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Zaiger et al.

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(54) **NECTARINE TREE NAMED ‘POLAR SNOW’**

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

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See application file for complete search history.

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(57) **ABSTRACT**

A new and distinct variety of nectarine tree (*Prunus persica* var. *nucipersica*). The following features of the tree and its fruit are characterized with the tree budded on ‘Nemaguard’ Rootstock (non-patented), grown on Handford sandy loam soil with Storie Index rating 95, in USDA Hardiness Zone 9, near Modesto, Calif., with standard commercial fruit growing practices, such as pruning, thinning, spraying, irrigation and fertilization. Its novelty consist of the following combination of desirable features:

1. Tree with vigorous, upright growth.
2. Regular and productive bearer of large size fruit.
3. Fruit with a high degree of red skin color.
4. Fruit with firm, white flesh and excellent eating quality.
5. Fruit with good handling and shipping quality.

1 Drawing Sheet

1

Botanical designation: *Prunus persica* var. *nucipersica*.
Variety denomination: ‘Polar Snow’.

BACKGROUND OF THE VARIETY

Field of the Invention

In the field of plant genetics, we conduct an extensive and continuing plant-breeding program including the organization and asexual reproduction of orchard trees, and of which plums, peaches, nectarines, apricots, cherries, almonds and interspecifics are exemplary. It was against this background of our activities that the present variety of nectarine tree was originated and asexually reproduced by us in our experimental orchard located near Modesto, Stanislaus County, Calif.

Prior Varieties

Among the existing varieties of nectarine trees, which are known to us, and mentioned herein, ‘Arctic Show’ Nectarine (U.S. Plant Pat. No. 7,920).

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH AND DEVELOPMENT

Not applicable.

ORIGIN OF THE VARIETY

The new and distinct variety of nectarine tree (*Prunus persica* var. *nucipersica*) was originated by us in our experimental orchard located near Modesto, Calif. as a seedling selection from seed of unknown parentage. This selected seedling was grown and then budded onto older established trees of ‘Nemaguard’ Rootstock (non-patented) to enhance earlier fruit production. Under close and careful observation

2

the present seedling exhibited desirable fruit and tree characteristics and was selected in 2008 for additional asexual propagation and commercialization.

5 ASEXUAL REPRODUCTION OF THE VARIETY

In 2008 asexual reproduction of the new and distinct variety of nectarine tree was by budding to ‘Nemaguard’ Rootstock (non-patented), as performed by us in our experimental orchard located near Modesto, Calif., and shows that reproductions run true to the original tree and all characteristics of the tree and its fruit are established and transmitted through succeeding asexual propagations.

15 SUMMARY OF THE NEW VARIETY

The present new variety of nectarine tree (*Prunus persica* var. *nucipersica*) is of large size, vigorous, upright growth and a productive and regular bearer of large size, white flesh, clingstone fruit. The fruit is further characterized by having a mild, sweet, sub-acid flavor with excellent eating quality. In comparison to the commercial variety ‘Arctic Show’ Nectarine (U.S. Plant Pat. No. 7,920) the fruit of the new variety is clingstone instead of freestone and is approximately 17 days earlier in maturity.

DESCRIPTION OF PHOTOGRAPH

The accompanying color photographic illustration shows typical specimens of the foliage and fruit of the present new nectarine variety. The illustration shows the upper and lower surface of the leaves, an exterior and sectional view of a single fruit divided in its suture plane to show flesh color, pit cavity and the stone remaining in place. The photographic illustration was taken shortly after being picked (shipping

ripe) from a year old tree and the colors are as nearly true as is reasonably possible in a color representation of this type.

DESCRIPTION OF THE VARIETY

The following is a detailed botanical description of the new variety of nectarine tree, its flowers, foliage and fruit, as based on observations of 7 year old specimens grown near Modesto, Calif., with color in accordance with Munsell Book of Color published in 1958.

Tree:

Size.—Large, usually pruned to 3 to 3.5 meters in height and width for economical harvesting of fruit. Size varies with different cultural practices.

Vigor.—Vigorous, growth of 1.5 to 2 meters the first growing season. Varies slightly with type and fertility of soil, climatic conditions and cultural practices.

Form.—Upright, usually pruned to vase shape.

Branching habit.—Upright, crotch angle approximately 35°, increases with heavy crop load.

Productivity.—Productive, thinning and spacing necessary for desired market size fruit. Number of fruit set varies with climatic conditions during blooming period.

Bearer.—Regular, has had adequate fruit set 5 consecutive years. No alternate bearing observed.

