

'Early Augustprince' and 'Augustprince' Peaches

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Peach production in the southeastern United States is dependent on the availability of cultivars that are competitive in the market as well as reliable producers in our highly variable climate. 'Early Augustprince' (tested as BY96P2634) has been released to provide an attractive, very firm peach well adapted to the southeastern climate ripening with or just after 'Cresthaven' and 'Sunprince'. 'Augustprince' (tested as BY96P2631) has been released to provide an attractive, very firm peach also well adapted to the southeastern climate and ripening with or just before 'Jefferson'. These two cultivars have performed well in tests in South Carolina and Georgia and are suggested for grower trials wherever 'Sunprince' is grown.

Origin

'Early Augustprince' and 'Augustprince' both resulted from a cross of 'Sunprince' × BY92P2710 (Fig. 1) made in 1995 at the Agricultural Research Service–U.S. Department of Agriculture (ARS-USDA) Southeastern Fruit and Tree Nut Research Laboratory in Byron, GA, by W.R. Okie. 'Sunprince' is a 1982 release from ARS-USDA Byron noted for its large-sized but insufficiently blushed fruit (Okie et al., 1982). BY92P2710 is a highly colored selection with excellent eating quality, which resulted from a cross of 'Flameprince' × BY87P943 made in 1991 at Byron. 'Flameprince' is another ARS-USDA Byron release with late-ripening fruit that is very firm and slow-softening (Okie, 1998). BY87P943 resulted from an open-pollinated seed of 'Blazeprince' collected in 1986. 'Blazeprince', also a Byron cultivar, has very highly colored round fruit with excellent eating quality.

The original seedling tree of 'Early Augustprince' was designated as BY96P2634 when it was planted at Byron, GA, in 1996 and was selected by W.R. Okie when it first fruited in 1998. The original seedling tree of 'Augustprince' was designated as

BY96P2631 when it was planted at Byron, GA, in 1996 and was selected by W.R. Okie when it first fruited in 1998. These cultivars were officially released by ARS-USDA 17 Oct. 2006.

Description

'Early Augustprince'. Trees of 'Early Augustprince' are vigorous and productive. Leaf glands are globose. Trees appear to be moderately resistant to bacterial spot disease. Blossoms have large, showy pink petals and are self-fertile. Trees bloom slightly after 'Sunprince' and before 'Cresthaven', requiring ≈800 to 850 h of chilling below 7 °C (45 °F) to break the bud rest period in climates similar to that of Byron. 'Early Augustprince' has cropped well in years when chilling has been inadequate for 'Cresthaven'. No virus symptoms have been observed on 'Early Augustprince' trees at Byron.

'Augustprince'. Trees of 'Augustprince' are vigorous and productive. Leaf glands are reniform. Trees appear to be moderately resistant to bacterial spot disease. Blossoms have large, showy pink petals and are self-fertile. Trees bloom after 'Sunprince' and before 'Cresthaven', requiring ≈850 h of chilling below 7 °C (45 °F) to break the bud rest period in climates similar to that of Byron. 'Augustprince' has cropped well in years when chilling has been inadequate for 'Cresthaven'. No virus symptoms have been observed on 'Augustprince' trees at Byron.

Performance in Georgia was based on multiple nonreplicated trees in both seedling and selection test blocks. 'Early Augustprince' ripens in mid- to late July at Byron with 'Sunprince' or a few days after 'Cresthaven', although the season has ranged from 0 to 7 d after 'Cresthaven'. Most years it ripens 3 to 7 d before its sibling, 'Augustprince'. The fruit is large, 7 to 8 cm in diameter when adequately thinned, and usually very round. Fruit is larger than 'Cresthaven' and has more red color than either 'Sunprince' or 'Cresthaven' (Fig. 2). At maturity, the surface is 70% to 80% bright red with an attractive yellow ground color and little pubescence. The flesh is yellow with some red in the flesh if allowed to mature on the tree. The freestone fruit is firm with excellent melting texture and very good flavor.

