

# Tree and Fruit Quality Characteristics of New Peach and Nectarine Varieties Evaluated in 2019-2021

**Hemant Gohil**

*Agricultural Agent, Rutgers Cooperative Extension of Gloucester County*

**Daniel Ward**

*Extension Specialist, Pomology, Rutgers New Jersey Agricultural Experiment Station*

A total of 23 new peach and nectarine varieties were evaluated during 2019, 2020 and 2021. Most of these peach cultivars were released from the Rutgers Stone Fruit Breeding Program including two new exciting peach varieties (Anna Rose and Felicia) released in 2021. 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.

The main objective of these evaluations of new and advanced selections of peach and nectarines, along with some of the standard varieties, is to assist in the selection of new varieties best suited to New Jersey. Fruits were evaluated mostly at Rutgers Agriculture Research and Education Center (RAREC) in Bridgeton and four commercial sites in southern NJ: Circle M Farms, Fralinger Farms, Larchmont Farms, and Summit City Farms.

Varieties were evaluated in the field for flesh color, crop load, shape, skin color, fuzz, attractiveness, stone characteristics (free, semi-free, or cling), flesh color, and bacterial spot on fruits and leaves. Fruits were harvested based on ground color change and size and after picking, fruits were transported to the laboratory at Rutgers Agricultural Research/ and Extension center. Fruits were then stored in cold storage at RAREC in conventional cold storage (33°F, 95% RH).

Fruit data characteristics measured as juice total soluble solids (TSS) concentration (°Brix) and total titratable acidity (TTA) (%) are also expressed as the TSS:TTA ratio (Table 1). The 2021 season was marked with mostly no frost damage at any of the sites. However, due to labor shortages due to COVID-19, some of the test blocks were not bloom or fruit thinned and that may have affected a few characteristics. Some varieties were compared in relation to varieties with similar ripening dates.

## **LISTED IN ORDER OF RIPENING, EARLY FIRST**

**NJF 20** is a very recently introduced, late June, yellow-fleshed, flat nectarine. It is one the earliest nectarines and has an excellent flavor and firmness. It is very sweet and sub acid. In three out of five years, it had some level of open scars at the distal ends with some level of skin blemishes. Ripens 32 days before Redhaven. Not yet Named, ACNursery lists as NJF-20



**Desiree** is a late July yellow-fleshed peach. It has a beautiful crimson red on light yellow skin color. The fruit has excellent flavor. Fruit is medium-sized, however



**Table 1.** Average fruit characteristics of Peach varieties in Southern New Jersey evaluated in 2019-2021 by order of ripening date.

| Variety              | Total soluble solids (°Brix) | Total titratable acidity (g/l) | Firmness (lb. force) | Diameter (inch) | Weight Oz. (g) |
|----------------------|------------------------------|--------------------------------|----------------------|-----------------|----------------|
| NJF 20               | 14.2                         | 0.46                           | 10.6                 | 2.4             | 2.6 (74)       |
| July Rose            | 12.7                         | 0.87                           | n/a                  | 2.75            | n/a            |
| Brigantine           | 10.05                        | 1.46                           | 9.05                 | 2.6             | 6 (172)        |
| Avalon               | 13.8                         | 1.06                           | n/a                  | 2.8             | 3.1 (87)       |
| Evelynn              | 10.23                        | 0.76                           | 10.35                | 2.87            | 7.3 (205)      |
| Felicia              | 10.83                        | 1.33                           | 8.1                  | 2.3             | 4.1 (115)      |
| Anna Rose            | 13.77                        | 0.28                           | n/a                  | 2.99            | 7.8 (215)      |
| Redgold              | 13.1                         | 1.61                           | 8.1                  | n/a             | n/a            |
| Messina              | 11.4                         | 1.01                           | n/a                  | n/a             | n/a            |
| August Rose          | 13.4                         | 0.69                           | n/a                  | 3.1             | 9.0 (254)      |
| Lady Nancy           | 13.3                         | 1.06                           | 7.4                  | 3.1             | n/a            |
| Flavor Tops          | 12.2                         | 1.21                           | 10.2                 | 2.6             | 3.5 (100)      |
| Gloria               | 14.2                         | 0.87                           | 10.5                 | 3.1             | 9.0 (255)      |
| Selena               | 13.7                         | 1.67                           | 9.85                 | 3.10            | 8.4 (244)      |
| Flamin Fury Ka-Ching | 13.9                         | 2.08                           | 8.5                  | 2.77            | 4 (114)        |
| Tiana                | 14.3                         | 1.49                           | 11                   | 2.67            | 9.6 (271)      |
| Victoria             | 11.6                         | 1.25                           | 8.1                  | 2.8             | 4.4 (126)      |
| PF 36                | 11.7                         | 1.34                           | n/a                  | n/a             | n/a            |

compared to other varieties, it is desirable for this season. Fruit has been firm at ripening and has excellent bud cold-hardiness. Ripens 28 days before Redhaven.

