

## Evaluation of St. Augustine Cultivars

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### Methods

Three varieties of St. Augustine, 'Sapphire', 'Raleigh', and 'Palmetto', were planted on 05/10/04 and 05/25/04 at Southern Belle Turf Farm in Zuni and at Virginia Tech's Hampton Roads Agricultural Research and Extension Center in Virginia Beach, respectively. Soil conditions differ at the trial sites. Southern Belle Turf Farm has a more sandy soil while the Virginia Tech site has a heavier loam soil. Evaluations of quality (1-9 scale with 9 = highest quality), percent cover, and color (1-9 scale with 9 = darkest color) were recorded at 30, 60, and 90 days after planting (DAP). Length between internodes 3 and 4 and between internodes 7 and 8 were recorded 60 and 90 DAP. Gray leaf severity was evaluated at both sites with 1 = severe disease levels and 9 = no disease. Spittlebugs were rated using the same scale. Daconil was sprayed (7 oz/ 1000ft) on 7/13/04 at the Virginia Tech site to suppress gray leaf spot.

### Results

#### Sapphire

Sapphire has demonstrated the highest overall quality at both trial sites. At 60 DAP, Sapphire had already achieved 90-95% cover in all plots while the other varieties were only at 40-80% cover. This variety also has rated highly in color ratings. Distance between internodes was the longest of the three varieties, averaging 2 to 2.25 inches. Sapphire has also shown greater resistance to gray leaf spot compared to Raleigh and Palmetto. This may be attributed to the more rapid growth of this variety throughout the trial.

#### Raleigh

Raleigh ranked behind Sapphire but ahead of Palmetto in most ratings. The overall quality was good, although there were some quality differences in several plots. Raleigh plots had 95-100% cover at 90 DAP. Raleigh's color was good and consistent throughout plots and seemed to improve as the variety became more established. Gray leaf spot affected Raleigh with some plots showing more damage than others. Distance between internodes, averaging 1.8 to 2 inches, was less than Sapphire but greater than Palmetto.

#### Palmetto

Palmetto was the slowest to establish of the three varieties. Overall quality was far less than Sapphire and Raleigh at 30 and 60 DAP ratings. Now that it has become established (95-100% cover at 90 DAP), the quality is improving and is similar to that of Raleigh. Color ratings have also increased at 90 DAP. Palmetto has the best color of all three cultivars at 90 DAP. This variety was hit hardest by gray leaf spot. After planting, the Palmetto plugs did not appear as healthy as Sapphire and Raleigh, perhaps contributing to greater gray leaf spot severity. Internode distances for Palmetto were the shortest of the three varieties, averaging 1.2 to 1.5 inches.

### Summary

Sapphire has been the most aggressive and healthy variety over the first 90 DAP. Growth rate is substantially greater than that of Raleigh and Palmetto. Palmetto was slowest to establish and appeared most stressed when planted. It required more watering during the first several weeks. Palmetto is now relatively healthy and is demonstrating consistent growth. All varieties at both sites have shown some gray leaf spot activity. The disease seems to be more prevalent at the Virginia Tech site, but that may be due to daily monitoring and waterlogged soil during heavy rains. As of 08/26/04, gray leaf spot only appears slightly active because of cooler temperatures and less rainfall. Spittlebugs (adults and larvae) are present in all varieties at the Virginia Tech site. No damage has been observed. At the 90 DAP point, all varieties

have over 95% cover and are healthy as fall approaches.

| <b>St. Augustine Quality</b>  |                      |                           |                      |                           |                       |                           |
|-------------------------------|----------------------|---------------------------|----------------------|---------------------------|-----------------------|---------------------------|
| Rating Date Trt-Eval Interval | Zuni 9/Jun/04 30 DAP | Va Beach 23/Jun/04 30 DAP | Zuni 9/Jul/04 60 DAP | Va Beach 27/Jul/04 60 DAP | Zuni 10/Aug/04 90 DAP | Va Beach 23/Aug/04 90 DAP |
| Raleigh                       | 6.0                  | 5.7                       | 6.0                  | 6.3                       | 6.7                   | 7.3                       |
| Sapphire                      | 7.3                  | 7.3                       | 8.0                  | 8.0                       | 8.0                   | 8.0                       |
| Palmetto                      | 5.7                  | 4.7                       | 5.3                  | 5.7                       | 6.0                   | 7.0                       |
| LSD (P=.05)                   | 2.1                  | 1.5                       | 1.5                  | 0.9                       | 1.8                   | 0.8                       |

