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*Greg McLinton*
*Course Superintendent, The Lynx at Kingswood Park*
*Fredericton, New Brunswick, Canada*

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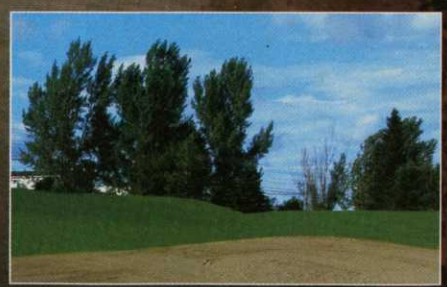

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have the manpower and the budget and the equipment, that's fine," Rehr says. "But if you don't have some of those things or all of those things, you have to look at lapping. I'm not going to say it's quicker, because that's an old argument, too, but it's more efficient."

Canterbury has moved toward grinding. "Spin grinders are the way to go for us," Bonar says. "Some people don't like them, but we like them. The way we're doing it now is definitely more efficient."

As a testament to how delicate the issue is nationwide, Bonar is quick to note that he does not want to sound like he is "preaching" the benefits of grinding.

"One of the things we want to guard against is coming off as though we know it all," he says. "But we're passionate about what we do, and we think we're good at it. But everyone has their own way, and it's probably just as good for them. But we think our way is the best for us."■

Superintendents face many mowing obstacles, including falling greens heights, increased sand usage and new fertilizers and grass varieties.

MIKE KLEMME

TURFGRASS TRENDS

OVERSEEDING

# Perennial Ryegrasses Fare Well in Overseeding of Bermudagrass Fairways

*Poa trivialis* cultivars slower to establish and more prone to quickly disappear upon being weakened

*By Kevin N. Morris*

For much of the Southern half of the United States, overseeding bermudagrass fairways is a common practice used by golf courses to produce the beautiful green product desired by so many golfers, especially those escaping the winter blues of Northern climates.

Golf course owners, managers and superintendents seek grasses that establish quickly, exhibit exceptional playability, are aesthetically pleasing and require fewer inputs. Consequently, a research project was developed and jointly sponsored by the Golf Course Superintendents Association of America (GCSAA), the United States Golf Association (USGA) Green Section and the National Turfgrass Evaluation Program (NTEP) to evaluate cultivars, blends and mixtures for their use in overseeding bermudagrass fairways.

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***Mountain Vista Golf Course in Palm Desert, Calif., features Axcella annual ryegrass in the center and perennial ryegrass to the left and right.***

## IN THIS ISSUE



## OUR SPONSORS

**TABLE 1**

**TRIAL LOCATIONS: ON-SITE OVERSEEDING OF BERMUDAGRASS FAIRWAYS**

Sponsored by USGA, GCSAA and NTEP

| Location | Golf Course | Research Superintendent | Cooperator | University |
|---|---|---|---|---|
| Tucson, Ariz. (1999-2000)<br>Green Valley, Ariz. (2000-01) | Tucson Country Club<br>C. C. of Green Valley | Marty Wells<br>Dr. David Kopec | Dr. David Kopec<br>Arizona | Arizona |
| Palm Desert, Calif.<br>Orlando, Fla. | Mountain Vista<br>Grand Cypress | Nancy Dickens<br>Tom Alex | Dr. Robert Green<br>Dr. Al Dudeck | California-Riverside<br>Florida |
| Duluth (Atlanta), Ga. | Atlanta Athletic Club | Ken Mangum | Dr. Gil Landry | Georgia |
| Starkville, Miss.<br>Crescent (St. Louis), Mo. | Mississippi State Univ.<br>Players Club at St. Louis | Pat Sneed<br>Todd Marquette | Dr. Jeff Krans<br>Dr. Erik Ervin | Mississippi State<br>Missouri |
| Myrtle Beach, S.C. | Blackmoor | Bob Zuercher | Dr. Bruce Martin | Clemson |
| Garland (Dallas), Texas | Fire Wheel Golf Park | Gary Chambers | Dr. Milt Engelke | Texas A&M-Dallas |
| The Woodlands (Houston), Texas | The Woodlands<br>Gant Austin | Scott Hamilton,<br>Station | Dr. Richard White | Texas A&M-College |
| Charlottesville, Va. | Glenmore C.C. | Tim Thomas | Dr. David Chalmers | Virginia Tech |

*Continued from page 63*

Ten golf courses were chosen to host the On-site Overseeding Trials (Table 1). Because overseeding grasses provides a temporary playing surface for fall, winter and spring and are reseeded each year, cultivars were seeded in two consecutive years (fall 1999 and fall 2000) in exactly the same location on each course for each of the two years. This allowed researchers to identify entries that persisted over time.