**Early Star** is a yellow-fleshed, freestone peach with traces of red in the flesh. It ripens with PF 5D Big and later than PF 5B. It has a good bud hardiness. Fruit skin has an attractive crimson red overcolor. Inconsistent fruit shape with one side relatively flat, makes it unattractive. Also leaves and fruits were slightly susceptible to bacterial spot. Fruit was developed at a Michigan fruit breeding program. Ripens 20 days before Redhaven.

**July Rose** is a mid- to late July, white-fleshed, clingstone peach with large fruit size. Fruit ripens 7 days before Redhaven, between Sugar May and White Lady. It has a very attractive scarlet skin. It is a sweet and sub acid peach. Fruits are mostly round, and hang well. Fruit may get bigger, but less sweet if one lets it hang too



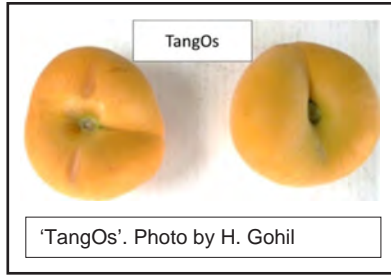
long. Even poorly thinned trees had medium to large-sized fruit suggesting that thinning has to be heavy in a non-frost year. Tree is highly productive and has low susceptibility to bacterial spot.

**Silverglo** is a late July, cream-fleshed nectarine. Ripens 1 to 7 days before Redhaven. Lots of pinkish red color and very few skin blemishes. It is the most attractive white nectarine in this season. It has a uniform-sized large fruit and low susceptibility to bacterial spot. It has a very balanced combination of sweetness and acidity.

**Scarlet Rose** is a late July, white-fleshed, clingstone, firm, peach with slight to moderate fuzz. Good aroma and crunchy flesh. It has moderate presence of red flesh. Fruit hangs up to two weeks after maturity without significant loss of firmness. It blooms about a week later than most varieties. It has high sweetness and low acidity, however it is tarter than July Rose. Ripens 1 to 7 days before Redhaven.

**TangOs (NJF16):** Yellow-fleshed, freestone, flat peach with golden-yellow skin. Fruit ripens 6 days after Redhaven. It is one of the largest flat peaches.

Leathery skin, but acceptable. Fruit develops mango and melon flavor as it ripens, which is a big plus. Excellent combination of high sweetness and acidity. It is kind of a must have variety for road side or farm stands.



'TangOs'. Photo by H. Gohil

**Brigantine** (NJN102) is a late July, yellow-fleshed, freestone nectarine with spherical to ovate shape. Fruit ripens 5-10 days before Redhaven. It has a fully red-colored skin with traces of red in flesh. Skin free of blemishes. Leaves had low susceptibility to bacterial spot while fruit has moderate susceptibility.



'Brigantine'. Photo by H. Gohil

**Avalon** (NJN101) is a late July yellow-fleshed nectarine with a semi-clingstone, firm, melting flesh. Fruit ripens near Redhaven. Fruits are medium sized. Few skin blemishes and very attractive with excellent flavor. Trees are very productive and have low susceptibility to bacterial spot.

**Evelyn** (NJ357) is an early August, yellow-fleshed, firm peach with semi freestone. Ripens 2 days before Redhaven Few varieties tick as many boxes as Evelyn. The full scarlet color with slight greenish-yellowish traces on the skin helps in picking decision. Fruit has sweet and low acidity flavor. Evelyn is already liked by ACN any commercial growers for its firmness and size. Tree is consistently productive and has low susceptibility to bacterial spot.



'Felicia'. Photo by H. Gohil

**Felicia** was introduced in 2020. It is a late July to early August, yellow-fleshed, firm peach. Ripens 1

day after Redhaven. It has very attractive fruit. It has traditional acidity and sweetness. No bacterial spot observed on leaves or fruits. It has a little bit of a raised suture which is consistent and pronounced.

**Anna Rose** (NJ360) was introduced in 2020. It is an early August, white-fleshed, freestone peach. Fruit ripens 1 day after Redhaven, near White Lady and before Klondike.



'Anna Rose'. Photo by H. Gohil

Fruit has uniform shape and outstanding color. Fruit is very sweet with low acidity. Tree vigor was very high, crop load was high, and tree easily gets over cropped. Slight incidence of bacterial spot on leaves and even less on fruits. It is an excellent replacement for Klondike, which is a good variety but has a few challenges such as fast softening after harvest. It also crops better than Klondike which also has the problem of greater bacterial spot.

**Flavor Burst (USDA)** is a yellow-fleshed, semi-freestone peach. It is an attractive large peach with great flavor. Fruit ripens 25 days after Redhaven. High sweetness and low acidity. This high cropping variety is susceptible to bacterial spot.

**Red Gold** is a late august, yellow-fleshed, firm, freestone nectarine with oblong shape. Fruit ripens 15 to 20 days after Redhaven Traditional acidity. High cropping variety. Skin blemishes were observed.

