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Ackerman et al.

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

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

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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.

(56) **References Cited**

U.S. PATENT DOCUMENTS

PP10,142 P * 12/1997 Ackerman **Plt./204**
PP15,151 P3 * 9/2004 Ackerman **Plt./204**

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(57) **ABSTRACT**

This invention relates to a new and distinct everbearing variety of raspberry plant named ‘ELEGANCE’. The new variety is primarily adapted to the growing conditions of the central coast of California and is characterized by the following: firm, glossy medium-red fruit of conic shape, even color, and very good flavor. Foliage is slightly to strongly concave, medium green; possessing medium to strong rugosity and mostly 3-foliolate. Primocanes have a weak waxy coat, medium thorn density, and weak anthocyanin coloration. Time of production of the floricanes crop is early.

4 Drawing Sheets

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Latin name of the genus and species of the plant claimed:
Rubus idaeus.
Variety denomination: ‘ELEGANCE’.

BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct fall bearing raspberry variety designated as ‘ELEGANCE’. This new variety is a result of a controlled cross made in 2001 between raspberry variety ‘PS-1703’ (patented, U.S. Plant Pat. No. 15,151) and raspberry variety ‘PS-1720’ (unpatented) in an ongoing breeding program. 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 inventors 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.

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BRIEF SUMMARY OF THE INVENTION

‘ELEGANCE’ 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 ‘ELEGANCE’, which in combination distinguish this raspberry plant as a new and distinct variety:

1. Early floricanes time of fruiting;
2. Weak primocane glaucosity;
3. Light brown floricanes color;
4. Predominant leaflet number of 3; and
5. Strong fruit gloss.

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

TABLE 1

Characteristic	'ELEGANCE'	'PS-1049' (US PP10,142)	'PS-1703' (US PP15,151)
1. Primocane waxy coat (glaucosity)	Weak	Strong	Ranges from medium to strong
2. Predominate number of leaflets	Mostly 3	Equal 3-5	Mostly 5
3. Floricane time of fruiting	Early	Medium	Medium
4. Floricane color	RHS 161C Greyed-yellow group	RHS 166C Greyed-orange group	RHS 164A Greyed-orange group
5. Primocane lateral length (cm)	25.8	35.6	48.8
6. Primocane % of cane length fruiting	37%	42%	52%
7. Primocane color	RHS 145A Yellow-green group	RHS 154C Yellow-green group	RHS 145D Yellow-green group
8. Color mature fruit	RHS 47B Red group	RHS 46A Red group	RHS 53A Red group
9. Gloss mature fruit	Strong	Medium	Strong

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, 'ELEGANCE' 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 'ELEGANCE'. The depicted plant and plant parts of the new raspberry variety 'ELEGANCE' 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 'ELEGANCE', taken in the month of August 2008;

FIG. 2 shows typical primocane foliage and fruit color; foliate and rugosity characteristics of 'ELEGANCE', taken in the month of September 2008;

FIG. 3 shows typical harvested fruit of 'ELEGANCE', taken in the month of July 2009; and

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

DETAILED BOTANICAL DESCRIPTION

'ELEGANCE' 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 'ELEGANCE', unless otherwise noted, are based upon observations taken during the 2008 to 2009 growing season in Watsonville, Calif. Primocane measurements and ratings were taken from plants of 'ELEGANCE' dug from a nursery located in Siskiyou County, Calif. during the middle of October 2007 and planted approximately 7 to 8 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 'ELEGANCE'

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 2006 through 2008 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-foliolate foliage unless otherwise noted.

Color terminology where noted follows The R.H.S. Colour Chart, Royal Horticultural Society, London, England 2007.

The following Tables 2-6 describe fruit, plant, foliage, flower and pest/disease characteristics of the new raspberry 'ELEGANCE' in comparison to the similar raspberry varieties 'PS-1049' (patented, U.S. Plant Pat. No. 10,142) and 'PS-1703' (patented, U.S. Plant Pat. No. 15,151).