***The Woodlands (Texas) Golf Course was one of 10 courses selected to participate in the overseeding trial.***

Trials were conducted mainly with named cultivars and commercially available blends or mixtures. This led to the inclusion of many perennial ryegrass entries, as single cultivars or blends, and also single cultivars of *Poa trivialis* as well as mixtures of perennial ryegrass and *Poa trivialis*. In addition, two cultivars of intermediate ryegrass and one annual ryegrass cultivar were included in the trial.

Trials were established on active play sites where golfers hit fairway golf shots and/or drove golf carts. Since seeding rates vary widely from one region to another, each location was consulted concerning typical overseeding rates in their area. The most appropriate rate for each grass type was then assigned to the locations (Table 2).

The experimental plot size was large (5 x 20 feet), replicated three times. Host clubs provided the daily maintenance of the fairway site.

An advisory committee consisting of representatives from GCSAA, USGA, NTEP, universities and the turfgrass seed industry recommended establishment and maintenance procedures.

The researcher at the cooperating university was responsible for data collection. Data was collected from each trial site on percent establishment, turfgrass quality, genetic color, speed of transition from bermudagrass to overseeded grass in fall and from overseeded grass to bermudagrass

*Continued on page 66*


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**TABLE 2**

**ON-SITE FAIRWAY OVERSEEDING TRIAL LOCATION SEEDING RATES**

Seeding rate in pounds per acre

| GRASS TYPE | STARKVILLE, MISS. | DULUTH, GA. | CHARLOTTESVILLE, VA. | ORLANDO, FLA. | TUCSON, ARIZ. | MYRTLE BEACH, S.C. | PALM DESERT, CALIF. | ST. LOUIS | DALLAS | THE WOODLANDS, TEXAS |
|---|---|---|---|---|---|---|---|---|---|---|
| Perennial ryegrass - single cultivars or blends | 300 | 450 | 300 | 450 | 600 | 300 | 600 | 300 | 300 | 450 |
| *Poa trivialis* single cultivars | 100 | 100 | 100 | 100 | 100 | 200 | 200 | 100 | 100 | 200 |
| Mixtures of perennial rye or intermediate rye and *Poa trivialis* | 250 | 400 | 250 | 400 | 400 | 250 | 400 | 250 | 250 | 400 |

*Continued from page 64*

in spring. In addition, any damage from environmental stress, traffic and divoting, diseases or insects were noted by the research cooperator.

## Results and discussion

The 42 entries in the trial (Table 3) were seeded in September or October 1999 and again in fall 2000 at the 10 golf course sites.

Data collected from fall 1999 to spring 2001 was compiled, statistically analyzed and reported. The data for each year can be found on the NTEP Web site (*www.ntep.org/onsite/ost.htm*).

The following are general observations concerning the trials over the two-year testing period:

- The *Poa trivialis* cultivars were generally slower to establish and develop into a dense stand than the perennial ryegrasses; also they exhibited a lighter green color than the perennial ryegrasses.
- Generally, entries were consistent in their performance from one location to another. For the most part, the perennial ryegrasses provided the highest quality turf. The exception was the high performance of the *Poa trivialis* cultivars and perennial ryegrass/*Poa trivialis* mixtures at Orlando, Fla., Houston and Charlottesville, Va.
- At most locations, there was no statistical difference in overall turfgrass quality between the top 25 to 30 entries (out of 42 total in the trial).

