

## Getting to the roots of some problems...

Those are no ordinary test plots in the photo above. They're actually the "roof" of a unique laboratory known as a "rhizotron," a subterranean structure for studying root growth (above right) and the leaching of chemicals through the soil (note tubes leading to jugs at bottom of photo on left). These photos were taken at the University of Nebraska. At a May 21 FGCSA meeting in Naples, FTGA Awards Chairman Bobby Rehberg suggested that the construction of a rhizotron at the University of Florida would be a worthwhile project for the Florida turf industry. "We could make the boxes slightly bigger in order to study various types of green construction," Rehberg suggested. "With the grief we're getting about pesticides, nitrates and fertilizers, this would be a great way to get some hard data to counter some of that bad publicity." Nebraska's rhizotron, which cost \$140,000 to build, consists of two wings off a central control room. An older, less elaborate rhizotron at Ohio State University cost less, he said.

## If overseeding gets you bent out of shape...

### POA TRIVIALIS

BY RICHARD HURLEY, Ph.D.

*Poa trivialis* is native to all of northern Europe, temperate Asia and North Africa. It was introduced to North and South America and Australia. Brought to the United States from Europe during the colonial period, it is best adapted for growth in moist, shaded areas from Newfoundland and Ontario, Canada, to North Carolina and west to Minnesota and South Dakota. It has been reported in Colorado, Utah and as far south as Louisiana. *Poa Trivialis* can be readily found on the West Coast from Alaska to California.

*Poa trivialis* is commonly known by its scientific name, but is also referred to as rough bluegrass, rough-stalked bluegrass, shade bluegrass, rough-stalked meadowgrass, and rough meadowgrass. *Poa trivialis* produces a moderately fine-textured, light-green, medium dense turf. It is a cool season, sod-forming perennial which spreads by creeping leafy stolons, and may be found growing in soils with a pH ranging from five to eight, with

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### REDTOP

BY A. DOUGLAS BREDE, Ph.D

Somebody once said that history repeats itself. Many old-time turf managers will recall when professor Burt Musser at Penn State extolled the virtues of redtop in every turf planting during the 1940s and '50s. It offered quick establishment, fine texture and early spring transition.

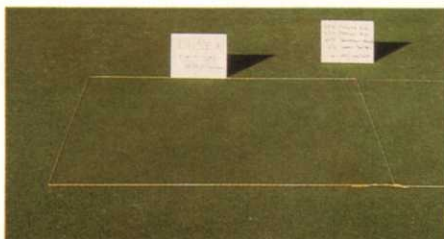
As years passed, redtop use waned. But in the 1980s, with bentgrass prices on the rise, golf superintendents began re-experimenting with it.

"Superintendents like the qualities of bentgrass in overseeding," says Dr. Rich Hurley, vice president for research at Lofts Seed Co. "Redtop has the qualities of bentgrass but will establish quicker.

"The weakness of creeping bentgrass isn't in its rate of seed germination," says Hurley. "Bent actually germinates quite quickly. But the seedlings just sit there — they're tiny, little seedlings that don't contribute to the stand until late in the season. Redtop has

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*“Poa trivialis has been recommended for winter over seeding of dormant warm season turfs, usually in combination with the improved turf-type perennial ryegrasses.”*



At left is Laser at 10 pounds/1000 square feet; at right is a mixture of 35% Palmer perennial ryegrass, 35% Prelude perennial ryegrass, 24% Jamestown chewing fescue and 6% Sabre poa trivialis at 20 pounds/1000 square feet.



Left is Pennway at 5 pounds/1000 square feet; right is 60% Laser and 40% Penncross at 7 pounds/ 1000 square feet.

## Poa ‘triv’ retains color, can't tolerate traffic

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best growth occurring between pH six and seven. Besides being well adapted to damp, shaded locations, it is also found growing in wet meadows, as a component of high fertility grasslands and along ditch banks. It has the ability to germinate and grow at low temperatures, displays good color retention in the fall, produces early spring greenup, germinates rapidly with good

seedling vigor, and has excellent winter hardiness.

*Poa trivialis* has been recommended for winter overseeding of dormant warm-season turfs, usually in combination with the improved turf-type perennial ryegrasses, with mixtures containing between 10 to 15 percent *poa trivialis* by weight.

*Poa trivialis* does not tolerate drought and is likely to be short-lived on dry sites. The root system is fibrous, relatively shallow, and annual. It may be severely damaged or killed during periods of moisture stress, especially in dry sandy soils. *Poa trivialis* also has poor wear tolerance and will not persist under heavy traffic.

There are approximately 2.3 million seeds per pound. Seed germinates under a wide temperature range with peak germination occurring at approximately 50 degrees F, with a reported base temperature of 40 degrees F. Base temperature refers to that temperature below which 50 percent of potential germination would not occur.

Rhizoctonia brown patch, leaf spot and dollar spot are the most common diseases associated with the grass. However,

ophiobolus patch, pythium blight, fusarium blight, rust, stripe smut and powdery mildew have also been reported as occurring on this species.

Before the release of “Sabre” *poa trivialis* in 1977, no domestic cultivars were commercially available. Most of the seed was imported from Europe. Common types are normally rather tall growing, light in color and form a loose-growing sod. They are of limited value for winter overseeding.

Development of cultivars which have a lower growth habit, a darker green color, the ability to form a dense sod, improved disease resistance, and reduced seed shattering would be helpful in expanding the potential usage of this species

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**Dr. Richard Hurley is vice president and director of research and agronomy for Lofts Seed, Inc., Bound Brook, N.J.**

### POA TRIVIALIS

- ✓ Perennial cool-season grass adapted to moist soils and shaded environments.
- ✓ Injured by hot, dry weather, but performs well in cool, shaded locations and is often the primary grass species found on these sites.
- ✓ Forms a rather loose turf which is intolerant of wear.
- ✓ Growth habit provides extensive shallow and surface roots, making it prone to injury by hot, dry weather.
- ✓ For attaining green color and a winter playing surface, utilized as a component in mixtures for overseeding greens and tees in southern United States.
- ✓ Ability to grow at low temperatures, displays good color retention in the fall, produces early spring green-up, germinates rapidly, has good seedling vigor and excellent winter hardiness.

### MANAGEMENT TIPS...

- Cutting height** — Unlike perennial ryegrass, poa trivialis can be cut close immediately after overseeding. Once established, poa trivialis can withstand heights of cut below 3/16 inch.
- Fertility** — Schedule light, frequent applications of soluble nitrogen at 0.5

pounds/1000 square feet every two to three weeks after overseeding throughout the winter season.

**Irrigation** — During fall establishment period, water lightly 3-4 times per day between 10 a.m. and 4 p.m. As poa trivialis has poor heat and drought tolerance, water management is critical for successful overseeding.