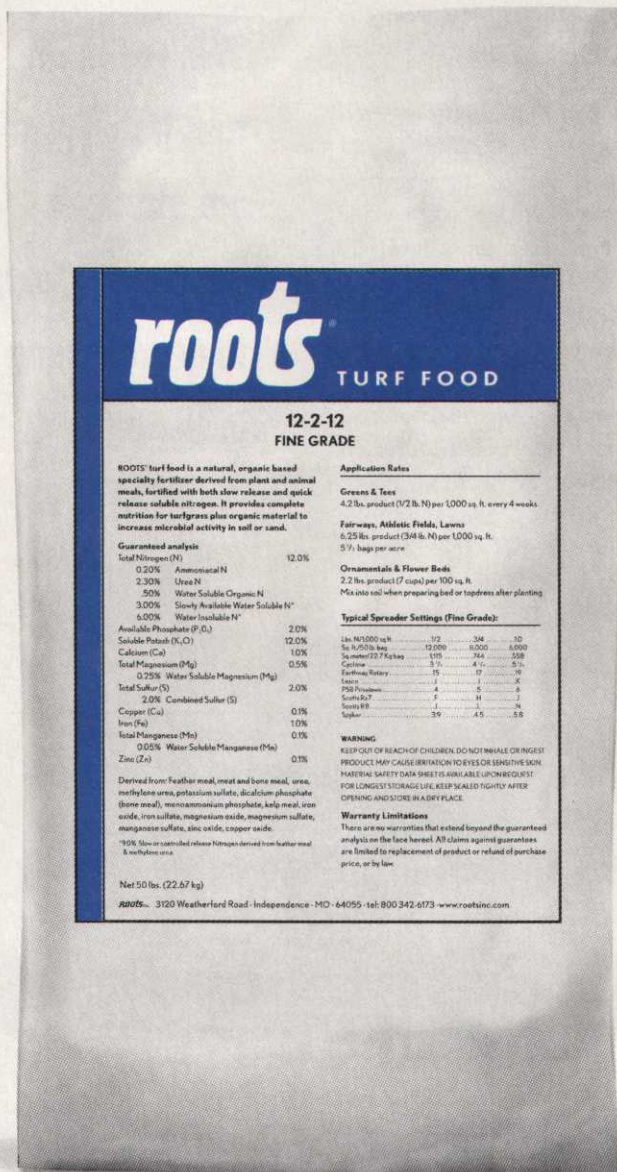
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Soluble Potash (K ₂ O)	12.0%
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Total Sulfur (S)	2.0%
2.0% Combined Sulfur (S)	
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1 lb. N/50 sq. ft.	15	17	20
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MIKE KLEMMIE

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"I said, 'Do you mean high-maintenance bentgrass?' I thought our approach was to develop bentgrass that's easier to manage," he says.

"We want to be more friendly to the environment," Engelke adds. "With the SYN 96 series, 96-1 and 2 have a little higher density than Crenshaw, but not to the extent we see in the As and Gs. We have upright growth and disease resistance."

Meanwhile, the seventh-ranked L-93, which once sat atop the NTEP trials, is not as dense as the As and Gs but does have good disease resistance, Morris says.

"It stays up there because of the disease resistance," he adds. "It has the good color, too."