'Augustprince' ripens in late July to early August at Byron, usually with 'Jefferson', although in certain years, it may be a week earlier or later. Most years it ripens 3 to 7 d after its sibling, 'Early Augustprince'. The fruit is large, 7 to 8 cm in diameter when adequately thinned, and usually very round. Fruit is larger, firmer, and redder than 'Jefferson'. At maturity, the surface is 70% to 80% bright red with an attractive yellow ground color and little pubescence. The flesh is yellow with some red in the flesh if allowed to mature on the tree. The freestone fruit is firm with excellent melting texture and very good flavor.

Fruit performance in South Carolina was assessed at two sites on commercial grower farms in the primary peach-growing regions of the state. At a Ridge area site (Watsonia Farms, Monetta, SC), a replicated trial of 51 advanced selections and industry standard cultivars was planted in 2000. In 2001, a similar trial with 55 entries was planted in the Piedmont (Cash Farms, Cowpens, SC). The trials spanned the ripening season from the first week of May through early September. The trial sites each had three blocks of three trees per advanced selection and cultivar. All trees were propagated on Guardian™ rootstock and were planted high density (6 m × 2 m = 996 trees/ha) and trained to

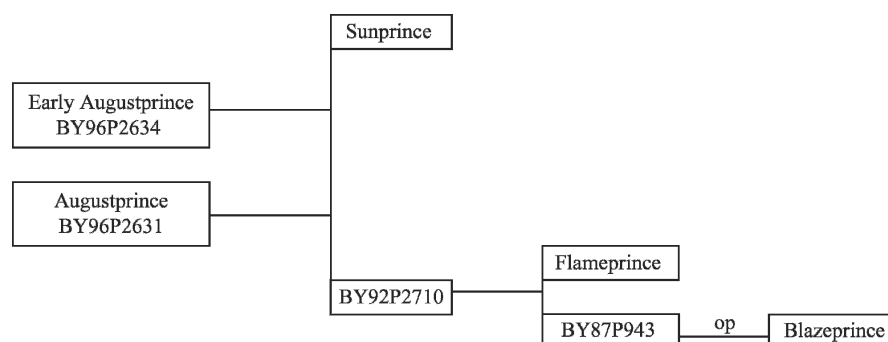


Fig. 1. Pedigree of 'Early Augustprince' and 'Augustprince' peaches.

