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Maillard et al.

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(54) **PEACH TREE NAMED 'ASFPBF0492'**

(50) Latin Name: ***Prunus persica***
Varietal Denomination: **ASFPBF0492**

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See application file for complete search history.

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(57) **ABSTRACT**

A new and distinct variety of peach tree, denominated 'ASFPBF0492', has fruits of very long shelf life without alteration before and after harvesting, a semi-sweet white flesh of high eating quality and an attractive red skin. Fruits can be consumed crunchy or melting.

3 Drawing Sheets

Botanical classification: *Prunus persica.*
Variety denomination: 'ASFPBF0492'.

BACKGROUND OF THE NEW VARIETY

The present invention relates to a new and distinct variety of flat peach tree, *Prunus persica,* which has been given the variety denomination 'ASFPBF0492'. This new tree produces fruit with a long shelf life without alteration both on the tree after growth completion and after harvesting, very good eating quality, clingstone white flesh fruit for fresh market in August in the Pyrénées-Orientales departement, France. Contrast is made to 'Maillarflat' (Sweetcap®) (non-patented) white flat peach tree, 'Maillardou' (Bonbon®) (non-patented) yellow nectarine tree and 'Flataugust' (non-patented) white flat peach tree, standard varieties, for reliable description. 'ASFPBF0492' is a promising candidate for commercial success in that it has very attractive fruits with very long shelf life without alteration before after harvesting.

ORIGIN OF THE VARIETY

The 'ASFPBF0492' white flat peach tree originated in a cultivated area of the south of France, in the Pyrénées-Orientales departement, where it was tested. The 'ASFPBF0492' variety resulted from a controlled cross between the 'Maillardou' (Bonbon®) (non-patented) yellow nectarine tree, which was used as the seed parent and the 'Flataugust' (non-patented) white flat peach tree, which was used as the pollen parent. 'ASFPBF0492' was provisionally designated, tested and genetically identified by a genetic profile, under number 03.24.43 PBPL and was registered at the Official Catalogue of the Agriculture Ministry of the French Republic on Nov. 14, 2007 under number 1024472 and name 'PBFLAT0492'. It was obtained by hybridizing and propagated by grafting on a 'Franc Inra Montclar®' rootstock tree. It has been determined to have unique tree and fruit characteristics making it worthy for commercial fresh fruit production. There are no known effects of the standard 'Franc Inra Montclar®' rootstock on the scion cultivar. Asexually propagated plants remained true to the original tree and all characteristics of the tree and the fruit were transmitted. The plant was reproduced asexually by us in Elne, Pyrénées-Orientales departement, France.

SUMMARY OF THE VARIETY

The new and distinct variety of peach tree blooms in March at Perpignan in the Pyrénées-Orientales departement, France. More particularly, it approximately blooms between the 8^{th} and the 17^{th} of March under normal climatic conditions, generally about 6 days earlier than the 'Maillarflat' (Sweetcap®) (non-patented) white flat peach tree.

The first fruit of 'ASFPBF0492' flat peach tree ripens between the end of July and the beginning of August, generally about 4 days earlier than 'Maillarflat' (Sweetcap®) (non-patented) white flat peach tree. More particularly, it approximately ripens between July 27^{th} and August 7^{th} under normal climatic conditions. The date of maturity varies slightly with the prevailing climatic conditions.

DESCRIPTION OF THE DRAWINGS

In the accompanying drawing, which are as nearly true as it is reasonably possible to make in a color illustration of this type:

FIG. **1** is a color photograph which shows a twig bearing typical fruit specimens of the new variety, and leaves of the new variety.

FIG. **2** is a color photograph which shows three whole fruits of the new variety, leaves of the new variety and a third fruit cut in half for depicting the fruit flesh, the pit cavity and the stone of the new variety.

FIG. **3** is a color photograph with reverse and size views of flowers of the new variety, and, with petals removed, reproductive organs of the new variety.

Due to chemical development, processing and printing, the leaves and fruit depicted in these photographs may or may not be accurate when compared to the actual botanical specimen.

DETAILED BOTANICAL DESCRIPTION

The tree, flowers, and fruit may vary in slight detail due to variations in soil type, cultural practices, and climatic condition. The potential for commercial production of fresh fruit by 'ASFPBF0492' is high, due to fruit very long shelf life without alteration before and after harvesting.

