

St. Augustinegrass Genotype Resistance to Common Fungal Diseases Under Shade

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Introduction

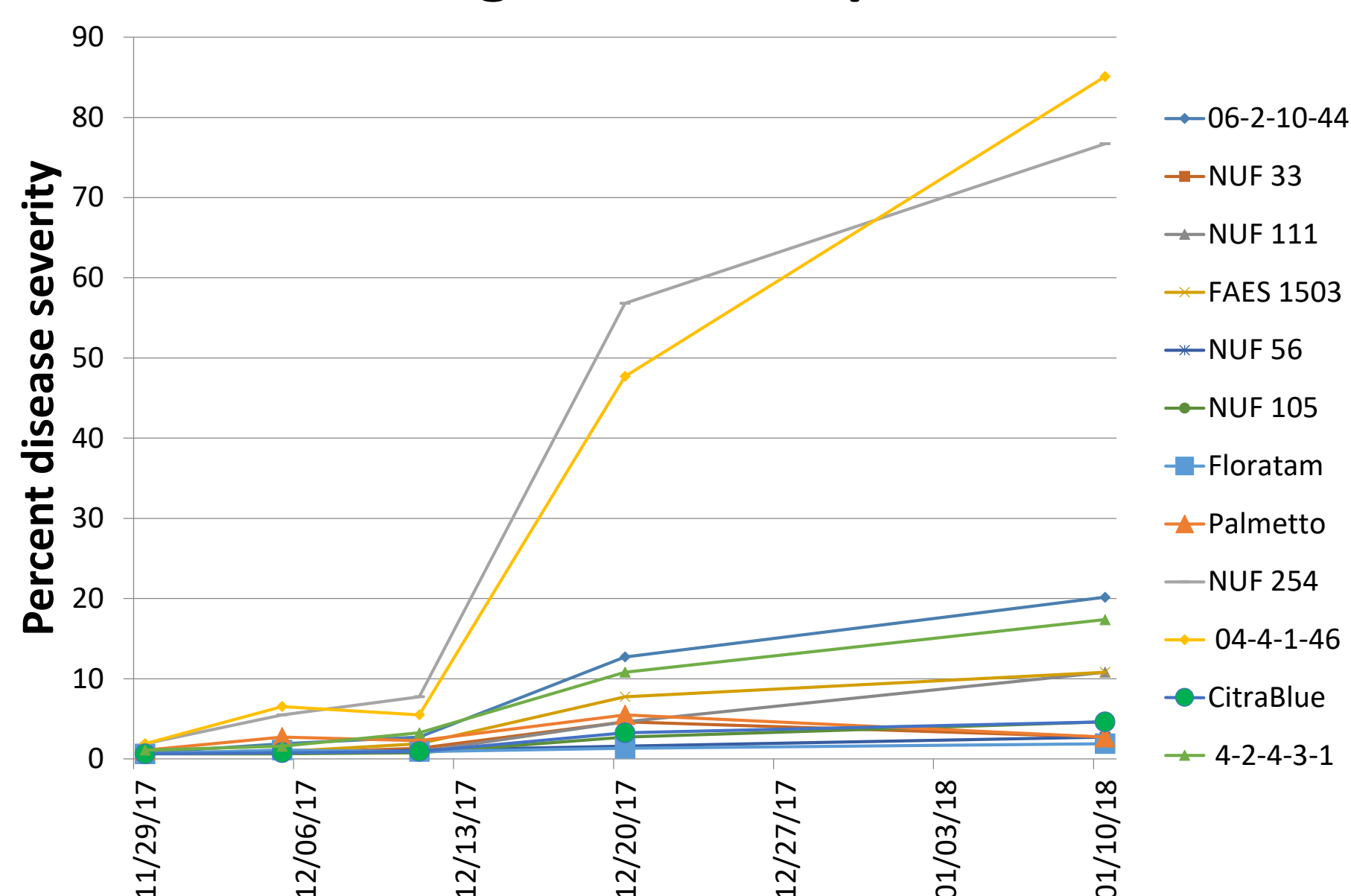
St. Augustinegrass is the most widely used lawn-grass in Florida. Current varieties struggle with the diseases large patch (LP), take-all root rot (TARR) and gray leaf spot (GLS). St. Augustinegrass also struggles when grown under shade. The decrease in light intensity coupled with low air movement provides the optimal conditions for fungal growth and symptom development. In this trial, research plots were inoculated with *R. solani* and *G. graminis* var. *graminis* (GGG), the respective causal agents for LP and TARR. Disease severity and turf quality (TQ) were evaluated over the course of one year.