Fertility.—Self fertile.

Density.—Medium dense, usually pruned to vase shape to increase air movement and sunlight to center of tree to enhance fruit color and health of fruit wood.

Hardiness.—Hardy in all stone fruit growing areas of California. Tree grown in USDA Hardiness Zone 9. Winter chilling requirement approximately 800 hours at or below 45° F.

Trunk:

Size.—Large. Average circumference 53.3 cm at 25.4 cm above ground on a 7 year old tree.

Stocky.—Medium stocky.

Texture.—Medium shaggy, roughness increases with age.

Color.—Varies from 2.5Y 6/2 to 5Y 7/2.

Branches:

Size.—Medium. Average circumference 17.8 cm at 1.2 meters above ground. Crotch angle approximately 35°, increases with heavy cop load.

Surface texture.—New growth relatively smooth. Mature growth medium rough, roughness increases with age.

Lenticels.—Average number 15 in a 25.8 square cm area. Average length 4.5 mm. Average width 1.9 mm. Color varies from 10YR 4/2 to 2.5Y 5/2.

Color.—New growth varies from 5GY 6/8 to 5GY 5/8. Mature growth varies from 2.5Y 4/4 to 2.5Y 3/4, varies with age of growth.

Leaves:

Size.—Large. Average length 143.7 mm. Average width 38.9 mm.

Form.—Lanceolate.

Apex.—Acuminate.

Base.—Cuneate.

Margin.—Serrate.

Thickness.—Medium.

Surface texture.—Upper surface relatively smooth, slight indentations over midrib and leaf veins. Lower surface relatively smooth, except for small ridges

created by midrib and pinnate venation. Both upper and lower surfaces glabrous.

Petiole.—Average length 10.0 mm. Average width 1.8 mm. Longitudinally grooved. Surface — glabrous. Color varies from 2.5GY 6/6 to 2.5GY 5/6.

Glands.—Type — reniform. Size — small to medium. Average length 1.3 mm. Average diameter 0.9 mm. Number varies from 2 to 4, average number 3. Located primarily on the base of leaf blade and upper portion of the petiole. Color varies from 2.5GY 5/6 to 2.5GY 6/7.

Stipules.—Average number 2. Average length 6.7 mm. Edges pectinate. Color varies from 2.5GY 5/6 to 2.5GY 5/8.

Color.—Upper surface varies from 5GY 3/6 to 7.5GY 4/4. Lower surface varies from 7.5GY 5/4 to 7.5GY 4/4. Midvein color varies from 10Y 8/4 to 2.5GY 8/4.

Flower buds:

Size.—Large. Average length 20.4 mm. Average diameter 11.8 mm.

Hardiness.—Hardy with respect to California winters.

Density.—Medium.

Form.—Conical, becoming elongated just before opening.

Pedicel.—Average length 5.2 mm. Average width 1.6 mm. Surface — glabrous. Color varies from 5GY 7/8 to 5GY 5/10.

Color.—Varies from 5RP 9/2 to 5RP 6/12.

Flowers:

Blooming period.—Date of First Bloom Feb. 18, 2014. Date of Petal Fall Feb. 28, 2014, varies slightly with climatic conditions.

Size.—Large, showy. Average height 22.0 mm. Average diameter 42.8 mm.

Petals.—Normally 5, alternately arranged to sepals. Size — large. Average length 24.1 mm. Average width 19.8 mm. Form — elliptical. Margin — sinuate. Arrangement — overlapping. Petal apex — rounded. Petal base — truncated. Color varies from 5RP 8/4 to 5RP 6/2. Both upper and lower surfaces glabrous.

Sepals.—Normally 5, alternately arranged to petals. Size — large. Average length 7.5 mm. Average width 7.0 mm. Shape — ovate to triangular. Margin — entire. Apex — rounded to triangular. Surface — upper surface glabrous, lower surface pubescent. Color — upper surface varies from 5GY 6/10 to 5GY 5/10. Lower surface varies from 5GY 5/6 to 7.5RP 2/6.

Stamens.—Average number per flower 51. Average filament length 16.2 mm. On average, the stamens are even with the height of the petals. Filament color varies from N 9.5/(white) to 2.5RP 4/8. Anther color varies from 5Y 8.5/10 to 2.5R 3/10.

Pollen.—Self fertile. Color varies from 2.5Y 7/12 to 5Y 7/12.

Pistil.—Number — normally 1. Average length 18.3 mm. Surface — glabrous. Position of stigma an average of 1.9 mm below the anthers. Color varies from 5GY 4/8 to 10Y 6/8.

