

# SEED UPDATE:

## Roundup resistance, more endophytes, advances in *Poa* (bluegrass) species

by JERRY ROCHE / Editor-in-Chief

**"T**he professional turf manager's job is on the line 365 days a year," claims Jim Carnes, a pioneer in the commercial turfgrass growing and marketing business. "This person needs to rely on the seed to perform to his expectations. Cheap seed will not get the job done." Carnes, addressing a group of turf man-

Northwest, where most of the world's proprietary turfgrasses are grown:

1) Kentucky bluegrass that can be mowed down to ½ inch.

"Jacklin research has made some tremendous strides in Kentucky bluegrass breeding," notes Dr. Doug Brede of Jacklin Seed. "Besides being leaf spot-, disease- and stress-resistant, we're looking at the low-cut fairway tolerance and adaptation of 7500 experimentals.

"Our new Kentucky bluegrasses have been mowed down to ½ inch and they've performed extremely well. This is a totally new phenomenon for bluegrass. They are in seed production now, and should be in full production by 1997."

2) Grasses that are "Roundup" resistant.

Pure Seed Testing is working on perennial ryes, fescues and creeping bents that are resistant to lower rates of Roundup.

"If a turf professional had a variety from these selections, he or she could use the Roundup to control *Poa annua* without discoloration to the turf," Crystal Rose-Fricker says. "The thing is that it's a half-pint rate, and it's only the resistant lines. The resistant lines keep their color, and they may be stunted, but it'd look acceptable enough. You could apply the Roundup three or four times a year and it'd be pretty safe."

Fine fescues—specifically hard fescues—are more tolerant of the Roundup, but ryegrasses and bentgrasses are very susceptible. Some tall fescues, however, show some promise "but we're at least three years from going commercial," Rose-Fricker notes.



Dr. Jim Beard (left) discusses the merits of Netlon as an additive to athletic turf soils, while Turf-Seed Field Day attendees observe a traffic/wear tester in motion.

agers, distributors and growers at a Turf Merchants event two months ago, went on to say that the seed grower, like the turf manager, is "under the gun."

But perhaps the people under the most pressure to produce are the breeders. They are embroiled in a hopeless, never-ending battle to find the perfect grass. And, given weather-related problems over the past 10 months, turfseed this year will certainly not be cheap.

Here are some significant ongoing projects, based on a June trip to the Pacific





Dr. Doug Brede of Jacklin Seed Company explains the company's aggressive Kentucky bluegrass breeding program.

3) Kentucky bluegrass and creeping bentgrass with enhanced insect resistance due to the presence of endophytes.

Jacklin, under the guidance of researcher Suichang Sun, is trying to breed Kentucky bluegrass and bentgrass with endophytes, which enhance insect resistance.

Seven species of bluegrass are being

Kevin Morris tells Advanta Seeds West Field Day attendees that the National Turfgrass Evaluation Program has apparently been saved from budget cuts by the U.S. Department of Agriculture.



used as endophyte hosts. "We believe these hosts are genetically closer to Kentucky bluegrass than [endophyte-enhanced] bluegrass plants previously obtained," says Sun.

In addition, nine bentgrass plant lines have been infected with endophyte. "Even though less than one percent of the seedlings were successfully inoculated," Sun continues, "we have obtained enough plants to form a breeding population."

Not that there aren't problems, or that more research isn't needed.

"The people who are experimenting with endophytes," notes Steve Tubbs of Turf Merchants, "haven't been able to keep them in the grass."

While Jacklin is using injection, Pure Seed Testing is importing samples of possible endophyte-enhanced bluegrass from France, Australia and Czechoslovakia. And The Scotts Co. is using a unique new "gene gun" to zap endophyte into grasses (see "Hot Topics").

4) New uses for colonial bentgrass, *Poa trivialis*, *Poa supina* and Texas bluegrass.

