

Fruit Quality Characteristics of Three New Peach and Nectarine Varieties: Brigantine, Evelynn, and Tiana

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Two exciting new peach cultivars and one new nectarine have been released from the Rutgers Stone Fruit Breeding through Adams County Nursery. These new varieties were created and selected by Joseph Goffreda at the Rutgers Fruit and Ornamental Research Extension Center in Cream Ridge, New Jersey. To understand how best to select and market these varieties growers need to

better understand the characteristics of their fruit. We performed several studies to estimate fruit qualities, both chemical and physical, that determine much of the value of peaches.

For each study fruit were harvested from three to five-year-old trees established in commercial orchards in southern New Jersey. Harvesting at the time of com-



Figure 1. Fruit of Brigantine nectarine from the Stone Fruit Breeding Program of Rutgers/NJAES (photograph credit: Hemant Gohil).



Figure 2. Fruit of Evelynn a new peach from the Stone Fruit Breeding Program of Rutgers/NJAES (photograph credit: Hemant Gohil).

Table 1. Physical properties of fruit harvested from three new varieties of peach and nectarine. Each value came from samples of approximately 24-30 fruit taken on each of 2-4 harvest dates in each year.

Variety	Property	2015		2016		2017	
		Average	Standard deviation	Average	Standard deviation	Average	Standard deviation
Brigantine (NJH21-44)	Fruit firmness (lbs)	8.2	5.1	9.9	4.4	-	-
	Fruit diameter (in)	2.6	0.1	2.6	0.2	-	-
	Fruit mass (g)	160.9	18.1	183.5	37.8	-	-
Evelynn (NJH7-47)	Fruit firmness (lbs)	10.0	6.1	7.3	2.4	10.7	3.1
	Fruit diameter (in)	2.9	0.2	2.9	0.2	2.8	0.1
	Fruit mass (g)	203.0	31.7	236.2	34.6	174.7	23.0
Tiana (NJK64-197)	Fruit firmness (lbs)	10.3	0.8	12.3	1.7	-	-
	Fruit diameter (in)	3.0	0.1	3.2	0.2	-	-
	Fruit mass (g)	228.6	27.5	330.2	57.5	-	-



Figure 3. Fruit of Tiana a new peach from the Stone Fruit Breeding Program of Rutgers/NJAES (photograph credit: Hemant Gohil).

Table 2. Chemical properties of fruit harvested from three new varieties of peach and nectarine. Each value came from samples of approximately 24-30 fruit taken on each of 2-4 harvest dates in each year.

Variety	Property	2015		2016		2017	
		Average	Standard deviation	Average	Standard deviation	Average	Standard deviation
Brigantine (NJH21-44)	TTA (g/l)	1.52	0.11	1.4	0.2	-	-
	pH	3.36	0.06	-	-	-	-
	TSS (°Brix)	10.10	0.22	10.0	0.2	-	-
Evelynn (NJH7-47)	TTA (g/l)	0.40	0.05	0.3	0.1	1.58	0.09
	pH	4.70	0.17	-	-	3.30	0.02
	TSS (°Brix)	9.96	0.44	9.8	0.9	10.93	0.06
Tiana (NJK64-197)	TTA (g/l)	1.50	0.04	-	-	-	-
	pH	3.58	0.01	-	-	-	-
	TSS (°Brix)	11.53	0.15	-	-	-	-


mercial maturity for each cultivar was based on ground color change and size. After picking, fruits were transported to the laboratory at Rutgers Agricultural Research and Extension center where all analyses were performed. Fruit were evaluated for firmness, size, total soluble solids (°Brix), total titratable acidity, and pH.

All three of these varieties have yielded attractive fruit with good commercial potential (Figures 1, 2, and 3). Harvest dates (all harvest dates are from southern New Jersey) for Brigantine, the nectarine, have ranged from 15 July to 3 August. Brigantine has produced very attractively finished fruit with good size and firmness (Table 1) that are sweet, acidic (Table 2) and tangy in flavor. Harvest dates for Evelynn have ranged from 20 July to 5 August. Evelynn has produced large fruit with very good firmness (Table 1) that are low in acid (Table 2) giving them a sweet and delicate flavor. Tiana harvest dates have ranged from 2 August to 28 August. Tiana has yielded consistently firm, large fruit

- **Tianna** (testing ID K64-197) is a late-season, yellow-fleshed, freestone peach. It ripens between the time of Cresthaven and Encore. The sweet, nicely acidic flavor, beautiful coloring, and large fruit size make it an appealing peach. Skin color is mottled (50-75%) red on yellow ground color. It has shown low susceptibility to bacterial spot.
- **Evelynn** (testing ID H7-47) is an early-season, yellow-fleshed, semi-freestone, peach with very firm flesh. It ripens near the time of Redhaven and has large fruit size with very attractive full scarlet coloring. The skin is smooth with low pubescence. The flesh is low acid and retains firmness well. Trees have been productive and shown low susceptibility to bacterial spot.
- **Brigantine** (testing ID H21-44) is a yellow-fleshed, semi-freestone nectarine. It ripens just before Summer Beaut and Redhaven. It has solid scarlet coloring and a nicely acidic flavor with firm melting flesh. Trees have been productive, leaves have shown low susceptibility to bacterial spot, while fruit has shown moderate susceptibility to bacterial spot.

that are sweet and acidic giving them a tangy flavor. These three varieties are available through Adams County Nursery and can be recommended for trial plantings (see inserted text Box).



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