US00PP21724P2

(12) **United States Plant Patent**
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(10) **Patent No.: US PP21,724 P2**
(45) **Date of Patent: Feb. 22, 2011**

(54) **NECTARINE TREE NAMED 'BURNECTTWENTYFOUR'**

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

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **12/653,501**

(22) Filed: **Dec. 14, 2009**

(51) **Int. Cl.**
A01H 5/00 (2006.01)

(52) **U.S. Cl.** **Plt./190**
(58) **Field of Classification Search** Plt./190
See application file for complete search history.

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(57) **ABSTRACT**

A new and distinct variety of Nectarine tree (*Prunus persica* sub species *nucipersica*), denominated varietally as 'Burnecttwentyfour', and which produces an attractively colored firm-fleshed, sub-acid, clingstone nectarine, which is mature for harvesting and shipment approximately May 27 to June 5 under ecological conditions prevailing in the San Joaquin Valley of central California.

1 Drawing Sheet

BACKGROUND OF THE NEW VARIETY

The present invention relates to a new, novel and distinct variety of nectarine tree, *Prunus persica* (subspecies *nucipersica*), which has been denominated varietally as 'Burnecttwentyfour'.

The present variety of nectarine tree resulted from an ongoing program of fruit and nut tree breeding. The purpose of this program is to improve the commercial quality of available deciduous fruit and nut varieties, and rootstocks, by creating and releasing promising selections of *Prunus, Malus and Regia* species. To this end we make both controlled and hybrid cross pollinations each year in order to produce seedling populations from which improved progenies are evaluated and selected.

The seedling 'Burnecttwentyfour' was originated by us from a population of seedlings grown in our experimental orchards located near Fowler, Calif. The seedlings, grown on their own roots, were the result of a controlled cross made in February of 1998, of an open pollinated seedling of the yellow-fleshed 'Mayglo' nectarine tree (U.S. Plant Pat. No. 5,245), which was used as the pollen parent; and a yellow-fleshed, peach tree of unknown parentage which was used as the seed parent. One seedling identified as, E45.013, and which is the present variety, exhibited especially desirable characteristics, and was marked for subsequent observation. After the 2000 fruiting season, the new, present variety, was selected for advanced evaluation and repropagation.

ASEXUAL REPRODUCTION

Asexual reproduction of the new and distinct variety of nectarine tree was accomplished by budding the new nectarine tree to 'Nemaguard' Rootstock (non-patented). This was performed by us in our experimental orchard which is located near Fowler, Calif. Subsequent evaluations have shown those asexual reproductions run true to the original tree. All characteristics of the original tree, and its fruit, were established, and appear to be transmitted through succeeding asexual

propagations. We have observed fruit for the past 6 successive years from approximately 15 of the aforementioned asexually propagated trees.

SUMMARY OF THE VARIETY

'Burnecttwentyfour' is a new and distinct variety of nectarine tree, which is considered of large size, and which has vigorous growth. This new nectarine tree variety is also a regular and productive bearer of relatively large, firm, sub-acidic, yellow fleshed, melting, clingstone fruit which have good flavor and eating quality. The tree of the present variety displays a medium-low chilling requirement of approximately 350 hours. Still further, the present tree also produces relatively uniformly sized fruit throughout the tree. Additionally, the fruit produced by the present tree has a very high degree of red skin coloration, a firm, yet melting flesh and appears to have good handling and shipping qualities. The 'Burnecttwentyfour' Nectarine tree bears fruit which are ripe for commercial harvesting and shipment on approximately May 27 to June 5 under the ecological conditions prevailing in the San Joaquin Valley of central California. In relative comparison to the seed parent peach tree (unpatented and of unknown parentage), the 'Burnecttwentyfour' Nectarine tree produces a nectarine which ripens about 7-10 days before the seed parent. Further, and in relative comparison to the Nectarine produced by the 'May Glo' Nectarine tree (U.S. Plant Pat. No. 5,245) the current variety is both larger and firmer. In addition, the nectarine tree, 'Rose Diamond' (U.S. Plant Pat. No. 7,421), which is the most similar commercial variety known to the breeders at this time is both smaller and develops less external red blush than does the present, new variety. Further, the 'Rose Diamond' Nectarine tree (U.S. Plant Pat. No. 7,421) produces fruit, which are ripe for harvesting about 4-6 days earlier than the present variety at the same geographical location.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawing, which is provided, is a color photograph of the new variety of nectarine tree. The photo-