*Continued on page 68*

***Golf car traffic on plot area at The Woodlands (Texas) Golf Course.***

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**TABLE 3**

## ON-SITE TESTING OF GRASSES FOR OVERSEEDING OF BERMUDAGRASS FAIRWAYS

Entries and sponsors (as of Sept. 1999)

| No. Entry Name | Species or composition | Sponsoring company |
|---|---|---|
| 1. Allsport | perennial ryegrass | LESCO |
| 2. LS-DE1 | perennial ryegrass | LESCO |
| 3. Proam | *Poa trivialis* | LESCO |
| 4. Barlennium | perennial ryegrass | Barenbrug USA |
| 5. Pirouette | perennial ryegrass | Barenbrug USA |
| 6. Bariviera | *Poa trivialis* | Barenbrug USA |
| 7. Professional's Select | 40 percent Windstar, 35 percent Sonata, 25 percent Jet p. ryegrass blend | Pennington Seed |
| 8. Transist | intermediate ryegrass | Pickseed West |
| 9. Pick HR A-97 | intermediate ryegrass | Pickseed West |
| 10. First Cut | 85 percent Paragon p. rye, 15 percent Stardust *Poa trivialis* | Turf Merchants |
| 11. Brightstar II | perennial ryegrass | Turf-Seed |
| 12. Charger II | perennial ryegrass | Turf-Seed |
| 13. Citation III | perennial ryegrass | Turf-Seed |
| 14. Brightstar II + Winterplay | 85 percent Brightstar II p. rye, 15 percent Winterplay *Poa trivialis* | Turf-Seed |
| 15. Charger | perennial ryegrass | Standard Entry |
| 16. Citation III + Winterstar | 85 percent Citation III p. rye, 15 percent Winterstar *Poa trivialis* | Turf-Seed |
| 17. Winterplay | *Poa trivialis* | Standard Entry |
| 18. Axcella (ABT-99-3.268) | annual ryegrass | DLF International Seeds |
| 19. Paragon | perennial ryegrass | Turf Merchants |
| 20. PST-3BK-99 | perennial ryegrass | Pure-Seed Testing |
| 21. Fiesta 3 | perennial ryegrass | Pickseed West |
| 22. Futura 2500 | 33 percent Cutter perennial rye, 33 percent Sunshine perennial rye, 33 percent Transist intermediate rye | Pickseed West |
| 23. MED-007 | 25 percent JR-151, 25 percent JR-142, 25 percent JR-128, 25 percent JR-265 p. ryegrass blend | Simplot Turf & Hort. |
| 24. Capri | perennial ryegrass | DLF International Seeds |
| 25. Leaderboard | 34 percent Pennant II, 33 percent Panther, 33 percent Seville II perennial ryegrass blend | ProSeeds Marketing |
| 26. Seville II | perennial ryegrass | ProSeeds Marketing |
| 27. Snowbird | *poa trivialis* | ProSeeds Marketing |
| 28. MP58 | perennial ryegrass | Jenks Seed Connection |
| 29. Prime | 33 percent Elfkin, 33 percent MP58, 33 percent MP88 p. ryegrass blend | Jenks Seed Connection |
| 30. Elfkin | perennial ryegrass | Jenks Seed Connection |
| 31. MP111 | perennial ryegrass | Cascade Int'l Seed Co. |
| 32. Mountain View Seed Blend 1 | 40 percent Pearl, 30 percent Pageant II, 30 percent EP57 p. ryegrass blend | Mountain View Seed Co. |
| 33. Mountain View Seed Blend 2 | 40 percent EP56, 30 percent Pearl, 30 percent Academy p. ryegrass blend | Mountain View Seed Co. |
| 34. Mountain View Seed Blend 3 | 40 percent EP57, 30 percent EP56, 30 percent Flash p. ryegrass blend | Mountain View Seed Co. |
| 35. Essence | perennial ryegrass | DLF International Seeds |
| 36. Top Hat | perennial ryegrass | Standard Entry |
| 37. Cebeco Blend 1 | 33 percent Top Hat, 33 percent R2, 33 percent Gator II p. ryegrass blend | DLF International Seeds |
| 38. Sabre | *Poa trivialis* | Standard Entry |
| 39. Tourstar | 34 percent Imagine, 33 percent Ice, 33 percent Lynx p. ryegrass blend | AgriBioTech |
| 40. Marvelgreen + Laser | 40 percent Palmer III, 20 percent Prelude III, 20 percent Phantom p. rye, 15 percent Laser *Poa triv.* | AgriBioTech |
| 41. Phantom | perennial ryegrass | ProSeeds Marketing |
| 42. Marvelgreen Supreme | 50 percent Palmer III, 25 percent Prelude III, 25 percent Phantom perennial ryegrass blend | AgriBioTech |

*Continued on page 70*

# Grub Control

During the mid 1990's, Merit® was introduced to the turf market for season-long White Grub control. Prior to the introduction of Merit, grub control options were from the organophosphate and carbamate insecticide families. These products worked well, but were faced with short residual activity. The organophosphates and carbamates had to be used in most cases as curative products, being applied during late August to early September during peak grub activity. Although the products worked well at the time, damage was still unacceptable in most cases when treating as a curative approach.