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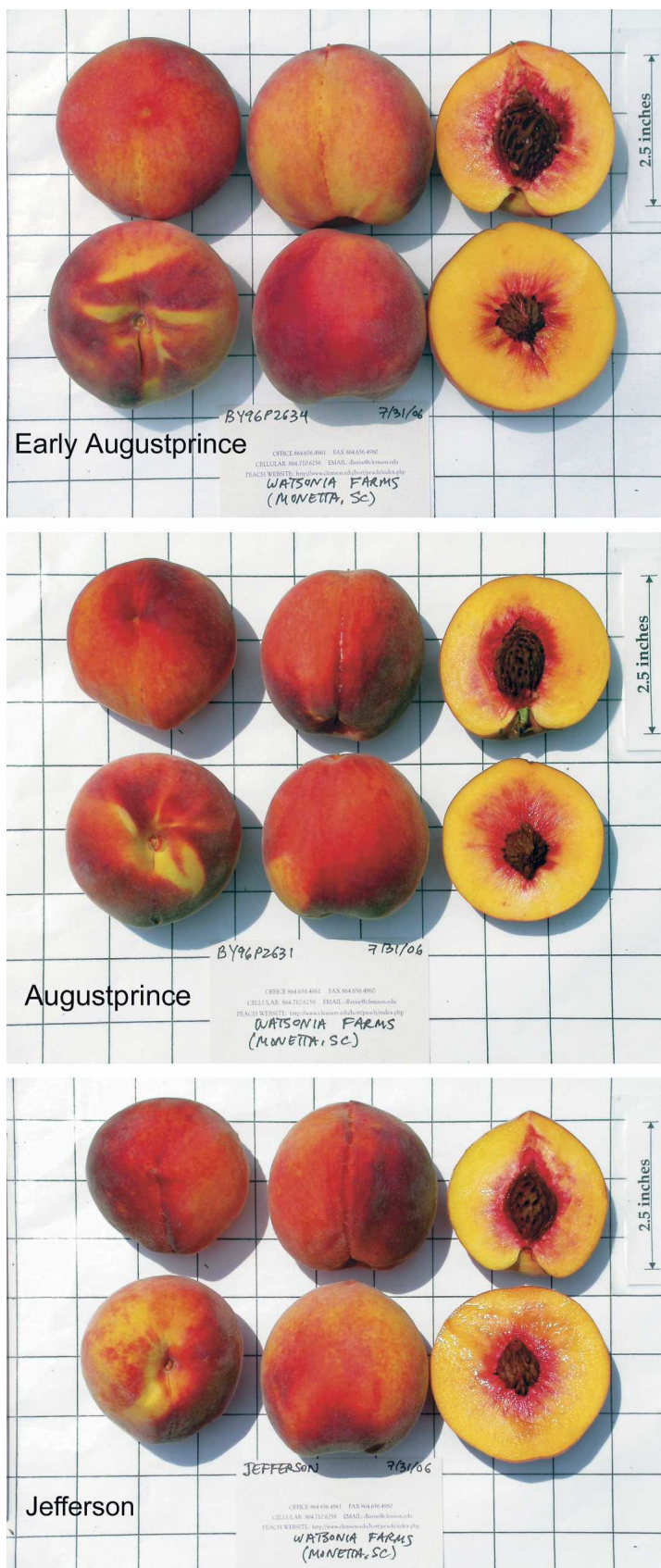


Fig. 2. Ripe fruit of 'Early Augustprince' (BY96P2634), 'Augustprince' (BY96P2631), and 'Jefferson' harvested in Monetta, SC, on 31 July 2006.

the perpendicular V training system (DeJong et al., 1994). All orchard operations (fertilization, pesticide application, pruning, thinning, and training) were carried out by the commercial grower according to standard practices of the southeastern U.S. peach industry. Beginning in 2002 (Watsonia planting) or 2003 (Cash planting), fruit evaluations began on a weekly basis each summer through the end of the 2006 season. Advanced selections and industry standard cultivars were assessed as they reached maturity throughout the season. On the date of evaluation, a visual assessment of the nine replicate trees was made for percentage of a full crop (set) on a 0 to 8 scale in which 8 represented a full crop. A composite fruit sample (25 to 30 representative fruits were picked randomly from each of the three blocks of three trees) was collected and evaluation was conducted in the field. From this sample, a subsample of six fruit was selected for a representative digital photograph to a standard scale. From the remaining fruits, a subset of 10 was selected and fruit diameter (in millimeters) was determined using a digital caliper. Measurements were taken at the widest point along the stem–blossom end axis at the suture and perpendicular to the suture. An average of these two measurements was calculated and used to represent fruit diameter. Of this 10-fruit subsample, an average visual rating for fruit shape (0 to 8 scale, perfectly globose = 8) and percent red surface (blush, 0 to 8 scale, 8 = 100% red surface) was determined. Flesh firmness was determined midcheek on opposite sides of the fruit (perpendicular to the suture) using an Effigi penetrometer (model FT327; McCormick Fruit Tech., Yakima, WA) equipped with an 8-mm stone fruit tip. The two measurements were averaged and converted from pounds force (lbf) to Newtons (N) by the formula $N = \text{lbf} \times 4.44838$. Additional performance information, digital images, and notes for all selections and cultivars are available at the Clemson University peach evaluation web site (<http://www.clemson.edu/hort/peach/index.php?p=73>). Both 'Early Augustprince' and 'Augustprince' have performed well in South Carolina (Table 1). At Monetta, size, blush, and firmness were excellent (Fig. 2). At the Cowpens site, blush was again excellent, superior to other peaches in the season, except 'O'Henry', which is highly bacterial spot-susceptible.

