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

Hemant Gohil and Daniel Ward
Rutgers University

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.

		2015		2016		2017	
Variety	Property	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.

		2015		2016		2017	
Variety	Property	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 were 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 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).

- **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.

800.424.2765 • www.summittreesales.com • Like us on Facebook

STS

SUMMIT TREE SALES

REPRESENTING THE COUNTRY'S FINEST NURSERIES

It's our mission to help you find the trees you need.
Make Summit Tree Sales your first call!

800.424.2765

Book future grower contracts NOW!

Now offering yieldMAX **picking buckets.**

Jan Melvin

Katie Schuld

Dawn Melvin

Matthew Schuld

THINK LONG TERM

THE EFFORT YOU MAKE TODAY WILL REWARD YOU IN THE FUTURE.

...but, not all of it.

A Whole-Farm Revenue Protection policy working along with Hail and Single-crop policies is a great way to minimize your revenue risk. Protect your income from whatever happens to your crops.

Call us today at **877-867-9291** to learn more.

11539 Nuckols Road, Suite B; Glen Allen, VA 23059

AgRISK MANAGEMENT
By Weller & Associates, Inc.
agRISKmgt.com

The Leading Small Fruit Nursery Today!

NOURSE
The Best Berry Plants Since 1932

- *Excellent Customer Service*
- *Wide Variety Selection*
- *Technical Support*
- *Complete Lab Facility for Tissue Culture & Virus Indexing*

Strawberries *Brambles* *Asparagus* *Blueberries*
Currants *Gooseberries* *Elderberries* *Rhubarb*

Nourse Farms, Inc
41 River Road
South Deerfield MA 01373
413.665.2658
Info@NourseFarms.com NourseFarms.com