"A lot of people in the Palm Beach, Fla., area are overseeding their greens with 60 percent colonial bent and 40 percent *Poa trivialis*," notes Craig Edminster of International Seeds. "Creeping bent really needs a little heat to get going, and then come spring when you want to transition out of your cool-season grass, the creepers are tough and won't transition out. So you

## QUOTES FROM THE COAST:

from Dr. Bruce Clarke, Rutgers University:

- ▶ "Manganese seems to reduce the susceptibility of bentgrass to take-all patch, and the triazole fungicides—plus a new experimental fungicide called Heritage—will revolutionize take-all patch control."

from Mike Robinson, Seed Research of Oregon:

- ▶ "We are doing a lot of work with the fine fescues, including blue fescues that are stress-tolerant and low maintenance. Dr. Leah Brillman is also looking for a good slender creeping red fescue."

from Dr. Melodee Fraser, Turf-Seed:

- ▶ "Tar Heel tall fescue is now in production and will be on the market this fall. It has good heat and drought tolerance, and is brown patch-resistant. It's also dark green and, because it has endophytes, is insect-resistant."

from Dr. Doug Brede, Jacklin Seed:

- ▶ "The advantage of the new tall fescues is that they blend very well with Kentucky bluegrass, even five years after planting. The best mixture, by seed weight, is 75% tall fescue, 25% bluegrass."

from Dr. Jerry Pepin, Pickseed West:

- ▶ "We'd like to develop tall fescues that do a better job further south, and have brown patch and pythium resistance. We're really having problems getting good tall fescue for use in areas like Atlanta and Dallas, so we're doing a lot of screening in those areas."

from Craig Edminster, International Seeds:

- ▶ "We've got two new experimentals in the NTEP that we're going to try to compete with Bardot colonial bentgrass. Better quality and much better seed production; Bardot's never been a very good seed producer."



take colonial bentgrass and mix it with Sabre (*Poa trivialis*) and have an elite-looking turf with early growth.

"The real key this year is that perennial ryegrass may be short, and if such is the case, or if prices are way up, one way to spread costs is to use poa triv as a component of the overseeding mixture."

With weather extremes the norm rather than the exception, research in

southern climates is focusing on heat tolerant, low-water use plants.

"We don't have normal weather conditions any more," observes Dr. Ronnie Duncan of the University of Georgia, speaking at an Advanta Seeds West event. "We're too hot, too cold, too wet, too dry. So you sometimes have to use grass species that are better buffers to the extremes. And Texas A&M, at its Dallas experimental sta-

tion, is working on a hybrid Texas bluegrass and Kentucky bluegrasses that are extremely heat tolerant."

According to David Lundell of Finelawn Research, Dr. John Stier at Michigan State University has found that *Poa supina* has some applications in the sports turf category.

"It looks like *Poa supina* can be used in high-wear areas, shaded areas, golf course roughs, athletic fields and high-use home lawns," Lundell observes.

#### Availability, pricing

The turfseed industry was visited by a quartet of plagues in 1995-96.

"The biggest losses are to chemical damage, but we had the flood, we had the slugs, we had the cool weather," says Dr. Jerry Pepin of Pickseed West.

"Yet the crop looks real good. Tall fescue and ryegrass acres are reduced, but the yields should be good."

Tom Stanley of Turf-Seed says there's been a 10 percent reduction in perennial ryegrass acreage and a 30 percent reduction in fine fescue acreage over the past two years, "and that means stronger prices." There's also "not enough tall fescue seed to meet demand, and it's going to be difficult to increase the acreage because of the high price of wheat."

Adds Edminster: "The seed crop is looking good, but it'll come up short. The spring moisture will delay the bentgrass crop, but there will be [outstanding] yields. Tall fescue is short and won't be inexpensive this year."

Kentucky bluegrass acreage is about the same as last year, so Stanley "doesn't foresee any shortages."

"Fine fescue acres dramatically reduced over the past three years due to cheap Canadian creeper," reports Turf Merchants International.

TMI also reports that its Kentucky bluegrass crop is at its "best in 10 years." However, reports TMI—as of mid-July—an "extremely short" crop of Kentucky 31 turf-type tall fescue has driven turf fescues to "a sold-out or very high-priced position in the market." **LM**

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