Trees are averagely vigorous and large stature half-standing in a semi-spread to semi-upright out aspect. The anthocyanic coloration of flowering shoot is present excluding brushwood side away from sun. Flowering begins semi-early in springtime. The type of flower is showy with relative medium petal size. Petals are medium pink. Leaf glands are present and reniform. Time of maturity for consumption is semi-early to semi-late. Fruits are flat. The fruit flesh is white and its skin is very thick, with a pink-red color. The stone is small. Fruit taste is semi-sweet.

In comparison to its male parent, which is the 'Flataugust' (non-patented) white flat peach tree, the new variety is more resistant to springtime frosts. Flataugust generally ripens later than the new variety, between August 5^{th} and 14^{th} under normal climatic conditions.

In comparison to its female parent, which is 'Maillardou' (Bonbon®) (non-patented), the new variety is a white flat peach tree instead of a yellow nectarine tree. 'Maillardou' also ripens later, around August 27^{th}. 'Maillardou' was an interesting genitor because of its good fruit taste.

Compared to 'Maillarflat' (Sweetcap®) (non-patented) fruits, fruits of the new variety are of better presentation; they are rounder, with an evener surface and a more pronounced pink-red coloration covering the whole fruit skin surface. Fruit taste of the new variety is also generally more aromatic. A comparison of blooming and ripening periods' differences between the new variety and the 'Maillarflat' (Sweetcap®) (non-patented) white flat peach variety is provided above.

DETAILED DESCRIPTION

Referring more specifically to the pomological details of this new and distinct variety of peach tree, the following was observed during the 2007 and 2008 growing seasons under the ecological conditions prevailing at the orchards located near the town of Elne, Pyrénées-Orientales departement, France. All observations have been done on rootstock cultivar. The rootstock was a 'Franc Inra Montclar®' tree. More particularly, observations relative to tree, trunk, branches, leaves and fruit were done in August 2007 and August 2008 on trees in their fourth and fifth growing season. Observations relative to flowers were done in March 2007 and March 2008 on trees in their fourth and fifth growing season. All major color code designations are by reference to The R.H.S. Colour Chart (Fourth Edition) provided by The Royal Horticultural Society of Great Britain.

TREE

Size:

Generally.—Considered large as compared to other common commercial peach cultivars. The tree size the first year was approximately 280 cm. The tree was pruned during each following dormant season to a height of approximately 250 cm. Current seasons shoots growth could reach 80 cm. So the tree size from the second year (second and next years) reached a final height of 330 cm with current seasons shots length comprised.

Spread: Approximately 150 to 200 cm with a cylindrical shape. The whole orchard was oriented to a central leader organisation, with tree lines spaced of 4.0 meters and trees spaced of 1 meter in a same tree line.

Vigor: Considered averagely vigorous to vigorous. The present variety grew from about 200 cm to 280 cm in height during the first growing season. For second and following seasons, the variety was pruned to an approximate height of 250 cm.

Productivity: Very productive over the years. Fruit set is spaced by thinning to develop the remaining fruit into the desired market sized fruit. The number of fruits in the fruit set varies with the prevailing climatic conditions and cultural practices employed during the bloom period, and is therefore not distinctive of the present variety.

Bearer: Very regular. Thinning of 1 fruit out of 3 was necessary for the tree valorisation. Thinning was necessary every year during the years of observation.

Form: The 'ASFPBF0492' variety has naturally a semi-spread to semi-upright shape.

Density: Considered medium dense.

Hardiness: The present tree was grown and evaluated in France. The variety had a good behavior under the central Pyrénées-Orientales departement typical climatic conditions and was selected for its hardiness. Experimentations on different sites with winter chilling requirement comprised between 350 hours and 1200 hours showed a good behaviour of the new variety in all cases. As a flat peach tree, the new variety should potentially be more sensitive to frosty conditions, low temperatures and climatic variations. However, the new variety pistil cup appeared to be little sensitive to cracking due to frosty conditions. The new variety is expected to be hardy in all zones adapted to the culture of peach trees.

TRUNK

Diameter: Approximately between 8.0 and 10.0 cm in diameter when measured at a distance of approximately 30 cm above the soil level. The branching begins at 50 cm above the soil level.

Bark texture: Considered slightly rough, with folds of papery scarfskin being present.

Lenticels: Numerous lenticels are present. The lenticels range in size from approximately 5.0 millimeters to 8.0 millimeters in width, and about 2.0 millimeters in height.

