

2009 Research Update:

Identifying Better Bentgrass Varieties for New England

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NERTF joined with NTEP and individual turfgrass breeders to support the 2008 bentgrass greens and fairway variety trials at URI. The fairway trial was seeded in late April 2009 on native Bridgehampton silt loam which was fumigated with Basogran in September 2008. There are 19 creeping bentgrass varieties and 8 colonial bentgrass varieties in the trial. The greens trial was seeded in early May 2009 on a USGA-spec sand green which had been covered with SR7200 velvet bentgrass for many years. The bentgrass sod was removed from the area to be planted to the trial in Fall 2008 and new sand:peat greens mix was spread to restore the original grade. There are 21 creeping bentgrass varieties and 8 velvet bentgrass varieties in the trial. The two species are planted in separate blocks and managed according to the recommendations for each species. Both trials will run for 5 years, with the final data available in early 2014. The objective of this long-term study is to identify the new bentgrass varieties best suited to use in New England. As economic and environmental considerations force superintendants to reduce inputs, genetically adapted grasses will become a vital tool.

2009 Results: Fairway

The 2009 data is presented in table 1. Entries with the best establishment four weeks after seeding were Princeville, 50:50 PennLinks II/Penneagle II, LTP-FEC, A08-EBM, A08-TDN2, and B-7.0196. Quality is based on a combination of cover, color, and texture. There were few significant differences in overall quality in 2009; a score of 5.6 or greater was considered to be acceptable. Disease was the primary cause of damage, with a fairy ring outbreak in May which persisted until July, and a dollarspot outbreak in September and October.

Benchmark DSR showed the most resistance to fairy ring; A08-TDN2, SRP 1RH93, and LTP-FEC were similar. The colonial bentgrass entries were the most susceptible, with scores ranging from 1 for Alistair and PST-R9D7 to 3.7 for Tiger II. In general the colonial bentgrass varieties suffered from the cool, wet conditions. This is not surprising since colonial bentgrass is adapted to dry, sandy soils.

The colonial bentgrass entries were the most resistant to dollar spot, with A08-EBM being the best of the best. The PennLinks II/PennEagle II blend was the most susceptible.

Benchmark DSR and T-1 had the darkest green color; any entry with a color score above 7.0 was similar. Color was similar for creeping bentgrass and colonial bentgrass, and all entries had acceptable color.

2009 Results: Green

The persistent cool, wet weather from May through early August led to great difficulties in establishing the greens trial. Unbeknownst to us, the northeast quadrant of the green had a well-established fungicide-resistant root pythium infection. Root pythium causes little damage other than purpling on established velvet bentgrass, but it easily kills young seedlings. We treated the green twice with propamocarb (Banol), but conditions were so favorable for the fungus that we were unable to achieve complete control. We re-seeded in July, but again lost many plots to root pythium. Plots in the heavily

infected quadrant had to be reseeded in September or planted to plugs taken from plots of the same entry in unaffected portions of the green. Because we had bare sand in some plots throughout the growing season we were not able to take the trial down to greens height, but had to maintain it at a high fairway height. In addition, since the worst pythium damage was in the third replication, the differences between reps obscured most of the differences between entries. We collected quality data in June, August, September, October, and November, and coverage data in August and October; the data are in table 2. No other data was collected due to problems with establishment, dollarspot, and mowing height.

This is only the first year of data for the trial, and 2009 was definitely not a typical growing season. As a result, no real conclusions can be drawn at this point. Fairy ring susceptibility and adaptation to cool, wet conditions strongly influenced the ranking of varieties this year.