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(54) **NECTARINE TREE, 'BURNECTSIXTEEN'**

(50) Latin Name: *Prunus persica* var. *nucipersica*
Varietal Denomination: Burnectsixteen

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(57) **ABSTRACT**

A new and distinct variety of nectarine tree (*Prunus nucipersica*), and which is denominated varietally as 'Burnectsixteen', and which produces an attractively colored yellow-fleshed, clingstone nectarine which is mature for harvesting and shipment approximately May 27 to June 4 under ecological conditions prevailing in the San Joaquin Valley of central California.

1 Drawing Sheet

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BACKGROUND OF THE NEW VARIETY

The present invention relates to a new, novel and distinct variety of nectarine tree, *Prunus persica* var. *nucipersica*, which has been denominated varietally as 'Burnectsixteen' hereinafter.

The present variety of nectarine tree resulted from an on-going program of fruit and nut tree breeding. The purpose of this program is to improve the commercial quality of 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 'Burnectsixteen' 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 of a yellow-fleshed clingstone nectarine tree, of unknown parentage which was used as the pollen parent, and the "Crimson Baby" nectarine tree, (unpatented), and which is an early ripening, yellow-fleshed, freestone nectarine tree, which was used as the seed parent. One seedling, which is the present variety, exhibited especially desirable characteristics and was marked for subsequent observation. After the 1998 fruiting season, the new variety of nectarine tree was selected for advanced evaluation and repropagation.

ASEXUAL REPRODUCTION

Asexual reproduction of this new and distinct variety of nectarine tree was accomplished by budding the new peach 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.

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SUMMARY OF THE VARIETY

'Burnectsixteen' is a new and distinct variety of nectarine tree, which is considered of large size, and which has vigorous growth. This new nectarine tree is also a regular and productive self-fruitful bearer of relatively large, firm, yellow-fleshed, clingstone fruit which have good flavor and eating qualities. This new tree has a medium chilling requirement of approximately 600 hours, and further produces relatively uniformly sized fruit throughout the tree. The fruit produced by this new variety has a non-melting flesh which makes it ideal for storage. In addition, the fruit of this new tree also appears to have good handling and shipping qualities. Still further, the 'Burnectsixteen' nectarine tree bears fruit which are ripe for commercial harvesting and shipment on approximately May 27 to June 4 under the ecological conditions prevailing in the San Joaquin Valley of central California. In relative comparison to the seed parent of the new variety, the present nectarine tree bears fruit about 10 or more days later at the same geographical location; is clingstone; and additionally exhibits a non-melting and sub-acid flesh. The pollen parent ripens two to three weeks later than the current variety. The variety that is most similar to the current variety is 'Honeykist' (U.S. Plant Pat. No. 9,333). However the current variety ripens 5–8 days earlier at the same geographical location.

BRIEF DESCRIPTION OF THE DRAWING

The accompanying drawing, which is provided, is a color photograph of the present variety. It depicts two whole mature fruit, and one fruit dissected substantially in the equatorial plane, and which 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 typical stone, with the flesh removed. Further, a typical leaf shoot is shown. The colors in this 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 other more general color descriptions as provided hereinafter.

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 fifth fruiting season under the ecological conditions prevailing at orchards which are 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) and which is provided by The Royal Horticultural Society of Great Britain. Common color names are also occasionally used.

Tree:

Size.—Generally — Considered medium as compared to other common commercial nectarine cultivars ripening in the early season of maturity. The tree of the present variety was pruned to a height of approximately 315.0 cm to about 330.0 cm at commercial maturity.

Vigor.—Considered vigorous. The present nectarine tree variety grew from about 160.0 cm to about 165.0 cm in height during the first growing season. The new variety was pruned to a height of approximately 130.0 cm during the first dormant season and primary scaffolds were then selected for the desired tree structure.

Productivity.—Productive. Fruit set varies from about 1.5 to several times more than the desired crop load. Fruit set is spaced by thinning to develop the remaining fruit into desired market sized fruit. The number of the fruit set varies with prevailing climatic conditions, and cultural practices employed during the bloom period, and is therefore not distinctive of the present variety.

Bearer.—Regular. Fruit set has been heavy during the years of observation and thinning was necessary during the past 5 years.

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 air movement and appropriate amounts of sunlight to enhance fruit color and renewal of fruiting wood throughout the tree.

Hardiness.—The present tree was grown and evaluated in USDA Hardiness Zone 9. Winter chilling requirements of the new tree are approximately 600 hours below 7.0 degrees C. The variety appears to be hardy under typical central San Joaquin Valley climatic conditions.

Trunk:

Diameter.—Approximately 160.2 cm in diameter when measured at a distance of approximately 15.24 cm above the soil level. The measurement was taken at the end of the fifth growing season.

Bark texture.—Considered moderately rough, with numerous folds of papery scarf skin being present.

Lenticels.—Numerous flat, oval lenticels are present. The lenticels range in size from approximately 4.0 to about 7.0 millimeters in width, and from 1.0 to about 2.0 millimeters in height.

