

Comparison of Fertilization Programs on St. Augustinegrass

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Hypothesis: CitraBlue requires less nitrogen to maintain color, density and quality compared to Floratam and Palmetto.

Objective: Compare the performance of CitraBlue, Palmetto and Floratam under differing fertilization programs.

Measurements:

- Visual ratings for color, density and turf quality
- Digital Image Analysis of pictures
- SPAD chlorophyll measurement

Treatments:

- **Cultivars:** CitraBlue, Palmetto and Floratam
 - planted by sod in September of 2017
 - **No fertilizer applied until treatments were initiated in mid September 2018.**
- **Mowing Heights:** 2.0" and 3.5"
- **Fertilization Programs:**
 - Scotts – 4X Year: 0.8 lb/1,000 ft² per application – 3.2 lbs N total
 - Scotts Crabgrass Preventer Plus Fertilizer – Feb 15
 - Scotts LawnPro Step 3 Lawn Food – April 01
 - Scotts LawnPro Step 3 Lawn Food – June 01
 - Scotts LawnPro Step 4 Lawn Fertilizer – September 01
 - IFAS – 4X Year: 1.0 lb/1,000 ft² per application – 4.0 lbs N total
 - IFAS - 15-0-15 – April 01
 - IFAS - 15-0-15 – June 01
 - IFAS - 15-0-15 – August 01
 - IFAS - 15-0-15 – October 01
 - Blackout -3X Year: 1.0 lb/1,000 ft² per application – 3.0 lbs N total
 - Polyon 43 – April 01
 - Polyon 43 – May 31
 - Polyon 43 – October 01
 - Unfertilized Control

- Plots planted Sep 2017.
- No fertilization for one year.
- No differences between mowing heights.
- Scotts, IFAS and Blackout treatments were first applied Sept. 14, 2018
- The three fertilization programs have improved the Color, Density and Turf Quality of the three cultivars compared to the unfertilized control (data not shown)
 - No difference between the three programs (data not shown)
 - Therefore, data shown is averaged across all fertilization programs (including the control)
- After one year with no fertilization CitraBlue and Palmetto had acceptable Color, Density and Turf Quality.
 - Floratam did not
- Since fertilization all cultivars have improved Color, Density and Turf Quality
- Two weeks after fertilization Floratam had acceptable Color and Turf Quality.
- CitraBlue has consistently had higher Color and Turf Quality compared to both Palmetto and Floratam.
- CitraBlue and Palmetto were not different for density.
- Data represents one month and one fertilization event.
- Meaningful data will require several years of evaluation.

Visual Turfgrass Performance (averaged across fertilization programs)

Entry	Color					TPI*
	14-Sep	21-Sep	28-Sep	5-Oct	11-Oct	
CitraBlue	7.4	7.6	8.2	7.7	8.4	5
Palmetto	6.5	7.0	7.5	7.2	7.4	1
Floratam	5.0	5.7	6.4	6.4	6.5	0

*TPI = Turfgrass Performance Index = The number of times an entry was in the top statistical group, as indicated by the green highlight.

Entry	Density					TPI*
	14-Sep	21-Sep	28-Sep	5-Oct	11-Oct	
CitraBlue	7.4	7.8	7.9	7.9	8.5	5
Palmetto	6.8	7.0	7.3	7.4	7.7	5
Floratam	5.0	5.3	5.9	6.0	6.1	0

*TPI = Turfgrass Performance Index = The number of times an entry was in the top statistical group, as indicated by the green highlight.

Entry	Turf Quality					TPI*
	14-Sep	21-Sep	28-Sep	5-Oct	11-Oct	
CitraBlue	7.6	7.8	8.0	7.8	8.5	5
Palmetto	6.5	7.0	7.5	7.2	7.6	0
Floratam	5.0	5.6	6.1	6.3	6.4	0

*TPI = Turfgrass Performance Index = The number of times an entry was in the top statistical group, as indicated by the green highlight.

Breeding Objectives for CitraBlue:

1. Equal or better drought and disease resistance as Floratam
2. Equal or better shade and cold tolerance as Palmetto/Raleigh
3. Good turf quality and adapted throughout Florida

- Developed in 2006
- Evaluated in five Florida locations: Jay, Alachua, Citra, Melbourne (Duda Sod) and Arcadia (Bethel Farms).
- Evaluated for drought responses in Texas, Oklahoma, Georgia, North Carolina and Florida
- Disease evaluations ongoing at Citra with Dr. Harmon
- Included in NTEP trial at 8 locations from Texas to North Carolina

- For data shown to the right an * means that CitraBlue was statistically better than the cultivar with an *.
- Shown to be well-adapted through Florida
- Unique blue-green color
- Denser canopy compared to Floratam
 - More competitive against weeds
- More shade tolerant than Floratam
- More resistant to gray leaf spot compared to Floratam
- Less susceptible to take all root rot compared to Floratam
- Less susceptible to large patch compared to other shade tolerant St. Augustinegrass cultivars
- Improved drought persistence compared to Floratam
- Recently approved for commercial release
- Currently under increase with sod producers
- Expect to have limited commercial sales in late 2019
- Widespread availability in 2020.

CitraBlue™
St. Augustine