**Messina** (NJ352) is a yellow-fleshed, firm peach. Fruit is large and has a traditional appearance and excellent combination of sweetness and acidity. Fruit ripens



'Messina'. Photo by H. Gohil

26 days after Redhaven. This consistently high cropping variety has no bacterial spot on leaves or fruits. This variety is receiving very high marks by growers throughout the Mid-Atlantic region.



**August Rose (NJ356)**

is a late season white peach, very attractive, firm-fleshed, free stone peach.

It has 60-90% medium red color on cream background. Fruit ripens 31 to 35 days after Redhaven. Fruit is very large, sweet and sub acid. It can fill the gap between Sugar Giant and Snow Giant. It is a highly productive variety.



**Gloria** is a yellow-fleshed, freestone peach ripening from August 19-22. Fruit is large, globose to slightly ovate, 60-90% scarlet red over orange yellow ground color. Fruit ripens 23 to 30 days after Redhaven. The flesh is very firm with low acidity and good sweet flavor.



The tree is vigorous, spreading and very productive with low susceptibility to bacterial spot. A unique variety because of its very attractive color, low acidity and very firm flesh. It is the latest blooming variety in our trials with bloom extending up to 7-10 days. Fruit can hang on tree without losing firmness for up to 7 days after it has achieved commercial maturity. All this makes Gloria a unique variety. Growers and consumers find it hard to tell when ripe as flesh does not soften.

**MID TO LATE AUGUST VARIETIES**

**Lady Nancy** is a late August, white peach. Fruit is very large, ovate, bright, pinkish red over a creamy white ground color. Fruit ripens 31 to 35 days after Redhaven. It has very good aromatic flavor. It has medium susceptibility to bacterial spot. It is a light cropper in cold climate.



Flesh has a prominent yellow streak through the white flesh.

**Flavor Tops** is a late August, yellow-fleshed peach.

Fruit ripens 31 to 35 days after Redhaven. It has red skin with a yellow background. No bacterial spot on leaves or fruit was observed. The round-shaped fruit has traces of red in the flesh. Excellent tangy flavor. Excessive bloom.

**Selena (NJ358)** is an early September yellow peach with excellent firmness. It ripens between 'Jerseyqueen' and 'Encore' and 31 to 35 days after Redhaven. Fruit is very large with attractive 50-80% red-on-yellow background. The fruit hangs well on the tree and has excellent flavor and coloring. This variety exhibits low susceptibility to bacterial spot and is a productive choice.

**Tiana (NJ359)** is an early September yellow peach with freestone and very firm flesh. Fruit ripens between 'Cresthaven' and 'Encore' and 31 days after Redhaven. These large fruits have an excellent balance of acidity and sweetness. Providing exceptional flavor, with beautiful coloration (highly mottled (50-75%) red-on-yellow). This variety exhibits low susceptibility to bacterial spot.

**Flamin Fury Ka-Ching** is an early September, yellow-fleshed, firm, freestone nectarine. Fruit ripens 31 days after Redhaven. It has melting flesh with traces of red. It has exceptional combination of very high sweetness and high acidity. No bacterial spot on leaves or fruit.



**Victoria (NJ353)** is a mid-September, yellow fleshed peach that has an attractive skin with 20-80% medium red on yellow background color. Fruit ripens 45 days after Redhaven. Large fruit with good firmness and flavor. Low susceptibility to bacterial spot and constriction canker and tree is consistently productive. It is one of the very last varieties of the season.



Adams County Nursery, Inc.

**Growers of Fruit Tree Nursery Stock**

26 Nursery Road, Aspers, PA 17304

acn@acnursery.com • 717.677.8105 • www.acnursery.com





## Eco-Friendly Insect, Disease, Bird Control

University/USDA tested

Stink Bug Traps  
*Brown Marmorated and Native Bugs*

Insect Traps and Lures  
*Plum Curculio Trap Tree Control, Codling & Oriental Moth, Cranberry Pests, Black Stem Borer, Others*

Honey Bee Lure  
*Attract Bees - Increase Pollination*

Predalure attracts beneficials

Oriental Beetle MD  
*Mating Disruption Fruit Crops & Ornamentals*

Prestop  
*New Biofungicide Impressive Activity. Foliar/Root Diseases*

Avex  
*Bird Control. Apply by ground or air. Cherries, Blueberries, Sweet Corn, other crops*



Committed to the Environment and Green Technology  
Since 1990

P. 303-469-9221  
agbio@agbio-inc.com  
www.AgBio-Inc.com



## OESCO IS YOUR PARTNER IN PRUNING

Manual, electric, anvil & bypass pruners, pneumatic loppers & more



From brands you know & trust, including:



Whether you're pruning landscapes, invasives, fruit trees or shrubbery,

**CALL OESCO.**

**WE'VE GOT WHAT YOU NEED.**

Accurate cutting, super-sharp blades

High quality materials  
Durable, long-lasting tools  
Ergonomic & low impact



Call us for a catalog  
**800-634-5557**  
www.oescoinc.com

OESCO, Inc. PO Box 540 / 8 Ashfield Road, Route 116 Conway, Massachusetts 01341