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(12) **United States Plant Patent**
Ackerman

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(54) **RASPBERRY PLANT NAMED 'PS-1852'**

(50) Latin Name: ***Rubus idaeus***
Varietal Denomination: **PS-1852**

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(73) Assignees: **Plant Sciences, Inc.**, Watsonville, CA (US); **Berry R&D, Inc.**, Watsonville, CA (US)

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(57) **ABSTRACT**

This invention relates to a new and distinct variety of raspberry plant named 'PS-1852'. The new variety is primarily adapted to the growing conditions of the central coast of California and is characterized by the following: large upright primocanes, late fall primocane production, early spring floricane production, large conical berries, with nearly ⅔ of the total production coming from the floricane. Foliage is strongly concave, medium green; possessing very strong rugosity, and always 3-foliage. Primocanes have a weak waxy coat, dense thorns, and weak to medium anthocyanin coloration.

4 Drawing Sheets

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Latin name of the genus and species of the plant claimed: *Rubus idaeus.*

Variety denomination: 'PS-1852'.

BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct raspberry variety designated as 'PS-1852'. This new variety is a result of a controlled cross made by the inventor, Stephen M. Ackerman, in 1995 between raspberry variety 'PS-1094' (an unpatented Plant Sciences, Inc. selection) and raspberry variety 'PS-1316' (an unpatented selection). The variety is botanically known as *Rubus idaeus.*

The seedling resulting from the aforementioned cross was asexually propagated by dormant canes in Santa Cruz County, Calif. and was subsequently selected by the inventor from a controlled breeding plot in Watsonville, Calif. in 1997. After its selection, the new variety was further asexually propagated by dormant canes, roots and non-dormant root shoot cuttings in both Santa Cruz County, Calif. and San Joaquin County, Calif. The new variety was then extensively tested over the next several years in fruiting fields in Santa Cruz County, Calif. This propagation has demonstrated that the combination of traits disclosed herein as characterizing the new variety are fixed and remain true to type through successive generations of asexual reproduction.

BRIEF SUMMARY OF THE INVENTION

'PS-1852' is primarily adapted to the climate and growing conditions of the central coast of California. This region provides the necessary year-round temperatures required for it to produce and maintain a strong vigorous plant and to remain in fruit production from August through December on primocanes and in the ensuing year from May through

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July on the floricanes. The following traits have been repeatedly observed and are determined to be unique characteristics of 'PS-1852', which in combination distinguish this raspberry plant as a new and distinct variety:

1. Large plant size;
2. Late fall primocane production;
3. Early spring floricane production; and
4. Large fruit size.

The raspberry varieties that are believed to be most closely related to the new raspberry variety 'PS-1852' are the raspberry variety 'PS-1049' (patented, U.S. Plant Pat. No. PP 10,142), and the raspberry variety 'PS-1703' (patented, U.S. Plant Pat. No. PP 15,151).

In comparison to the similar raspberry varieties 'PS-1049' and 'PS-1703', 'PS-1852' differs by the following combination of characteristics described in Table 1:

TABLE 1

Characteristic	'PS-1852'	'PS-1049' (U.S. PP 10,142)	'PS-1703' (U.S. PP 15,151)
1. Primocane length (m)	2.2	2.0	1.8
2. Basal diameter (mm)	18.6	16.4	15.3
3. Internode length of central ⅓ (cm)	3.8	5.0	5.8
4. Predominate number of leaflets	Always 3	Equal 3-5	Mostly 5
5. Leaf color (upper side)	7.5GY 3/4 to 3/6	7.5GY 3/4 to 4/4	7.5GY 2/4 to 3/4

TABLE 1-continued

Characteristic	'PS-1852'	'PS-1049' (U.S. PP 10,142)	'PS-1703' (U.S. PP 15,151)
6. Leaf shape (cross section)	Strongly concave	Slightly concave	Slightly concave to slightly convex
7. Rugosity	Very strong	Medium	Medium to strong
8. Percent of primocane fruiting	27%	40%	46%
9. Primocane color	10Y 7/4 to 7/6	5GY 7/4 to 6/4	7.5GY 6/2 to 6/4
10. Floricane color	2.5YR 3/4 to 7.5YR 4/6	5YR 4/4 to 4/6	5YR 4/4 to 4/6
11. Bloom intensity	Weak	Strong	Medium to strong
12. Thorn density per cm of central ⅓	7.2	4.0	4.5

For identification a series of molecular markers have been determined for this new variety.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying color photographs illustrate the overall appearance of typical specimens of the new raspberry variety, 'PS-1852', at various stages of development as true as reasonably possible with color reproductions of this type. Color in the photographs may differ slightly from the color value cited in the detailed botanical description which accurately describes the color of 'PS-1852'. The depicted plant and plant parts of the new raspberry variety 'PS-1852' were taken in Watsonville, Calif. and are approximately 7 to 10 months old.

