

‘Southern Splendour’: A New Southern Highbush Blueberry Variety from The University of Georgia

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‘Southern Splendour’, tested as TH-664, was selected in 2001 at the Georgia Experiment Station in Griffin, Ga. from a group of seedlings of the cross ‘Reveille’ X ‘Palmetto’ planted in a nursery in 1998. ‘Reveille’ is a 1990 release from NC State that has trouble adapting to the low-to-medium chill conditions in south Georgia, and it typically has a smaller than desired berry size. Whereas ‘Reveille’ has a chill requirement in excess of 800 hours, south Georgia typically gets only 400 to 700 hours chilling in the primary blueberry production area. However, growers have been interested in a ‘Reveille’ type berry because of its desirable flavor and berry firmness. ‘Palmetto’ was released by UGA in 2003, and it has a low chill requirement, good flavor and firmness; however, it can over crop and produce small berries. Hence, the cross of ‘Reveille’ X ‘Palmetto’ attempted to generate seedlings with lower chill requirements, outstanding flavor, good berry firmness, and improved berry size, along with traits of early ripening. ‘Southern Splendour’ is a selection with many of these improved attributes. ‘Southern Splendour’ has been tested in plantings at Alapaha and Griffin, Ga. since 2002. The selection was planted at a grower test site in Ware County, Ga.

‘Southern Splendour’ is an early season southern highbush blueberry, having highly desirable flavor and very good berry firmness. The new variety also has a shortened fruit development period (time from flowering to ripening), but is only a medium yielding variety. Due to medium yields, ‘Southern Splendour’ likely will be a special niche variety where early ripening, highly flavorful fruit is desirable. Also, the potential for machine harvesting the new variety exists due to its firmness, concentrated ripening, and ease of detachment from the plant. The new variety appears to have a similar chill hour requirement to that of other early season southern highbush, in the range of 450 to 500 hours. Data describing these and other details follow.

Table 1 presents multi-year fruit and plant data for ‘Southern Splendour’ and ‘Palmetto’ (one of its parents), along with the industry standards ‘Star’ and ‘Rebel’, from a test plot planting at Alapaha, Ga. ‘Southern Splendour’ had superior flavor and firmness when compared to both ‘Star’ and ‘Rebel’ over the evaluation period, and it had some degree of firmness better than ‘Palmetto’. One of the most notable traits of ‘Southern Splendour’ is the short FDP. The new variety flowers several days after each of the standard varieties, yet, it ripens with or before them. This delay in flowering can be beneficial in avoiding some spring frost and freeze damage. Average cropping score (related to yield) was lowest for ‘Southern Splendour’ at this test site. However, the improved attributes of berry flavor and firmness still make the variety desirable for certain marketing opportunities.

An on-farm test site was established for 'Southern Splendour' and several standard varieties in Ware County, Georgia in 2003. Data from this trial for the period 2004-2009 are depicted in Table 2. Again, 'Southern Splendour' had superior berry flavor and firmness when compared to 'Star' and 'Rebel', and it had the shortest FDP of all varieties. Cropping score was again lowest for 'Southern Splendour' over the evaluation period.

Multi-year data from a third test site at Griffin are listed in Table 3. 'Southern Splendour' had very good berry firmness and flavor at this site, and had a short FDP. Cropping score for 'Southern Splendour' was more similar to the other varieties in Griffin. Berry size and plant vigor were also good for 'Southern Splendour' in Griffin. More detailed quantification of berry size and firmness are shown for 'Southern Splendour' and 'Star' for the Griffin location in Table 4. Berry firmness was measured using a FirmTech 2 device.

Collectively, data from these three locations over the 5-year period from 2004-2009 support the release of 'Southern Splendour' as a special niche variety. Its excellent fruit quality (flavor and firmness) are expected to make it desirable for production scenarios serving quality minded markets. Although yields can be lower for 'Southern Splendour', we expect some growers will be interested in this new variety for its early ripening and potential for machine harvesting. The firm fruit characteristic of 'Southern Splendour' is considered a prerequisite to successfully machine harvesting. We have conducted a limited test on this at the grower site and it appears berries detach easily and will hold up reasonably well during the procedure when compared to other southern highbush blueberry varieties (Figs. 1-3).

Table 1. Average ratings of some fruit and plant characteristics of ‘Southern Splendour’ and the southern highbush standard cultivars Palmetto, Star and Rebel from 2005-2009 in field test plots at Alapaha, Ga. These plants were established in 2002-2003. Severe freezes in 2007 and 2008 limited evaluations for those years.