graph depicts two whole mature fruit, and one mature fruit which is dissected substantially in the equatorial plane, and which is seen from the apical perspective. This photograph also reveals the flesh and the stone characteristics thereof. The external coloration of the fruit, as shown, is sufficiently matured for harvesting and shipment. Additionally, the photograph displays a sample vegetative shoot bearing typical leaves; 2 individual leaves and a typical stone; with the flesh removed. The colors in the photograph are as nearly true as is reasonably possible in a color representation of this type. 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 specimen. For this reason, future color references should be made to the color plates (Royal Horticultural Society) and the descriptions provided, hereinafter.

NOT A COMMERCIAL WARRANTY

The following detailed description has been prepared to solely comply with the provisions of 35 U.S.C. § 112, and does not constitute a commercial warranty, (either expressed or implied), that the present variety will in the future display the botanical, pomological or other characteristics as set forth, hereinafter. Therefore, this disclosure may not be relied upon to support any future legal claims including, but not limited to, breach of warranty of merchantability, or fitness for any particular purpose, or non-infringement which is directed, in whole, or in part, to the present variety.

DETAILED DESCRIPTION

Referring more specifically to the pomological details of this new and distinct variety of nectarine tree, the following has been observed during the sixth fruiting season under the ecological conditions prevailing at orchards located near the town of Fowler, county of Fresno, state of California. 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. Common color names are also occasionally used.

TREE

Size: Generally—Considered medium-large as compared to other common commercial nectarine cultivars ripening in the same season of maturity. The tree of the present variety was pruned to a height of approximately 305.0 cm to about 310.0 cm at maturity.

Vigor: Considered vigorous. The present variety grew from about 200.0 cm to 205.0 cm in height during the first growing season. The new nectarine tree variety was pruned to a height of approximately 150.0 cm during the first dormant season, and primary scaffolds were then selected for the desired tree structure.

Productivity: Productive. The fruit set varies from 4.0 to several times more than the desired crop load. The fruit set is spaced by thinning to develop the remaining fruit into the desired market-sized fruit. The number of the fruit set varies with the prevailing climatic conditions, and the current cultural practices employed during the bloom period. Therefore, this characteristic is not distinctive of this new variety.

Bearer: Regular. Fruit set has been heavy, and significant thinning was necessary during the past 6 growing seasons.

Form: Upright, and pruned into a vase shape.

Density: Considered medium dense. It has been discovered that pruning the branches from the center of the tree to obtain a resulting vase shape allows for proper air movement in the tree, and appropriate amounts of sunlight to enhance fruit color and renewal of fruiting wood throughout the entire tree.

Hardiness: The present tree was grown and evaluated in USDA Hardiness Zone 9. The winter chilling requirements of the new tree are approximately 350 hours at a temperature below 7.0 degrees C. The present variety appears to be hardy under typical Central San Joaquin Valley climatic conditions. It is conceivable that the present variety could be established and grown in USDA hardiness Zone 10 due the variety's displayed, lower chilling requirement.

TRUNK

Diameter: Approximately 23.0 cm in diameter when measured at a distance of approximately 15.24 cm above the soil level, on trees which are six years old.

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

Lenticels: Numerous flat, oval lenticels are present. The lenticels range in size from approximately 4.0 to about 8.0 millimeters in width; and from about 1.0 to about 2.0 millimeters in height. It should be noted that as the bark of the trees mature, the lenticels become less apparent and also less abundant.

Lenticel color: Considered an Orange-Brown, (RHS Greyed-Orange Group 166 C).

