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‘Evelynn’ and ‘Felicia’ – Two New Peach Cultivars in ‘Redhaven’ Season

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Introduction

In the last few decades, direct retail markets have demanded peach cultivars with more attractive red blush, and the commercial shipping market has demanded larger fruit with better firmness, so that fruit can withstand physical stress at harvest, post-harvest, and during transportation. Rutgers University’s peach breeding program at Cream Ridge, New Jersey, is one of the few that focuses on developing cultivars that meet the expectations of industry, growers, and consumers. It also focuses on traits such as delayed and extended bloom to avoid significant frost damage, a concern that affects the survival of the peach industry.

Two new peach cultivars, ‘Evelynn’ and ‘Felicia,’ that ripen during the ‘Redhaven’ season were released in 2018 and 2022, respectively. ‘Evelynn’ is a very attractive, full scarlet, yellow-fleshed peach ripening during the ‘Redhaven’ season. ‘Felicia’ is also a very attractive yellow-fleshed peach with full red color, ripening a few days after ‘Redhaven’. Both cultivars have better firmness at harvest than ‘Redhaven’. There are several popular late July peach cultivars, including ‘Redhaven’, ‘John Boy’, ‘PF 9A -007’, and ‘Blazing Star’, grown throughout the Mid-Atlantic regions of the US. However, growers are always looking for alternative cultivars superior to existing ones. For example, ‘Redhaven’ is one of the most well-recognized standard peach cultivars; however, it has a few weaknesses, namely that the fruit softens faster than the ground color changes from greenish-yellow to yellow. Even the popular cultivar ‘John Boy’ has medium susceptibility to Bacterial spot, and its greenish-yellow ground color doesn’t change during ripening in some years. ‘PF 9A-007’ is susceptible to rusty spot disease, and ‘Red Star’ must be thinned hard and early to get large peaches (Frecon and Ward 2013). Both ‘Evelynn’ and ‘Felicia’ rectify some of the shortcomings of previous varieties and have consistently performed well in the Mid-Atlantic region, and should be considered for replacing existing cultivars or trialing.

Origin

‘Evelynn’ NJ 357 resulted from crossing our proprietary peach seedling selection ‘H15-20-90258’ as the seed parent with ‘Summerprince’ peach tree, as the pollen parent (Fig. 1). The new cultivar differs from the seed parent ‘H15-20-90258’ in that it produces viable pollen and has greater sweetness and aromatics. The new cultivar differs from the pollen parent ‘Summerprince’ in that the new variety produces larger fruit that are sweet and have lower acidity. ‘Summerprince’ is a highly productive, large, freestone yellow-fleshed peach with a delicious, low-fiber texture. The resulting tree was selected from a cultivated area at a fruit research farm in Cream Ridge, N.J. The cultivar ‘NJ357’ was patented on January 26, 2017, under the trade name ‘Evelynn’, and the US Patent number PP29989 (Goffreda and Voordeckers 2018).

‘Felicia’ ‘NJ361’ resulted from crossing ‘P.F. 23’ (U.S. Plant Pat. No. 8,164) as the seed parent with peach seedling selection ‘D91-184-94229’ (Fig. 2). This new cultivar differs from the seed parent, ‘P.F. 23’ (U.S. Plant Pat. No. 8,164), in that it ripens approximately two to three weeks earlier, has fruit with a bright, yellow-orange ground color, and retains its firmness for an extended period on the tree. The ‘P.F. 23’ is a globose, yellow-fleshed cultivar that is very productive but has medium susceptibility to bacterial spot (Frecon and Ward 2013). Parents of ‘P.F.23’ peach are two unnamed seedlings of unknown origin. The new cultivar differs from the pollen parent, ‘D91-184-94229’, in that it ripens about 1 week earlier, produces fruit that retains its firmness better, and does not have a tendency for the pits to split. One of the known parents of ‘D91-184-94229’ is ‘Harken’, known for its high cold hardiness and sweet, rich flavor. The resulting tree was selected from a cultivated

