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**Zaiger et al.**

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(54) **PEACH TREE NAMED ‘CRIMSON FIRE’**

(50) Latin Name: *Prunus persica*  
Varietal Denomination: **Crimson Fire**

(71) Applicants: **Gary Neil Zaiger**, Modesto, CA (US);  
**Leith Marie Gardner**, Modesto, CA  
(US); **Grant Gene Zaiger**, Modesto,  
CA (US)

(72) Inventors: **Gary Neil Zaiger**, Modesto, CA (US);  
**Leith Marie Gardner**, Modesto, CA  
(US); **Grant Gene Zaiger**, Modesto,  
CA (US)

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See application file for complete search history.

*Primary Examiner* — Annette Para

(57) **ABSTRACT**

A new and distinct variety of peach tree (*Prunus persica*). 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 firm, yellow flesh and good eating quality.
4. Fruit with a high degree of attractive red skin color.
5. Fruit with good handling and shipping quality.

**1 Drawing Sheet**

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Botanical designation: *Prunus persica*.  
Variety denomination: ‘Crimson Fire’.

**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 peach 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 peach trees, which are known to us, and mentioned herein, ‘Rich Snow’ Peach (U.S. Plant Pat. No. 25,812), ‘Super Zee’ Peach (U.S. Plant Pat. No. 17,874) and our proprietary non-patented peach seedling selection ‘11ZP322’.

**STATEMENT REGARDING FEDERALLY  
SPONSORED RESEARCH AND  
DEVELOPMENT**

Not applicable.

**ORIGIN OF THE VARIETY**

The new and distinct variety of peach tree (*Prunus persica*) was originated by us in our experimental orchard

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located near Modesto, Calif. as an open pollinated seedling selection from our proprietary non-patented peach seedling ‘11ZP322’. The seed parent ‘11ZP322’ originated as an open pollinated seedling selection of ‘Rich Snow’ Peach (U.S. Plant Pat. No. 25,812). A large number of these open pollinated seedlings were budded onto older established trees of ‘Nemaguard’ Rootstock (non-patented) to enhance earlier fruit production. Under close and careful observation the present budded seedling exhibited desirable fruit and tree characteristics and was selected in 2013 for additional asexual propagation and commercialization.

**ASEXUAL REPRODUCTION OF THE VARIETY**

In 2013 asexual reproduction of the new and distinct variety of peach 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.

**SUMMARY OF THE NEW VARIETY**

The present new variety of peach tree (*Prunus persica*) is of large size, vigorous, upright growth and a regular and productive bearer of large size, yellow flesh, clingstone fruit. The fruit is further characterized by having a good balance between acid and sugar with good flavor and eating quality. In comparison to its proprietary non-patented peach seed parent (11ZP322) the fruit of the new variety has yellow flesh compared to white and is approximately 31 days earlier in maturity. In comparison to the commercial variety ‘Super



Zee' Peach (U.S. Plant Pat. No. 17,874) the fruit of the new variety is larger in size and has a higher degree of red skin color.

#### DESCRIPTION OF THE PHOTOGRAPH

The accompanying color photographic illustration shows typical specimens of the foliage and fruit of the present new peach 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 4 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 peach tree, its flowers, foliage and fruit, as based on observations of 4 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 in height 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 of fruit necessary for desired market size fruit. Number of fruit set varies with climatic conditions during blooming period.

*Bearer*.—Regular, has had adequate fruit set 2 consecutive years. No alternate bearing observed.

*Fertility*.—Self fertile.

*Density*.—Medium dense, usually pruned to vase shape to increase air movement and sunlight 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 350 hours at or below 45° F.

##### Trunk:

*Size*.—Large, average circumference 51.1 cm at 30.5 cm above ground on a 4 year old tree.

*Stocky*.—Medium stocky.

*Texture*.—Medium shaggy, roughness increases with age.

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

##### Branches:

*Size*.—Medium. Average circumference 10.2 cm at 1.2 meters above ground. Crotch angle approximately 35°, increases with heavy crop load.

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

*Lenticels*.—Average number 48 in a 25.8 square cm area. Average length 3.2 mm. Average width 2.1 mm.

*Color* varies from 10YR 7/12 to 10YR 6/12.

*Color*.—New growth varies from 5GY 6/6 to 2.5R 3/8. Mature growth varies from 7.5YR 3/4 to 10YR 4/2, varies with age of growth.

##### Leaves:

*Size*.—Medium to large. Average length 138.9 mm.

Average width 45.4 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 9.4 mm. Average width 1.9 mm. Longitudinally grooved. Surface — glabrous. Color varies from 5GY 6/8 to 5GY 5/8.

*Glands*.—Type — reniform. Size — large. Average length 1.6 mm. Average diameter 1.2 mm. Number varies from 3 to 5, average number 4. Located primarily on the base of the leaf blade and upper portion of the petiole. Color varies from 2.5GY 6/8 to 5GY 6/8.

*Stipules*.—Average number 2. Average length 8.2 mm. Edges — pectinate. Color varies from 5GY 6/8 to 5GY 5/8.

*Color*.—Upper surface varies from 2.5GY 3/4 to 10Y 3/4. Lower surface varies from 5GY 4/4 to 2.5GY 4/4. Midvein color varies from 2.5GY 6/8 to 5GY 7/8.

##### Flower buds:

*Size*.—Large. Average length 20.9 mm. Average diameter 11.5 mm.

*Hardiness*.—Hardy with respect to California winters.