Trees of these cultivars are available from commercial nurseries that supply the southeastern peach industry (primarily in Tennessee). There are no restrictions on the propagation or sale of such trees. The ARS-USDA has no trees of 'Early Augustprince' or 'Augustprince' for distribution. Clonal material of this release will be deposited in the NRSP5/IR-2 Fruit Tree Collection (NRSP5/IR-2, IAREC, Washington State University, Prosser, WA 99350) where it will be available as virus-indexed budwood for research purposes, including development and commercialization of new varieties. Budwood requests from foreign countries must include

Table 1. Relative performance of peaches in South Carolina.

Cultivar	Ripe date (\pm days)	Mean set (0–8) ^z	Mean size (mm diam)	Mean shape (0–8) ^z	Mean blush (0–8) ^z	Mean firmness (N) ^y
Monetta, SC ^x						
Cresthaven	23 July \pm 2.9	8.0 \pm 0.0	72.5 \pm 2.2	7.6 \pm 0.1	7.2 \pm 0.2	24.7 \pm 4.5
Early Augustprince	28 July \pm 2.3	7.8 \pm 0.2	74.9 \pm 1.8	7.4 \pm 0.1	7.3 \pm 0.1	29.2 \pm 2.7
Augustprince	30 July \pm 1.3	7.8 \pm 0.2	71.1 \pm 2.0	7.4 \pm 0.1	7.5 \pm 0.0	46.4 \pm 1.8
Jefferson	31 July \pm 2.7	7.2 \pm 0.5	70.4 \pm 2.8	7.2 \pm 0.2	7.2 \pm 0.1	30.6 \pm 2.3
O'Henry	9 Aug. \pm 2.2	7.3 \pm 0.6	73.5 \pm 1.9	7.7 \pm 0.1	7.9 \pm 0.0	51.4 \pm 3.8
Flameprince	16 Aug. \pm 2.7	7.6 \pm 0.2	70.6 \pm 2.4	7.4 \pm 0.1	7.4 \pm 0.2	30.8 \pm 4.8
Cowpens, SC ^x						
Cresthaven	28 July \pm 0.3	7.7 \pm 0.3	71.3 \pm 3.8	7.7 \pm 0.1	7.3 \pm 0.1	23.3 \pm 3.5
Early Augustprince	4 Aug. \pm 0.3	7.3 \pm 0.6	72.1 \pm 3.1	7.8 \pm 0.0	7.7 \pm 0.1	30.2 \pm 6.4
Jefferson	8 Aug. \pm 3.0	7.8 \pm 0.2	69.3 \pm 2.5	7.5 \pm 0.0	7.5 \pm 0.0	21.7 \pm 5.8
Augustprince	9 Aug. \pm 3.3	7.8 \pm 0.2	74.0 \pm 2.7	7.8 \pm 0.0	7.8 \pm 0.0	36.9 \pm 1.3
O'Henry	11 Aug. \pm 3.3	7.3 \pm 0.3	69.3 \pm 1.1	7.8 \pm 0.0	7.9 \pm 0.0	38.2 \pm 5.6

^xRating scale 0 to 8: set 8 = full crop, shape (8 = round), blush (8 = solid red).

^yFirmness: N = penetrometer reading in pounds force \times 4.44838.

^zMeans (\pm SE) for 2002 to 2006 for Monetta; 2003 to 2006 in Cowpens. Ripe date and set estimated from three replications. Fruit parameter means based on a 10-fruit subsample of 25 or more fruit picked over the three replications.

proper import permits. Limited amounts of budwood are available from W.R. Okie, ARS-USDA, Southeastern Fruit and Tree Nut Research Laboratory, 21 Dunbar Road, Byron, GA 31008. It is requested that appropriate recognition be given when this germ-

plasm contributes to the development of a new breeding line or cultivar.

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