



US00PP20459P3

(12) **United States Plant Patent**
Ackerman et al.

(10) **Patent No.:** **US PP20,459 P3**

(45) **Date of Patent:** **Nov. 10, 2009**

(54) **RASPBERRY PLANT NAMED ‘GRANDEUR’**

(50) Latin Name: *Rubus idaeus*
Varietal Denomination: **GRANDEUR**

(75) Inventors: **Stephen M. Ackerman**, Salinas, CA (US); **Scott W. Adams**, Watsonville, CA (US)

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

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 2 days.

(21) Appl. No.: **12/218,464**

(22) Filed: **Jul. 15, 2008**

(65) **Prior Publication Data**
US 2009/0158480 P1 Jun. 18, 2009

Related U.S. Application Data

(60) Provisional application No. 60/996,988, filed on Dec. 13, 2007.

(51) **Int. Cl.**
A01H 5/00 (2006.01)

(52) **U.S. Cl.** **Plt./204**

(58) **Field of Classification Search** **Plt./204**
See application file for complete search history.

Primary Examiner—June Hwu
(74) *Attorney, Agent, or Firm*—Foley & Lardner LLP

(57) **ABSTRACT**

This invention relates to a new and distinct everbearing variety of raspberry plant named ‘GRANDEUR’. The new variety is primarily adapted to the growing conditions of the central coast of California and is characterized by the following: large, firm, light-red fruit of conic shape, even color, and very good flavor. Foliage is slightly concave to slightly convex, medium green; possessing very strong rugosity, and always 3-foliate. Primocanes have an absent to very weak waxy coat, medium thorn density, and medium anthocyanin coloration.

4 Drawing Sheets

1

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

Variety denomination: ‘GRANDEUR’.

BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct fall bearing raspberry variety designated as ‘GRANDEUR’. This new variety is a result of a controlled cross made in 2001 between raspberry variety ‘PSI-737’ (patented, U.S. Plant Pat. No. 8,639) and raspberry variety ‘PS-1509’ (unpatented) in an ongoing breeding program. It is unknown as to which parent variety is the seed parent and which parent variety is the pollen parent. 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 2003. After its selection, the new variety was further asexually propagated by dormant canes, roots and non-dormant root shoot cuttings in Santa Cruz County, Calif., San Joaquin County, Calif. and Siskiyou 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.

2

BRIEF SUMMARY OF THE INVENTION

‘GRANDEUR’ 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 July through December on primocanes and in the ensuing year from May through July on the floricanes.

The following traits have been repeatedly observed and are determined to be unique characteristics of ‘GRANDEUR’, which in combination distinguish this raspberry plant as a new and distinct variety:

1. large fruit size;
2. high fruit firmness;
3. light fruit color;
4. primocane glaucosity ranging from absent to very weak; and
5. light brown florican color.

The new raspberry variety ‘GRANDEUR’ differs from ‘PSI-737’ in mature fruit color. ‘PSI-737’ has a golden mature fruit color while the new cultivar has red mature fruit color. ‘PS-1509’ is no longer available for comparison.

The raspberry varieties that are believed to be most closely related to the new raspberry variety ‘GRANDEUR’ are the raspberry variety ‘PS-1049’ (patented, U.S. Plant Pat. No. 10,142), and the raspberry variety ‘PS-1703’ (patented, U.S. Plant Pat. No. 15,151). In comparison to the similar raspberry varieties ‘PS-1049’ and ‘PS-1703’, ‘GRANDEUR’ differs by the following combination of characteristics described in Table 1:

TABLE 1

Characteristic	'GRANDEUR'	'PS-1049' (US PP10,142)	'PS-1703' (US PP15,151)
1. Primocane waxy coat (glaucosity)	Ranges from absent to very weak	Strong	Ranges from medium to strong
2. Predominate number of leaflets	Always 3	Equal 3-5	Mostly 5
3. 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
4. Leaf shape (cross section)	Ranges from slightly concave to slightly convex	Slightly concave	Ranges from slightly concave to slightly convex
5. Rugosity	Very strong	Medium	Medium to strong
6. Color mature fruit	5R 4/12 to 3/10 Light to medium red	5R 3/6 to 3/8 Medium red	5R 3/10 to 3/8 Medium red
7. Primocane fruit weight (g)	3.5	2.7	3.0
8. Floricane fruit weight (g)	3.6	2.5	2.7
9. Primocane color	10Y 7/4 to 7/6 Medium green yellow	5GY 7/4 to 6/4 Light green yellow	7.5GY 6/2 to 6/4 Medium green yellow
10. Floricane color	10YR 4/8 to 5/8 Brown	5YR 4/4 to 4/6 Brown	7.5YR 4/6 to 4/8 Brown

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

BRIEF DESCRIPTIONS OF THE PHOTOGRAPHS

The accompanying color photographs illustrate the overall appearance of typical specimens of the new raspberry variety, 'GRANDEUR' 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 'GRANDEUR'. The depicted plant and plant parts of the new raspberry variety 'GRANDEUR' were taken in Watsonville, Calif. and are approximately 2 to 16 months old:

FIG. 1. shows typical primocane foliage and fruit color; foliate and rugosity characteristics of 'GRANDEUR' taken in the month of September 2007.