Lenticel color: The outside of lenticels has a silver-grey color (RHS Grey 201 D to RHS Black 202 D), whereas the inside is considered brown (RHS Greyed Orange 166 B).

Bark coloration: The bark has a silver-grey color a little more pronounced than lenticels outside color (RHS Grey 201 C to RHS Black 202 C).

BRANCHES

Size: Mature branches and current season shoots are considered medium to thick for the variety.

Diameter: Average as compared to other peach varieties. The current season shoots have a diameter from 5.0 to 8.0 millimeters, and observed branches have a diameter comprised between 26.0 and 42.0 millimeters.

Surface texture: Average, wood which is several years old has no furrowed appearance.

Crotch angles: Primary branches are considered variable, but the crotch angles are generally between 55 degrees and 65 degrees from the horizontal axis. This particular characteristic is not considered distinctive of the variety, however.

Current season shoots:

Surface texture.—Substantially glabrous.

Internode length: Generally 25.0 millimeters to 40.0 millimeters.

Color of mature branches: Grey brown (RHS Grey Brown 199 A).

Current seasons shoots:

Color.—The color of new shoot tips is considered a light green (RHS Green 143 C to D) on lower part of new shoot tips, whereas the upper part is colored in more or less brown-red (varying from RHS Greyed Red 182 B to C).

LEAVES

Size: Considered medium to large for the species. Leaf measurements have been taken from vigorous, upright, current-season growth at approximately mid-shoot. The ratio leaf length/leaf width is above 4.03.

Leaf length.—Approximately 175.0 to 212.0 millimeters with leaf petiole.

Leaf width.—Approximately 38.0 to 48.0 millimeters.

Leaf base shape.—Concave.

Leaf form.—Lanceolate.

Leaf tip form.—Acuminate and small.

Leaf color:

Upper leaf surface.—Dark Green (RHS Green 137 A).

Lower surface.—Medium Green (RHS Green 137 B to 137 C).

Leaf texture: Smooth.

Leaf venation: Pinnately veined.

Mid-vein:

Color.—Light green with a cream touch (RHS Yellow Green 145 D).

Leaf margins: Slightly undulating.

Form: Considered slightly dentate.

Uniformity: Leaves are isolated or grouped by 2 or 3. In this last case, it is found one leaf of normal size with one or two smaller leaves (size-reduction of 50% and more).

Leaf petioles:

Size.—Considered medium.

Length.—Approximately between 8.0 and 10.0 mm.

Diameter.—Approximately between 1.6 and 2.0 mm.

Color.—Light green shading to white (RHS Yellow Green 145 B to C).

Leaf glands:

Size.—Considered small. Their length is about 1.0 millimeters.

Number.—Generally 2 to 5, mostly 4 glands per leaf.

Type.—Reniform.

Color.—On young leaves, leaf glands color is considered a pale green (RHS Green 145 B). On older leaves, leaf glands color turn to a dark brown (RHS Grey Brown 199 A to 199 B).

Leaf stipules:

Generally.—No leaf stipules were observed. But as seen in the characteristic relative to the leaves uniformity, it is possible to find leaves by groups of 2 or 3, with a normal-size leaf and smaller ones.

FLOWERS

Flower buds:

Generally.—At pre-floral stage of development, the floral buds are conic in form with a round tip. Their form is evolving until blooming, with variables dimensions. Just before blooming, floral buds are approximately 10.0 millimeters wide and approximately 20.0 millimeters long.

Flower buds:

Color.—This characteristic is dependent upon the proximity to bloom. At pre-floral stage of development, the bottom of the flowers buds, formed by the sepals, is of purple-brown color (RHS Greyed Purple 183 A to B); the corolla, formed by the petals, is generally of pink color (varying from RHS Red Purple 65 B to RHS Red Purple 69 C). Petals color shows an evolution until the end of flowering. The buds are considered hardy under typical central Pyrénées-Orientales departement climatic conditions.

Hardiness: No winter injury was noted during the last several years of evaluation in the central Pyrénées-Orientales departement, with winter temperatures as low as −10 degrees Celsius in January. The current variety has not been intentionally subjected to drought or heat stress, but the variety showed a very good resistance in orchard to temperatures up to 42 degrees Celsius with an average temperature between 28 and 30 degrees Celsius during 3 weeks in summer.

Date of bloom: Generally March. The first bloom was observed on Mar. 4, 2004.