FIG. **1** shows typical primocane plant characteristics taken in the month of August;

FIG. **2** shows a close-up of typical primocane foliage characteristics taken in the month of August;

FIG. **3** shows typical primocane field fruiting characteristics taken in the month of August; and

FIG. **4** shows typical primocane fruit characteristics taken in the month of October.

DETAILED BOTANICAL DESCRIPTION

'PS-1852' has not been observed under all possible environmental conditions. The characteristics of the new variety may vary in detail, depending upon variations in environmental factors, including weather (temperature, humidity and light intensity), day length, soil type, and location.

The aforementioned photographs, together with the following description of the new raspberry variety 'PS-1852', unless otherwise noted, is based on observations taken during the 2006 growing season in Watsonville, Calif. Primocane measurements and ratings were taken from plants of 'PS-1852' dug from a nursery located in San Joaquin County, Calif., during the middle of December, 2005, and planted approximately 3 to 4 weeks later in Watsonville, Calif. The approximate age of the observed primocane plants is 7 to 8 months. Floricane measurements and ratings were taken from the plants of 'PS-1852' dug from a nursery located in San Joaquin County, Calif., during the middle of December, 2004, and planted approximately 3 to 4 weeks later in Watsonville, Calif. The approximate age of the observed floricane plants is 16 to 18 months. Yield observations and fruit quality characteristics are averaged from three years of data collected from the 2004 through 2006 production seasons. Flower measurements and characteristics are from secondary flowers unless otherwise noted. Fruit characteristics and measurements are from secondary fruit unless otherwise noted. Foliage characteristics and measurements are from 3-foliate foliage unless otherwise noted.

Color terminology where noted follows the Munsell Book of Colors, Munsell Color, Baltimore, Md. (1976).

In comparison to the similar raspberry varieties 'PS-1049' and 'PS-1703', the fruit characteristics of 'PS-1852' differ as described in Table 2:

TABLE 2

FRUIT CHARACTERISTICS

Characteristic	'PS-1852'	'PS-1049' (U.S. PP 10,142)	'PS-1703' (U.S. PP 15,151)
Color mature fruit	5R 3/6 to 3/8 Medium red	5R 3/6 to 3/8 Medium red	5R 3/10 to 3/8 Medium red
Color achenes	10YR 7/4 to 8/4	10YR 7/4 to 8/4	10YR 7/4 to 8/4
Fruit Length (cm)	2.3	1.9	2.1
Fruit Width (cm)	2.0	1.8	1.8
Length/Width Ratio	1.1 Slightly longer than broad	1.1 Slightly longer than broad	1.2 Slightly longer than broad
Seed weight (mg)	1.8	1.5	1.6
Druplets per berry	113	104	113
Fruit size	Large	Medium	Medium
Predominant shape	Conical	Conical	Conical
Evenness of color	Slightly uneven	Even	Even
Glossiness	Medium	Medium	Strong
Adherence of receptacle	Weak	Weak	Weak
Firmness of flesh	Firm	Very firm	Firm
Firmness of skin	Medium	Very firm	Medium

In comparison to the similar raspberry varieties 'PS-1049' and 'PS-1730', the plant characteristics of 'PS-1852' differ as described in Table 3:

TABLE 3

PLANT CHARACTERISTICS

Characteristic	'PS-1852'	'PS-1049' (U.S. PP 10,142)	'PS-1703' (U.S. PP 15,151)
General:			
Habit	Upright	Semi-upright	Semi-upright
Size	Large	Medium	Medium
Productivity	Medium	High	High
Self fruitfulness	Yes	Yes	Yes
Type of bearing	Everbearing	Everbearing	Everbearing
Primocane:			
Color	10Y 7/4 to 7/6 Medium yellow-green	5GY 7/4 to 6/4 Light green-yellow	7.5GY 6/2 to 6/4 Medium to light green-yellow
Length (m)	2.2	2.0	1.8