TABLE 2

FRUIT CHARACTERISTICS			
Characteristic	'ELEGANCE'	'PS-1049' (US PP10,142)	'PS-1703' (US PP15,151)
Color mature fruit	RHS 47B Red group	RHS 46A Red group	RHS 53A Red group
Color achenes	RHS 164D Greyed-orange group	RHS 164D Greyed-orange group	RHS 164D Greyed-orange group
Fruit Length (cm)	1.9	1.9	2.0
Fruit Width (cm)	1.8	1.8	1.9
Length/Width Ratio	1.0	1.1	1.1
	Slightly longer than broad	Slightly longer than broad	Slightly longer than broad
Seed weight (mg)	1.4	1.5	1.5
Drupelets per berry	70	73	78
Fruit size	Medium	Medium	Medium
Predominant shape	Conical	Conical	Conical
Evenness of color	Even	Even	Even
Glossiness	Strong	Medium	Strong
Adherence to receptacle	Weak to medium	Weak	Weak
Firmness of flesh	Very firm	Very firm	Firm
Firmness of skin	Very firm	Very firm	Medium
Soluble Solids (% brix)	9.5	9.2	10.3
Flavor	Very Good	Good	Excellent

TABLE 3

PLANT CHARACTERISTICS			
Characteristic	'ELEGANCE'	'PS-1049' (US PP10,142)	'PS-1703' (US PP15,151)
General:			
Habit	Upright	Semi-upright	Semi-upright
Size	Medium	Medium	Medium
Productivity	Medium to high	Medium to high	High
Self fruitfulness	Yes	Yes	Yes
Type of bearing	Everbearing	Everbearing	Everbearing
Primocane:			
Color	RHS 145A Yellow-green group	RHS 154C Yellow-green group	RHS 145D Yellow-green group
Length (m)	1.9	1.7	1.6
Basal diameter (mm)	12.1	14.8	12.4
Diameter central 1/3 (mm)	11.0	11.9	11.4
Lateral length (cm)	25.8	35.6	48.8
No. fruiting laterals per cane	20	16	19
% of cane length fruiting	37%	42%	52%
Internode length at central 1/3 (cm)	5.8	5.2	4.8
Anthocyanin coloration	RHS 59B	RHS 59C	RHS 59B
Anthocyanin intensity	Weak	Weak to medium	Medium to strong
Pubescence	Absent	Absent	Absent
Length of vegetative bud	Short	Medium to short	Medium to short
Strength of waxy coat	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	42%	47%	47%
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)	2.6	2.6	2.9
Primocane yield (g/plant)	1,587	1,862	2,241
Young Shoots:			
Number	Medium	Medium	Medium
Anthocyanin coloration	Present	Present	Present
Anthocyanin intensity	Weak to medium	Very weak to weak	Weak to medium
Thorns:			
Color	RHS 59B Red-purple group	RHS 59B Red-purple group	RHS 59B Red-purple group
Length at central 1/3 (mm)	1.5	2.4	1.8
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
Floricanes:			
Color	RHS 161C Greyed-yellow group	RHS 166C Greyed-orange group	RHS 164A Greyed-orange group
Length (M)	1.5	1.3	1.3
Length vegetative bud	Short	Medium to short	Medium to short
Strength of waxy coat (glaucosity)	Weak	Strong	Ranges from medium to strong
Fruiting lateral attitude	Erect to semi- erect	Erect to semi- erect	Horizontal to drooping
Time of bud burst	Medium-Early	Medium	Medium
Time of flowering	Medium-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	58%	53%	53%
Flowering period	Late March to Late June	Late April to Late June	Mid April to Late June

TABLE 3-continued

PLANT CHARACTERISTICS			
Characteristic	'ELEGANCE'	'PS-1049' (US PP10,142)	'PS-1703' (US PP15,151)
Harvest period	Mid April to Late July	Late May to Late July	Early May to Late July
Florican fruit weight (g)	2.7	2.5	2.9
Florican yield (g/plant)	2,199	2,145	2,497