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*Article contributed by Darrin Johnson, Andersons Territory Manager*

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*Continued from page 68*

■ At most locations, the annual ryegrass and intermediate ryegrass entries transitioned quicker (going from 75 percent to 25 percent cover in three to four weeks) than the perennial ryegrasses. At three locations (Green Valley, Ariz., Duluth, Ga. and Starkville, Miss.) *Poa trivialis* disappeared very quickly in the spring, leaving a plot with only 30 percent to 40 percent green bermuda. And at the South Carolina and Texas sites, *Poa trivialis*, intermediate ryegrass and the perennial ryegrasses transitioned in a similar fashion. We feel these differences are weather- and environment-related.

■ The intermediate ryegrass entries generally had lower quality ratings than the perennial ryegrasses. The one annual ryegrass entry, Axcella, finished in the bottom third of all entries at most locations.

*Poa trivialis* may be useful in overseeding of fairways, although its performance may be inconsistent.

## Summary

Since seeding rates and maintenance levels differed from one location to the next, data were not summarized and averaged across all locations. However, we can make the following general conclusions concerning the trial:

**1.** Many perennial ryegrasses perform well in overseeding and often there is no statistical difference among the entries.

**2.** *Poa trivialis* may be useful in overseeding of fairways, although its performance may be inconsistent. It is slower to establish than perennial ryegrass and it seems that when *Poa trivialis* is weakened due to heat or disease, it disappears quickly. This leaves insufficient green bermuda for acceptable quality.

However, if the goal is little or no physical disturbance of the bermuda prior to overseeding, the small seed size of *Poa trivialis* allows it to sift through the bermuda canopy to make soil contact. The result is a better stand of *Poa trivialis* compared to perennial ryegrass.

**3.** Perennial ryegrass and *Poa trivialis* mixtures generally did not perform equal to perennial ryegrass or *Poa trivialis* cultivars. The addition of *Poa trivialis* generally results in lower quality ratings. The mixture may hasten transition somewhat, but overall quality will most likely suffer.

**4.** Management practices play a big role in establishment and transition. At the Orlando site, the superintendent used chemical applications at light rates to hasten transition. This seemed to affect the perennial ryegrass more than the *Poa trivialis*. At the Charlottesville site, the superintendent did not physically damage the bermuda before overseeding, resulting in better establishment and quality of the *Poa trivialis* entries. Other locations, like Green Valley and Palm Desert, Calif., intensively scalped and verticut their bermuda prior to overseeding, favoring the ryegrasses.

**5.** The intermediate ryegrasses may be useful in fairway overseeding if the goal is an earlier transition.

**6.** Transition from the overseeding grass to bermuda in spring is rarely smooth. Weather patterns are important in determining the ease of transition from one species to another. In cooler, more Northern locations, grasses that are too strong going into winter may not have as much bermuda returning in spring. When the overseeding grass dies, there may not be sufficient bermuda to provide adequate cover and quality.

**7.** There seems to be a balance between quality and cover of each species in fall and spring. The higher the quality of the overseeding early in fall, the more overseeding present in spring, along with reduced bermuda cover. The result is a more difficult spring transition. The lower the quality of overseeding in fall, the less overseeding present in spring, often leading to a better spring transition. Use of a weaker cultivar or species may make for a better spring transition. However, if heat and humidity come early, the weaker grasses may leave sooner than expected.

Overseeding bermudagrass fairways has definite benefits but also associated risks. Variable weather patterns, preplant fairway preparation and seasonal management practices can drastically affect the quality of overseeding.

Therefore, golf courses that prescribe to fairway overseeding need to have clear goals and objectives for the practice as well as realistic expectations of the outcome. This is because, in the author's opinion, successful overseeding is still as much art as science.

*Kevin N. Morris is the executive director of the National Turfgrass Evaluation Program. His duties include leadership, administration and coordination of national tests for 17 grass species at approximately 70 test sites across the United States and Canada. He provides consultation to turfgrass managers at facilities such as Laurel and Pimlico Race Courses and has eight years experience as co-owner of a lawn service company.*