US00PP22321P3

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

(10) **Patent No.: US PP22,321 P3**
(45) **Date of Patent: Dec. 13, 2011**

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

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

(75) Inventors: **Shachar Karniel**, Edison, CA (US); **Sal Giumarra**, Edison, CA (US)

(73) Assignee: **Agricultural Research and Development Limited Liability Company**, Edison, 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.: **12/660,709**

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

(65) **Prior Publication Data**

US 2011/0219501 P1 Sep. 8, 2011

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

(52) **U.S. Cl.** **Plt./207**

(58) **Field of Classification Search** Plt./207, Plt./205
See application file for complete search history.

(56) **References Cited**

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.

Primary Examiner — Susan McCormick Ewoldt
(74) *Attorney, Agent, or Firm* — Christie, Parker & Hale, LLP

(57) **ABSTRACT**

A new distinct variety of grapevine named ARRASIX abundantly forms attractive medium-to-large seedless berries (with seed traces) having a Greenish/Creamy skin coloration in medium-to-large clusters. The fruit displays a sweet aromatic flavor and is firm in texture. The fruit commonly is ready for harvesting during July 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.

1 Drawing Sheet

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

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

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 GAW3 which is a juicy, creamy green, obtuse shaped grape variety with rudimentary seed information (non-patented in the United States). The male parent (i.e. the pollen parent) of the new variety was the Thompson seedless grape variety (non-patented in the United States).

Comparison between ARRASIX and male parent "Thompson Seedless"

	ARRASIX	Thompson Seedless
Pruning	Spur pruning	Cane pruning
Seed trace	Rudimentary	None
Leaf color	Top side: Green 146 A	Top side: Green 137 A
Berry shape	Broad ellipsoid	Cylindrical

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

GAW3×Thompson seedless.

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.

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.

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 medium-to-large seedless berries (with seed trace) having Greenish / creamy skin coloration in medium-to-large clusters which display a sweet aromatic flavor;

(b) Commonly bears fruit during the month of July 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.

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

The new variety of the present invention has been found to undergo asexual propagation beginning in 2003 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. Accord-

ingly, 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 2001.

SUMMARY OF INVENTION

The new variety ARRASIX is a large, white seedless (with seed trace) 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 'ARRASIX'.

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.*—Exceeds that of its GAW3 and 'Thompson seedless' parental varieties.
- *Productive capacity.*—Very productive, 70 bunches per vine.
- *Trunk.*—Slender, includes long split strips, and six years after grafting the diameter commonly is approximately 2.4 inches (approximately 62 mm) measured 1 foot above the ground and has a color of greyed-orange (166-C).

Time of bud burst:

- *Medium.*—Date of bud burst in specified location of culture is Mar. 15, 2011 season in Arvin, Calif.

Young shoot:

- *Openness of tip.*—Fully open.
- *Prostrate hairs on tip.*—Medium.
- *Anthocyanin coloration of prostrate hairs on tip.*—Weak.
- *Erect hairs on tip.*—Medium.
- *Color.*—Green (143-C).

Young leaf:

- *Color of upper side of blade.*—Yellow-green (146-A).
- *Prostrate hairs between main veins on lower side of blade.*—Sparse.
- *Erect hairs on main veins on lower side of blade.*—Sparse.

Shoot:

- *Attitude (before tying).*—Semi-erect.
- *Color of dorsal side of internodes.*—Yellow-green (144-C).
- *Color of ventral side of internodes.*—Yellow-green (144-B).
- *Color of dorsal side of nodes.*—Yellow-green (144-C).
- *Color of ventral side of nodes.*—Yellow-green (144-B).
- *Erect hairs on internodes.*—Medium.
- *Length of tendrils.*—4 tendrils 3.5 cm, 5 cm, 6 cm, 3.5 cm.
- *Color of tendrils.*—Yellow-green (145-A).

Flower:

- *Sexual organs.*—Fully developed stamens and reduced gynoecium.

