



US00PP35902P3

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

(10) **Patent No.:** **US PP35,902 P3**

(45) **Date of Patent:** **Jul. 2, 2024**

(54) **RASPBERRY PLANT NAMED ‘VR-16.001-39’**

(50) Latin Name: *Rubus idaeus*
Varietal Denomination: **VR-16.001-39**

(71) Applicant: **Vitae Caneberry Breeding, LLC,**
Watsonville, CA (US)

(72) Inventor: **Scott W. Adams,** Carmel Valley, CA
(US)

(73) Assignee: **VITAE CANEBERRY BREEDING,**
LLC, 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 0 days.

(21) Appl. No.: **18/222,025**

(22) Filed: **Jul. 14, 2023**

(65) **Prior Publication Data**
US 2024/0164228 P1 May 16, 2024

Related U.S. Application Data

(60) Provisional application No. 63/425,289, filed on Nov.
14, 2022.

(51) **Int. Cl.**
A01H 5/08 (2018.01)
A01H 6/74 (2018.01)

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

(58) **Field of Classification Search**
USPC **Plt./203, 204**
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

PP31,716 P3 5/2020 Adams

Primary Examiner — Susan McCormick Ewoldt
(74) *Attorney, Agent, or Firm* — Foley & Lardner LLP

(57) **ABSTRACT**

This invention relates to a new and distinct everbearing
variety of raspberry plant named ‘VR-16.001-39’. The new
variety is primarily adapted to the growing conditions of the
central coast of California and is characterized by the
following: mid-season primocane production with medium
sized fruit of medium-red coloration. Fruit is of consistent
conical shape, releases easily from receptacle, is of medium
gloss and possesses very good flavor. Foliage is slightly
concave, medium green, possessing weak rugosity, weak
gloss and always 3 foliates. Primocanes have an absent or
very weak waxy coat, dense dark red spines and very weak
anthocyanin coloration.

4 Drawing Sheets

1

Name of the genus and species of the plant claimed:
Rubus idaeus.
Variety denomination: ‘VR-16.001-39’.

BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct fall
bearing raspberry variety designated as ‘VR-16.001-39’.
This new variety is a result of a controlled cross made in
2016 in Watsonville, California between raspberry variety
‘VR 12.002-15’ (unpatented) as the female parent and
raspberry variety ‘VR 12.001-06’ (unpatented) as the male
parent in an ongoing breeding program. The variety is
botanically known as *Rubus idaeus* and was tested as ‘VR
16.001-39’ and ‘VR-0139’.

The seedling resulting from the aforementioned cross was
asexually propagated by dormant canes in Santa Cruz
County, California and was subsequently selected by the
inventor from a controlled breeding plot in Watsonville,
California in 2018. After its selection, the new variety was
further asexually propagated by dormant canes, roots and
non-dormant root shoot cuttings in Watsonville (Santa Cruz
Co), Manteca (San Joaquin Co), and Macdoel (Siskiyou
Co), California. The new variety was then extensively tested
over the next several years in fruiting fields in Watsonville,
California. This propagation has demonstrated that the com-
bination of traits disclosed herein as characterizing the new

2

variety are fixed and remain true to type through successive
generations of asexual reproduction.

BRIEF SUMMARY OF THE INVENTION

‘VR-16.001-39’ 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. Damage to fruit and young
leaves has been observed in summer temperatures at or
above 95° F. (35° C.). No winter damage has been observed
on fruiting plants in off-cycle (winter) production regions of
USDA climate zones 9b and above. No winter damage has
been observed on dormant plants in on-cycle (summer)
production regions of USDA climate zones 7b-9b. In climate
zones below this, winter hardiness is unknown for ‘VR-
16.001-39’. ‘VR-16.001-39’ is not drought tolerant and
requires frequent irrigation to maintain proper plant health.
The following traits have been repeatedly observed and are
determined to be unique characteristics of ‘VR-16.001-39’,
which in combination distinguish this raspberry plant as a
new and distinct variety:

1. Dark red prickles.
2. High fruit yield.
3. Vivid red fruit color.

- 4. Absent to very weak primocane glaucosity.
- 5. Very good flavor.