Blooming time: Considered of semi-early season in relative comparison to other commercial peach cultivars grown in the Pyrénées-Orientales departement, France. The date of full bloom is observed on March. The date of bloom varies with climatic conditions and cultural practices. Thus the first full bloom was observed approximately on Mar. 9, 2004.

Duration of bloom: Approximately 10 days. This characteristic varies with the prevailing climatic conditions.

Flower type: The variety is considered to have a showy type flower.

Flower size: Considered medium. Flower diameter at full bloom is approximately between 26.0 and 32.0 millimeters.

Bloom quantity: Considered abundant, approximately 45 flowers per meter.

Flower bud frequency: Generally 2 flower buds appear per node, occasionally 1.

Petal size:

Generally.—Considered medium for the species.

Length: Generally about 18.0 millimeters.

Width: Generally about 15.0 millimeters.

Petal form: Rounded.

Petal count: Nearly always 5.

Petal texture: Smooth and glabrous.

Petal color: Medium Pink (RHS Red Purple 65 B to C) when young, slightly darkening with advancing senescence.

Fragrance: Pronounced.

Petal claw:

Form.—The claw is considered to have a conic form with a slightly rounded extremity.

Length.—Approximately 5.0 to 6.0 millimeters.

Width.—Approximately 3.0 to 4.0 millimeters.

Petal margins: Generally moderately undulated.

Petal apex:

Generally.—The petal apices have generally a wide-dome shape.

Flower pedicel:

Length.—Considered medium to long and having an average length of approximately 3.0 to 4.0 millimeters.

Diameter.—Considered average, approximately 2.0 millimeters.

Color.—A medium brown (RHS Grey Brown N199 C to D).

Floral nectaries:

Color.—A green yellow (varying from RHS Yellow 13 A to B to RHS Yellow Green 150 A to B).

Calyx:

Internal surface texture.—Glabrous.

Color.—The outer surface of the calyx is considered of Purple-brown (RHS Greyed Purple 183 A to B) color.

Sepals:

Surface texture.—The outer surface has a short, fine pubescent texture.

Size.—Small.

Color.—Purple-brown (RHS Greyed Purple 183 A to B).

Average number of stamens per flower: Approximately 40 stamens per flower.

Anthers:

Generally.—Small in length.

Color.—Red to orange-red color (approximately RHS Greyed Purple 178 A). Anthers are becoming yellow at maturity.

Pollen production: Pollen is abundant, and has a yellow color (Approximately RHS Yellow Orange 17 B to C). The present variety is considered self fruitful (self-pollinating).

Filaments:

Size.—Variable in length, approximately 10.0 to 16.0 millimeters in length. Filaments length is generally superior to the pistil's length.

Color: Considered light pink (approximately RHS Red Purple 62 C to D) to pink (RHS Red Purple 73 A to B).

Pistil:

Number.—Usually 1.

Generally.—Average in size.

Length.—Approximately 13.0 to 15.0 millimeters including the ovary; Generally smaller than filaments length.

Color.—Considered a very pale green (varying from RHS Yellow Green 150 D to RHS Yellow Green 151 D).

Surface texture.—Pubescent, particularly around the ovary.

FRUIT

Maturity when described: Very firm ripe condition (shipping ripe).

Date of first picking: Aug. 1, 2004.

Date of last picking: Aug. 10, 2004. The date of harvest varies slightly with the prevailing climatic conditions. The 'ASFPBF0492' variety has a semi-early to semi-late date of picking, and a grouped maturity: only 2 to 3 harvests in approximately 10 days are generally necessary.

Size:

Generally.—Considered large, and homogeneous in size, with a very round shape.

Average cheek diameter: Approximately 72.0 to 80.0 millimeters.

Average axial diameter: Approximately 35.0 to 45.0 millimeters.

Typical weight: Generally around 200.0 grams. This characteristic is highly dependent upon the prevailing cultural practices, and therefore is not particularly distinctive of the variety.

Fruit form:

Generally.—Round. The fruit is generally uniform in symmetry, viewed from pistil end.

Fruit suture: Wide-mouthed, extending from the base to the apex. No apparent callousing or stitching exists along the suture line.

Suture:

Color.—The suture has generally a color similar to the whole fruit color, a luminous pink-red (varying from RHS Red Purple 59 A-B to RHS Red Purple Group 60 A-B).

Ventral surface:

Form.—Smooth.

Apex: Depressed.

Base: Semi wide-mouthed, shallow.

Stem cavity: Average depth of the stem cavity is about 1.2 to 1.5 cm. Average width is about 0.5 to 0.6 cm.