Mature leaf:

- *Size of blade.*—Large (6.5×6 inches).
- *Shape of blade.*—Circular.
- *Blistering of upper side of blade.*—Absent or very weak.
- *Number of lobes.*—Three.
- *Depth of upper lateral sinuses.*—Medium.
- *Only varieties with lobed leaves.*—5 lobed leaves.
- *Arrangement of lobes of upper lateral sinuses.*—Open.
- *Arrangement of lobes of petiole sinus.*—Half open.
- *Length of teeth.*—Medium, 4 cm.
- *Color of teeth.*—Upper (yellow green 144-A); lower (yellow green 146-B).
- *Ratio length/width of teeth.*—Medium.
- *Shape of teeth.*—Both sides straight.
- *Proportion of main veins on upper side of blade with anthocyanin coloration.*—Medium.
- *Prostrate hairs between main veins on lower side of blade.*—Medium.
- *Erect hairs on main veins on lower side of blade.*—Medium.
- *Top side color.*—Green (143-A).
- *Bottom side color.*—Yellow-green (144-A).
- *Texture.*—Smooth.
- *Petiole length.*—9.5 cm.
- *Petiole color.*—Yellow-green (145-A).
- *Vein color.*—Yellow-green (145-C).
- *Length of petiole equal compared to length of middle vein.*—Equal, petiole length is 9 cm; main vein length is 12 cm.

Reproductive organs:

- *Color.*—Yellow-green (144-A).
- *Size.*—1 mm.

Time of beginning of ripening: Medium, July 30 Arvin, Calif. season.

Bunch:

- *Size (peduncle excluded).*—Large (8.5×6 inches).
- *Average weight.*—700 g.
- *Density.*—Medium, loose bunch.
- *Length of peduncle primary bunch.*—Medium (1.5 inches).

Berry:

- *Size.*—Large; 23.8 mm to 3 cm.
- *Weight.*—13 g per berry.
- *Shape.*—Broad ellipsoid.
- *Color of skin (without bloom).*—Yellow-green (145-A).
- *Ease of detachment from pedicel.*—Difficult.
- *Thickness of skin.*—Medium.
- *Anthocyanin coloration of flesh.*—Weak.
- *Firmness and color of flesh.*—Moderately firm, yellow-green (145-A).
- *Particular flavor.*—Muscat.
- *Formation of seeds.*—Rudimentary.
- *Berries per bunch.*—100 Berries.
- *Market use of observed plant.*—Fresh market.

Woody shot:

Main color.—Dark brown (greyed orange 165-C; greyed orange 166-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.