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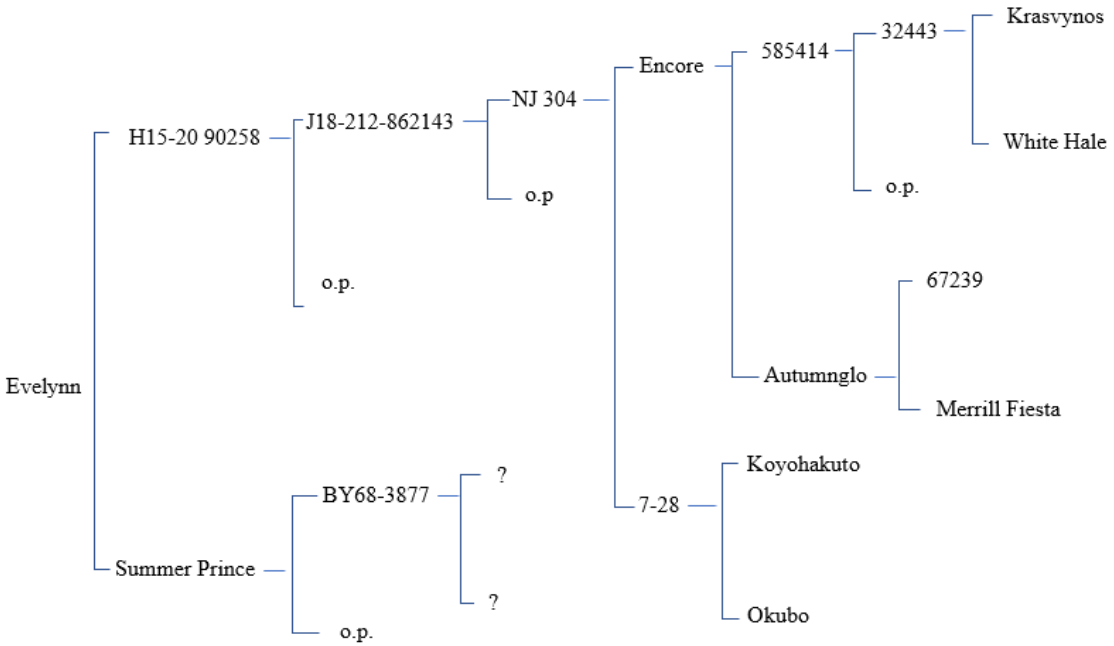


Figure 1. Pedigree of 'Evelynn' peaches (o.p. = open-pollinated).

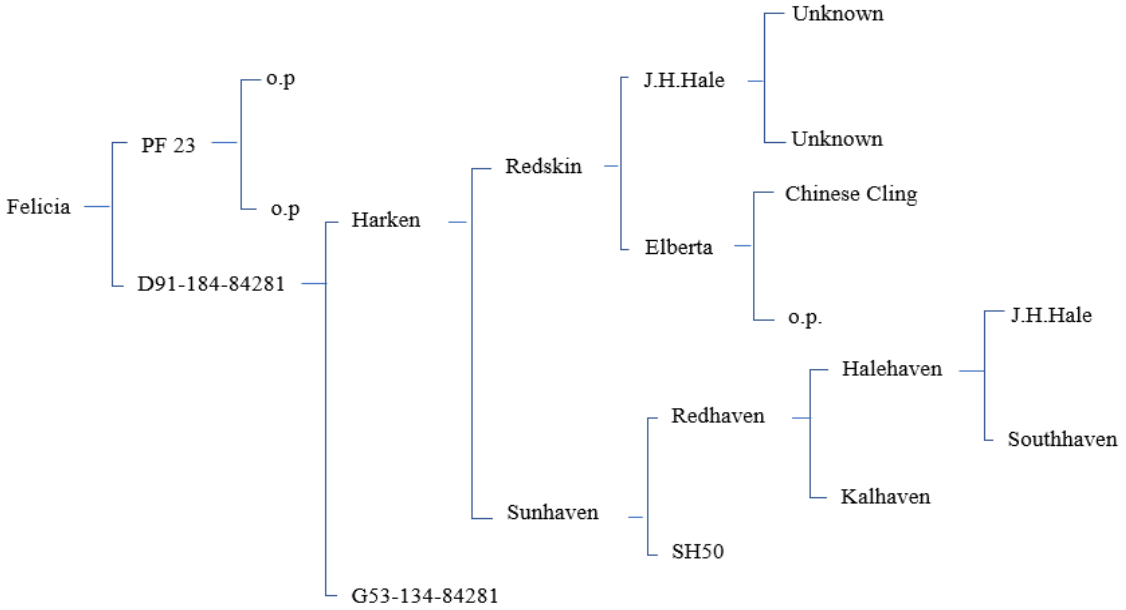


Figure 2. Pedigree of 'Felicia' peaches (o.p. = open-pollinated).



