# New Southern Highbush Blueberry Varieties From The University of Georgia



D. Scott NeSmith Dept. of Horticulture 1109 Experiment Street Griffin, GA 30223 The University of Georgia Blueberry Breeding Program is aggressively developing new cultivars for use by commercial growers, small pick-your-own operations and home gardeners. Our goal is to provide well adapted plants with high quality fruit for the Southeastern U.S. and other regions with similar climates. The program has been in existence for several decades, and this long term effort has led to great improvement of the plant material that is available. Many blueberry varieties on the market today are older selections, however, in the past few years newer varieties with superior performance have been developed. The following is a brief description (with photos) of new **southern highbush blueberry** (*Vaccinium corymbosum* L.) varieties that have been released by Dr. Scott NeSmith's UGA Blueberry Breeding Program since 2000. Varieties are presented in relative order of their release, from oldest to most recent.

Please note the new blueberry releases from UGA are protected varieties and require a license to propagate. Propagation rights are controlled by University of Georgia Research Foundation, Innovation Gateway, GSRC Boyd Bldg, Athens, Ga. 30602-7411 (http://research.uga.edu/gateway/).

### **Palmetto Southern Highbush Blueberry**

Palmetto, released in 2003, is an early ripening southern highbush blueberry. The most prominent feature of Palmetto is its outstanding flavor. The variety flowers and ripens around the time of Star in south and middle Georgia. In original south Georgia trials, Palmetto ripened more than 75% of its fruit during the first 2 weeks of May on average over a 5 year period. Palmetto has a good berry scar and berry firmness, although the scar can become wet and berries will soften if they hang too long on the plant ripe. Fruit are medium size with medium dark blue color. A great feature of Palmetto is its good plant vigor, which would make this a very suitable home garden variety for those desiring highly flavorful berries. Commerical production of Palmetto may be limited to production scenarios where fruit flavor is desired and harvests are made frequently. The variety has an estimated chill requirement of 400 to 450 hours < 7 C (45 F). A recommended companion variety for cross pollination is Suziblue. USPP 16,756.



Figure 1. Palmetto southern highbush blueberry flowers during bloom.



Figure 2. Palmetto southern highbush blueberry fruit during ripening.

### **Camellia Southern Highbush Blueberry**

Camellia, released in 2005, is a mid-season southern highbush blueberry that has highly attractive berries, especially with regards to color and size. Plants are very vigorous, have narrow crowns, and have strong upright cane growth. The variety has proven to be adaptable across a wide range of growing conditions. Camellia flowers and ripens 5 to 9 days after Star in south Georgia. Berries are large (up to 2.5 g and greater), firm, and flavorful. The variety has an estimated chill requirement of 450 to 500 hours < 7 C (45 F). Commercial growers desiring a high quality, mid-season blueberry that takes them up to early rabbiteye ripening time should consider Camellia in areas where southern highbush are successfully grown. Camellia should also be a good choice for pick-yourown growers that want a southern highbush since flowering is a little later than most southern highbush, and ripening period is somewhat extended over time. Care should be taken to not over fertilize Camellia, as it can grow excessively. Recommended companion varieties for cross pollination are Miss Jackie<sup>TM</sup> and Victoria<sup>TM</sup> for commercial growers and Palmetto for home gardens. USPP 18,151.



Figure 3. Camellia southern highbush blueberry during bloom.





Figure 4. Camellia southern highbush blueberry fruit during ripening.

### **Rebel Southern Highbush Blueberry**

Rebel is a very early season southern highbush blueberry released in 2006. Plants of Rebel are very vigorous and precocious with a slightly spreading growth habit. The variety produces abundant fruiting wood annually and leafs well following the mild winters of south Georgia. Rebel is productive in yield, exceeding yields of the varieties Star and O'Neal in original trials in south Georgia. Berries of Rebel ripen 5 to 8 days ahead Star, while Rebel flowering dates only average about 3 days earlier than Star. Rebel fruit are large, reaching 2.5 g/berry or more under good management, which includes good fertility practices and annual pruning. Other important fruit characteristics, including stem scar, color, and firmness are good to excellent for Rebel. Rebel has very low acid, so flavor can be bland if ripe berries hang too long on the plant. Growers desiring an early ripening southern highbush should consider Rebel in areas where southern highbush are successfully grown. The estimated chill requirement is 350-400 hours < 7 C (45 F). Recommended companion variety for cross pollination is Suziblue. USPP 18,138.



Figure 5. Rebel southern highbush blueberry during bloom.



Figure 6. Rebel plants at the beginning of fruit ripening.



Figure 7. Rebel southern highbush fruit during ripening.