Lenticel color.—Considered an orange brown, (RHS Greyed-Orange Group 170 B).

Bark coloration.—Variable, but it is generally considered to be a medium grey-brown, (RHS Greyed-Orange Group 177 A).

Branches:

Size.—Considered medium to large for the variety.

Diameter.—Average as compared to other nectarine varieties. The branches have a diameter of about 7.5 centimeters when measured during the fifth year after grafting.

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

Crotch angles.—Primary branches are considered variable and are between about 49 to 56 degrees when measured from the horizontal axis. This particular characteristic is not considered distinctive of the variety, however.

Current season shoots.—Surface texture — Substantially glabrous.

Internode length.—Approximately 2.4 to about 2.6 cm.

Color of mature branches.—Medium brown, (RHS Greyed-Orange 177 C).

Current seasons shoots.—Color — Light green, (RHS Yellow-Green Group 137 C). The color of new shoot tips is considered a bright and shiny green (RHS Yellow-Green Group 145 B).

Leaves:

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

Leaf length.—Approximately 145.0 to about 160.0 millimeters.

Leaf width.—Approximately 37.0 to about 43.0 millimeters.

Leaf base shape.—Slightly oblique relative to the leaf longitudinal axis.

Leaf form.—Lanceolate.

Leaf tip form.—Acuminate.

Leaf color.—Upper Leaf Surface — Dark green, (approximately RHS Green Group 139 A).

Leaf texture.—Glabrous.

Leaf color.—Lower Surface — Medium green, (RHS Green Group N138 B).

Leaf venation.—Pinnately veined.

Mid-vein.—Color — Light yellow green, (RHS Yellow-Green Group 144 D).

Leaf margins.—Slightly undulating.

Form.—Considered crenate, occasionally doubly so.

Uniformity.—Considered generally uniform.

Leaf petioles.—Size — Considered medium. Length — About 8.0 to about 11.0 mm. Diameter — About 1.5 to about 2.0 mm. Color — Pale green, (RHS Yellow-Green Group 144 B).

Leaf glands.—Size — Considered small. Approximately 1.5 mm in length, and about 1.0 mm in height. Number — Generally one to two glands per margin side. Occasionally two or more glands occur per margin side. Type — Globose. Color — Considered a pale orange (RHS Orange Group 26 B).

Leaf stipules.—Size — Medium to large 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 136 B) when young, but graduating to a brown color,

(RHS Grey-Orange group 166 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; about 12.0 millimeters long; conic in form; and slightly appressed relative to the bearing shoot. Flower bud dimensions are dependant upon the stage of bud development under which measurements were taken.

Flower buds.—Color — This characteristic is dependent upon the proximity to the bloom. The bud scales are typically deep purple, (approximately RHS Greyed-Purple Group 187 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 available.

Date of first bloom.—Feb. 25, 2003.

Blooming time.—Considered early mid-season in relative comparison to other commercial nectarine cultivars grown in the central San Joaquin Valley. The date of full bloom was observed on Mar. 3, 2002. The date of bloom varies slightly with prevailing climatic conditions and cultural practices.

Duration of bloom.—Approximately 9 days. This characteristic varies slightly with the prevailing climatic conditions.

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

Flower size.—The flower diameter at full bloom is approximately 37.0 to about 43.0 millimeters.

Bloom quantity.—Considered abundant.

Flower bud frequency.—Normally 1 to 2 flower buds appear per node. Occasionally more than 2 flower buds per node are present.

Petal size.—Generally — Considered large for the species. Length — Approximately 18.0 to about 21.0 millimeters. Width — Approximately 16.0 to about 18.0 millimeters.

Petal form.—Slightly ovoid.

Petal count.—Nearly always 5.

Petal texture.—Glabrous.

Petal color.—Light pink, (RHS Red-Purple Group 62 A to a medium pink, (RHS Red-Purple Group 58 C).

Fragrance.—Slight.

Petal claw.—Form — The claw is considered generally ovoid and has a medium-large size when compared to other varieties. Length — Approximately 10.0 to about 13.0 millimeters. Width — Approximately 9.0 to about 11.0 millimeters.

Petal margins.—Generally considered variable, from nearly smooth to slightly ruffled, to moderately undulate.

Petal apex.—Generally — The petal apices generally appear entire at the tip.

Flower pedicel.—Length — Considered medium-long, and having an average length of approximately 4.0 to about 6.0 millimeters. This measurement is dependant upon the stage of flower development. Diameter — Considered average, approximately 2.0 millimeters. Color — A medium brown, (RHS Greyed-Orange Group 165 B).

Floral nectaries.—Color — A dull orange, (RHS Greyed-Orange Group 175 B).

Calyx.—Surface texture. — Generally glabrous. Color — A purple, (approximately RHS Greyed-Purple Group 187 A).

Sepals.—Surface texture — The surface has a short, fine pubescent texture. Size — Average, and ovate in form. Color — A purple, (approximately RHS Greyed-Purple Group 187 A).

Anthers.—Generally — Average in length. Color — Red to reddish-orange dorsally, (approximately RHS Greyed-Red Group 179 A).