*Density*.—Medium dense.

*Form*.—Conical, becoming elongated just before opening.

*Pedicel*.—Average length 4.6 mm. Average width 1.3 mm. Surface — glabrous. Color varies from 7.5GY 8/6 to 7.5GY 6/12.

*Color*.—Varies from 5RP 8/6 to 5RP 7/10.

##### Flowers:

*Blooming period*.—Date of First Bloom Feb. 2, 2015. Date of Petal Fall Feb. 12, 2015, varies slightly with climatic conditions.

*Size*.—Large, showy. Average height 21.3 mm. Average diameter 41.9 mm.

*Petals*.—Normally 5, alternately arranged to sepals. Size — large. Average length 23.6 mm. Average diameter 19.4 mm. Form — ovate. Margin — sinuate. Arrangement — overlapping. Petal apex — ovate to rounded. Petal Base — truncated. Color varies from 5RP 8/4 to 5RP 6/12.

*Sepals*.—Normally 5, alternately arranged to petals. Size — large. Average length 7.6 mm. Average width 7.2 mm. Shape — ovate. Margin — entire. Apex — rounded. Surface — upper surface glabrous, lower surface pubescent. Color — upper surface varies from 2.5GY 5/6 to 5GY 5/6. Lower surface varies from 5R 2/2 to 7.5R 3/2.



*Stamens*.—Average number per flower 48. Average filament length 17.0 mm. On average, the stamens are below the height of the petals. Filament color varies from N 9.5/(white) to 5RP 9/2. Anther color varies from 7.5R 4/12 to 5Y 8.5/8. 5

*Pollen*.—Self fertile. Color varies from 2.5Y 7/10 to 5Y 8/10.

*Pistil*.—Normally one. Average length 19.3 mm. Surface — pubescent. Position of stigma an average of 0.9 mm below anthers. Color varies from 10Y 8.5/4 10 to 2.5GY 8/4.

*Fragrance*.—Wanting.

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

*Pedice*.—Average length 5.4 mm. Average width 1.6 mm. Color varies from 2.5GY 5/6 to 5GY 5/6. 15

*Number flowers per flower bud*.—Normally one.

**Fruit:**

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

*Date of first picking*.—Apr. 29, 2015. 20

*Date of last picking*.—May 7, 2015, varies slightly with climatic conditions.

*Size*.—Large. Average diameter axially 60.5 mm. Average transversely in suture plane 67.1 mm. Average weight 159.0 grams, varies slightly with fertility of soil, amount of thinning and climatic conditions. 25

*Form*.—Globose to slightly elongated.

*Suture*.—Slightly lipped, extends from base to apex.

*Ventral surface*.—Slightly lipped.

*Apex*.—Slightly retuse. 30

*Base*.—Retuse.

*Stem cavity*.—Rounded to slightly elongated in suture plane. Average depth 7.1 mm. Average diameter 5.8 mm.

**Stem:**

*Size*.—Medium. Average length 8.6 mm. Average diameter 3.8 mm.

*Color*.—Varies from 10Y 6/8 to 2.5GY 6/8.

**Flesh:**

*Ripens*.—Even to slightly earlier at apex. 40

*Texture*.—Firm, meaty.

*Fibers*.—Few, small, tender.

*Firmness*.—Good, comparable to other commercial peach varieties.

*Aroma*.—Moderate. 45

*Amydgalin*.—Undetected.

*Eating quality*.—Good.

*Flavor*.—Good, a good balance between acid and sugar.

*Juice*.—Moderate amount, enhances flavor. 50

*Acidity*.—Not available.

*Brix*.—Average Brix 11.4°, varies slightly with amount of fruit per tree and climatic conditions.

*Color*.—Varies from 5Y 7/8 to 2.5Y 7/8.

*Pit cavity*.—Average length 36.1 mm. Average width 27.8 mm. Average depth 13.0 mm. Color varies from 10YR 6/10 to 10YR 6/12. 55

**Skin:**

*Thickness*.—Medium.

*Surface*.—Smooth.

*Pubescence*.—Moderate amount, short in length.

*Tendency to crack*.—None.

*Color*.—Ground color varies from 2.5Y 7/8 to 2.5Y 7/6. Overspread with 7.5R 4/10 to 10R 3/8.

*Tenacity*.—Tenacious to flesh.

*Astringency*.—Undetected.

**Stone:**

*Type*.—Clingstone, strong adherence to flesh.

*Size*.—Medium to large. Average length 35.1 mm. Average width 26.8 mm. Average depth 23.9 mm.

*Form*.—Ovoid.

*Base*.—Flat.

*Apex*.—Rounded.

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

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

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

*Tendency to split*.—Slight.

*Color*.—Varies from 7.5YR 6/8 to 5YR 5/8 when dry.

**Kernel:**

*Size*.—Medium. Average length 15.6 mm. Average width 12.3 mm. Average depth 7.1 mm.

*Form*.—Ovoid.

*Viability*.—Partially viable, not all embryos fully developed.

*Skin color*.—Varies from 5Y 8.5/2 to 7.5Y 9/2.

**Use:** Dessert. 30

*Market*.—Local and long distance.

**Keeping quality:** Good, held firm in cold storage 2 weeks at 38° to 42° F. without shriveling, internal breakdown of flesh or appreciable loss of flavor.

**Shipping quality:** Good, showed minimal skin scarring or flesh bruising during picking, packing and shipping trials. 35

**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. The present new variety of peach 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.

The invention claimed is:

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

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