Berry and plant attributes ^{Y/}	Cultivar			
	Southern Splendour	Palmetto	Star	Rebel
Berry size	7.5 ± 0.1	6.8 ± 0.3	7.2 ± 0.3	7.5 ± 0.5
Berry scar	7.5 ± 0.3	8.3 ± 0.3	7.5 ± 0.3	8.0 ± 0.1
Berry color	7.1 ± 0.1	7.0 ± 0.1	7.3 ± 0.2	7.7 ± 0.2
Berry firmness	8.8 ± 0.1	8.4 ± 0.1	7.7 ± 0.3	7.8 ± 0.2
Berry flavor	8.9 ± 0.1	8.7 ± 0.2	7.2 ± 0.2	6.8 ± 0.1
Cropping	3.8 ± 0.9	4.5 ± 1.0	4.3 ± 1.6	4.7 ± 2.1
Plant vigor	7.8 ± 0.3	7.5 ± 0.5	6.8 ± 0.8	7.8 ± 0.4
Date of 50% flowering	Mar. 9	Feb. 28	Feb. 27	Feb. 23
Date of 50% ripening	May 3	May 6	May 7	May 1
Fruit development period (days)	56 ± 4.6	67 ± 2.0	69 ± 1.5	66 ± 2.9

^{Y/} Values are means ± the standard error with n=3.

Table 2. Average ratings of some fruit and plant characteristics of ‘Southern Splendour’ and the southern highbush standard cultivars Palmetto, Star and Rebel from 2004-2009 in field test plots at a grower test site in Ware County, Ga. These plants were established in 2002-2003. Severe freeze damage in 2007 limited evaluations for that year.

Berry and plant attributes ^{Y/}	Cultivar			
	Southern Splendour	Palmetto	Star	Rebel
Berry size	7.6 ± 0.2	7.0 ± 0.2	7.9 ± 0.2	8.4 ± 0.3
Berry scar	8.2 ± 0.1	8.1 ± 0.2	7.9 ± 0.3	8.3 ± 0.2
Berry color	7.6 ± 0.1	7.1 ± 0.1	7.4 ± 0.2	7.8 ± 0.1
Berry firmness	8.7 ± 0.1	8.3 ± 0.2	7.6 ± 0.3	8.1 ± 0.1
Berry flavor	9.0 ± 0.2	8.5 ± 0.3	7.4 ± 0.2	6.9 ± 0.1
Cropping	4.8 ± 0.8	6.2 ± 0.8	6.3 ± 0.7	6.6 ± 0.9
Plant vigor	8.2 ± 0.6	7.9 ± 0.6	8.1 ± 0.3	9.0 ± 0.3
Date of 50% flowering	Mar. 7	Mar. 3	Feb. 28	Feb. 25
Date of 50% ripening	May 4	May 7	May 7	May 1
Fruit development period (days)	58 ± 2.2	66 ± 1.8	69 ± 2.2	66 ± 2.7

^{Y/} Values are means ± the standard error with n=5.

Table 3. Average ratings of some fruit and plant characteristics of ‘Southern Splendour’ and the southern highbush standard cultivars Palmetto, Star and Rebel from 2004-2009 in field test plots at Griffin, Ga. These plants were established in 2002-2003. Severe freeze damage in 2007 limited evaluations for that year.

Berry and plant attributes ^{Y/}	Cultivar			
	Southern Splendour	Palmetto	Star	Rebel
Berry size	7.5 ± 0.1	7.2 ± 0.2	7.2 ± 0.4	7.2 ± 0.4
Berry scar	8.2 ± 0.2	7.8 ± 0.3	7.6 ± 0.2	8.0 ± 0.2
Berry color	7.8 ± 0.2	7.2 ± 0.2	7.3 ± 0.1	7.8 ± 0.2
Berry firmness	8.9 ± 0.2	8.1 ± 0.4	7.5 ± 0.2	7.8 ± 0.1
Berry flavor	8.9 ± 0.2	8.8 ± 0.2	7.2 ± 0.1	7.0 ± 0.1
Cropping	5.4 ± 1.1	4.8 ± 1.0	6.0 ± 1.0	6.0 ± 1.5
Plant vigor	8.1 ± 0.6	8.0 ± 0.1	6.8 ± 0.4	7.1 ± 0.3
Date of 50% flowering	Mar. 22	Mar. 16	Mar. 14	Mar. 9
Date of 50% ripening	May 15	May 21	May 21	May 14
Fruit development period (days)	54 ± 3.9	66 ± 0.6	68 ± 1.4	66 ± 1.3

^{Y/} Values are means ± the standard error with n=5.

Table 4. Average berry weight and fruit firmness (measured with a FirmTech 2) of 'Southern Splendour' and 'Star' over several years in Griffin, Ga.

Year	<u>Avg. berry wt (g)</u>		<u>Berry firmness (g/mm)</u>	
	Southern Splendour	Star	Southern Splendour	Star
2006	1.32	1.46	217	182
2008	1.60	2.22	205	209
2009	1.93	2.26	200	190
avg.	1.62	1.98	207	194



Figure 1. Plants of 3-year old 'Southern Splendour' grown in field plots near Waycross, Ga.



Figure 2. Fruit of 'Southern Splendour'



Figure 3. Fruit of 'Rebel' (upper photo) and 'Southern Splendour' (lower photo) that were harvested with an over-the-row mechanical harvester on May 2, 2008 near Waycross, Ga.