Fruit skin:

Thickness.—Considered thick and strong, and tenacious to moderately tenacious to the flesh depending on stage of maturity.

Texture.—Slightly pubescent.

Taste.—Semi-sweet.

Tendency to crack.—Generally none.

Color:

Blush color.—This blush color is a luminous pink-red (varying from RHS Red Purple 59 A-B to RHS Red Purple Group 60 A-B). The red blush covers 100% of the fruit skin surface.

Ground color.—The fruit color is uniform: a luminous pink-red (varying from RHS Red Purple 59 A-B to RHS Red Purple Group 60 A-B).

Fruit stem: Medium in length, approximately 4.0 to 5.0 millimeters.

Diameter: Approximately 3.0 to 4.0 millimeters.

Color: Pale green (RHS Yellow Green 145 A to 145 B).

Flesh:

Ripens.—Very evenly, slowly, long shelf-life.

Texture.—Firm, very dense, crunchy, melting, juicy at harvest maturity stage.

Fibers.—Generally not fibrous.

Aroma.—Pronounced.

Eating quality.—Considered very good, sweet and aromatic.

Flavor.—Considered semi-sweet. The Brix is superior to 13 and acidity comprised between 6 and 9 meq/100 ml. The flavor is considered aromatic.

Juice.—Very juicy at complete maturity.

Brix.—Generally superior to 13.0 degrees. This characteristic varies slightly with the number of fruit per tree; prevailing cultural practices; and the surrounding climatic conditions.

Flesh color.—White flesh (RHS White Group N 155 A) with a star-shaped red pigmentation (RHS Greyed Purple 185 A to B) into the stone cavity and around.

STONE

Type: Semi-Clingstone.

Size: Small. The stone size varies significantly depending upon the tree vigor, crop load and prevailing growing conditions.

Length: Approximately 20.0 to 25.0 millimeters.

Width: Approximately 20.0 to 24.0 millimeters.

Diameter: Approximately 12.0 to 15.0 millimeters.

Form: Flat. General shape similar to a 'vertebra'.
Base: Generally straight.
Apex:
Shape.—The stone apex is flat.
Stone cavity: Considered medium size, with an elliptic-form and dimensions corresponding to the stone's dimensions.
Stone surface:
Surface texture.—The pit is transversely furrowed on its entire surface. Furrows are flatter and more pronounced on lateral faces.
Ridges.—The surface texture is generally characterized by more prominent ridges along the ventral edges and is more prominent at the apical tip.
Stone color: The color of the dry stone is generally considered an orange brown to red brown (RHS Greyed Orange 173 C to D).
Tendency to split: Splitting is generally absent, depending on climatic conditions between blooming period and stone hardening.
Kernel:
Size.—The kernel is considered small.
Length.—Approximately 7.0 millimeters.
Thickness.—Approximately 5.0 millimeters.
Form.—Considered oblate and elliptic.
Pellicle.—Pubescent.
Color.—The kernel skin is a light orange-yellow (RHS Greyed Orange 166 C) with darker streaks (RHS Greyed Orange 166 B). The almond is cream-white (RHS Orange White 159 D). The kernel and its embryo are mature at the time of fruit maturity.
Use: The subject variety 'ASFPBF0492' is considered to be a peach tree of the semi-early to semi-late to late season of maturity, and which produces fruits that are considered firm, attractively colored. Fruits have a semi-sweet taste and are excellent for uncooked consumption, crunchy or melting when at full maturity. Due to their flesh quality, firmness and density, and long shelf-life on the tree after growth completion and after harvesting they are useful for both local and very long distance shipping.
Keeping quality: Good. Fruits have a slow maturation and a long shelf-life both on the tree after growth completion and after harvesting. Storage should be possible at 2.0 degree Celsius for more than one month.
Shipping quality: Considered good. The fruit of the new peach variety showed minimal bruising of the flesh or skin damage after being subjected to normal harvesting and packing procedures. Its resistance to handling during harvest and packing and its long shelf life without alteration after harvest permit 3 weeks to 4 weeks-shipping at 2 degrees Celsius.
Resistance to insects and disease.—No particular susceptibilities were noted. The present variety is not very sensitive to powdery mildew, or conservation diseases and decay due to its thick and strong skin.

