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

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

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

PP5,662 P \* 2/1986 Bradford et al. .... Plt./184  
PP5,664 P \* 2/1986 Bradford et al. .... Plt./190  
PP7,507 P \* 4/1991 Bradford et al. .... Plt./190  
PP13,477 P2 \* 1/2003 Slaughter et al. .... Plt./190

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(57) **ABSTRACT**

A new and distinct variety of nectarine tree *Prunus persica*,  
and which is denominated varietally as 'Burnecttwentyone',  
and which produces an attractively colored yellow-fleshed,  
clingstone, nectarine which is mature for harvesting  
approximately September 21 to October 2 under the eco-  
logical conditions prevailing in the San Joaquin Valley of  
central California.

**1 Drawing Sheet**

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Botanical designation: *Prunus persica*.  
Variety denomination: Burnecttwentyone.

**BACKGROUND OF THE NEW VARIETY**

The present invention relates to a new, novel and distinct  
variety of nectarine tree, *Prunus persica*, and which has  
been denominated varietally as 'Burnecttwentyone' herein-  
after.

The present variety of nectarine tree resulted from an  
on-going program of fruit and nut tree breeding. The pur-  
pose 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, 'Burnecttwentyone', 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 planting seeds which were  
derived from the open pollination of the 'Burnectfour'  
nectarine tree (U.S. Pat. No. 13,477). 'Burnectfour' resulted  
from a previous cross of the yellow-fleshed clingstone  
nectarine tree 'September Red' (U.S. Pat. No. 5,664), which  
was used as the seed parent; and the 'Spring Bright' nec-  
tarine tree (U.S. Plant Pat. No. 7,507) which was used as the  
pollen parent. The open pollination of the 'Burnectfour'  
nectarine tree occurred sometime in March 1998. Thereafter  
seeds derived from this open pollinated seedling tree were  
planted in September of 1998. One subsequent seedling,  
denoted as I 10.067, which is the present variety, exhibited

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especially desirable characteristics, and was marked for  
subsequent observation. After the 2000 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 nec-  
tarine tree onto 'Nemaguard' Rootstock (unpatented). This  
was performed by us in our experimental orchard 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 estab-  
lished and appear to be transmitted through succeeding  
asexual propagations.

**SUMMARY OF THE VARIETY**

'Burnecttwentyone' is a new and distinct variety of nec-  
tarine tree, which is considered of large size, and which has  
vigorous growth. This new nectarine tree is also a regular  
and productive bearer of relatively large, firm, yellow  
fleshed, acidic clingstone fruit which have good flavor and  
eating qualities. This new tree has a medium chilling  
requirement of approximately 700 hours, and further pro-  
duces relatively uniformly sized fruit throughout the tree. In  
addition, the fruit also appears to have good handling and  
shipping qualities. Still further, the 'Burnecttwentyone' nec-  
tarine tree bears fruit which are ripe for commercial har-  
vesting and shipment on approximately September 23 to  
October 2 under the ecological conditions prevailing in the  
San Joaquin Valley of central California. In relative com-  
parison to the seed parent, 'Burnectfour', the present nec-



tarine tree bears fruit about 18 or more days earlier at the same geographical location. In relative comparison to other known varieties, the present variety of nectarine tree is most closely similar to the 'September Red' Nectarine (U.S. Plant Pat. No. 5,662), which, when grown in its natural state, produces fruit that ripens on or about September 1st, whereas the present new variety produces fruit which has a ripening date of September 23 or later. Further in comparison to the 'Spring Bright' nectarine tree, the present variety ripens typically after September 23, whereas the 'Spring Bright' nectarine tree produces fruit which are ripe for harvesting between June 21–June 29 at Le Grand, Calif.

#### BRIEF DESCRIPTION OF THE DRAWING

The accompanying drawing, is a color photograph of the present variety. This photograph depicts two whole mature fruit, and one fruit dissected substantially in the equatorial plane exposing the fruit flesh. The exposed flesh and skin exhibits fruit sufficiently matured for harvesting and shipment. Additionally, the photograph displays a sample vegetative shoot bearing typical leaves, and a stone, with the flesh removed. 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 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 fourth 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-large as compared to other common commercial nectarine cultivars ripening in the late season of maturity. The tree of the present variety was pruned to a height of approximately 305.0 cm to about 315.0 cm at maturity.