FIG. 2 shows typical floricane foliage and fruit color; foliate and rugosity characteristics of 'GRANDEUR' taken in the month of May 2008;

FIG. 3 shows typical harvested fruit of 'GRANDEUR' taken in the month of September 2007;

FIG. 4 shows typical dormant cane color characteristics of 'GRANDEUR' taken in the month of February 2007.

DETAILED BOTANICAL DESCRIPTION

'GRANDEUR' 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 'GRANDEUR', unless otherwise noted, are based upon observations taken during the 2007–2008 growing season in Watsonville, Calif. Primocane measurements and ratings were taken from plants of 'GRANDEUR' dug from a nursery located in San

Joaquin County, Calif. during the middle of December 2006 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 same planting of 'GRANDEUR' at an approximate age of 16 to 18 months. Yield observations and fruit quality characteristics are averaged from three years of data collected from the 2004 through 2007 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).

The following Tables 2–6 describe fruit, plant, foliage, flower and pest/disease characteristics of the new raspberry 'GRANDEUR' in comparison to the similar raspberry varieties 'PS-1040' (patented, U.S. Plant Pat. No. 10,142) and 'PS-1703' (patented, U.S. Plant Pat. No. 15,151).

TABLE 2

FRUIT CHARACTERISTICS				
Characteristic	'GRANDEUR'	'PS-1049' (US PP10,142)	'PS-1703' (US PP15,151)	
Color mature fruit	5R 4/12 to 3/10 Light to 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)	2.2	1.9	1.9	
Fruit Width (cm)	2.0	1.8	1.8	
Length/Width Ratio	1.1 Slightly longer than broad	1.1 Slightly longer than broad	1.1 Slightly longer than broad	
Seed weight (mg)	1.4	1.2	1.4	
Drupelets per berry	93	100	85	
Fruit size	Large	Medium	Medium	
Predominant shape	Conical	Conical	Conical	
Evenness of color	Even	Even	Even	
Glossiness	Medium	Medium	Strong	
Adherence of receptacle	Weak	Weak	Weak	
Firmness of flesh	Very firm	Very firm	Firm	
Firmness of skin	Very firm	Very firm	Medium	
Soluble Solids (% Brix)	10.6	10.3	11.3	
Flavor	Very Good	Good	Excellent	

TABLE 3

PLANT CHARACTERISTICS			
Characteristic	'GRANDEUR'	'PS-1049' (US PP10,142)	'PS-1703' US PP15,151)
<u>General:</u>			
Habit	Upright	Sem-upright	Semi-upright
Size	Medium	Medium	Medium
Productivity	High	Medium to high	High
Self fruitfulness	Yes	Yes	Yes

TABLE 3-continued

<u>PLANT CHARACTERISTICS</u>			
Characteristic	'GRANDEUR'	'PS-1049' (US PP10,142)	'PS-1703' (US PP15,151)
Type of bearing	Everbearing	Everbearing	Everbearing
<u>Primocane:</u>			
Color	10Y 7/4 to 7/6 Medium green-yellow	5GY 7/4 to 6/4 Light green-yellow	7.5GY 6/2 to 6/4 Medium to light green-yellow
Length (m)	1.5	1.8	1.6
Basal diameter (mm)	17.8	15.1	15.8
Diameter central 1/3 (mm)	11.6	11.2	10.9
Lateral length (cm)	24.4	38.8	49.0
No. fruiting laterals per cane	20	14	17
% of cane length fruiting	31%	30%	46%
Internode length at central 1/3 (cm)	5.4	6.1	6.2
Anthocyanin coloration	Medium	Weak to medium	Medium to strong
Pubescence	Absent	Absent	Absent
Length of vegetative bud	Medium	Medium to short	Medium to short
Strength of waxy coat	Ranges from absent to very weak	Strong	Ranges from medium to strong
Time of flowering	Medium	Medium	Early
Time of fruiting	Medium	Medium	Early
Length of fruiting season	Long	Long	Long
% of total yield	43%	49%	54%
Flowering period	Late June to Late November	Late June to Late November	Early June to Late November
Harvest period	Late July to Late December	Late July to Late December	Early July to Late December
Primocane fruit weight (g)	3.5	2.7	3.0
Primocane yield (g/plant)	1,979	1,711	2,228
<u>Young Shoots:</u>			
Number	Medium	Medium	Medium
Anthocyanin coloration	Present	Present	Present
Anthocyanin intensity	Weak	Very weak to weak	Weak to medium
<u>Thorns:</u>			
Color	7.5RP 3/6 Purple	7.5RP 3/6 Purple	7.5RP 3/6 Purple
Length central 1/3 (mm)	1.6	2.3	1.9
Presence on cane	Present	Present	Present
Density on cane	Medium	Medium	Medium to dense
Texture	Rigid	Rigid	Rigid
Attitude of the tip	Horizontal	Horizontal	Horizontal
<u>Floricanes:</u>			
Color	10YR 4/8 to 5/8 Brown	5YR 4/4 to 4/6 Brown	7.5YR 4/6 to 4/8 Brown
Length (m)	1.1	1.3	1.2
Length vegetative bud	Medium	Medium to short	Medium to short

