‘TH-921’ Southern Highbush Blueberry Miss Alice Mae™

D. Scott NeSmith1,2

Department of Horticulture, University of Georgia-Griffin Campus, Griffin, GA 30223-1797

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Southern highbush blueberries (interspecific hybrids containing mostly Vaccinium corymbosum L.) have gained a significant share of the production acreage of commercial blueberries in Georgia in recent years. A major reason for the interest in the species has been that berries ripen early during the months of April and May. Recently, University of Georgia (UGA) cultivars ‘Rebel’ (USPP 18138) and Georgia Dwarf™ (USPP 24696) were released for the very early market window (NeSmith, 2008, 2014), and ‘Camellia’ (USPP 18151) was released as a later season southern highbush (NeSmith and Draper, 2007). However, there is a need for midseason cultivars (those ripening during the first 2 to 3 weeks in May) to replace the older standard cultivar ‘Star’ (USPP 10675) which was released by the University of Florida in 1996 (Lyrene and Sherman, 2000).

‘TH-921’ (USPP 27292) southern highbush blueberry Miss Alice Mae™ has been released by The UGA, College of Agricultural and Environmental Sciences along with the Georgia Agricultural Experiment Station as a midseason southern highbush. The new cultivar has good yields, along with excellent berry flavor, picking scar, and firmness. Miss Alice Mae™ usually flowers late, so frost/freeze protection measures are not typically necessary to achieve successful production as is often required for earlier flowering southern highbush cultivars.

Origin and Description

Miss Alice Mae™ was selected in 2005, at the Georgia Experiment Station in Griffin, GA, originating from a cross of TH-647 × ‘Windsor’ made in 2002. The maternal parent, TH-647, is a UGA breeding line derived from a cross of ‘Revelle’ × ‘Palmetto’ (USPP 16756), whereas the paternal parent, ‘Windsor’, is a University of Florida cultivar (USPP 12783). Miss Alice Mae™ has been tested in plantings at UGA Blueberry Research Farms in Alapaha and Griffin, GA, since 2007. Miss Alice Mae™ is being released for commercial usage. The new cultivar has an estimated chill requirement of 450 to 550 h (°C) based on observations and comparisons with other cultivars. It is a midseason southern highbush with medium-large size fruit (1.5 to 2.1 g/berry). Berries are medium to light blue in color and have a small, dry picking scar. Berry flavor and firmness are very good. Miss Alice Mae™ plants are moderately vigorous, and have a semi-upright bush habit with a relatively narrow crown. Propagation is easily accomplished using either softwood cuttings or in vitro propagation. Plants are self-fertile, but planting with other southern highbush blueberry cultivars for cross-pollination is recommended.

Performance

Miss Alice Mae™ was established in selection blocks at the UGA Blueberry Research Farms in Alapaha and Griffin, GA, as multiple plants in 2007. Fruit and plant data averaged across several years from these two test sites for the new cultivar for ‘Star’ and ‘Camellia’ are presented in Tables 1 and 2. Miss Alice Mae™ showed ‘Camellia’ at both locations, but typically ripened nearer the time of ‘Star’. Fruit ratings showed a good picking scar, along with very good berry firmness and flavor for Miss Alice Mae™ as compared with the two standard cultivars. Berry size ratings showed ‘Camellia’ with a larger berry, however. Plant vigor for Miss Alice Mae™ was equal to or better than ‘Star’, but less than ‘Camellia’. However, ‘Camellia’ has been almost too vigorous (personal observations in the southeastern and western United States), especially in high input systems where it can grow excessively with an unfavorable plant growth habit that leads to ‘legginess’ and ‘floppiness.’ Therefore, the more moderate plant vigor of Miss Alice Mae™ is more desirable.

