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Cain

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

(56) **References Cited**

U.S. PATENT DOCUMENTS

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P.P. 3,106 4/1972 Garabedian .

P.P. 4,787 11/1981 Olmo et al. .

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(*) **Notice:** Under 35 U.S.C. 154(b), the term of this
patent shall be extended for 0 days.

(57) **ABSTRACT**

A new and distinct grapevine variety characterized by its
black seedless berries that ripen in mid season and have a
unique, fruity, muscat-type flavor; juicy, moderately firm
flesh; and tough skin. The berries of the new variety are
borne upon very strong woody stems which are well adapted
to commercial handling.

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(51) **Int. Cl.⁷** **A01H 5/00**

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

(58) **Field of Search** **Plt./206, 205**

1 Drawing Sheet

1

2

**BACKGROUND AND SUMMARY OF THE
INVENTION**

This invention relates to the discovery and asexual propa-
gation of a new variety of grapevine, *Vitis vinifera* cv.
'Sugrasixteen'. The new variety was first hybridized by
David W. Cain in Wasco, Kern County, Calif., the variety
being originated by controlled hybridization and subsequent
ovule culture of normally abortive seeds. The new variety is
characterized by producing black grapes having very small,
vestigial seed traces that are not noticeable when eaten. The
new variety is highly productive and may be spur pruned to
two bud spurs.

The seed parent is the 'Black Monukka' variety (unpat-
ented) and the pollen parent is 'Sugrafive' (U.S. Plant Pat.
No. 5,151). The parent varieties were first crossed in May,
1988, with the date of first flowering being May, 1991. The
new 'Sugrasixteen' variety was first asexually propagated by
David W. Cain in December, 1991 in Wasco, Kern County,
Calif., using cuttings.

The new grapevine variety cv. 'Sugrasixteen' most nearly
resembles its seed parent the 'Black Monukka'. It differs
from the 'Black Monukka' by ripening approximately 7 days
earlier, by having firmer flesh and tougher skin, by having a
much smaller and less lignified seed, and by possessing a
distinct vinous muscat flavor.

'Sugrasixteen' is distinguished from other commonly
grown black seedless grapes such as the 'Beauty Seedless'
(unpatented), 'Fantasy' (unpatented), 'Larson B-36' (U.S.
Plant Pat. No. 9,039), 'Mariah' (U.S. Plant Pat. No. 9,040),
and 'Marroo' (U.S. Plant Pat. No. 7,377) by possessing a
highly desirable, strong, distinct, vinous, fruity flavor most
nearly similar to that commonly referred to as muscat but
differing from the flavor of commonly known muscat grapes
such as the 'Muscat of Alexandria,' 'Muscat Hamburg,' and
'Italia' varieties (all unpatented).

The new variety further can be distinguished from the
above cited varieties by possessing a much thicker, stronger
and more highly lignified rachis which provides superior
handling characteristics during commercial harvesting and

shipping procedures. The region of the peduncle most proxi-
mal to the cane often becomes brown and woody while the
peduncles of the above cited varieties most often remain
green and less woody than the new variety.

5 The new variety ripens later than the 'Beauty Seedless,'
'Larson B-36,' and 'Mariah' varieties and ripens more nearly
with the 'Fantasy' and 'Marroo' varieties. It is moderately
responsive to gibberellic acid applications to reduce berry
number and to increase berry size, but high levels induce
10 phytotoxicity and increase berry shatter during harvest ship-
ping.

The new 'Sugrasixteen' variety has been shown to main-
tain its distinguishing characteristics through successive
asexual propagations by, for example, cuttings.

BRIEF DESCRIPTION OF THE FIGURE

20 The accompanying drawing in FIG. 1 illustrates in full
color a typical cluster of berries, a young shoot, and a mature
leaf blade of the new grapevine.

**DETAILED BOTANICAL DESCRIPTION OF
THE INVENTION**

25 Throughout this specification, color names beginning
with a small letter signify that the name of that color, as used
in common speech, is aptly descriptive. Color names begin-
ning with a capital letter designate values based upon the
R.H.S. Colour Chart, published by The Royal Horticultural
30 Society, London, England.

Many of the description values in this specification are
based on and conform to those set forth by the International
Board for Plant Genetic Resources Institute Grape Descrip-
tors (*Vitis* spp.) of 1983 and/or 1997 which was developed
35 in collaboration with the Office International de la Vigne et
du Vin (OIV) and the International Union for the Protection
of New Varieties of Plants (UPOV).