Methods

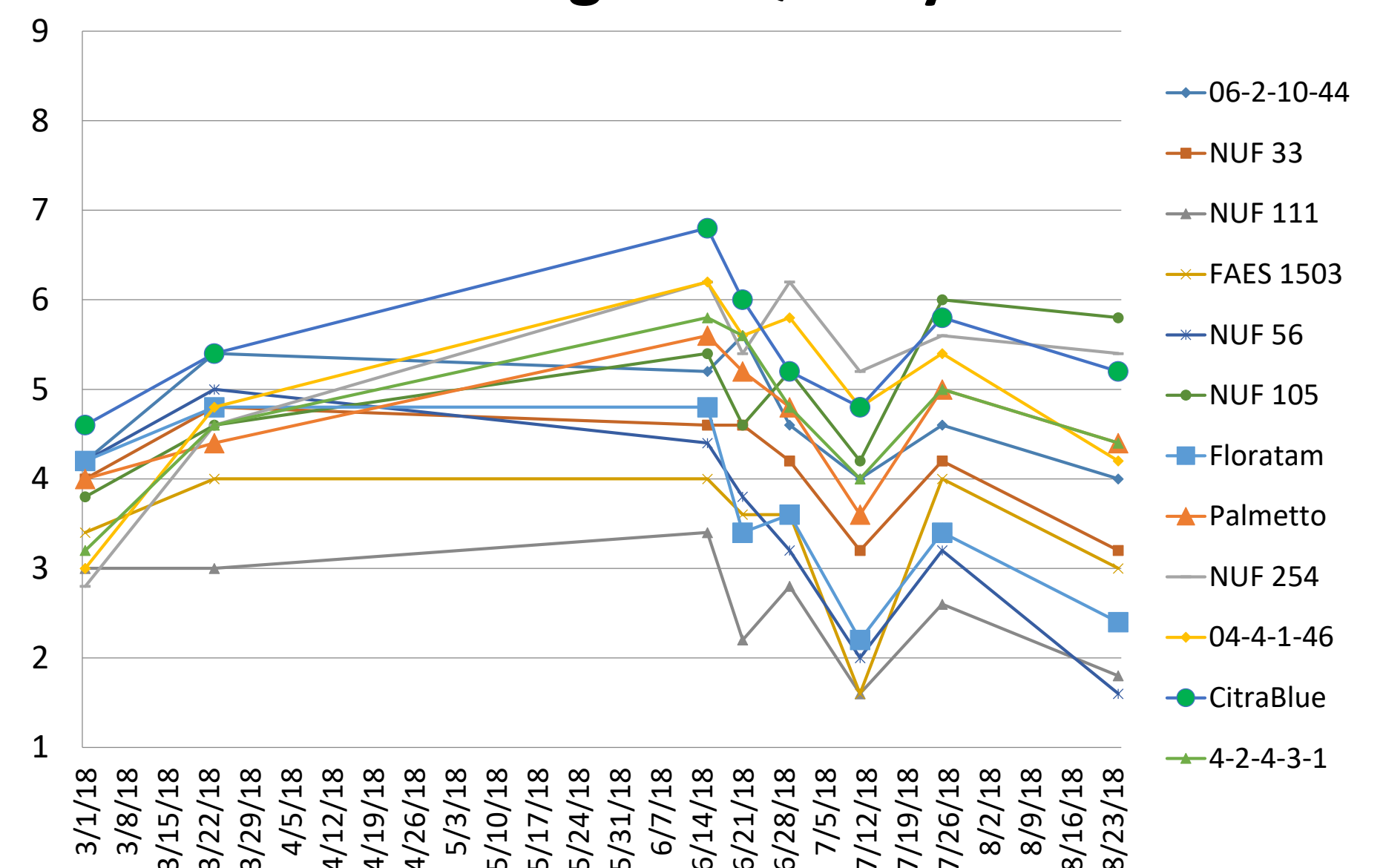
- 5 replicates of 12 varieties of St. Augustinegrass were planted under a shade structure at the Citra research center
- October 24th the replicates were inoculated with *R. solani* that had been grown on sterilized oat seed and again with infected clippings on 11/09/2017
- Plots were inoculated with GGG on 3/23/18 after recovery from winter kill
- Disease severity was evaluated using the HB scale over the course of one year
- Turfgrass quality was visually evaluated on a 1-9 scale



Large Patch Response



Turfgrass Quality



Summary

From the Fall of 2017 through the Summer of 2018 large patch severity and turf quality was rated for 12 varieties of St. Augustinegrass under a shade structure at the UF CITRA PSREU facility. All replicates were inoculated with large patch pathogen in the Fall and disease severity was rated. CitraBlue did not have a disease severity rating above 5% and was not statistically different than Floratam ($p > 0.5$) which had the lowest large patch severity.

Many of the plots suffered from winter kill which resulted in poor quality through much of early Spring 2018. CitraBlue's lowest TQ rating was a 4.6 out of 10 in early March.

During the summer, gray leaf spot (*P. grisea*) and TARR impacted the TQ, of all varieties. CitraBlue recovered to a 6.8 by 6/15/18 and had significantly ($p < 0.5$) better TQ than Floratam on this date and for much of the rest of the experiment.

These results suggest that CitraBlue is as resistant as Floratam to large patch and more resistant than Floratam to gray leaf spot and TARR,