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'T-1' and 'Alpha' Interseeding:
Seeding Rates and Establishment Techniques

by Christian Baldwin, Ph.D.

Interseeding is not as simple as throwing out any bentgrass seed, and expecting bentgrass to overrun *Poa annua*. Aside from selecting competitive cultivars like **T-1** and **Alpha**, a critical first step in a successful interseeding program is seeding at the right time of year.

Note the amount of dark green T-1 or Alpha creeping bentgrass compared to the lighter green Poa annua *at an interseeded Downriver Golf Course practice putting green in Spokane, WA. Picture taken 1 September 2008. Previously this shady green was nearly 100% Poa.*

Research from Rutgers University suggests a June seeding results in greater bentgrass coverage one-year after seeding into *Poa annua* compared to a late summer or early fall seeding. Traditionally, a fall or spring date is preferred when seeding bentgrass. But when interseeding, it appears May or June is most effective because *Poa annua* seed germination slows and nearly stops as soil temperatures approach 77°F; however, bentgrass seedlings can germinate and grow through the warm summer months.

Our research objectives were to put **T-1** and **Alpha** to the test, using several interseeding trials in "real world" environments on golf courses across the country in 2007. ***Cont, p. 2***

Interseeding: Executive Summary

Overall, these interseeding studies, conducted on golf courses in three climatic regions around the country, confirmed the unique competitive ability of both T-1 and Alpha as an effective tool to combat *Poa annua*. Twelve to 14 months after interseeding, there was approximately 68% creeping bentgrass in the putting green trials and 41% creeping bentgrass in the fairway trials, averaged across treatments and sites. Also worth noting, plots were interseeded in 2007 and no other interseeding events occurred in 2008. Meanwhile, a tailored fertility or plant growth regulator program was not implemented to favor bentgrass over *Poa annua*. Therefore, these studies mimicked a worst case scenario where minimal inputs and interruptions in play were required for successful conversion from *Poa annua* to T-1 or Alpha creeping bentgrass.

The Remaking of Scioto CC
With Jacklin Seed Varieties

by Doug Brede, Ph.D.

Scioto Country Club in Columbus, OH, is a classic Donald Ross design listed at No. 58 on Golf Digest magazine's top-100 private US courses. It has a rich history, including being the grounds on which Jack Nicklaus learned the game of golf

Alpha tees, Scioto GC, Columbus, OH

Alpha blend green, Scioto GC

Renovation is not new to Scioto. The course was renovated in 1989 to Pennlinks and a decade later to Penn G-2. This time the design work went to the Columbus design team of Michael Hurdzan and Dana Fry, with Nicklaus consulting.

Course superintendent, Bob Becker took no risks in renovating Jack's baby. "I did the drop seeding and dimpling myself on all 19 greens... in 3 directions," he says. "That was 49,000 steps and 28 miles of walking in one 90-degree day."

Here are some of Becker's tricks of the trade:

- ✓ Fairways were seeded to **L-93** at 1.5 lbs. per 1000 ft^2
- ✓ Tees were seeded to 100% **Alpha** bentgrass.
- ✓ Bob planted a test green two years before renovation and **Alpha** performed best. Mark Yoder, Director of Golf Course Operations, choose **Alpha** and a minority of other bent for the mix.

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A fall 2008 edition of Golf Industry magazine featured an article on the remaking of Scioto CC in Columbus, OH.

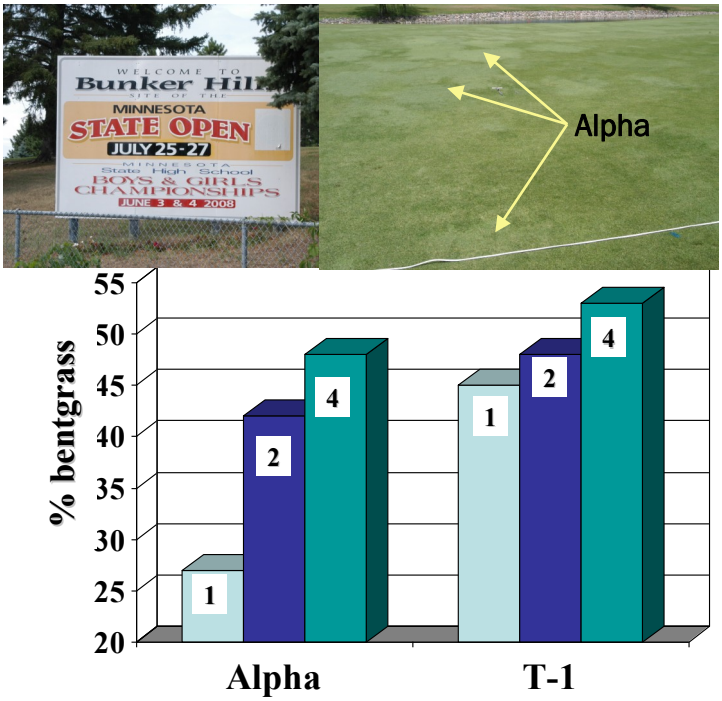
Interseeding, continued

Specific objectives included evaluating: (1) best establishment techniques when interseeding **T-1** or **Alpha** creeping bentgrass into a predominant *Poa annua* putting green and (2) best seeding rates when interseeding **T-1** or **Alpha** creeping bentgrass into fairways.