40 The descriptive matter which follows pertains to 'Sug-
rasixteen' plants grown in the vicinity of Wasco, Kern
County, Calif., during 1998, and is believed to apply to

plants of the variety grown under similar conditions of soil and climate elsewhere:

VINE

General:

- Size*.—Large.
- Vigor*.—Medium.
- Density of foliage*.—Dense.
- Productivity*.—Productive when spur pruned, up to 28.3 kg/vine.
- Root stock*.—Own root.

Trunk:

- Shape*.—Medium.
- Straps*.—Long, split.
- Surface texture*.—Shaggy.
- Inner bark color*.—About Greyed-Orange 176D.

SHOOTS

Young shoot:

- Form of tip*.—Half-open.
- Distribution of anthocyanin coloration of tip*.—Absent.
- Intensity of anthocyanin coloration of tip*.—Absent.
- Density of prostrate hairs on tip*.—Medium to dense.
- Density of erect hairs on tip*.—Absent to very sparse.

Flowering shoot:

- Vigor during flowering*.—Strong.
- Attitude during flowering on shoots which are not tied*.—Semi-drooping.
- Color of dorsal side of internodes*.—About Yellow-Green 144B with Greyed-Purple 183B stripes.
- Color of ventral side of internodes*.—About Yellow-Green 144B with Greyed-Purple 183B stripes.
- Color of dorsal side of nodes*.—About Yellow-Green 144B with Greyed-Purple 183B stripes.
- Color of ventral side of nodes*.—About Yellow-Green 144B.
- Erect hairs on nodes*.—None.
- Erect hairs on internode*.—Absent.
- Prostrate hairs on nodes*.—None.
- Prostrate hairs on internodes*.—Absent.
- Anthocyanin coloration of buds*.—Weak.

Tendrils:

- Distribution on the shoot at full flowering*.—Discontinuous.
- Thickness*.—Thin.
- Color*.—About Yellow-Green 145A.
- Form*.—Bifurcated or occasionally trifurcated.
- Number of consecutive tendrils*.—Up to two.
- Length of tendril*.—Long, about 28.8 cm.

LEAVES

Young leaves:

- Color of upper surface of first 4 distal unfolded leaves*.—About Green 143A.
- Average intensity of anthocyanin coloration of six distal leaves prior to flowering*.—Absent.
- Density of prostrate hairs between veins at lower surface of 4th distal unfolded leaf*.—Absent or very sparse.
- Erect hairs between veins at lower surface of 4th distal unfolded leaf*.—Absent.
- Density of prostrate hairs on veins at lower surface of 4th distal unfolded leaf*.—Very sparse.
- Density of erect hairs on veins at lower surface of 4th distal unfolded leaf*.—Very sparse.

Mature leaves:

- Average length*.—About 16.6 cm.
- Average width*.—About 19.6 cm.
- Size of blade*.—Medium to large.
- Shape of blade*.—Pentagonal.
- Number of lobes*.—3.
- Anthocyanin coloration of main veins on the upper side of the blade*.—Weak.
- Mature leaf profile*.—Involute.
- Blistering surface of blade upper surface*.—Medium to strong.
- Leaf blade tip*.—In the plane of the leaf.
- Undulation of margin*.—Pronounced.
- Apex*.—Cuspidate.
- Thickness*.—Medium.
- Undulation of blade between main and lateral veins*.—Absent.
- Shape of teeth*.—Both sides convex.
- Length of teeth*.—Medium.
- Ratio length/width of teeth*.—Medium.
- General shape of petiole sinus*.—Slightly open to closed.
- Tooth at petiole sinus*.—Absent.
- Petiole sinus limited by veins*.—Absent.
- Shape of upper lateral sinus*.—Lobes slightly overlapping.
- Depth of upper lateral sinus*.—Shallow.
- Prostrate hairs between veins on lower surface of blade*.—Absent.
- Erect hairs between veins on lower surface of blade*.—Absent.
- Prostrate hairs on main veins on lower surface of blade*.—None.
- Density of erect hairs on main veins on lower surface of blade*.—None or very sparse.
- Prostrate hairs on main vein on upper surface of blade*.—Absent.
- Autumn coloration of leaves*.—About Greyed-Purple 187A.