Table 1. Five-year average ratings of some fruit and plant characteristics of Miss Alice Mae™ and southern highbush standard cultivars ‘Star’ and ‘Camellia’ from 2009 to 2013 in field test plots at Alapaha, GA. Rating scales are based on a 1 to 10 score, with 1 being the least desirable and 10 being the most desirable. A value of 6–7 is generally considered to be the minimum acceptable rating for a commercial cultivar. These plants were established in Fall 2007.

| Berry and plant attributes | ‘Star’ | ‘Camellia’ | Miss Alice Mae™ |
|---------------------------|-------|-----------|----------------|
| Berry size                | 7.6 ± 0.2 | 8.9 ± 0.2 | 7.4 ± 0.3 |
| Berry scar                | 7.0 ± 0.1 | 7.2 ± 0.2 | 7.9 ± 0.3 |
| Berry color               | 7.1 ± 0.1 | 8.7 ± 0.2 | 7.6 ± 0.1 |
| Berry firmness            | 7.2 ± 0.1 | 7.2 ± 0.1 | 7.6 ± 0.1 |
| Berry flavor              | 7.0 ± 0.1 | 7.8 ± 0.1 | 7.9 ± 0.3 |
| Cropping                  | 4.7 ± 1.7 | 5.4 ± 0.3 | 5.9 ± 1.4 |
| Plant vigor               | 6.3 ± 0.2 | 9.8 ± 0.2 | 8.4 ± 0.5 |
| Date of 50% flowering     | 3 Mar. | 1 Mar. | 8 Mar. |
| Date of 50% ripening      | 8 May | 15 May | 8 May |
| Fruit development period (days) | 66.3 ± 6.1 | 65.3 ± 4.9 | 61.0 ± 6.5 |

Table 2. Five-year average ratings of some fruit and plant characteristics of Miss Alice Mae™ and southern highbush standard cultivars ‘Star’ and ‘Camellia’ (2009–13) in field test plots at Griffin, GA. Rating scales are based on a 1 to 10 score, with 1 being the least desirable and 10 being the most desirable. A value of 6–7 is generally considered to be the minimum acceptable rating for a commercial cultivar. These plants were established in Fall 2007.

| Berry and plant attributes | ‘Star’ | ‘Camellia’ | Miss Alice Mae™ |
|---------------------------|-------|-----------|----------------|
| Berry size                | 7.4 ± 0.2 | 8.6 ± 0.2 | 7.8 ± 0.3 |
| Berry scar                | 6.9 ± 0.1 | 7.0 ± 0.1 | 7.5 ± 0.1 |
| Berry color               | 7.1 ± 0.1 | 7.9 ± 0.2 | 7.8 ± 0.2 |
| Berry firmness            | 7.2 ± 0.1 | 7.2 ± 0.1 | 7.4 ± 0.3 |
| Berry flavor              | 7.1 ± 0.1 | 7.4 ± 0.2 | 7.9 ± 0.2 |
| Cropping                  | 6.8 ± 1.1 | 7.9 ± 0.2 | 6.6 ± 0.5 |
| Plant vigor               | 8.5 ± 0.3 | 9.8 ± 0.1 | 8.7 ± 0.3 |
| Date of 50% flowering     | 13 Mar. | 25 Mar. | 21 Mar. |
| Date of 50% ripening      | 25 May | 31 May | 26 May |
| Fruit development period (days) | 73.3 ± 10.4 | 67.3 ± 4.8 | 66.0 ± 4.8 |

Values are means ± SE with n = 5.
Table 3. Three-year average ratings (2014–16) of some fruit and plant characteristics of Miss Alice Mae™ and southern highbush standard cultivars ‘Star’, ‘Rebel’, ‘Farthing’ (USPP 19341), and ‘Camellia’ in Advanced Selection field test plots at Alapaha, GA. Rating scales are based on a 1 to 10 score, with 1 being the least desirable and 10 being the most desirable. A value of 6–7 is generally considered to be the minimum acceptable rating for a commercial cultivar. These plants were established in Fall 2010.

