JACKLIN SEED

Research Newsflash

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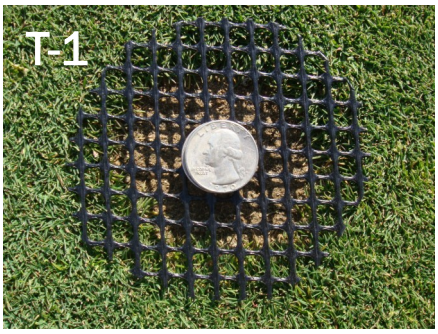
Lateral Regrowth of Creeping Bentgrass Cultivars

by Christian Baldwin, Ph.D.

On a golf course putting green, surface disruptions such as ball marks, foot traffic, cultivation practices, and equipment traffic are unsightly and negatively impact playability. Secondly, when an opening exists in the canopy, opportunistic weeds such as *Poa annua* can quickly invade an area and become problematic, contributing to a non-uniform playing surface and increasing maintenance inputs for weed control. Cultivars that heal quickly offer advantages for a golf superintendent. Cultivars capable of quickly filling in voids would maintain playability and reduce the potential for weed invasion compared to other creeping bentgrass cultivars.

"T-1 and Alpha had explosive lateral regrowth, filling in over 60% of a 6-inch plug in just three months ."

Previous university studies have compared the performance of bentgrass cultivars. Researchers at the University of California conducted a research project at Crystal Springs Golf Course in Burlingame, CA, on a practice bentgrass putting green from 1998 to 2003. The green was seeded with 17 creeping bentgrass cultivars maintained at a 5/32" (4 mm) mowing height. Overall, the authors ranked L-93 as having the highest genetic color, quality, and greatest spring and fall density from 1998 to 2001. By 2003, six years after seeding, L-93 had the greatest density among 17 bentgrass cultivars. And by 2003, L-93 had only 8% *Poa annua*, while Penncross, Cato, Trueline, Providence, and Viper all had greater than 20% *Poa* present in plots.



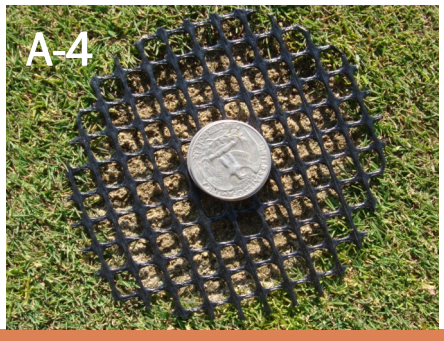


Fig 1. Lateral regrowth differences between T-1 and Penn A-4 creeping bentgrass in refilling over a 6-inch-diameter void.

There are numerous studies on L-93, however, little published research exists regarding the performance of the next

Continued, p. 2

'Rush' Kentucky bluegrass

A New High-Performance Cultivar Release for Poa, Drought, Greenup

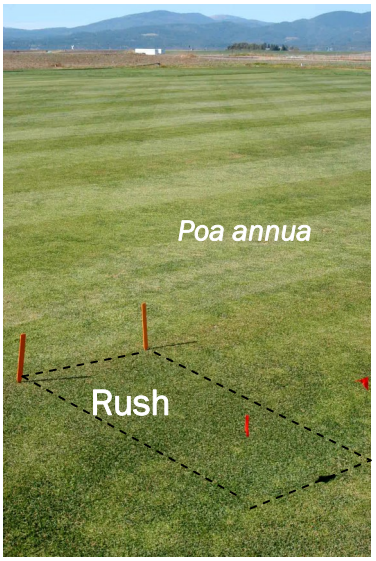
by Doug Brede, Ph.D.

Back in 2003 I was touring an astute Canadian distributor across a set of 2500 Kentucky bluegrass turf plots here in Idaho that we had purposely turned into a field of *Poa annua* by overwatering. The trial had been quite useful earlier in the year when nice varietal differences were showing. But by September the Poa was clearly winning — choking out most of the bluegrass plots.

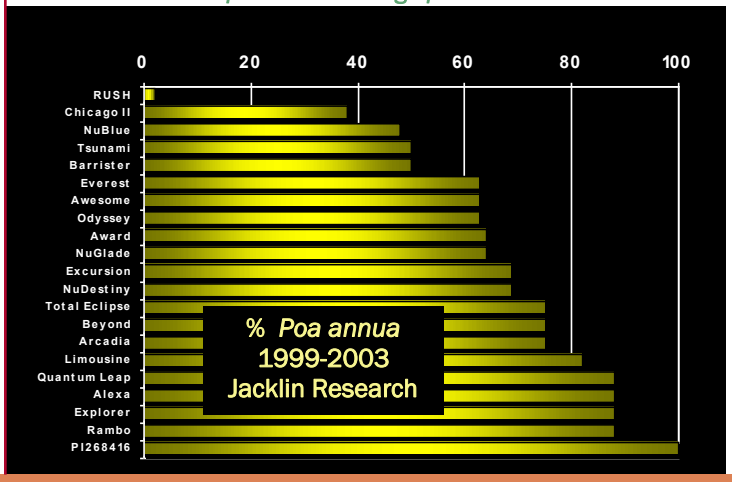
Suddenly we stopped, he pointed downward and said "I want this one."

There before us, among a sea of *Poa annua* was a singular plot with little or no Poa. I was dumbfounded. And a little embarrassed I hadn't noticed it earlier.

I attempted to explain that there's a 1-in-1000 chance one variety will make it through the rigors of varietal testing — seed yield, disease resistance, wear, etc. But he was persistent and so I pursued. *Continued, p. 2*



Test trial of Kentucky bluegrass cultivars competing with Poa annua. A plot of Rush at the bottom of the photo above contains little to no Poa in spite of this heavy pressure at 1/2 inch (12 mm) mowing. Graphically (below) the data confirms the Poa resistance of Rush compared to other high performance cultivars.