The raspberry variety that is believed to be most closely related to the new raspberry variety ‘VR-16.001-39’ is the raspberry variety ‘MAJESTIC’ (patented, U.S. Plant Pat. No. 31,716). In comparison to the similar raspberry variety ‘MAJESTIC’, ‘VR-16.001-39’ differs by the following combination of characteristics described in Table 1:

Comparison Between ‘VR-16.001-39’ and ‘Majestic’

TABLE 1

Characteristic	‘VR-16.001-39’	‘MAJESTIC’ (U.S. Plant Pat. No. 31,716)
Petiole anthocyanins (upper surface)	Strong	Absent to very weak
Predominate number of leaflets	Always 3	Equal 3-5
Leaf shape (cross section)	Slightly concave	Slightly convex
Overall shape of lateral leaflet	Lobed	Ovate
Rugosity	Weak	Medium
Color mature fruit	RHS 46B	RHS 43A
Prickle tip coloration	Vivid red	Vivid reddish orange
	183B	N186B
	Dark red	Dark greyish purple

‘VR-16.001-39’ differs from its parents, ‘VR 12.002-15’ and ‘VR 12.001-06’ by the following combination of characteristics described in Table 2:

Comparison Between ‘VR-16.001-39’, ‘VR 12.002-15’ and ‘VR 12.001-06’

TABLE 2

Characteristic	‘VR’		
	‘VR-16.001-39’	12.002-15’	12.001-06’
Productivity	High	Medium	Medium
Crates/Acre (18-Mo)	9,064	8,187	7,922
Glossiness (fruit)	Medium	High	Low
Firmness (fruit)	Medium	Low	High
Adherence of receptacle	Very weak	Strong	Weak
Primocane time of fruiting	Medium	Medium	Medium
Fruit size	Medium	Large	Medium
Primocane fruit weight (g)	4.1	6.6	4.0
Flavor	Very good	Poor	Good
Soluble Solids (% brix)	10.5	6.8	8.5

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

BRIEF DESCRIPTIONS OF THE DRAWINGS

The accompanying color photographs illustrate the overall appearance of typical specimens of the new raspberry variety, ‘VR-16.001-39’ 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 ‘VR-16.001-39’. The depicted plant and plant parts of the new raspberry variety ‘VR-16.001-39’ were taken in Watsonville, California and are approximately 2 to 16 months old:

FIG. 1 shows typical primocane fruit shape, color and gloss characteristics of ‘VR-16.001-39’ taken in the month of October 2022;

FIG. 2 shows typical shape, gloss, coloration, foliate and rugosity characteristics of ‘VR-16.001-39’ taken in the month of October 2022;

FIG. 3 shows typical fruiting lateral characteristics of ‘VR-16.001-39’ taken in the month of June 2023;

FIG. 4 shows typical floricate plant characteristics of ‘VR-16.001-39’ taken in the month of June 2023.

DETAILED BOTANICAL DESCRIPTION

‘VR-16.001-39’ 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 ‘VR-16.001-39’, unless otherwise noted, are based upon observations taken during the 2022-2023 growing season in Watsonville, California. Primocane measurements and ratings were taken from plants of ‘VR-16.001-39’ dug from a nursery located in Siskiyou County, California during the middle of October 2021 and planted approximately 3 to 4 weeks later in Watsonville, California. The approximate age of the observed primocane plants is 7 to 8 months. Floricate measurements and ratings were taken from the same planting of ‘VR-16.001-39’ 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 2020 through 2023 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 Sixth Edition, Royal Horticultural Society, London, United Kingdom (2015).

The following Tables 3-7 describe fruit, plant, foliage, flower and pest/disease characteristics of the new raspberry ‘VR-16.001-39’ in comparison to the similar raspberry varieties ‘MAJESTIC’ (patented, U.S. Plant Pat. No. 31,716).