Bark coloration: Variable, but it is generally considered to be Grey-Brown, (RHS Greyed-Orange Group 177 A).

BRANCHES

Size: Considered medium-large for the variety.

Diameter: Average as compared to other nectarine tree varieties. The branches have a diameter of about 12.0 centimeters when measured on trees which are six years old.

Surface texture: Average, and appearing furrowed on wood which is several years old.

Crotch angles: Primary branches are considered variable between about 48 to about 54 degrees from the horizontal axis. This particular characteristic is not considered distinctive of the present variety, however.

Current season shoots: Surface texture—Substantially glabrous.

Internode length: Approximately 2.5 to about 2.8 cm. This tree characteristic is highly dependent upon plant nutrition, soil quality, pruning and tree care and therefore is not particularly distinctive of the new variety.

Color of mature branches: Medium-brown, (RHS Greyed-Orange 174 A).

Current season shoots: Color—Light green, (RHS Yellow-Green Group 144 B). The color of the new shoot tips is considered a bright and shiny green (RHS Green Group 139 B).

LEAVES

Size: Considered medium-large for the species. Leaf measurements have been taken from vigorous, upright, current-season growth, at approximately mid-shoot.

Leaf length: Approximately 138.0 to about 154.0 millimeters.

Leaf width: Approximately 36.0 to about 40.0 millimeters.

Leaf base shape: Slightly oblique relative to the longitudinal axis of the leaf.
Leaf form: Lanceolate.
Leaf tip form: Acuminate.
Leaf color: Upper Surface—Dark green, (approximately RHS Green Group 139 A).
Leaf texture: Glabrous.
Leaf color: Lower Surface—Medium green, (RHS Green Group 141 B).
Leaf venation: Pinnately veined.
Mid-vein: Color—Light yellow green, (RHS Yellow-Green Group 144 C).
Leaf margins: Generally—Slightly undulating.
Form.—Considered crenate, occasionally doubly crenate.
Uniformity.—Considered generally uniform.
Leaf petioles:
Size.—Considered medium long.
Length.—About 7.0 to about 10.0 mm.
Diameter.—About 2.0 to about 2.5 mm.
Color.—Pale green, (RHS Yellow Group 144 A).
Leaf glands:
Size.—About 1.0 mm in height and about 1.0 mm in width.
Number.—Generally one per side, occasionally two per side may be found.
Type.—Globose, and further is considered reasonably unappressed relative to the petiole margin and moderately small. The glands on more mature leaves are occasionally senescent.
Color.—Orange brown, (RHS Grey-Orange Group 177 A).
Leaf stipules:
Size.—Medium for the variety.
Number.—Typically 2 per leaf bud, and up to 6 per shoot tip.
Form.—Lanceolate in form, and having a serrated margin.
Color.—Green, (RHS Green Group 141 A) when young, but then graduating to a brown color, (RHS Greyed-Orange group 177 B) with advancing senescence. The stipules are considered to be early deciduous.