TABLE 3-continued

PLANT CHARACTERISTICS

Characteristic	'PS-1852'	'PS-1049' (U.S. PP 10,142)	'PS-1703' (U.S. PP 15,151)
Basal diameter (mm)	18.6	16.4	15.3
Diameter central ⅓ (mm)	12.3	11.3	10.9
Lateral length (cm)	46.3	57.4	64.6
No. fruiting laterals per cane	10	14	13
% of cane length fruiting	27%	40%	46%
Internode length (of central ⅓ cm)	3.8	5.0	5.8
Anthocyanin coloration	Weak to medium	Weak to medium	Medium to strong
Pubescence	Absent	Absent	Absent
Length of vegetative bud	Short to Medium	Short to Medium	Short to medium
Strength of waxy coat	Weak	Strong	Medium to strong
Time of flowering	Late	Medium	Early
Time of fruiting	Late	Medium	Early
Length of fruiting season	Medium	Long	Long
% of total yield	38%	54%	52%
Flowering period	Early August to Late November	Late June to Late November	Early June to Late November
Harvest period	Early September to Late December	Late July to Late December	Early July to Late December
Primocane fruit weight (g)	3.7	2.8	3.1
Primocane yield (g/plant)	1,037	1,841	1,956
Young Shoots:			
Number	Medium	Medium	Medium
Anthocyanin coloration	Present	Present	Present
Anthocyanin intensity	Very weak to weak	Very weak to weak	Absent to very weak
Thorns:			
Color	7.5RP 3/6 Purple	7.5RP 3/6 Purple	7.5RP 3/6 Purple
Length central ⅓ (mm)	2.3	2.2	1.7
Presence on cane	Present	Present	Present
Density on cane	Medium to dense	Medium	Medium
Texture	Rigid	Rigid	Rigid
Attitude of the tip	Horizontal	Horizontal	Horizontal
Floricane:			
Color	2.5YR 3/4 to 7.5YR 4/6 Brownish-purple	5YR 4/4 to 4/6 Brown	5YR 4/4 to 4/6 Brown
Length (m)	1.6	1.3	1.1
Length vegetative bud (mm)	Short	Long	Short
Strength of waxy coat	Weak	Strong	Medium to strong
Fruiting lateral attitude	Erect to semi-erect	Erect to semi-erect	Horizontal to drooping

TABLE 3-continued

PLANT CHARACTERISTICS

Characteristic	'PS-1852'	'PS-1049' (U.S. PP 10,142)	'PS-1703' (U.S. PP 15,151)
Time bud burst	Medium to late	Medium	Medium
Time of flowering	Early	Medium	Medium
Time of fruiting	Early	Medium	Medium
Length of fruiting season	Medium to long	Medium to long	Medium to long
% of total yield	62%	46%	48%
Flowering period	Early April to Late June	Late April to Late June	Mid April to Late June
Harvest period	Early May to Late July	Late May to Late July	Early May to Late July
Floricane fruit weight (g)	3.2	2.6	2.8
Floricane yield (g/plant)	1,684	1,582	1,811

In comparison to the similar raspberry varieties 'PS-1049' and 'PS-1703', the foliage characteristics of 'PS-1852' differ as described in Table 4:

TABLE 4

FOLIAGE CHARACTERISTICS

Characteristic	'PS-1852' (3 Foliate)	'PS-1049' (U.S. PP 10,142) (3 Foliate)	'PS-1703' (U.S. PP 15,151) (5 Foliate)
General:			
Color of upper surface	7.5GY 3/4 to 3/6 Medium green	7.5GY 3/4 to 4/4 Medium green yellow	7.5GY 2/4 to 3/4 Medium to Dark Green
Color of lower surface	5GY 6/2 to 7/2 Light to Pale grey-green	5GY 5/4 to 6/4 Pale yellow-green	5GY 6/2 to 7/2 Light to Pale grey-green
Shape in cross section	Strongly concave	Slightly concave	Slightly concave to slightly convex
Arrangement	Compound	Compound	Compound
Relief between veins	Very strong	Medium	Medium to strong
Glossiness	Weak	Weak	Medium
Number of leaflets/leaf	Always 3	Equal 3-5	Mostly 5
Terminal Leaflet:			
Length (cm)	13.6	15.2	13.5
Width (cm)	10.0	10.9	7.0
Length/Width Ratio	1.4 Longer than broad	1.4 Longer than broad	1.9 Much longer than broad
Size	Medium to large	Medium to large	Medium to small
Shape	Cordate	Cordate	Lobed oblique
Shape of base	Cordate	Cordate	Acute
Shape of tip	Acuminate	Acuminate	Acuminate
Margins	Biserrate	Biserrate	Biserrate
Lateral Leaflet:			
Length (cm)	11.3	12.4	11.6
Width (cm)	7.4	7.6	7.0
Rachis length (cm)	3.8	3.9	1.4
Orientation	Opposite	Opposite	Opposite
Arrangement	Compound	Compound	Compound
Shape	Ovate	Ovate	Oblique

TABLE 4-continued

FOLIAGE CHARACTERISTICS

Characteristic	'PS-1852' (3 Foliate)	'PS-1049' (U.S. PP 10,142) (3 Foliate)	'PS-1703' (U.S. PP 15,151) (5 Foliate)
Overlapping	Touching	Touching	Free
Shape of the base	Acute rounded	Oblique rounded	Acute oblique
Shape of the tip	Acuminate	Acuminate	Acuminate
Margins	Biserrate	Biserrate	Biserrate
Petiole:			
Length (cm)	5.1	6.0	6.2
Width (mm)	3.4	3.0	3.5
Thorn presence	Yes	Yes	Yes
Thorn orientation	Erect	Erect	Erect
Anthocyanin coloration of upper surface	Absent to very weak	Absent to very weak	Medium to strong
Pigmentation of lower surface	Light green-yellow	Light green-yellow	Light green-yellow
Stipule length (cm)	1.1	1.1	1.1
Stipule orientation	Erect	Erect	Erect

In comparison to the similar raspberry varieties 'PS-1049' and 'PS-1703', the flower characteristics of 'PS-1852' differ as described in Table 5:

TABLE 5

FLOWER CHARACTERISTICS

Characteristic	'PS-1852'	'PS-1049' (U.S. PP 10,142)	'PS-1703' (U.S. PP 15,151)
Petal Color	N 9.5/90% R to N 9.25/84.2% R White	N 9.5/90% R to N 9.25/84.2% R White	N 9.5/90% R to N 9.25/84.2% R White

TABLE 5-continued

FLOWER CHARACTERISTICS

Characteristic	'PS-1852'	'PS-1049' (U.S. PP 10,142)	'PS-1703' (U.S. PP 15,151)
Flower diameter (cm)	2.0	1.7	1.7
Size	Medium	Medium	Medium
Petal Length (mm)	5.8	5.8	6.4
Petal width (mm)	2.8	2.7	2.7
Petal width/ width ratio	2.1 Much longer than broad	2.2 Much longer than broad	2.4 Much longer than broad
No. petals/ flower	5.0	5.0	5.0
No. sepals/ flower	5.0	5.0	5.2
Pedicel no. spines	Few	Many	Medium
Peduncle anthocyanin presence	Present	Present	Present
Peduncle anthocyanin intensity	Medium	Very weak	Very weak

In comparison to the similar raspberry varieties 'PS-1049' and 'PS-1703', the pest and disease reactions of 'PS-1852' differ as described in Table 6:

TABLE 6

PEST AND DISEASE REACTIONS

Characteristic	'PS-1852'	'PS-1049' (U.S. PP 10,142)	'PS-1703' (U.S. PP 15,151)
Two spotted spider mite	Susceptible	Susceptible	Susceptible
Grey fruit mold	Susceptible	Susceptible	Susceptible
Powdery mildew	Moderately Susceptible	Moderately Susceptible	Moderately Susceptible
Yellow rust	Moderately Susceptible	Moderately Susceptible	Moderately Resistant

I claim:

1. A new and distinct raspberry plant known as 'PS-1852', as herein described and illustrated by the characteristics set forth above.

* * * * *

FIG. 1

FIG. 2

FIG. 3

FIG. 4