Figure 3. Ripe fruit appearances of ‘Evelynn’ (left), ‘Felicia’ (center), and ‘Redhaven’ (right).

Table 1. Harvest dates and fruit set ratings (2025); fruit taste, mean total soluble solids (TSS), mean titratable acidity (TA), mean fruit weight and size, and mean firmness for 2022 and 2025, of ‘Evelynn’, ‘Felicia’, and ‘Redhaven’ grown at Southern New Jersey orchards.

Cultivar	Harvest Date	[z]Fruit set ratings	Taste ratings	TSS (Brix)	TA (g/l)	Fruit weight (g)	Fruit diameter (mm)	Fruit firmness (lbs.)
‘Evelynn’	24 July	5	Very sweet, sub-acid	10.8 ± 1.7	0.9 ± 0.9	196 ± 12.4	74.4 ± 2.5	8.9 ± 0.1
‘Felicia’	28 July	5	Very sweet, mildly tangy	12.1 ± 1.2	1.9 ± 1.7	179 ± 23.7	70.7 ± 4.1	11.3 ± 1.5
‘Redhaven’	24 July	5	Sweet, tangy	10.1 ± 1.5	1.2 ± 1.1	195 ± 7.6	73.5 ± 0.18	7.4 ± 1.0

[z]Fruit set ratings: 1= No fruit; 2= few scattered fruits; 3= very light crop of 100-200; 4= normal crop of fruit requiring little fruit thinning; 5= heavy crop requiring moderate to heavy thinning.
± indicates standard deviation.

area at a fruit research farm in Cream Ridge, N.J. The cultivar 'NJ361' was patented on November 6, 2020, under the trade name 'Felicia', and the US Patent number PP33474 (Goffreda and Voordeckers 2021).

Description

'Evelynn' is a yellow-fleshed, free-stone peach that ripens with 'Redhaven'. Skin color is full scarlet, with slight greenish-yellow traces (Fig. 3). The tree is vigorous and spreading, with low susceptibility to bacterial spot. Fruit is nearly round, large, attractive, smooth, low-pubescence, and has a low tendency to crack. Texture is firm but melting. It tastes sweet to very sweet and subacid. Fruits are uniform, which helps achieve uniform pack-outs. This variety is consistently productive year after year and has low susceptibility to bacterial spot. It retains firmness on the tree and during storage longer than 'Redhaven', giving extra days for marketing the fruit. Due to profuse bloom and high fruit set, bloom or fruit thinning is required to achieve larger fruit.

'Felicia' is an attractive freestone yellow-fleshed peach cultivar that ripens a few days after 'Redhaven' (Fig. 3). It has attractive red to dark red skin with a yellow-orange ground color. It has a little pubescence on the skin and traces of red in the flesh. The tree is vigorous, spreading, and very productive, though weather and cultural practices will greatly affect yield. Fruit is medium to large, round, with a low tendency to crack. Texture is firm but melting, and taste is sweet and mildly acidic. It has low susceptibility to bacterial spot.