FLOWERS

Flower buds: Generally—The floral buds, depending upon the stage of development, are approximately 8.0 millimeters wide; and about 13.0 millimeters long; conic in form; and slightly appressed relative to the bearing shoot.
Flower buds: Color—The bud scales are reddish-brown, (approximately RHS Greyed Purple Group 183 B). The buds are considered hardy under typical central San Joaquin Valley climatic conditions.
Hardiness: No winter injury has been noted during the last several years of evaluation in the central San Joaquin Valley. The current variety has not been intentionally subjected to drought or heat stress, and therefore this information is not presently available. The current variety is considered a lower chill requirement variety in this region. It is possible to see frost damage on either flowers or small fruit due the early initiation of the blooming period and exposure to damaging temperatures during the late winter months after the bloom.
Date the first bloom was observed: Feb. 5, 2003.
Blooming time: Considered early to mid-season in relative comparison to other commercial nectarine cultivars grown in the central San Joaquin Valley. Date of full bloom was first observed on Feb. 9, 2003. The date of bloom varies slightly with the prevailing climatic conditions, and cultural practices which are employed.
Duration of the bloom: Approximately 10 days. This characteristic varies slightly with the prevailing climatic conditions.
Flower type: The variety is considered to have a showy-type flower.
Flower size: Flower diameter at full bloom is approximately 41.0 to about 46.0 millimeters.
Bloom quantity: Considered very abundant.
Flower bud frequency: Normally 2 flower buds appear per node. On a rare occasion 3 buds per node may be observed.
Petal size: Generally—Considered large for the species.
Length.—Approximately 21.0 to about 23.0 millimeters.
Width.—Approximately 17.0 to about 19.0 millimeters.
Petal form: Rotund to slightly ovate.
Petal count: Generally 5. Occasionally individual flower petal counts are doubled.
Petal texture: Glabrous.
Petal color: Somewhat variable from a light pink, (RHS Red-Purple Group 62 B) to a medium pink, (RHS Red-Purple Group N57 C).
Fragrance: Slight.
Petal claw: Form—The claw is considered truncate in shape; and has a large size when compared to other varieties.
Length.—Approximately 13.0 to about 14.0 millimeters.
Width.—Approximately 10.0 to about 11.0 millimeters.
Petal margins: Generally considered variable, from nearly smooth, to moderately undulate.
Petal apex: Generally—The petal apices appear entire with the apical groove.
Flower pedicel:
Length.—Considered medium-long, and having an average length of approximately 5.0 to about 6.0 millimeters.
Diameter.—Considered average, approximately 2.0 millimeters.
Color.—A pale green, (RHS Greyed Green Group 195 A).
Floral nectaries:
Color.—An orange-brown, (RHS Greyed-Orange Group N172 A).
Calyx:
Surface texture.—Generally glabrous.
Color.—A dull red, (approximately RHS Greyed-Red Group 178 A).
Sepals:
Surface texture.—The surface has a short, fine, pubescent texture.
Size.—Average; and ovate in form.
Color.—A dark reddish purple, (approximately RHS Greyed-Purple Group 187 C).
Anthers:
Generally.—Large in size.
Color.—Red to reddish-purple, (approximately RHS Greyed-Purple Group 187 D) prior to dehistance.
Pollen production: Pollen is abundant, and has a yellow color, (approximately RHS Yellow Group 11 A).

Filaments:

Size.—Variable in length, approximately 15.0 to about 19.0 millimeters in length.

Color.—Considered a pale pink, (RHS Red-Purple Group 65 C).

Pistil:

Number.—Normally 1, rarely 2.

Generally.—Average in size.

Length.—Approximately 19.0 to about 21.0 millimeters including the ovary.

Color.—Considered a very pale green, (approximately RHS Yellow-Green Group 145 C).

Surface texture.—The variety has a long glabrous pistil.

FRUIT

Maturity when described: Firm ripe condition (shipping ripe). Date of first picking.—May 27, 2003. Date of last picking.—Jun. 5, 2003. The date of harvest varies slightly with climatic conditions.

Size: Generally—Considered large, and uniform.

Average cheek diameter: Approximately 70.0 to about 77.0 millimeters.

Average axial diameter: Approximately 70.0 to about 74.0 millimeters.

Typical weight: Approximately 265.0 grams. This characteristic is highly dependent upon the prevailing cultural practices, and therefore is not particularly distinctive of this new variety.

Fruit form: Generally—Rounded to oblate. The fruit is generally uniform in symmetry.

Fruit suture: Shallow, and extending from the mid-equatorial region to the apex. No apparent callousing or stitching exists along the suture line.

Suture: Color—The background color appears to be white, (approximately RHS Yellow-Orange Group 15 B), with some occasional red coloration, (approximately RHS Red Group 46 A).

Ventral surface: Form—Full.

Apex: Shape—Rounded.

Base: Shape—Retuse.

Stem cavity: Shape—Rounded and relatively shallow. The average depth of the stem cavity is about 1.2 cm. The average width of the stem cavity is about 1.85 cm.

Fruit skin:

Thickness.—Considered medium in thickness; and tenacious to the flesh.