Comparison Between ‘VR-16.001-39’ and ‘Majestic’

TABLE 3

FRUIT CHARACTERISTICS

Characteristic	‘MAJESTIC’ (U.S. Plant Pat. No. 31,716)	
	‘VR-16.001-39’	
Color mature fruit	RHS 46B	RHS 43A
	Vivid red	Vivid reddish orange
Color achenes	RHS 159A	RHS 159A
	Light yellowish pink	Light yellowish pink
Fruit length (mm)	20.96	25.49
Fruit width (mm)	21.84	22.73

TABLE 3-continued

FRUIT CHARACTERISTICS		
Characteristic	'VR-16.001-39'	'MAJESTIC' (U.S. Plant Pat. No. 31,716)
Length/width ratio	1.11	1.12
	Longer than broad	Longer than broad
Seed weight (mg)	1.59	1.68
Drupelets per berry	88	131
Weight of single drupe (g/drupe)	0.041	0.044
Drupe length (mm)	3.92	7.15
Drupe diameter (mm)	3.48	4.19
Relative size of drupes	Medium	Medium
Fruit size	Medium	Medium
Fruit per node	10	11
Predominant shape	Conical	Conical
Receptacle length (mm)	18.78	23.55
Receptacle diameter (mm)	8.21	10.41
Receptacle color	RHS 158B	RHS 155B
	Pale yellow	Yellowish white
Evenness of color (fruit)	Even	Even
Glossiness	High	High
Adherence of receptacle	Very weak	Weak
Firmness of flesh	Medium	High
Firmness of skin	Medium	High
Soluble Solids (% brix)	10.5	10.8
Flavor	Very good	Very good
Fruit use (Intended market)	Fresh market	Fresh market

TABLE 4

PLANT CHARACTERISTICS		
Characteristic	'VR-16.001-39'	'MAJESTIC' (U.S. Plant Pat. No. 31,716)
General:		
Habit	Upright	Upright
Plant height (m)	1.5	1.8
Plant width (cm)	37	35
Time to initiate roots (days)	10-12	10-12
Canes per hill	10.4	10.4
Productivity	High	High
Crates/Acre (18-Mo)	9,064	10,490
Self-fruitfulness	Yes	Yes
Type of bearing	Everbearing	Everbearing
Primocane:		
Color (true)	RHS 145B	RHS 145A
	Light yellow green	Strong yellow green
Length (cm)	153.2	178.1
Basal diameter (mm)	18.36	13.62
Diameter central 1/3 (mm)	10.21	11.38
Lateral length at central 1/3 (cm)	47.1	28.5
No. fruiting laterals per cane	12.9	15.3
Total nodes per cane	30	35
Internode length at central 1/3 (mm)	49.11	39.01
Anthocyanin coloration	RHS 59A	RHS 59B
	Dark red	Deep purplish red
Anthocyanin intensity	Absent to very weak	Absent to very weak
Pubescence	Absent	Absent
Vegetative bud length (mm)	7.48	10.34
Vegetative bud diameter (mm)	3.89	5.46
Vegetative bud shape	Ovate	Ovate
Vegetative bud color	RHS 187A	RHS 187B
	Dark red	Dark red
Strength of waxy coat (glaucoisity)	Absent to very weak	Absent to very weak
Time of flowering	Medium	Medium