Performance

Performance data from 'Evelynn' 'NJ 357', 'Felicia' 'NJ 361', and 'Redhaven' were based on multiple nonreplicated trees in a cultivar block in southern New Jersey, in the major peach growing region of the state. 'Evelynn' and 'Redhaven' were grafted on rootstock 'Lovell' and planted in 2016 at the peach cultivar evaluation block at Rutgers Agricultural Research and Extension Center (RAREC), in Bridgeton, New Jersey. 'Felicia' was grafted on 'Lovell' rootstock and planted in 2016 at a peach cultivar test block at a commercial peach orchard in Elk Township, New Jersey, which is 18 miles away from RAREC. The climate and soils are comparable at both sites. Fruit physical and chemical measurements were made during two years for all three cultivars in 2022 and 2025. The data were not collected in 2023 due to the unavailability of technical support, and in 2024 due to partial frost damage in the peach variety evaluation block. In 2025, 'Evelynn' reached first bloom on April 1, two days earlier than 'Redhaven,' which reached the first bloom on April 3 (data not shown). 'Evelynn' reached full bloom on April 8, and 'Redhaven' reached full bloom on April 10. This indicates that both varieties had an extended bloom. Fruit set was measured on May 30th, before the June drop, using visual ratings (Table 1). Though the fruit set was very high across all three cultivars, 'Evelynn' had more fruits per shoot than the other two (data not shown). Apparently, most fruit tends to hang till ripening, and very few June drops have been observed. The profuse bloom, very high fruit set, excellent hang time at ripening, while maintaining the firmness on the tree, and during storage (data not shown) could be due to the homozygous recessive pedigree '7-28' of seed parent 'H15-20-90258' (Goffreda et al. 2026). Okie and Layne (2008) have reported similar traits for 'Julyprince'. Visual observations of the presence or absence of bacterial spot were made; however, no quantitative disease ratings were collected.

'Evelynn' and 'Redhaven' were harvested on July 24, while 'Felicia' was harvested on July 28. At harvest, a sample of 20 fruits was picked from each test block. Fruit weights were measured in grams (g), using a digital scale, and fruit diameter was measured in millimeters (mm) using digital calipers (Güss Fruit Texture Analyzer G14, Strand, South Africa). All three cultivars had a mean fruit diameter greater than 70 mm (2 ¾ inches; Table 1). This is a large size according to commercial standards. Mean fruit weight was also comparable for all three cultivars. Flesh-firmness was measured at mid-cheek on opposite sides of the fruit (perpendicular to the suture) using a penetrometer (Güss Fruit Texture Analyzer G-14, Strand, South Africa), equipped with a stone fruit tip. 'Redhaven' had a mean firmness of 7.4 lbs. while 'Evelynn'

and ‘Felicia’ had firmness close to or above 9 lbs., which is in the typical minimum maturity range of 9-14 lbs. of harvest indices (Crisosto 1994). This highlights the challenges of using firmness as a harvest index for ‘Redhaven’ specifically in years when ground color changes from green-yellow to golden-yellow (Fig. 3).

For chemical analysis, three replications (subsamples) of five peaches were selected from the 20 fruit samples. For each subsample, the fruits were sliced longitudinally, and then juice was extracted using a hand-operated press. Fruit was randomly sampled from the remaining five fruits for taste evaluations. Three volunteers rated sweetness and tanginess on a scale of 1 to 10, with 10 representing the sweetest and tangiest. The sweetness was categorized as: less than 4 = low sweet; 4-6 = medium sweet; 6-8 = very sweet; and greater than 8 = exceptionally sweet. The tanginess was categorized as less than 4 = sub-acid; 4-7 mildly tangy; and greater than 7 = tangy (Table 1). Total soluble solids (TSS) of strained juice were measured using a digital refractometer (Atago PR-32α, Japan). Both new cultivars tasted very sweet, with mean TSS values of 10.8 and 12.1, respectively, compared with ‘Redhaven,’ which also tasted sweet, with a mean TSS of 10.1. Titratable acidity (TA) was measured using a Brix-Acidity meter (Atago PAL-1, WA, USA). ‘Evelynn’ and ‘Felicia’ provided different acidity levels of sub-acid and mildly-tangy compared to tangy ‘Redhaven’. A producer looking for a replacement for ‘Redhaven’ with a comparable taste profile will have the option of ‘Felicia’. The tanginess is a combination of acidic flavor influenced by sweetness; as a result, ‘Felica’ tasted mildly tangy compared to ‘Redhaven,’ even though the mean TA was higher in ‘Felica’ compared to ‘Redhaven’.

Availability

‘NJ357’ and ‘NJ361’ have been named and registered as ‘Evelynn’ and ‘Felicia’ respectively, by Adams County Nursery (ACN) in Aspers, Pennsylvania. The ACN is the primary licensee of ‘Evelynn’ and ‘Felicia’ and manages their propagation and sales (ACN Nursery Catalog 2025-2025). Evelynn and Felicia’s plantings are increasing in the Mid-Atlantic States. These cultivars are recommended for trialing in the other regions.

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