Bentgrass lateral recovery, continued

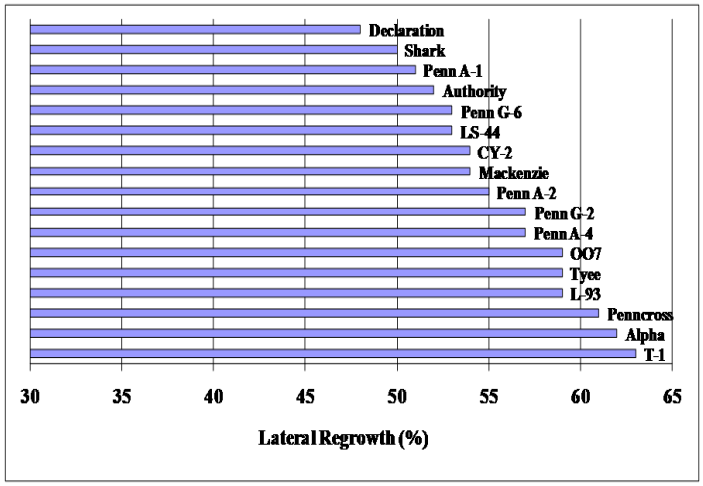
generation of bentgrasses, T-1 and Alpha. Therefore, studies were conducted on 17 cultivars of creeping bentgrass replicated four times on a test putting green in Idaho. Varieties included the latest generation of Jacklin bentgrass cultivars (T-1 and Alpha) and competitor cultivars. Several parameters were measured; this article will discuss lateral regrowth.

Briefly, a 6-inch plug was removed from each plot in early autumn and backfilled with sand. A grid was cut to the exact size of the plug and periodically laid over each soil core for measurement (Fig. 1). Lateral regrowth was calculated as a percentage of squares with green shoots.

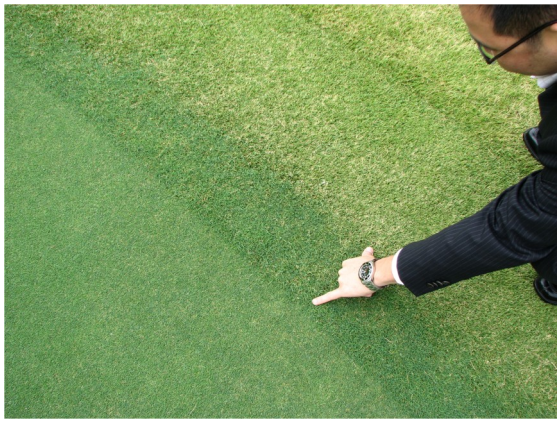
Overall, T-1 and Alpha had the greatest lateral regrowth three months after the plug was removed (Fig. 2). This was particularly noteworthy because autumns in Idaho tend to be cool, which slows down fill.

T-1 and Alpha were shown to be capable of quickly filling in voids and divots. This trait would help enhance playability and reduce weed invasion compared to other creeping bentgrass cultivars.

Fig. 2. Lateral regrowth (%) of 17 creeping bentgrass cultivars maintained at 5/32 inches in Idaho.

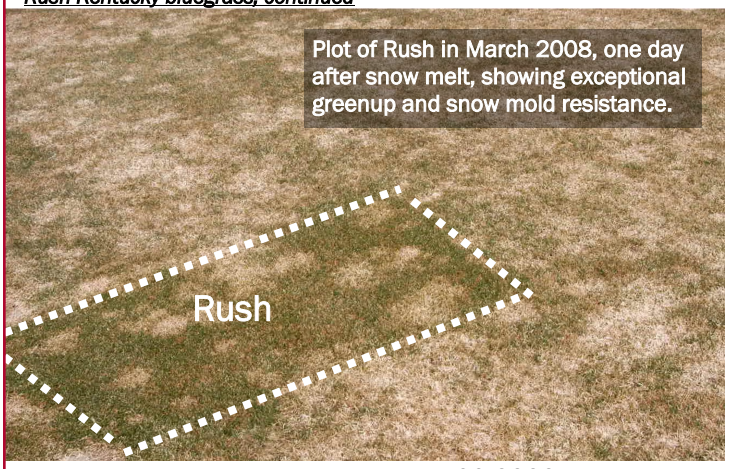


Reference: Harivandi, M.A., W.B. Hagan, and K.N. Morris. 2008. Evaluating bentgrasses for quality, ball-roll distance, thatch/mat development and annual bluegrass invasion. Acta Hort. (ISHS) 783:309-315.



Although T-1 exhibits vigorous lateral growth for filling voids, it isn't a problem encroaching into other areas on the course. At this 4-year-old Japanese course, T-1 has crept only 8 inches (20 cm) into the zoysia collar .

Rush Kentucky bluegrass, continued



Amazingly, experimental variety 00-2222 (later named 'Rush') did indeed pass all its exams and became a phenomenon among bluegrasses. While other varieties were swallowed up with Poa, it cruised along with less than 5%.

In 2008 we learned a couple more of Rush's remarkable attributes. One day after our Idaho snow melted, Rush was rating a 7 to 8 in greenup on a 1 to 9 scale (photo above) . The only other variety that came close was our new star cultivar, '4-Season.' That's probably how Rush keeps *Poa annua* at bay — by actively growing during the cool months of the year when Poa normally has the advantage.

Rush also displayed exceptional drought tolerance in a sod-farm trial in Maryland (below) where it was the highest ranking entry among hundreds. In a drought, Rush thoroughly out-scored Thermal Texas Hybrid bluegrass and many other varieties.