Although the new variety of peach tree possesses the described characteristics when grown under the ecological conditions prevailing near Elne, Pyrénées-Orientales departement, France, it should be understood that variations of the usual magnitude and characteristics incident to changes in growing conditions, fertilization, pruning, pest control and horticultural management are to be expected.

I claim:

1. A new and distinct variety of peach tree as illustrated and described, characterized by fruits of very long shelf life without alteration before and after harvesting, and with a semi-sweet white flesh of high eating quality and an attractive skin, with a very high percentage of red blush.

* * * * *

FIG. 1

FIG. 2

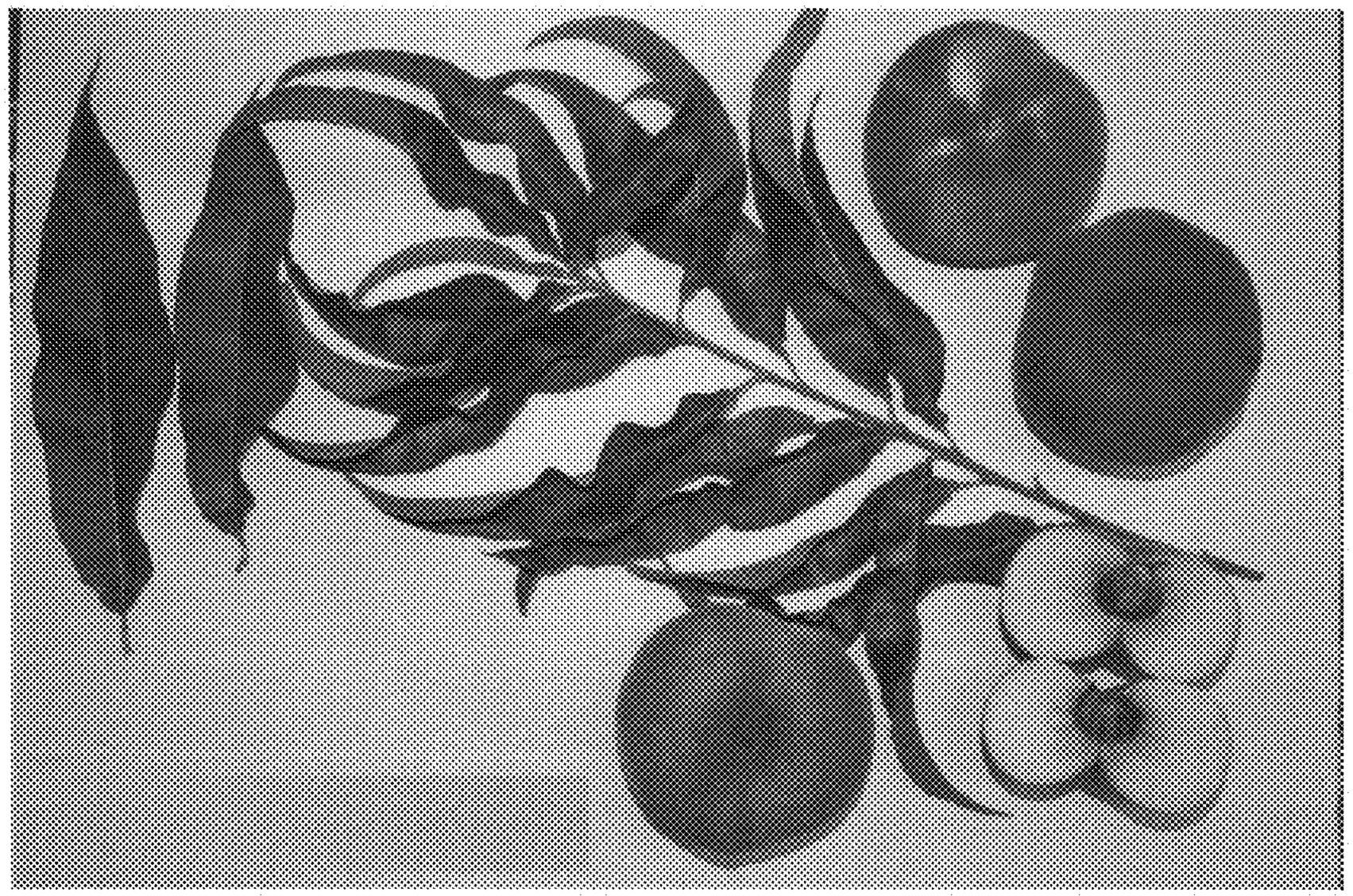

FIG. 3