Fragrance.—Wanting.

Color.—Varies from 5RP 8/4 to 5RP 6/12.

Pedicel.—Average length 5.7 mm. Average width 1.6 mm. Color varies from 5GY 6/8 to 5GY 5/10.

Number flowers per flower bud.—Normally one.

Fruit:

Maturity when described.—Firm ripe and ready for consumption.

Date of first picking.—Aug. 15, 2014. 5

Date of last picking.—Aug. 22, 2014, varies slightly with climatic conditions.

Size.—Large. Average diameter axially 69.7 mm. Average transversely in suture plane 72.4 mm. Average weight 213.0 grams, varies slightly with fertility of the soil, amount of thinning and climatic conditions. 10

Form.—Globose to elongated.

Suture.—Nearly smooth, extends from base to apex.

Ventral surface.—Nearly smooth.

Apex.—Rounded to slight pistil point. 15

Base.—Retuse.

Stem cavity.—Rounded to slightly elongated in the suture plane. Average depth 11.2 mm. Average diameter 9.4 mm.

Stem:

Size.—Small to medium. Average length 9.4 mm. Average diameter 3.8 mm.

Color.—Varies from 2.5GY 6/8 to 5GY 7/6.

Flesh:

Ripens.—Evenly. 25

Texture.—Firm, meaty.

Fibers.—Few, small, tender.

Firmness.—Good, comparable to other commercial varieties.

Aroma.—Slight. 30

Amydgalin.—Undetected.

Eating quality.—Excellent.

Flavor.—Excellent, mild, sweet, sub-acid flavor.

Juice.—Moderate amount, enhances flavor.

Acidity.—Not available. 35

Brix.—Average Brix 16.0°, varies slightly with amount of fruit per tree and climatic conditions.

Color.—Varies from 7.5Y 9/2 to 10Y 9/2.

Pit cavity.—Average length 39.7 mm. Average width 25.6 mm. Average depth 11.6 mm. Color varies from 5R 3/10 to 7.5R 3/13. 40

Skin:

Thickness.—Medium.

Surface.—Smooth.

Pubescence.—Wanting. 45

Tendency to crack.—None.

Color.—Ground color varies from 5Y 9/4 to 5Y 9/6. Overspread with 5R 2/2 to 7.5R 3/12.

Tenacity.—Tenacious to flesh.

Astringency.—Undetected. 50

Stone:

Type.—Clingstone, strong adherence to flesh.

Size.—Large. Average length 38.7 mm. Average width 24.6 mm. Average thickness 20.6 mm.

Form.—Ovoid.

Base.—Flat.

Apex.—Pointed. Average length 3.0 mm.

Surface.—Pitted throughout, pits vary from round to elongated.

Sides.—Unequal, one side extending further from the suture plane.

Ridges.—Relatively smooth, extending from base to apex.

Tendency to split.—None.

Color.—Varies from 5R 2/2 to 7.5YR 3/4 when dry.

Kernel:

Size.—Medium. Average length 17.2 mm. Average width 9.9 mm. Average depth 6.4 mm.

Form.—Ovoid.

Viability.—Viable, complete embryo development.

Skin color.—Varies from 7.5YR 5/8 to 7.5YR 4/8.

Use: Dessert. Market — local and long distance.

Keeping quality: Good, held firm in cold storage at 38° to 42° F. for 3 weeks without internal breakdown of flesh or appreciable loss of flavor. 25

Shipping quality: Good, minimal skin scarring or bruising of flesh during picking, packing and shipping trials.

Plant/fruit disease resistance/susceptibility: No specific testing for relative plant/fruit disease resistance/susceptibility has been designed. Under close observation during planting, growing, and harvesting of fruit, under normal cultural and growing conditions near Modesto, Calif., no particular plant/fruit disease resistance or susceptibility has been observed. Any variety or selection observed during indexing of plant characteristics with abnormal fungus, bacterial, virus or insect susceptibility is destroyed and eliminated from our breeding program. No atypical resistances/susceptibilities have been noted under normal cultural practices. 30

The present new variety of nectarine tree, its flowers, foliage and fruit herein described may vary in slight detail due to climate, soil conditions and cultural practices under which the variety may be grown. The present description is that of the variety grown under the ecological conditions prevailing near Modesto, Calif. 45

The invention claimed is:

1. A new and distinct variety of nectarine tree (*Prunus persica* var. *nucipersica*), substantially as illustrated and described.

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