TABLE 4-continued

PLANT CHARACTERISTICS		
Characteristic	'VR-16.001-39'	'MAJESTIC' (U.S. Plant Pat. No. 31,716)
Time of fruiting	Medium	Medium
Length of fruiting season	Long	Long
% of total yield	57%	44%
Flowering period	Late June to Late November	Late June to Late November
Harvest period	Late July to Late December	Late July to Late December
Primocane fruit weight (g)	4.1	4.2
Primocane yield (g/plant)	2,103	2,571
Young Shoots:		
Number (per meter)	15-20	15-20
	Medium	Medium
Anthocyanin presence	Present	Present
Anthocyanin coloration	RHS 179A	RHS 179A
	Moderate red	Moderate red
Anthocyanin intensity	Weak	Medium
Prickles:		
Prickle coloration (tip)	RHS 183B	RHS N186B
	Dark red	Dark greyish purple
Prickle coloration (base)	RHS 183B	RHS N186C
	Dark red	Dark greyish red
Prickle length at central 1/3 (mm)	1.56	0.70
Prickle base at central 1/3 (mm)	1.39	1.23
Prickle presence	Present	Present
Prickle density per cm at central 1/3	7.43	5.35
Prickle texture	Dense	Medium
Attitude of the tip	Rigid	Rigid
Floricanes:		
Color (true)	RHS 165B	RHS 165B
	Brownish orange	Brownish orange
Length (cm)	139.5	130.8
Width at central 1/3 (mm)	10.92	10.88
Total nodes per cane	18	20
Internode length at central 1/3 (mm)	48.65	40.70
Fruiting lateral attitude	Erect	Erect
Time bud burst	Late	Medium
Time of flowering	Late	Medium
Time of fruiting	Late	Medium
Length of fruiting season	Medium to long	Medium to long
% of total yield	43%	56%
Flowering period	Early May to Late June	Late April to Late June
Harvest period	Early June to Late July	Late May to Late July
Floricanes fruit weight (g)	3.9	4.0
Floricanes yield (g/plant)	1,654	3,273

TABLE 5

FOLIAGE CHARACTERISTICS		
Characteristic	'VR-16.001-39' (3 Foliate)	'MAJESTIC' (U.S. Plant Pat. No. 31,716) (3 Foliate)
General:		
Color of upper surface	RHS NN137C	RHS 137A
	Greyish olive green	Moderate olive green
Color of lower surface	RHS 190B	RHS 192A
	Pale green	Pale yellow green
Venation	Pinnate	Pinnate

TABLE 5-continued

FOLIAGE CHARACTERISTICS		
Characteristic	'VR-16.001-39' (3 Foliate)	'MAJESTIC' (U.S. Plant Pat. No. 31,716) (3 Foliate)
Shape in cross section	Slightly concave	Slightly convex
Arrangement	Compound	Compound
Relief between veins (rugosity)	Weak	Medium
Glossiness	Weak	Weak
Number of leaflets/leaf	Always 3	Equal 3-5
Total leaf length (cm)	21.7	21.2
Total leaf width (cm)	19.6	22.1
<u>Terminal Leaflet:</u>		
Length (mm)	128.5	116.2
Width (mm)	91.3	79.1
Length/width ratio	1.4	1.5
	Longer than broad	Longer than broad
Size	Medium	Medium
Shape	Lobed	Cordate
Shape of base	Cordate	Cordate
Shape of tip	Acuminate	Acuminate
Margins	Biserrate	Biserrate
<u>Lateral Leaflet:</u>		
Length (mm)	98.0	104.9
Width (mm)	62.0	77.2
Length/width ratio	1.6	1.3
	Longer than broad	Longer than broad
Rachis length (mm)	30.12	43.11
Rachis diameter (mm)	1.59	1.90
Rachis anthocyanin coloration of upper surface	RHS 181B Moderate red	RHS 184A Greyish red
Rachis anthocyanin intensity	Strong	Weak
Orientation	Opposite	Opposite
Arrangement	Compound	Compound
Shape	Ovate	Ovate
Overlapping	Free	Overlapping
Shape of the base	Oblique	Rounded
Shape of the tip	Acuminate	Acuminate
Margins	Biserrate	Biserrate
<u>Petiole:</u>		
Length (mm)	58.57	61.10
Width (mm)	2.56	4.68
Prickle presence	Yes	Yes
Prickle orientation	Erect	Erect
Anthocyanin coloration of upper surface	RHS 181A Moderate red	RHS 180B Moderate red
Anthocyanin intensity of upper surface	Strong	Absent to very weak
Stipule length (mm)	10.56	10.70
Stipule width (mm)	0.78	0.89
Stipule orientation	Erect	Erect

