



US00PP22295P3

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

(10) **Patent No.:** **US PP22,295 P3**
(45) **Date of Patent:** **Dec. 6, 2011**

(54) **GRAPE PLANT NAMED 'ARRATHIRTEEN'**

(58) **Field of Classification Search** Plt./205
See application file for complete search history.

(50) Latin Name: *Vitis vinifera*
Varietal Denomination: **ARRATHIRTEEN**

(56) **References Cited**

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U.S. PATENT DOCUMENTS

- PP16,399 P3 4/2006 Ellis et al.
- PP17,223 P3 11/2006 Giumarra et al.
- PP17,224 P3 11/2006 Giumarra et al.
- PP18,625 P3 3/2008 Pinhas et al.

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(21) Appl. No.: **12/660,699**

(57) **ABSTRACT**

(22) Filed: **Mar. 2, 2010**

A new distinct variety of grapevine named 'ARRATHIRTEEN' abundantly forms attractive large seedless berries having a fire red skin coloration in medium-to-large clusters. The fruit displays a sweet crisp flavor and is firm in texture. The fruit commonly is ready for harvesting during the end of June in San Joaquin Valley of Central California, U.S.A, and displays good eating qualities as a table grape. The fruit firmness renders the fruit well amenable for handling, shipping, and storage.

(65) **Prior Publication Data**

US 2011/0219497 P1 Sep. 8, 2011

1 Drawing Sheet

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

(52) **U.S. Cl.** **Plt./205**

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Classification: The present invention relates to a new *Vitis vinifera* Grapevine.

The parentage of the new variety can be summarized as follows:

Variety denomination: The new Grapevine has the varietal denomination 'ARRATHIRTEEN'.

GAR4×GZR1

BACKGROUND OF THE INVENTION

A breeding program was initiated during the late 90's near Bakersfield in San Joaquin Valley of Central California. In 2001, during this breeding program, a new variety of *Vitis vinifera* was created by deliberate cross breeding of two parent plants by emasculation of the pollen bearing organ of the male and introducing pollen from another male origin. The female parent of the new variety was the GAR4 which is an oval shaped, dark red grape variety bearing a large seed rudiment (non-patented in the United States). The male parent (i.e. the pollen parent) of the new variety was GZR1 which is a round, pinkish grape variety (non-patented in the United States).

An artificial pollination was created, and the result was an embryo which possessed unique genetic qualities. The rudiments resulting from the above pollination were embryo rescued.

In 2002 the plant was then transplanted to Bakersfield in San Joaquin Valley of Central California.

It was found that the new grapevine of the present invention possesses the following combination of characteristics:

- (a) Forms attractive large seedless berries having fire red skin coloration in medium-to-large clusters which display a natural and a high sugar content,
- (b) Commonly bears fruit during the end of June in the San Joaquin Valley of Central California, U.S.A., and
- (c) Bears fruit that is firm and is well amenable for storage, handling, and shipping.

Comparison between ARRATHIRTEEN and FLAME

The new variety during observation to date has displayed no visible disease, and has displayed an ability to well resist cold, drought, heat; but sensitive to direct exposure to sun and wind. The fruit of the new variety has been found to display excellent handling and shipping qualities combined with desirable dessert eating qualities.

	ARRATHIRTEEN	FLAME
Vigor	Weak	Vigorous
Berry color	Red	Grayish red
Berry shape	Obovoid	Globose
Seed trace	Rudimentary	None
Flavor	None	Naturally sweet

The new variety of the present invention has been found to undergo asexual propagation beginning in 2005 near Bakersfield in the San Joaquin Valley of Central California, U.S.A. by grafting on mature 'Thompson Seedless' rootstock (non-patented in the United States). Such asexual propagation has been conducted thereafter in successive years through 2008, and has shown that the characteristics of the new variety are strictly transmissible from one generation to another. Accordingly, the new variety undergoes asexual propagation in a true

to type manner. The age of the plant in the drawing is five years old and the variety was created in 1989.

SUMMARY OF INVENTION

The new variety ARRATHIRTEEN is a large, fire red seedless table grape with large production, e.g., about 40 to 50 bunches per vine, and an average of about one to two bunches per shoot.

Asexual reproduction by micro propagation of the new variety as performed near Bakersfield, Calif., U.S.A., at Arvin, Calif. Ranch 33 which shows that the forgoing and other distinguishing characteristics come true to form and are established and transmitted through succeeding propagations.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying photographic illustration shows typical specimens of vegetative growth of five year old specimens of the new variety, in color as nearly true as it is reasonably possible to make in a color illustration of this character. Colors in the photograph may differ from the color values cited in the detailed botanical description below, which accurately describes the colors of the new Grapevine.

FIG. 1 shows leaves, stems and grapes of 'ARRATHIRTEEN'.