*Vigor.*—Considered moderately vigorous. The present nectarine tree variety grew from about 135.0 cm to about 140.0 cm in height during the first growing season. The new variety was pruned to a height of approximately 125.0 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 the desired market sized fruit. The number of the fruit set varies with the prevailing climatic conditions, and cultural practices employed, 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 to 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 700 hours below 7.0 degrees C. The variety appears to be hardy under typical center San Joaquin Valley climatic conditions.

#### Trunk:

*Diameter.*—Approximately 13.0 cm in diameter when measured at a distance of approximately 15.24 cm above the soil level. This measurement was taken at the end of the fifth growing season.

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

*Lenticels.*—Numerous flat, oval lenticels are present. The lenticels are relatively large, and range in size from approximately 5.0 to about 6.0 millimeters in width, and from 1.0 to about 2.0 millimeters in height.

*Lenticel color.*—Orange brown, (RHS Greyed-Orange Group N170 A).

*Bark coloration.*—Variable, but it is generally medium grey-brown, (RHS Greyed-Orange Group 174 A).

#### Branches:

*Size.*—Considered medium for the variety.

*Diameter.*—Average as compared to other nectarine varieties. The branches have a diameter of about 6.2 centimeters when measured during the third 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 45 to 50 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 2.3 to about 2.5 cm.

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

*Current season shoots.*—Color. — Green, (RHS Green Group 137 A). The color of new shoot tips is bright and shiny green (RHS Green Group 143 B).

#### Leaves:

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

*Leaf length.*—Approximately 143.0 to about 155.0 millimeters.

*Leaf width.*—Approximately 35.0 to about 39.0 millimeters.

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

*Leaf form.*—Lancelolate.

*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 Yellow-Green Group 147 A).



*Leaf venation.*—Pinnately veined.

*Mid-Vein.*—Color. — Light yellow green, (RHS Greyed-Yellow Group 160 B).

*Leaf margins.*—Slightly undulating. Form. — Considered crenate. Uniformity. — Considered generally uniform.

*Leaf petioles.*—Size. — Considered medium-long. 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 N144 A).

*Leaf glands.*—Size. — Considered small. Approximately 1.5 mm in length, and about 1.0 mm in height. Number. — Generally one gland per margin side. Occasionally two glands per margin side may be found. Type. — Reniform. Color. — Pale orange (RHS Orange Group 26 B).

*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 Yellow-Green Group 144 A) when young, but graduating to a brown color, (RHS Greyed-Orange group 165 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 7.5 millimeters wide; about 11.0 millimeters long; conic in form; and slightly appressed relative to the bearing shoot. Floral bud dimensions are highly dependent upon the timing of the measurements.

*Flower buds.*—Color — This characteristic is dependent upon the proximity to the bloom. The bud scales are purple, (approximately RHS Greyed-Purple Group N186 C). 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.*—Mar. 1, 2004.

*Blooming time.*—Considered 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. 7, 2004. The date of bloom varies slightly with 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.*—Flower diameter at full bloom is approximately 41.0 to about 44.0 millimeters.

*Bloom quantity.*—Considered abundant.

*Flower bud frequency.*—Normally 1 or more flower buds appear per node.

*Petal size.*—Generally — Considered medium-large for the species. Length. — Approximately 18.0 to about 21.0 millimeters. Width. — Approximately 18.0 to about 20.0 millimeters.

*Petal form.*—Generally rounded.

*Petal count.*—Nearly always 5.

*Petal texture.*—Glabrous.

*Petal color.*—Light pink, approximately (RHS Red-Purple Group 65 D).

*Fragrance.*—Slight.

*Petal claw.*—Form. — The claw is generally elongated, and has a medium size when compared to other varieties. Length. — Approximately 9.0 to about 12.0 millimeters. Width. — Approximately 9.0 to about 10.0 millimeters. Petal Margins. — Generally considered reasonably uniform and smooth, and moderately undulate.

*Petal apex.*—Generally — The petal apices exhibit a small narrow groove at the tip.

*Flower pedicel.*—Length. — Considered medium-long, and having an average length of approximately 3.0 to about 5.0 millimeters. Diameter. — Considered average, approximately 3.0 millimeters. Color. — A dull green, (RHS Yellow-Green Group 144 C).