### **Suziblue Southern Highbush Blueberry**

The southern highbush blueberry variety named Suziblue was released in 2009 as a main season variety. It is early ripening, with large fruit (2.2 to 2.8 grams per berry) having a medium to light blue color, and a small, dry picking scar. Suziblue berry firmness is very good and it has good flavor. The new variety flowers and ripens with Star in south and middle Georgia, although, berry size and firmness have been better than the variety Star in test trials. Suziblue plants are vigorous, precocious and have a semi-spreading bush habit with a medium crown. Yield has been similar to or greater than Star in south Georgia. Leafing has been very good, even following mild winters. Plants can hold older leaves through the winter in south Georgia. Suziblue has an estimated chill requirement of 350 or less hours < 7 C (45 F). Plants of Suziblue are self-fertile, but it is recommended to use a companion variety to enhance pollination and berry size. Rebel is suggested as a companion. Suziblue has performed very well in both south and middle Georgia, and California trials have shown it to be highly productive there, achieving yields in excess of 22,000 lbs/acre. Suziblue is suggested as a main season southern highbush variety where firm, large fruit is desired. It may be a candidate for machine harvesting as berries generally hold firmness well. However, Suziblue's tight clusters likely require hand harvesting during first harvests. USPP 21,167.



Figure 8. Suziblue plants during flowering in a high density bark bed.



**Figure 9.** Suziblue berries during ripening in California (upper photo) and Georgia (lower photo).



Figure 10. Suziblue during ripening in California (upper photo) and Georgia (lower photo).

### Southern Splendour Southern Highbush Blueberry

A new southern highbush blueberry variety named Southern Splendour was released in 2010. It is an early season variety with very firm, crisp berries that have outstanding flavor. Fruit are medium to medium-large in size (1.5 to 1.9 grams per berry), with medium light blue color, and small, dry picking scars. Southern Splendour has a short fruit development period, flowering several days after Star and Rebel in south Georgia, but ripening with them. Plants are vigorous and have a semi-upright bush habit with a narrow crown. Yield has been only medium for Southern Splendour, but its excellent berry firmness and ease of berry detachment make it a possible candidate for machine harvesting for fresh and process markets. Southern Splendour has an estimated chill requirement of 450 to 500 hours < 7 C (45 F). Plants are self-fertile, but it is recommended they be planted with other southern highbush blueberry cultivars with a similar time of flowering for cross-pollination (Suziblue suggested). Southern Splendour is new, so planting on a trial basis is recommended. USPP 22,692.



Figure 11. Flowers of Southern Splendour being pollinated.



Figure 12. Southern Splendour berries during ripening.



Figure 13. Plants of 3-year old Southern Splendour grown near Waycross, Ga.

## Georgia Dawn<sup>TM</sup> Southern Highbush Blueberry

A very early ripening southern highbush, Georgia Dawn<sup>TM</sup>, was released in 2011. The new variety ripens 7 to 12 days before the early varieties Rebel and Star in south Georgia. Georgia Dawn<sup>TM</sup> also flowers very early (similar to Emerald) and should be grown with frost protection measures for more reliable production. However, the early ripening of Georgia Dawn<sup>TM</sup> should offer growers a chance for higher market prices, thus, a "reward" for the "risk". Georgia Dawn<sup>TM</sup> has medium to large berries with good flavor, scar and firmness. The new variety also has good plant vigor, with an upright growth habit and narrow crown. It's plausible Georgia Dawn<sup>TM</sup> could be suitable for mechanical harvest. The new variety is estimated to have a chilling requirement of 150 to 200 or less hours < 7 C (45 F). Growers seeking a very early blueberry variety, that are willing to frost protect, should consider trialing Georgia Dawn<sup>TM</sup>. The variety is self fertile but a companion variety would be good for cross pollination. Rebel is a suggested companion. Patented as TH-819 (USPP 24,696).



Figure 14. Georgia Dawn<sup>TM</sup> during flowering.



**Figure 15.** Georgia Dawn<sup>TM</sup> fruit during ripening.

# Victoria<sup>TM</sup> Southern Highbush Blueberry

Victoria<sup>TM</sup>, released in 2012, is early to mid season, ripening after 'Star' in south and middle Georgia. 'Victoria<sup>TM</sup>' begins ripening several days (4 to 6) before 'Camellia', but its protracted ripening results in the two varieties ripening 50% of their fruit near the same time. 'Victoria<sup>TM</sup>' has large, firm berries with very good flavor. The new variety is estimated to have a chilling requirement of 500 to 550 hours < 7 C (45 F) when produced under typical low to mid chill production regions. However, preliminary trials in regions of low latitude (Peru and Mexico) have indicated 'Victoria<sup>TM</sup>' may perform well as an evergreen or ever bearing variety too. These regions receive atypical (if any) "chill hours", and finding varieties that produce well in such regions is a challenge. Observations have revealed that 'Victoria<sup>TM</sup>' appears to have the potential to adapt to such conditions. Patented as TH-929 (USPP 25,994).