TABLE 6

FLOWER CHARACTERISTICS		
Characteristic	'VR-16.001-39'	'MAJESTIC' (U.S. Plant Pat. No. 31,716)
Petal color (upper surface)	RHS NN155C White	RHS 155C Greenish white
Petal color (lower surface)	RHS NN155C White	RHS 155C Greenish white
Flower diameter (mm)	27.86	21.22
Petal Length (mm)	8.99	7.46

TABLE 6-continued

FLOWER CHARACTERISTICS		
Characteristic	'VR-16.001-39'	'MAJESTIC' (U.S. Plant Pat. No. 31,716)
Petal width (mm)	4.06	3.10
Petal length/width ratio	2.21	2.40
	Much longer than broad	Much longer than broad
Petal shape in cross section	Flat	Flat
Petal shape (overall)	Narrowly spatulate	Narrowly spatulate
Petal shape (apex)	Rounded	Rounded
Petal shape (base)	Attenuate	Attenuate
Petal margin	Entire	Entire
Petal texture	Glabrous	Glabrous
No. petals/flower	5.2	5.2
No. sepals/flower	5.2	5.4
Sepal length (mm)	11.26	9.70
Sepal width at base (mm)	4.40	5.20
Sepal shape	Deltate	Widely deltate
Sepal shape (apex)	Acuminate	Acuminate
Sepal coloration (upper surface)	RHS 144A Strong yellow green	RHS 144A Strong yellow green
Sepal coloration (lower surface)	RHS 144B Strong yellow green	RHS 144B Strong yellow green
Sepal margin	Entire	Entire
Sepal texture	Slightly pubescent	Slightly pubescent
No. stamen/flower	87	95
Filament length (mm)	6.05	5.19
Filament color	RHS 155C Greenish white	RHS 155C Greenish white
Pollen quantity	High	High
Pollen color	RHS 196D Yellowish white	RHS 196D Yellowish white
Anther length (mm)	1.01	1.12
Anther diameter (mm)	0.44	0.51
Anther coloration (pre-dehiscence)	RHS 155C Greenish white	RHS 155C Greenish white
Anther coloration (post-dehiscence)	RHS 165B Brownish orange	RHS 165B Brownish orange
Stigma shape	Lobed	Lobed
Stigma length (mm)	0.10	0.10
Stigma diameter (mm)	0.40	0.41
Stigma coloration	RHS 145D Light yellow green	RHS 145D Light yellow green
Style length (mm)	3.00	3.10
Style diameter (mm)	0.40	0.40
Style coloration	RHS 145D Light yellow green	RHS 145D Light yellow green
Ovule length (mm)	1.38	1.39
Ovule diameter (mm)	1.39	1.42
Ovule coloration	RHS 145B Light yellow green	RHS 145B Light yellow green
Pedicel length (mm)	20.23	20.15
Pedicel diameter (mm)	1.12	1.42
Pedicel anthocyanin coloration	RHS 181B Moderate red	RHS 181C Moderate red
Pedicel anthocyanin intensity	Medium	Absent to very weak
Relative number of pedicel prickles	15.2	22.1
Peduncle anthocyanin presence	Medium	Many
Peduncle anthocyanin intensity	Present	Present
Peduncle anthocyanin coloration	RHS 181B Moderate red	RHS 184A Greyish red
Peduncle anthocyanin intensity	Medium	Absent to very weak

TABLE 7

PEST AND DISEASE REACTIONS		
Characteristic	'VR-16.001-39'	'MAJESTIC' (U.S. Plant Pat. No. 31,716)
Spotted wing drosophila (<i>Drosophila suzukii</i>)	Susceptible	Susceptible
Two spotted spider mite (<i>Tetranychus urticae</i>)	Susceptible	Susceptible
Grey fruit mold (<i>Botrytis cinerae</i>)	Susceptible	Susceptible
Powdery mildew (<i>Podosphaera aphanis</i> var. <i>aphonic</i>)	Susceptible	Moderately susceptible