Velvet is smooth

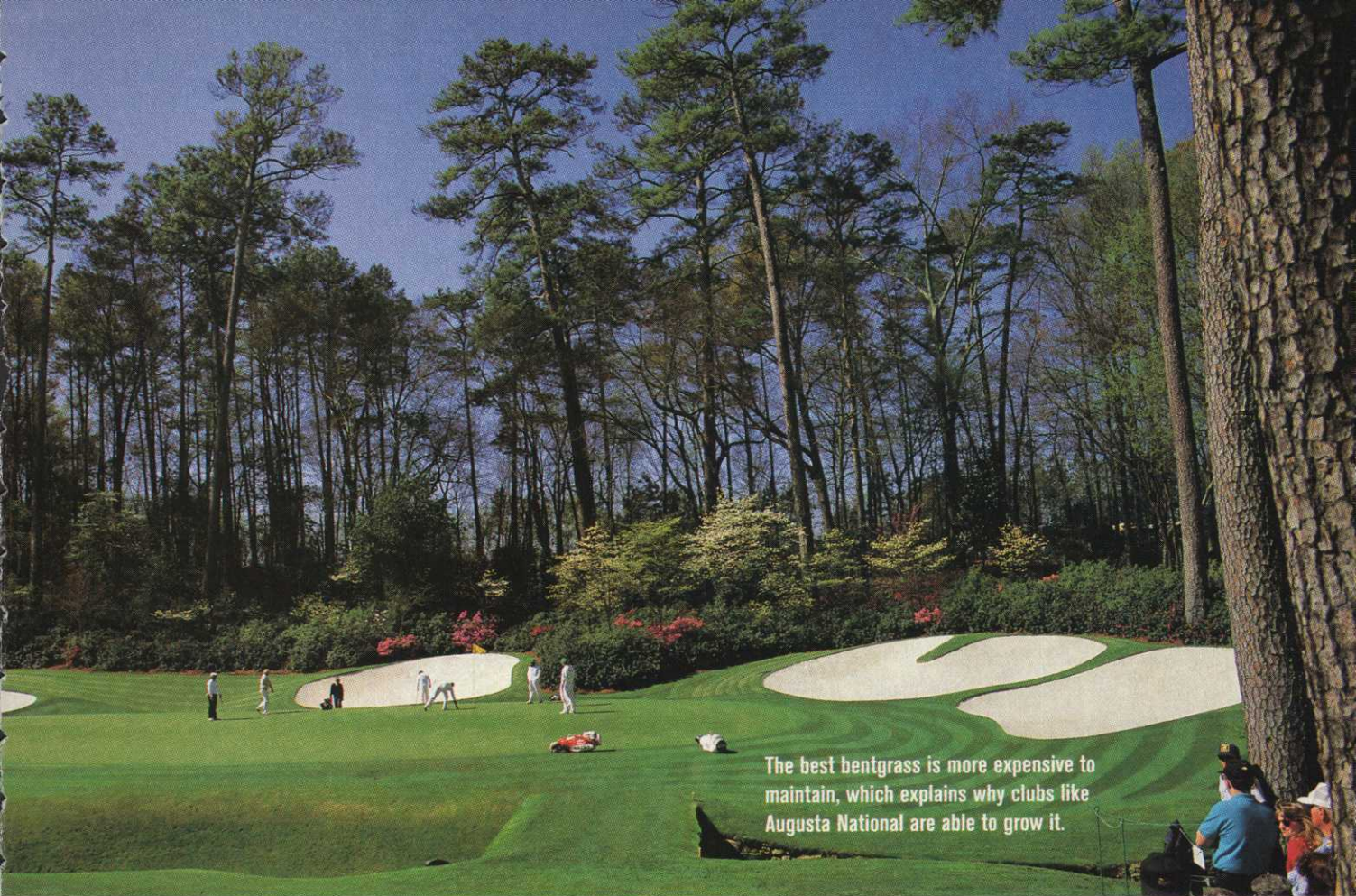
While researchers push expectations higher for creeping bentgrass, progress is also reported in velvet bentgrass. Three velvets are in the new trial, and while "they don't show up high in the book, they look pretty good in some places," Morris says.

"In the Northern tier they have done

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The best bentgrass is more expensive to maintain, which explains why clubs like Augusta National are able to grow it.

well and have a lot of utility,” he adds. “They tend to have less disease problems. They will survive where maintenance is lower and on push-up greens. How they do on sand greens is yet to be told.

“The only tricky thing is that they are susceptible to seedling diseases — Pythium, generally,” Morris notes. “It looks like you will need to treat the seed with a fungicide or apply fungicide to protect it in the beginning.”

Morris says a velvet bentgrass could be an option to reduce pesticide use. Also, more research is being done on colonial bentgrass, which are only used in the NTEP fairway trial.