TABLE 3-continued

<u>PLANT CHARACTERISTICS</u>			
Characteristic	'GRANDEUR'	'PS-1049' (US PP10,142)	'PS-1703' (US PP15,151)
Strength of waxy coat (glaucosity)	Ranges from absent to very weak	Strong	Ranges from medium to strong
10 Fruiting lateral attitude	Erect to semi-erect	Erect to semi-erect	Horizontal to drooping
Time bud burst	Medium	Medium	Medium
Time of flowering	Medium	Medium	Medium
15 Time of fruiting	Medium	Medium	Medium
Length of fruiting season	Medium to long	Medium to long	Medium to long
% of total yield	57%	51%	46%
20 Flowering period	Late April to Late June	Late April to Late June	Med April to Late June
Harvest period	Late May to Late July	Late May to Late July	Early May to Late July
Floricanes			
fruit weight (g)	3.6	2.5	2.7
Floricanes yield (g/plant)	2,832	1,955	2,012

TABLE 4

<u>FOLIAGE CHARACTERISTICS</u>			
Characteristic	'GRANDEUR' (3 Foliate)	'PS-1049' (US PP10,142) (3 Foliate)	'PS-1703' (US PP15,151) (5 Foliate)
<u>General:</u>			
35 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
40 Shape in cross section	Ranges from flat to slightly convex	Slightly concave	Ranges from slightly concave to slightly convex
Arrangement	Compound	Compound	Compound
45 Relief between veins	Very strong	Medium	Medium to strong
Glossiness	Weak	Weak	Medium
Number of leaflets/leaf	Always 3	Equal 3-5	Mostly 5
<u>Terminal Leaflet:</u>			
50 Length (cm)	12.7	11.7	10.4
Width (cm)	9.1	9.2	5.5
Length/Width Ratio	1.4	1.3	1.9
Size	Longer than broad	Longer than broad	Much longer than broad
55 Shape	Medium to large	Medium to large	Medium to small
Shape of base	Cordate	Cordate	Lobed oblique
Shape of tip	Cordate	Cordate	Acute
Margins	Acuminate	Acuminate	Acuminate
<u>Lateral Leaflet:</u>			
60 Length (cm)	10.5	10.4	9.2
Width (cm)	6.5	6.3	5.2
Rachis length (cm)	3.6	3.2	2.9
Orientation	Opposite	Opposite	Opposite
65 Arrangement	Compound	Compound	Compound
Shape	Ovate	Ovate	Oblique

TABLE 4-continued

FOLIAGE CHARACTERISTICS			
Characteristic	'GRANDEUR' (3 Foliate)	'PS-1049' (US PP10,142) (3 Foliate)	'PS-1703' (US PP15,151) (5 Foliate)
Overlapping	Touching	Touching	Free
Shape of the base	Oblique rounded	Oblique rounded	Acute oblique
Shape of the tip	Acuminate	Acuminate	Acuminate
Margins	Biserrate	Biserrate	Biserrate
Petiole:			
Length (cm)	5.2	4.3	4.4
Width (mm)	3.0	2.6	2.9
Thorn presence	Yes	Yes	Yes
Thorn orientation	Erect	Erect	Erect
Anthocyanin coloration of upper surface	Medium absent	Ranges from to very weak	Ranges from medium to strong
Pigmentation of lower surface	Light green-yellow	Light green-yellow	Light green-yellow
Stipule length (cm)	0.9	1.1	0.9
Stipule orientation	Erect	Erect	Erect

TABLE 5

FLOWER CHARACTERISTICS			
Characteristic	'GRANDEUR'	'PS-1049' (US PP10,142)	'PS-1703' (US PP15,151)
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
Flower diameter (cm)	2.4	2.1	1.9
Petal length (mm)	6.9	5.9	6.2

TABLE 5-continued

FLOWER CHARACTERISTICS			
Characteristic	'GRANDEUR'	'PS-1049' (US PP10,142)	'PS-1703' (US PP15,151)
Petal width (mm)	3.1	3.0	3.0
Petal length/width ratio	2.2	2.0	2.1
No. petals/flower	Much longer than broad	Much longer than broad	Much longer than broad
No. sepals/flower	5.1	5.0	5.2
Pediceal no. spines	5.1	5.0	5.3
Peduncle anthocyanin presence	Many	many	Medium
Peduncle anthocyanin intensity	Present	Present	Present
	Very weak	Very weak	Weak

TABLE 6

PEST AND DISEASE REACTIONS			
Characteristic	'GRANDEUR'	'PS-1049' (US PP10,142)	'PS-1703' (US PP15,151)
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

We claim:

1. A new and distinct variety of raspberry plant named 'GRANDEUR', as herein described and illustrated by the characteristics set forth above.

* * * * *

FIG. 1



FIG. 2



FIG. 3



FIG. 4