  

| <b>St. Augustine — % Cover</b> |                      |                           |                      |                           |                       |                           |
|--------------------------------|----------------------|---------------------------|----------------------|---------------------------|-----------------------|---------------------------|
| Rating Date Trt-Eval Interval  | Zuni 9/Jun/04 30 DAP | Va Beach 23/Jun/04 30 DAP | Zuni 9/Jul/04 60 DAP | Va Beach 27/Jul/04 60 DAP | Zuni 10/Aug/04 90 DAP | Va Beach 23/Aug/04 90 DAP |
| Raleigh                        | 28                   | 32                        | 73                   | 80                        | 95                    | 98                        |
| Sapphire                       | 37                   | 42                        | 93                   | 93                        | 100                   | 100                       |
| Palmetto                       | 27                   | 27                        | 48                   | 72                        | 95                    | 95                        |
| LSD (P=.05)                    | 6                    | 7                         | 21                   | 15                        | 7                     | 3                         |

  

| <b>St. Augustine — Color</b>  |                      |                           |                      |                           |                       |                           |
|-------------------------------|----------------------|---------------------------|----------------------|---------------------------|-----------------------|---------------------------|
| Rating Date Trt-Eval Interval | Zuni 9/Jun/04 30 DAP | Va Beach 23/Jun/04 30 DAP | Zuni 9/Jul/04 60 DAP | Va Beach 27/Jul/04 60 DAP | Zuni 10/Aug/04 90 DAP | Va Beach 23/Aug/04 90 DAP |
| Raleigh                       | 7.0                  | 7.0                       | 6.7                  | 7.0                       | 7.0                   | 7.7                       |
| Sapphire                      | 8.0                  | 8.0                       | 8.0                  | 8.0                       | 7.0                   | 7.0                       |
| Palmetto                      | 5.3                  | 6.0                       | 5.0                  | 7.0                       | 7.7                   | 8.0                       |
| LSD (P=.05)                   | 0.8                  | 0.00                      | 1.5                  | 0.00                      | 0.8                   | 0.8                       |

  

| <b>St. Augustine Internode length 3-4 (inches)</b> |                      |                           |                       |                           |
|--|----------------------|---------------------------|-----------------------|---------------------------|
| Rating Date Trt-Eval Interval                      | Zuni 9/Jun/04 30 DAP | Va Beach 27/Jul/04 60 DAP | Zuni 10/Aug/04 90 DAP | Va Beach 23/Aug/04 90 DAP |
| Raleigh  | 2.1                  | 1.9                       | 1.9                   | 1.8                       |
| Sapphire   | 2.3                  | 2.1                       | 2.0                   | 2.2                       |
| Palmetto   | 1.7                  | 1.6                       | 1.3                   | 1.4                       |
| LSD (P=.05)  | 0.2                  | 0.4                       | 0.2                   | 0.4                       |

  

| <b>St. Augustine Internode length 7-8 (inches)</b> |                      |                           |                       |                           |
|--|----------------------|---------------------------|-----------------------|---------------------------|
| Rating Date Trt-Eval Interval                      | Zuni 9/Jun/04 30 DAP | Va Beach 27/Jul/04 60 DAP | Zuni 10/Aug/04 90 DAP | Va Beach 23/Aug/04 90 DAP |
| Raleigh  | 1.9                  | 1.9                       | 1.7                   | 1.8                       |
| Sapphire   | 1.8                  | 2.2                       | 2.0                   | 2.0                       |
| Palmetto   | 1.6                  | 1.5                       | 1.3                   | 1.4                       |
| LSD (P=.05)  | 0.3                  | 0.3                       | 0.5                   | 0.3                       |

  

| <b>St. Augustine Internode length 7-8 (inches)</b> |                  |                    |                   |                    |
|--|------------------|--------------------|-------------------|--------------------|
|  | Gray leaf spot   |                    |                   | Spittlebug         |
| Rating Date Trt-Eval Interval                      | Zuni 9/Jun/04 30 | Va Beach 27/Jul/04 | Zuni 10/Aug/04 90 | Va Beach 23/Aug/04 |
|  |                  |                    |                   |                    |

|          |     |     |     |     |
|----------|-----|-----|-----|-----|
| Raleigh  | 7.0 | 7.5 | 8.3 | 7.7 |
| Sapphire | 9.0 | 8.0 | 8.7 | 7.0 |
| Palmetto | 6.0 | 7.0 | 7.3 | 8.0 |