DETAILED BOTANICAL DESCRIPTION

The chart used in the identification of colors is the R.H.S. Colour Chart of The Royal Horticultural Society. The description is based on the observation of plants growing on 'Thompson Seedless' rootstock outdoors near San Joaquin Valley of Central California, U.S.A.

Vine:

Vigor.—Very weak vine with thin foliage when overexposed to sun.

Productive capacity.—25-30 tons per hectare.

Trunk.—Strong, developed for its age. Ranges from 2"-2 $\frac{3}{8}$ ". Surface is roughly textured with a fibrous, shaggy exterior. The coloring is greyed-orange (165-B).

Time of bud burst:

Early.—Date of bud burst in specified location of culture is Mar. 15, 2011 in Arvin, Calif.

Young shoot:

Openness of tip.—Half open.

Prostrate hairs on tip.—Sparse.

Anthocyanin coloration of prostrate hairs on tip.—Medium.

Erect hairs on tip.—Sparse.

Young leaf:

Color of upper side of blade.—Yellow green; top (yellow green 152-A); bottom (yellow green 152-B).

Prostrate hairs between main veins on lower side of blade.—Absent or very sparse.

Erect hairs on main veins on lower side of blade.—Absent or very sparse.

Shoot:

Attitude (before tying).—Horizontal.

Color of dorsal side of internodes.—Yellow-green (144-B).

Color of ventral side of internodes.—Yellow-green (173-A).

Color of dorsal side of nodes.—Yellow-green (144-B).

Color of ventral side of nodes.—Yellow-green (144-A).

Erect hairs on internodes.—Absent or very sparse.

Length of tendrils.—Medium, 2 tendrils 28 cm.

Flower:

Sexual organs.—Fully developed stamens and fully developed gynoecium.

Mature leaf:

Size of blade.—Large (6.5×8 inches).

Shape of blade.—Wedge shaped.

Blistering of upper side of blade.—Absent or very weak.

Number of lobes.—Five.

Depth of upper lateral sinuses.—Deep.

Lobed leaves:

Arrangement of lobes of upper lateral sinuses.—Strongly overlapped.

Arrangement of lobes of petiole sinus.—Strongly overlapped.

Length of teeth.—Medium.

Ratio length/width of teeth.—Medium, 4 cm.

Shape of teeth.—Mixture of both sides straight and both sides convex.

Proportion of main veins on upper side of blade with anthocyanin coloration.—Medium.

Prostrate hairs between main veins on lower side of blade.—Absent or very sparse.

Erect hairs on main veins on lower side of blade.—Absent or very sparse, 4 cm.

Length of petiole equal compared to length of middle vein.—Moderately shorter.

Top side color.—Yellow green (147-A).

Bottom side color.—Yellow-green (146-B).

Texture.—Rough.

Petiole.—14.5 cm.

Petiole color.—Yellow-green (144-A).

Petiole strips color.—Yellow-purple (184-C).

Reproductive organs:

Color.—Green (143-A).

Size.—2 mm.

Time of beginning of ripening: Medium, July 9 Arvin, Calif. season

Bunch:

Size (peduncle excluded).—Medium (6.5×6 inches).

Average weight.—600 g.

Density.—Lax, single berries, some pedicels visible.

Length of peduncle primary bunch.—Long (2.5 inches).

Berry:

Size.—Large, 19.1 mm.

Weight.—16 g per berry.

Shape.—Obovoid.

Color of skin (without bloom).—Red (grayed purple 183-C).

Ease of detachment from pedicel.—Moderately easy.

Thickness of skin.—Thin.

Anthocyanin coloration of flesh.—Medium.

Firmness and color of flesh.—Moderately firm, yellow-green (145-D).

Particular flavor.—None.

Formation of seeds.—Rudimentary.

Berries per bunch.—80 berries.

Market use of observed plant.—Fresh market.

Woody shoot:

Main color.—Orange brown (grayed orange 165-B).

DNA PROFILE

To further the characterize the new Arra variety DNA was extracted from dried leaf samples and DNA profiles were obtained in Spain, using base pairs for 14 standard microsatellite DNA markers. The data is presented hereafter.

Microsatellite DNA Marker	Allele Sizes in Base Pairs	
MSV01	134	134
MSV02	226	232
MSV04	185	193
MSV06	254	256
MSV07	318	322
MSV08	258	268
MSV09	251	257

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	Microsatellite DNA Marker	Allele Sizes in Base Pairs	
5	MSV10	215	215
	MSV12	269	269
	MSV13	168	168
	MSV14	162	180
	MSV15	295	299
	MSV16	188	194
10	MSV17	153	153

The ARRATHIRTEEN variety has not been observed under all possible environmental conditions to date. Accordingly, it is possible that the phenotypic expression may vary somewhat with changes in light intensity and duration, cultural practices, and other environmental conditions.

We claim:

1. A new and distinct variety of grapevine, botanically known as *Vitis vinifera*, identified as 'ARRATHIRTEEN', substantially as shown and described herein.

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