TABLE 4

FOLIAGE CHARACTERISTICS			
Characteristic	'ELEGANCE' (3 Foliate)	'PS-1049' (US PP10,142) (3 Foliate)	'PS-1703' (US PP15,151) (5 Foliate)
<u>General:</u>			
Color of upper surface	RHS 139A Green group	RHS 138A Green group	RHS N137A Green group
Color of lower surface	RHS 190B Greyed-green group	RHS 190C Greyed-green group	RHS 190B Greyed-green group
Shape in cross section	Ranges from slightly concave to strongly concave	Slightly concave	Ranges from slightly convex to slightly concave
Arrangement	Compound	Compound	Compound
Relief between veins	Medium to strong	Medium	Medium to strong
Glossiness	Weak	Weak	Medium
Number of leaflets/leaf	Mostly 3	Equal 3-5	Mostly 5
<u>Terminal Leaflet:</u>			
Length(cm)	11.1	12.2	10.7
Width (cm)	7.2	8.0	5.3
Length/Width Ratio	1.5	1.5	2.0
	Longer than broad	Longer than broad	Much longer than broad
Size	Medium to large	Medium to large	Medium to small
Shape	Lobed cordate	Cordate	Lobed oblique
Shape of base	Cordate	Cordate	Acute
Shape of tip	Acuminate	Acuminate	Acuminate
Margins	Biserrate	Biserrate	Biserrate
<u>Lateral Leaflet:</u>			
Length (cm)	9.2	9.9	9.5
Width (cm)	5.6	6.1	5.5
Rachis length (cm)	1.6	2.8	1.7
Orientation	Opposite	Opposite	Opposite
Arrangement	Compound	Compound	Compound
Shape	Ovate	Ovate	Oblique
Overlapping	Touching	Touching	Free
Shape of the base	Acute obtuse	Oblique rounded	Acute oblique
Shape of the tip	Acuminate	Acuminate	Acuminate
Margins	Biserrate	Biserrate	Biserrate
<u>Petiole:</u>			
Length (cm)	3.9	4.4	5.3
Width (mm)	2.7	2.4	2.7
Thorn presence	Yes	Yes	Yes
Thorn orientation	Erect	Erect	Erect
Anthocyanin coloration of upper surface	Red-purple RHS 60A	Red-purple RHS 58A	Greyed-purple RHS 187B
Intensity of anthocyanin coloration	Weak	Weak	Strong
Pigmentation of lower surface	Yellow-green RHS 145B	Yellow-green RHS 145C	Yellow-green RHS 145C
Stipule length (cm)	0.9	0.9	0.9
Stipule orientation	Erect	Erect	Erect

TABLE 5

FLOWER CHARACTERISTICS			
Characteristic	'ELEGANCE'	'PS-1049' (US PP10,142)	'PS-1703' (US PP15,151)
Petal color	RHS 155C White group	RHS 155C White group	RHS 155C White group
Flower diameter (cm)	1.6	1.8	1.5
Petal Length (mm)	6.4	6.1	6.0
Petalwidth(mm)	3.2	3.1	3.0
Petal length/width ratio	2.0	2.0	2.0
	Much longer than broad	Much longer than broad	Much longer than broad
No. petals/flower	5.2	5.1	5.3
No. sepals/flower	5.2	5.1	5.3
Pedicel no. spines	Many	Many	Medium
Peduncle anthocyanin presence	Present	Present	Present
Peduncle anthocyanin color	RHS 60A Red-purple group	RHS 59C Red-purple group	RHS 187C Greyed-purple group
Peduncle anthocyanin intensity	Weak	Very weak	Weak

TABLE 6

PEST AND DISEASE REACTIONS			
Characteristic	'ELEGANCE'	'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 Resistant	Moderately Susceptible	Moderately Resistant

What is claimed is:

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

* * * * *

FIG. 1



FIG. 2



FIG. 3



FIG. 4