Figure 16. 'Victoria<sup>TM</sup>' plants during flowering.



**Figure 17.** Plants of 'Victoria<sup>TM</sup>' during fruit ripening.



Figure 18. Close-up of 'Victoria<sup>TM</sup>' fruit.

# Miss Jackie<sup>TM</sup> Southern Highbush Blueberry

Released in 2014, the new variety Miss Jackie<sup>TM</sup> is later ripening than 'Star', ripening more closely to 'Camellia'. The latter half of May is a production time frame in south Georgia that often has a "fruit gap". This gap occurs as the main season highbush varieties expire; and, before the early season rabbiteye varieties come into significant production. 'Camellia' has proven to help fill this gap, but additional varieties are needed. Miss Jackie<sup>™</sup> fits the timing of the gap well, and should compliment 'Camellia' nicely. The variety generally flowers later than main season varieties, but it also ripens later. It has an estimated chill requirement of 500 to 550 hours < 7 C (45 F). This variety, like 'Camellia', could be used in production systems without frost protection to achieve later season highbush production. Fruit are high quality, and the bush is generally easier to manage than 'Camellia', as 'Camellia' can be overly vigorous, causing excessive plant "leggyness". Yield of the new variety has been 15-35% greater than 'Camellia' and 'Star'. Berries average 1.6 to 1.9 g/berry. Miss Jackie<sup>™</sup> isn't necessarily expected to replace 'Camellia', but it will be a strong candidate as a companion variety, or as a variety offering an additional option to growers in this production window. Patented as TH-917 (USPP 27,531).



Figure 19. 'Miss Jackie<sup>TM</sup>' plants during flowering.



**Figure 20.** Miss Jackie<sup>TM</sup> fruit during ripening.

# Miss Alice Mae<sup>TM</sup> Southern Highbush Blueberry

Released in 2014, Miss Alice Mae<sup>™</sup> is a main season southern highbush variety aimed at replacing an older industry standard 'Star'. The new variety will flower a few days later than 'Star', helping to avoid some freeze damage scenarios, and it should ripen during the current "peak" of southern highbush season, which is around the first week of May in south Georgia. Chill hour requirements are estimated to be 500 to 550 hours <7 C (45 F). Berry quality is very good, especially scar, firmness and flavor. Berry size is good, averaging 1.6 to 2.1 g/berry. Yields have been good, averaging 18 to 20% greater than 'Star'. The bush is moderately vigorous, with a semi-upright growth habit. Regular pruning is encouraged to prevent over cropping which can lead to smaller berry size. Growers seeking a main season southern highbush blueberry variety that has good yield potential and excellent fruit quality should consider trialing Miss Alice Mae<sup>TM</sup>. The variety is self fertile, but a companion variety would be good for cross pollination. 'Camellia' and 'Miss Jackie<sup>TM</sup>' are suggested companions. The variety is patented as TH-921 (USPP 27,292).



Figure 21. 'Miss Alice Mae<sup>TM</sup>' plants during flowering.



**Figure 22.** Miss Alice Mae<sup>TM</sup> fruit during ripening.

# Miss Lilly<sup>TM</sup> Southern Highbush Blueberry

Released in 2014, Miss Lilly<sup>™</sup> is expected to offer growers fruit that ripens in the main southern highbush season, but without the requirement of frost protection. The new variety flowers very late, some 12 to 14 days after 'Star', but ripens in early to mid May in south Georgia. The estimated chill requirement is 500 to 600 hours < 7 C (45 F). Fruit are quite large (2.1 to 3.2 g/berry), with good flavor and firmness. Miss Lilly<sup>™</sup> per plant yields are some 20% less than 'Star' on average; however, the yields are steady from year to year due to the late flowering habit that allows the variety to nearly always escape cold damage. The lower per plant yield can be compensated for by higher density planting, since the plant is typically very narrow and upright (see photos). Higher density planting would help achieve more competitive per acre yields. Regardless, growers looking for an easier to manage, early ripening southern highbush should consider trying Miss Lilly<sup>™</sup>. Plants are very vigorous and have responded well to mechanical pruning. Pruning and tipping of strong canes is recommended to promote more fruiting wood. Miss Lilly<sup>™</sup> could be grown with 'Camellia' and 'Miss Jackie<sup>™</sup>' to provide early and later ripening fruit on the same farm. The variety is patented as TH-948 (USPP 27,323).



Figure 23. 'Miss Lilly<sup>TM</sup>' plants during flowering.



**Figure 24.** Miss Lilly<sup>TM</sup> fruit during ripening.