

Comparison of Fertilization Programs on St. Augustinegrass

K. Kenworthy, B. Unruh, J. Buhlman, K. Cox, and C. Alexis

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

Visual Turfgrass Performance (averaged across fertilization programs)

- 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.

Color

Entry	14-Sep	21-Sep	28-Sep	5-Oct	11-Oct	TPI*
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.

Density

Entry	14-Sep	21-Sep	28-Sep	5-Oct	11-Oct	TPI*
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.

Turf Quality

Entry	14-Sep	21-Sep	28-Sep	5-Oct	11-Oct	TPI*
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.