| Berry and plant attributes | ‘Star’ | ‘Rebel’ | ‘Farthing’ | ‘Camellia’ | Miss Alice Mae™ |
|----------------------------|--------|---------|------------|------------|----------------|
| Berry size | 7.2 ± 0.3 | 7.5 ± 0.3 | 7.1 ± 0.3 | 8.8 ± 0.2 | 7.7 ± 0.2 |
| Berry scar | 6.9 ± 0.1 | 7.4 ± 0.1 | 7.4 ± 0.2 | 7.0 ± 0.1 | 7.5 ± 0.1 |
| Berry color | 7.1 ± 0.1 | 7.0 ± 0.1 | 6.8 ± 0.1 | 8.2 ± 0.2 | 7.5 ± 0.1 |
| Berry firmness | 7.5 ± 0.1 | 7.4 ± 0.2 | 7.3 ± 0.2 | 7.5 ± 0.1 | 7.5 ± 0.2 |
| Berry flavor | 7.2 ± 0.2 | 6.6 ± 0.2 | 7.0 ± 0.1 | 8.0 ± 0.2 | 8.0 ± 0.1 |
| Cropping | 5.3 ± 1.1 | 4.5 ± 0.7 | 8.2 ± 0.2 | 6.2 ± 0.4 | 7.6 ± 0.3 |
| Plant vigor | 8.2 ± 0.2 | 6.6 ± 0.6 | 7.5 ± 0.5 | 9.8 ± 0.2 | 8.5 ± 0.3 |
| Date of 50% flowering | 5 Mar. | 1 Mar. | 7 Mar. | 12 Mar. | 9 Mar. |
| Date of 50% ripening | 5 May | 1 May | 11 May | 12 May | 9 May |

Values are means ± SE with n = 3.

Table 4. Yield and berry weight, firmness, and Brix for ‘Star’ and ‘Camellia’ cultivars and Miss Alice Mae™ grown in Griffin, GA during 2010–13.

| Yr   | ‘Star’ | ‘Camellia’ | Miss Alice Mae™ |
|------|--------|------------|----------------|
|      | Yield (kg/plant) |          |                |
| 2011 | 5.8 ± 1.6 | 4.4 ± 0.4 | 4.7 ± 0.3 |
| 2012 | 5.3 ± 1.0 | 4.8 ± 0.4 | 4.1 ± 0.5 |
| 2013 | 1.8 ± 0.3 | 7.2 ± 0.5 | 6.5 ± 1.1 |
| Average | 4.3 | 5.5 | 5.1 |
| Berry wt (g/berry) |          |          |                |
| 2010 | 1.53 ± 0.09 | 2.94 ± 0.12 | 2.07 ± 0.09 |
| 2011 | 1.20 ± 0.04 | 1.97 ± 0.11 | 1.47 ± 0.04 |
| 2012 | 1.80 ± 0.07 | 1.60 ± 0.09 | 1.75 ± 0.06 |
| 2013 | 1.79 ± 0.06 | 2.56 ± 0.10 | 2.00 ± 0.04 |
| Avg   | 1.58 | 2.28 | 1.82 |
| Firmness (g/mm) |          |          |                |
| 2010 | 196 ± 4 | 150 ± 2 | 208 ± 2 |
| 2011 | 206 ± 6 | 166 ± 3 | 190 ± 2 |
| 2012 | 190 ± 5 | 164 ± 4 | 182 ± 4 |
| 2013 | 191 ± 5 | 150 ± 2 | 208 ± 3 |
| Avg   | 196 | 157 | 197 |
| Brix (%) |          |          |                |
| 2012 | 13.9 ± 0.6 | 14.5 ± 0.4 | 15.3 ± 0.9 |
| 2013 | 13.5 ± 0.5 | 13.3 ± 0.3 | 14.0 ± 1.2 |
| Avg   | 13.7 | 13.9 | 14.7 |

Values are means ± the SE with n = 3.

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