Pollen production.—Pollen is abundant, and has a yellow color, (approximately RHS Yellow-Orange Group 17 C).

Filaments.—Size — Length is variable, approximately 14.0 to about 18.0 millimeters long. Color — Considered light pink, (RHS Red Group 55 D).

Pistil.—Number — Usually 1, rarely 2. Size. — Average. Length — Approximately 18.0 to about 21.0 millimeters including the ovary. Color — Considered a very pale green, (approximately RHS Yellow-Green Group 150 C). Surface Texture — The variety has a long glabrous pistil.

Fruit:

Maturity when described.—Firm ripe condition (shipping ripe).

Date of first picking.—May 27th, 2003. Date of last picking — Jun. 9, 2003. The date of harvest varies slightly with the prevailing climatic conditions.

Size.—Generally — Considered large for the early season of maturity, and uniform.

Average cheek diameter.—Approximately 65.0 to about 73.0 millimeters.

Average axial diameter.—Approximately 64.0 to about 71.0 millimeters.

Typical weight.—Approximately 255.0 grams. This characteristic is highly dependent upon the prevailing cultural practices, and therefore is not particularly distinctive of the variety.

Fruit form.—Generally — Considered oblate. The fruit is generally uniform in symmetry.

Fruit suture.—As a general matter, the fruit suture is very shallow and smooth, and extends from the base to the apex. No apparent callousing or stitching exists along the suture line.

Suture.—Color — This has a yellow background color, (approximately RHS Yellow-Orange Group 20 A).

Ventral surface.—Form — Only slightly indented.

Apex.—Rounded.

Base.—Generally retuse.

Stem cavity.—Generally considered broad, circular and reasonably shallow. The average depth of the stem cavity is about 8.0 mm. Average width of the stem cavity is about 15 mm.

Fruit skin.—Thickness — Considered medium in thickness, and tenacious to the flesh. Texture — Glabrous. Taste — Non-astringent. Tendency to crack — None observed.

Color.—Blush Color — This blush color is generally a deep red (approximately RHS Red Group 46 C). The blush covers approximately 80–90% of the fruit skin surface. The percentage of the blush on the fruit skin surface can vary and it is generally dependant upon the prevailing conditions under which the fruit was grown. Ground Color — Yellow orange, (approximately RHS Yellow-Orange Group 20 A).

Fruit stem.—Medium in length, approximately 5.0 to about 8.0 millimeters. Diameter — Approximately 2.0 to about 3.0 millimeters. Color — Pale yellow-green, (approximately RHS Yellow-Green Group 144 B).

Flesh.—Ripens — Evenly. Texture — Firm, juicy and dense. Considered non-melting. Fibers — Few, small, and tender ones are typically found. Aroma — Very slight. Eating Quality — Considered very good. Flavor — Considered sweet and sub-acidic. The flavor is considered both pleasant and balanced. Juice — Abundant. Brix — About 14.5 degrees. This characteristic varies slightly with the number of fruit per tree; prevailing cultural practices; and the surrounding climatic conditions. Flesh Color — Pale yellow-orange, (approximately RHS Yellow-Orange Group 19 A).

Stone:

Type.—Clingstone.

Size.—Considered medium for the variety. The stone size varies significantly depending upon the tree vigor, crop load and prevailing growing conditions.

Length.—Average, about 23.0 to about 28.0 millimeters.

Width.—Average, about 21.0 to about 23.0 millimeters.

Diameter.—Average, about 14.0 to about 18.0 millimeters.

Form.—Ovoid.

Base.—The stone is usually rounded to slightly oblique relative to the ventral side.

Apex.—Shape — The stone apex is raised and does not generally have a prominent tip.

Stone surface.—Surface Texture — Irregularly furrowed toward the basal end. Pitting is abundant, generally, but is typically more noted on the mid-section, and toward the dorsal sides. Ridges — The surface texture is generally characterized by more prominent ridges along the ventral edges. Ventral Edge — Width — Considered medium, and having a dimension of approximately 3.0 to about 5.0 millimeters when measured at the mid-suture. Dorsal Edge. — Shape. — Considered relatively flat, lightly grooved, and having a reasonably smooth margin.

Stone color.—The color of the dry stone is generally considered a reddish brown, (approximately Greyed-Red Group RHS 179 B).

Tendency to split.—Splitting has rarely been noted.

Kernel.—Size — Kernel is considered medium-large.

Form — Considered ovoid. Pellicle — Surface texture — pubescent. Color — (RHS Greyed-Orange Group 167 B).

Use.—The subject variety 'Burnectsixteen' is considered to be a nectarine tree of the early season of maturity, and which produces fruit that are considered firm, attractively colored, and which are useful for both local and long distance shipping.

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

Shipping quality.—Considered good. The fruit of the new nectarine variety showed minimal bruising of the flesh or skin damage after being subjected to normal harvesting 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 yellow-fleshed, sub-acidic, clingstone nectarine which is mature for harvesting and shipment approximately May 27 to June 4 under the ecological conditions prevailing in the San Joaquin Valley of central California.

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