Watch for a more comprehensive article on this subject authored by Dr. Baldwin in an upcoming issue of Golfdom magazine.

Establishment technique studies were conducted in Spokane, WA, at Downriver and Esmeralda Golf Courses (daily fee courses) on practice putting greens. Treatments included spiking, aerifying, vertical mowing, no surface disruption, and an unseeded control.

Seeding rate studies were conducted on golf course fairways at Bunker Hill Golf Course in Coon Rapids, MN (semi-

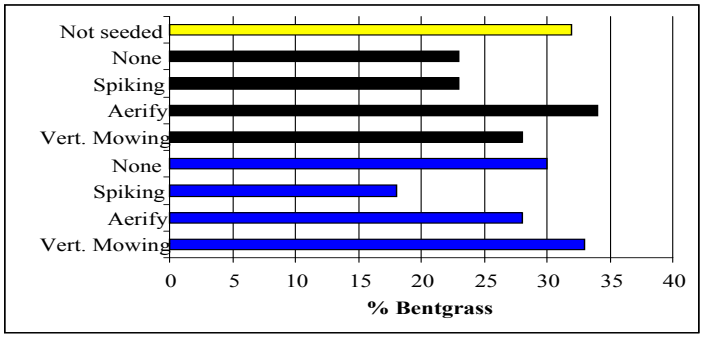


Alpha and T-1 creeping bentgrass establishment rated on 11 August 2008 when seeded on Poa fairways at 1, 2, or 4 lbs/1000ft² at Bunker Hill GC, Coon Rapids, MN, on 8 June 2007.

private course) and Green Valley Country Club in Lafayette Hills, PA (private course). **T-1** and **Alpha** were seeded at 0, 1, 2, or 4 lbs./1000ft² using a TriWave 60-inch overseeder (Turfco® Manufacturing Co., Minneapolis, MN). For both studies, percent **T-1** and **Alpha** creeping bentgrass establishment was evaluated during the summer after seeding.

Establishment technique

Three months after interseeding at Esmeralda Golf Course, no trends emerged indicating that one establishment technique was more beneficial than another. In fact, control (unseeded) plots had as much bentgrass coverage as treated plots. The bentgrass seed likely migrated into control plots following mowing events, cultivation practices, and/or golfer traffic. By the beginning of August 2008, 63% bentgrass was noted in plots when averaged across all treatments. Similar trends were noted at Downriver Golf Course as all planting treatments yielded similar percent **T-1** or **Alpha** coverage.



Percent Alpha and T-1 creeping bentgrass establishment rated on 28 September 2007 following various establishment methods on 17 July 2007 at Esmeralda Golf Course, Spokane, WA. Black bars represent T-1, blue bars represent Alpha. Interestingly, seed or sprigs migrated from the seeded to unseeded plots (yellow bar). Treatments labeled "none" were seeded and topdressed only.

Establishment method may be most influential 4 to 8 weeks after interseeding; however, after this time period, meaningful differences were not detected. Results suggest minimal surface disruption is required for successful interseeding of **T-1** or **Alpha**, which means less play disruption for a golf course. Seeding + topdressing are all that are needed.

Seeding rate

Increasing seeding rates at both sites (Minnesota and Pennsylvania) increased percent **T-1** and **Alpha** bentgrass coverage. Specifically, one-year after interseeding **Alpha** at 4 lbs./1000 ft² produced 48% bentgrass compared to 27% when seeded at 1 lb./1000ft² at Bunker Hill Golf Course in Minnesota. Results suggest best seeding rate when interseeding into a fairway ranges from 2-4 lbs./1000ft². Golf course superintendents may be reluctant to seed at higher rates thinking too much seed will lead to weak seedlings competing with each other, but higher seeding rates appear to compensate for seedling mortality that may occur when interseeding.

Scioto renovation, continued

- ✓ Seed was mixed on-site in a cement mixer.
- ✓ Greens were reconstructed with new sand and were seeded in 3 directions at 1/3 lb. each and dragged in with a rake held backwards.
- ✓ Existing *Poa* fairways were killed with one 2-quart application of Roundup the last week of July. **L-93** was seeded one month later into the dying *Poa* with a Turfco seeder which worked well until the knives went dull and had to be replaced. Cutless PGR was applied every 3 weeks to eliminate returning *Poa*.
- ✓ The near roughs were renovated to **Award** and **Nu Destiny** Kentucky bluegrass and **Revenge** perennial ryegrass.
- ✓ In regard to watering seedlings, Becker says, "you can't get them too wet."
- ✓ All the bents received one app of Subdue fungicide, which Becker confesses, "they really didn't need."
- ✓ Fairway mowing height is 1/2 inch. Greens 1/8 inch.
- ✓ Becker applied 0.3 lbs. of N fertilizer on the fairways from March to July 2008.
- ✓ 10 nearby golf courses took the members during the renovation year.