Upper surface:

- Color*.—About Green 137A.
- Surface texture*.—Rugose.
- Surface appearance*.—Semi-glossy.
- Goffering of blade*.—Absent.

Lower surface:

- Color*.—About Green 137C.
- Anthocyanin coloration of main veins on lower leaf surface*.—Absent.
- Glossiness*.—Medium.
- Pubescence*.—Absent.
- Surface texture*.—Smooth.
- Surface appearance*.—Semi-glossy.

Petiole:

- Length of petiole*.—Long, about 14.0 cm.
- Length of petiole compared to middle vein*.—Equal to slightly longer.
- Density of prostrate hairs on petiole*.—None.
- Density of erect hairs on petiole*.—None.
- Shape of base of petiole sinus*.—V-shaped.

Woody shoot:

- Shape*.—Stocky.
- Internode length*.—Medium, about 121.3 mm.
- Width at node*.—About 21.7 mm.
- Cross section*.—Elliptic.
- Surface*.—Smooth.
- Main color*.—About Greyed-Orange 165D.

Lenticels.—Inconspicuous.
Density of erect hairs on nodes.—None.
Density of erect hairs on internodes.—None.
Growth of axillary shoots.—Medium, about 54.8 cm.

Buds:

Shape.—Slightly pointed.
Size.—Medium, about 6.5×6.9 mm (length×width).
Position.—Markedly held out, about 50° angle.
Cane bud fruitfulness.—Basal most fruitful.
Time of bud burst.—Medium.

FLOWERS

General:

Flower sex.—Perfect.
Length of first inflorescence.—Long, about 270 cm.
Position of first flowering nodes.—3rd to 4th.
Number of inflorescences per shoot.—1.1 to 2.
Date of full bloom.—May 20, 1998.
Time of bloom.—Medium, as compared with similar varieties in the growing area of Wasco, Kern County, Calif.
Duration of bloom period.—Average, about 10 days.
Size (diameter of fully open flower).—Medium.
Color.—About Yellow-Green, 145A.

FRUIT

General:

Ripening period.—Medium; about 10 days before the 'Thompson Seedless' variety.
Date of ripening.—About July 20; varies from July 4 to August 5, depending upon the year.
Use.—Fresh market.
Keeping quality.—Medium.
Resistance.—Insects: typical of *Vitis vinifera*. Diseases: typical of *Vitis vinifera*.
Shipping quality.—Medium.
Date of first harvest.—Jul. 15, 1998.
Solids-sugar.—High (~21%).
Refractometer test.—About 20.2° brix.
Acid.—Very low, about 0.45 g/L tartaric acid.
Juice pH.—4.32.

Cluster:

Bunch size (peduncle excluded).—Large.
Bunch length (peduncle excluded).—Long, about 23.2 cm.
Bunch width.—About 17.7 cm.
Bunch weight.—High, about 709.1 g (average).
Bunch density.—Very dense.
Number of berries.—About 222.
Form.—Conical.

Peduncle:

Length of peduncle.—Short, about 6.0 cm.
Lignification of peduncle.—Strong.
Color.—About Yellow-Green 144B.

Berry:

Size.—Medium.
Uniformity of size.—Uniform.
Berry weight.—Medium, about 3.42 g.
Shape.—Ovate to obtuse ovate.
Presence of seeds.—Rudimentary, about 6.1 mg/seed fresh weight.
Cross section.—Circular.
Dimensions.—Longitudinal axis about 19.7 mm; horizontal axis about 18.0 mm.
Skin color (without bloom).—About Black 202A.
Coloration of flesh.—Clear.
Juiciness of flesh.—Very juicy.
Berry firmness.—Medium.
Particular flavor.—Strong, fruity, unusual muscat.
Bloom (cuticular wax).—Strong.
Pedice length.—Intermediate, about 6.7 mm.
Berry separation from pedicel.—Difficult.
Visibility of hilum.—Unclear.
Torus.—Medium large.

Skin:

Thickness.—Thick.
Texture.—Tough.
Reticulation.—Absent.
Roughness.—Absent.
Tenacity.—Tenacious to flesh.
Tendency to crack.—Highly resistant.

What is claimed is:

1. A new and distinct variety of grapevine cv. 'Sugrasixteen' as herein illustrated and described.

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Fig. 1