TABLE 7-continued

PEST AND DISEASE REACTIONS		
Characteristic	'VR-16.001-39'	'MAJESTIC' (U.S. Plant Pat. No. 31,716)
Yellow rust (<i>Phragmidium rubi-idaei</i>)	Moderately resistant	Moderately resistant

5

10

15

I claim:

1. A new and distinct raspberry variety of raspberry plant named 'VR-16.001-39', as described and illustrated herein.

* * * * *

FIG. 1

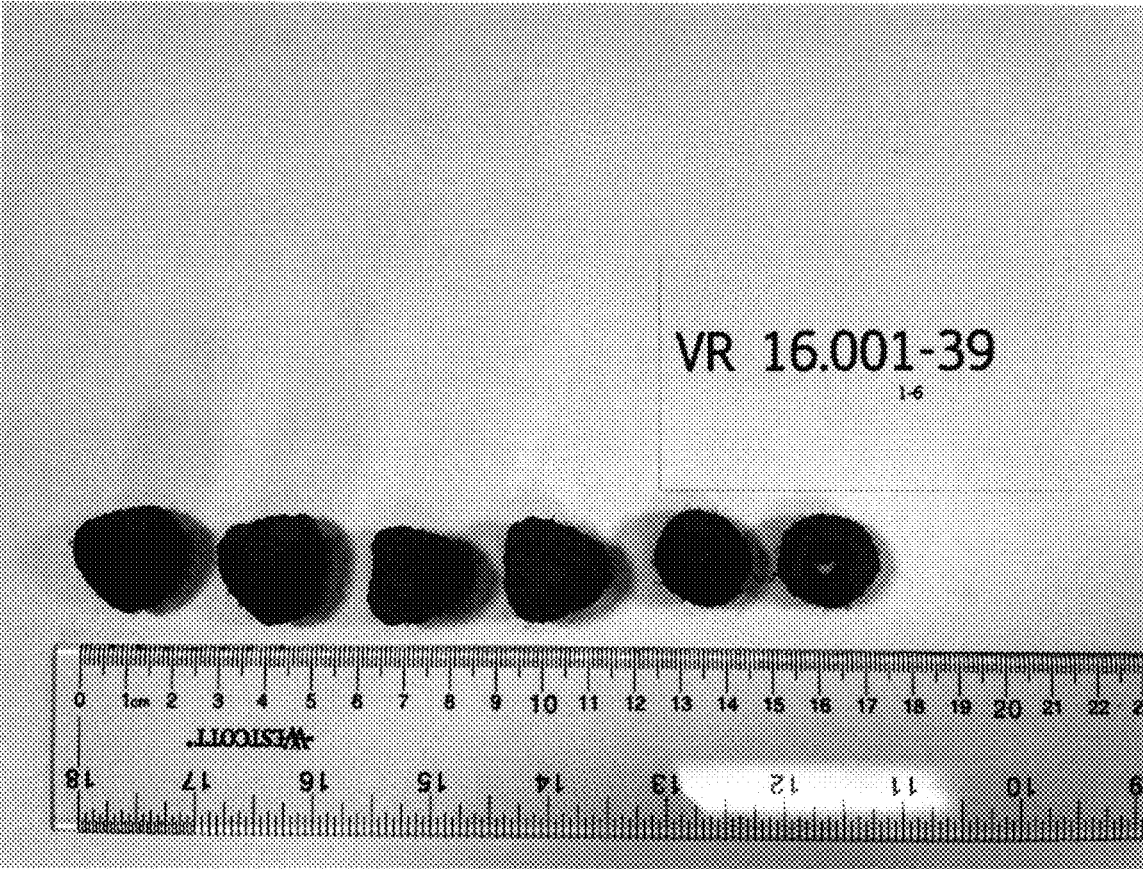


FIG. 2



FIG. 3



FIG. 4