“They haven’t been used that much,” Morris says, “but they have generally fewer disease problems. They are good on dollar spot, not so good on brown patch. They may work on a lower-budgeted course or be mixed with fine fescues on fairways, which has been done in the upper Midwest.”

Stan Zontek, director of the USGA Green Section’s Mid-Atlantic Region, which is arguably the most difficult area

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Much Less Thatch Buildup Than The Other Superdwarfs

Thatch buildup is highly detrimental to greens. It produces grainy putting surfaces, inconsistent ball roll and can result in a sub-surface micro-climate which is conducive to disease and organic layering. Thatch also makes it more difficult to establish and maintain uniform stands of overseeded grass. TifEagle not only produces less thatch than the other superdwarfs, it’s very forgiving when subjected to aggressive management. In fact, TifEagle can tolerate 2 to 3 mowings per day at heights as low as 1/8” with no loss of stand density. Insist on TifEagle.

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to grow turfgrass, suggests three things for superintendents to consider in choosing a bentgrass:

- First, watch the NTEP trials.
- Then find out what grows better in your area, and visit others who have bentgrass fairways.
- Third, blend your grasses.

"More and more people are throwing compatible blends of bentgrass onto fairways," Zontek says. "Make sure you can manage the varieties the same way."

On fairways and tees, Buchen agrees, the popular thing is to grow with two mixes, such as 50 percent Pennlinks and 50 percent Penneagle. "The blends do very well, one for cold and the other for heat," he adds.

The crystal ball

Scientists hold high hopes that they will capture perfection in bentgrass. They will continue to interject genetic research into traditional breeding programs and attempt to defy nature and produce bentgrass that can live ever closer to the equator, and they may succeed.

The advent of ultradwarf bermudagrass, which has been lauded, may stem the tide of bentgrass moving south and may make headway into the Southern transition zone.

"There will be golf courses that had gone to bentgrass earlier that will switch back to ultradwarf bermuda," Snow says. "On the balance, we will see more bermudas moving north than bents moving south."

"The relative cost of trying to maintain bentgrass vs. bermudagrass for most clubs will be a no-brainer," he adds. "Compared to bermuda, bent is super high maintenance."

But Rose counters: "Ultradwarf bermudas still turn brown in the winter, and that's when it's play time, so that gives us the edge. Our putting quality is hard to beat."

Perhaps the new question should be: What would happen if you were to cross bentgrass with bermudagrass? ■

It's Back to the Future at Texas A&M

Saying his greatest obstacle is that "too many people can only think in the world of the bag of seed," Milt Engelke of Texas A&M intends to produce a high-quality vegetative bentgrass and have it on the market in five years.

"I've been working on this for eight years," Engelke says. "We have varieties right now. The grasses are already in the ground, and we're in the advanced stages of testing."

The thought of vegetative bentgrass takes people in the turfgrass industry back to the 1950s. So why go back?

"We're going to reinvent the wheel," Engelke says. "You always get better quality out of vegetative plants. They do not segregate. That was one of the reasons Toronto bentgrass were always great grasses because they were very uniform."

Engelke says vegetative plants have an advantage over vegetative material 50 years ago because "our support technology has changed

in a lot of ways and we can do things differently. We can move sod across the country now."

Engelke acknowledged that the USGA Green Section hasn't supported new research into vegetative bentgrass.

As Green Section national director Jim Snow says: "We came up with the first vegetative bentgrass back in the 1920s, and they were immensely successful. But there were no improved seeded types. If Penncross was the option and you had a vegetative type, you could sell it. But what are you going to find that is any better than the As and Gs bentgrass and other varieties that are available?"

"Certainly, there are a lot of good vegetative bents, but they'd have to be an awful lot better than the As and Gs to justify the cost of establishing them," Snow adds. "You have to grow big nurseries of sod and cut them from sprig and sod or plant by sprig. It's a lot more expensive than seed at \$6 a pound."

— Mark Leslie

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