Texture.—Glabrous.

Taste.—Slight astringency is noted.

Tendency to crack.—Cracking has not been observed. Russeting has not been observed to date.

Blush color: The blush color is variable from a medium red, (approximately RHS Red Group 44 A) to a dark red, (approximately RHS Red Group 46 A). Blush color ranges from 85% to about 95% of the fruit surface depending upon the sunlight exposure and prevailing growing conditions.

Ground color.—Generally a light yellow, (approximately RHS Yellow-Orange Group 15 B).

Fruit stem: Moderate in length, approximately 6.0 to about 9.0 millimeters.

Diameter.—Approximately 2.0 to about 3.0 millimeters.

Color.—Light tan, (approximately RHS Greyed-Orange Group 164 D).

Flesh:

Ripens.—Evenly.

Texture.—Firm, and dense. Considered melting.

Fibers.—Few, small, and tender ones are typically found.

Aroma.—Slight.

Eating quality.—Considered good.

Flavor.—Considered sweet and acidic. The flavor is considered pleasant.

Juice.—Moderate.

Brix.—About 11.5 degrees. This characteristic varies slightly with the number of fruit per tree; the prevailing cultural practices; and the surrounding climatic conditions.

Flesh color.—Yellow-orange, (approximately RHS Yellow-Orange Group 20 B).

STONE

Type: Clingstone.

Size: Considered medium for the variety. The stone size varies with the resulting crop load, and tree vigor, and is therefore is not considered a distinguishing characteristic of this new variety.

Length: Average, about 27.0 to about 29.0 millimeters.

Width: Average, about 23.0 to about 25.0 millimeters.

Diameter: Average, about 16.0 to about 21.0 millimeters.

Form: Obovoid.

Base: The stone is slightly oblique relative to the stone's vertical axis.

Apex: Shape—The stone apex has a small raised tip.

Stone surface:

Surface texture.—Substantial pitting is evident, in general, from the base past the equatorial plane. Grooving is usually observed along the pit margin near the tip and on the ventral side.

Ridges.—Texture — The surface texture varies from sharp to rounded.

Ventral edge.—Width — Considered medium, and having a dimension of approximately 3.0 to about 4.0 millimeters when measured at mid-suture.

Dorsal edge.—Shape — Full, heavily grooved, and having relatively smooth edges.

Stone color: The color of the dry stone is a tan (Orange-White Group approximately RHS 159 A). The stone included in the photo is freshly exposed and can later exhibit darkening hues from oxidation.

Tendency to split: Rarely splits have been noted.

Kernel: Generally—The kernel is considered immature and semi-gelatinous.

Form.—Considered ovoid.

Pellicle.—Pubescent.

Color.—Considered to be a pale brown (Yellow-White Group 158 A).

Use: The new variety 'Burnecttwentyfour' is considered to be a Nectarine tree which matures early in the season, and which produces fruit, which are considered firm, attractively colored, and which are useful for both local and long distance shipping.

Keeping quality: Excellent. Fruit has stored well for up to 25 days after harvest at 1.0 degree Celsius.

Shipping quality: Good. The fruit of the new nectarine tree variety showed minimal bruising of the flesh, or skin damage, after being subjected to normal harvest and packing procedures.

Resistance to insects and disease: No particular susceptibilities were noted. The present variety has not been tested to expose or detect any susceptibilities or resistances to any known plant and/or fruit diseases.

Although the new variety of nectarine tree possesses the described characteristics when grown under the ecological conditions prevailing near Fowler, Calif., in the central part of the San Joaquin Valley of California, 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.

Having thus described and illustrated our new variety nectarine tree, what we claim is new and desire to secure by Plant Letters Patent is:

1. A new distinct variety of Nectarine tree, substantially as illustrated and described, and which is characterized principally as to novelty by producing an attractively colored, firm-fleshed, sub-acid, clingstone nectarine which is mature for harvesting and shipment approximately May 27 to June 5 under the ecological conditions prevailing in the San Joaquin Valley of central California.

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