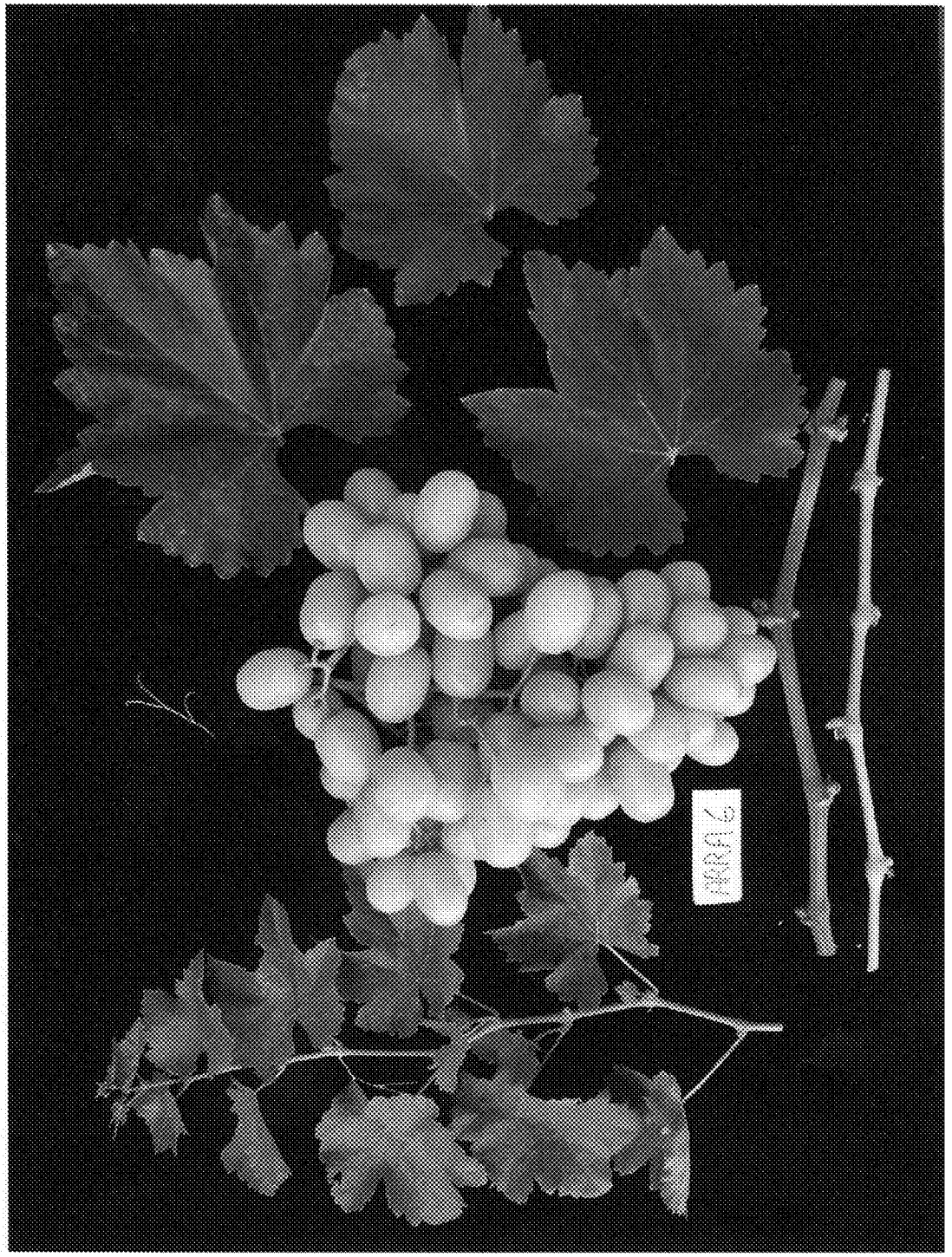
Microsatellite DNA Marker	Allele Sizes in Base Pairs	
MSV01	134	152
MSV02	234	234
MSV04	179	181
MSV06	250	254
MSV07	318	322
MSV08	245	258
MSV09	251	257
MSV10	211	215
MSV12	246	259
MSV13	166	168
MSV14	162	176
MSV15	291	299
MSV16	186	186
MSV17	159	159

The ARRASIX 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 'ARRASIX', substantially as shown and described herein.

* * * * *



UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : PP22,321 P3
APPLICATION NO. : 12/660709
DATED : December 13, 2011
INVENTOR(S) : Shachar Karniel et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page

Item (54) and in the specification,

Column 1, line 4.	Delete "'ARRASIX'" Insert -- 'ARRAFOUR' --
Item (50) Varietal Denomination	Delete "ARRASIX" Insert -- ARRAFOUR --
Item (57) Abstract, line 1.	Delete "ARRASIX" Insert -- ARRAFOUR --

In the Drawings

Sheet 1 of 1.	Delete "ARRA6" Insert -- ARRAFOUR --

In the Specification

Column 1, line 4.	Delete "'ARRASIX'." Insert -- 'ARRAFOUR'. --
Column 1, line 21.	Delete "ARRASIX" Insert -- ARRAFOUR --

Signed and Sealed this
Twenty-seventh Day of August, 2013

Teresa Stanek Rea
Acting Director of the United States Patent and Trademark Office

In the Specification (continued)

Column 1, line 24.	Delete "ARRASIX" Insert -- ARRAFOUR --
Column 3, line 7.	Delete "ARRASIX" Insert-- ARRAFOUR --
Column 3, line 27.	Delete "'ARRASIX'." Insert -- 'ARRAFOUR'. --
Column 6, line 11.	Delete "ARRASIX" Insert -- ARRAFOUR --

In the Claims

Column 6, line 18.	Delete "'ARRASIX'," Insert-- 'ARRAFOUR', --