*Floral nectaries.*—Color. — A dull orange, (RHS Greyed-Orange Group N172 B).

*Calyx.*—Surface Texture. — Generally glabrous. Color. — Purple, (approximately RHS Greyed-Red Group 180 B).

*Sepals.*—Surface Texture. — The surface has a short, fine pubescent texture. Size. — Average, and ovate in form. Color. — A deep purple, (approximately RHS Greyed-Purple Group 183 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). The present variety is considered self-fruitful, and does not require a pollinator.

*Filaments.*—Size. — Length is variable, approximately 15.0 to about 18.0 millimeters long. Color. — Light pink, (RHS Red Group 36 D).

*Pistil.*—Number. — Usually 1, rarely 2. Generally. — Medium-long in size. Length. — Approximately 18.0 to about 21.0 millimeters including the ovary. Color. — 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. — Sep. 21, 2004. Date of last picking. — Oct. 2, 2004. The date of harvest varies slightly with the prevailing climatic conditions and fruit maturity harvested for preferred market requirements.

*Size.*—Generally — Considered large, and uniform.

*Average cheek diameter.*—Approximately 72.0 to about 75.0 millimeters.

*Average axial diameter.*—Approximately 69.0 to about 71.0 millimeters.

*Typical weight.*—Approximately 285.0 grams. This characteristic is highly dependent upon the prevailing cultural practices, and therefore is not particularly distinctive of the variety.

*Fruit form.*—Generally rounded. The fruit is generally uniform in symmetry.

*Fruit suture.*—A shallow suture indentation is evident from the stem well, throughout the length of the fruit, and slightly past the apex. No apparent callusing or stitching exists along the suture line.

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



*Ventral surface.*—Form — Slightly indented.

*Apex.*—Rounded.

*Base.*—Generally retuse.

*Stem cavity.*—Generally uniform and rounded in shape and moderately deep. Average depth of the stem cavity is about 7.0 mm. Average width of the stem cavity is about 15.0 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 red (approximately RHS Orange-Red Group N34 A). The blush covers approximately 50–60% of the fruit skin surface. The percentage of the blush on the fruit skin surface can vary, and is generally dependent upon the prevailing conditions under which the fruit was grown. Ground Color. — Yellow orange, (approximately RHS Yellow-Orange Group 22 B).

*Fruit stem.*—Medium, approximately 5.0 to 7.0 millimeters. Diameter. — Approximately 2.0 to 3.0 millimeters. Color. — Pale yellow-green, (approximately RHS Yellow-Green Group 144 A).

*Flesh.*—Ripens. — Evenly. Texture. — Firm, juicy and dense. The flesh is considered non-melting. Fibers. — Few, small, and tender ones are typically found. Aroma. — Very slight. Eating Quality. — Considered very good. Flavor. — Considered sweet and slightly acidic. The flavor is considered both pleasant and balanced. Juice. — Moderate. Brix. — About 15.5 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 18 B).

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 29.0 to about 32.0 millimeters.

*Width.*—Average, about 26.0 to about 28.0 millimeters.

*Diameter.*—Average, about 16.0 to about 18.0 millimeters.

*Form.*—Generally rounded.

*Base.*—The stone is usually oblique toward the ventral side.

*Apex.*—Shape. — Generally the stone apex has a small rounded tip.

*Stone surface.*—Surface Texture — Pitting, in general is prominent in the mid-section and toward the base.

*Ridges.* — The surface texture is generally characterized by more prominent ridges along the ventral and dorsal margins. Ventral Edge. — Width — Considered medium, and having a dimension of approximately 3.0 to about 4.0 millimeters when measured at the mid-suture. Dorsal Edge. — Shape. — Oblique toward the stem end.

*Stone color.*—The color of the dry stone is generally considered a reddish brown, (approximately Greyed-Orange Group RHS N170 C).

*Tendency to split.*—Splitting has rarely been noted.

*Kernel.*—Size. — The kernel is considered medium. Form. — Considered generally ovoid. Pellicle. — Pubescent and ridging is usually absent. Color. — (RHS Greyed-range Group N167 B).

*Use.*—The subject variety 'Burnectwentyone' is considered to be a nectarine tree of the late 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 for 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, clingstone, nectarine which is mature for harvesting approximately September 21 to October 2 under the ecological conditions prevailing in the San Joaquin Valley of central California.

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