US00PP14682P39

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

(10) **Patent No.: US PP14,682 P3**
(45) **Date of Patent: Apr. 6, 2004**

(54) **BLACKBERRY PLANT NAMED 'DRISCOLL SONOMA'**

(50) Latin Name: ***Rubus L. subgenus Rubus***
Varietal Denomination: **Driscoll Sonoma**

(75) Inventor: **Carlos D. Fear**, Aptos, CA (US)

(73) Assignee: **Driscoll Strawberry Associates, Inc.**, 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.: **09/772,330**

(22) Filed: **Jan. 29, 2001**

(65) **Prior Publication Data**

US 2003/0172422 P1 Sep. 11, 2003

(51) **Int. Cl.**[7] **A01H 5/00**

(52) **U.S. Cl.** **Plt./203**

(58) **Field of Search** Plt./203

Primary Examiner—Bruce R. Campell
Assistant Examiner—June Hwu
(74) *Attorney, Agent, or Firm*—Pennie & Edmonds LLP

(57) **ABSTRACT**

The present invention relates to a new and distinct cultivar of blackberry plant named 'Driscoll Sonoma'. The new cultivar is distinguished from other blackberry cultivars by its fruit of excellent fruit flavor and shipping quality. 'Driscoll Sonoma' is a thornless mid-late season cultivar. The new cultivar is distinguished from its seed parent by its larger fruit and greater plant vigor. The new cultivar is distinguished from its pollen parent by its larger, better flavored fruit.

2 Drawing Sheets

Latin name of the genus and species of the plant claimed: The variety is botanically identified as *Rubus L. subgenus Rubus.*

BACKGROUND OF THE INVENTION

This invention relates to a new cultivar of blackberry called 'Driscoll Sonoma'. The new cultivar was developed from hybridization of the patented female cultivar 'Navaho', U.S. Plant Pat. No. 6,679, with the unpatented male cultivar 'Hull Thornless'. The parents were crossed in Spring 1991 whereafter fruit and seed were collected to produce seedlings for field planting in Watsonville, Calif. in 1991. The new cultivar was selected in July 1993 for its good flavor, thornless canes, season of production and firm, attractive fruit. The cultivar has been asexually propagated, and reproduced true to type plants by in vitro shoot tip culture. The cultivar has been asexually propagated and reproduced true-to-type plants by in vitro shoot tip culture.

SUMMARY OF THE INVENTION

The present invention provides a new and distinct blackberry cultivar named 'Driscoll Sonoma'. The variety is botanically identified as *Rubus L. subgenus Rubus*. The new cultivar produces a floricane crop which begins in early July and continues until mid-September. The new blackberry variety is distinguished from other varieties by a number of characteristics as set forth in Table 1. In particular, the new cultivar is distinguished by its thornless canes with fruit of excellent flavor and firmness which ripens at a time of the year when few other similar cultivars exist.

COMPARISON TO SIMILAR VARIETIES

The varieties that we believe to be similar to 'Driscoll Sonoma' from those known to us are the male parent 'Hull Thornless' and 'Chester', both unpatented cultivars. 'Driscoll Sonoma' is particularly different from these cultivars by having slightly larger, more uniform shaped fruit, by

ripening earlier, and having a less acidic flavor. Further detailed comparison to 'Chester' is presented in Table 1.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying photographs show typical specimens of the fruit, leaves and shoot of the new cultivar, in color as nearly true as reasonably possible in color illustrations of this type.

FIG. **1** is a photograph showing a primocane shoot and mature leaf of 'Driscoll Sonoma'.

FIG. **2** is a photograph of a 'Driscoll Sonoma' fruiting lateral with fruit in various stages of development.

DESCRIPTION OF THE NEW VARIETY

The following detailed description of the new blackberry cultivar, 'Driscoll Sonoma', is based upon recorded observations of plants and fruit grown between 1996 and 2000 in Watsonville, Calif., and is believed to apply to plants of the 'Driscoll Sonoma' cultivar grown in similar conditions of soil and climate elsewhere. The description is based on recorded observations of 2–5 year old plants. Plants were grown in soil previously pre-plant fumigated and regularly fertilized and irrigated with drip irrigation. This description is in accordance with terminology used by the International Union for the Protection of New Varieties of Plants (UPOV). Throughout this specification, color names beginning with a small letter signify that the name of the color, as used in common speech, is aptly descriptive. Color data beginning with a capital letter and followed by an alphanumeric code indicate the most similar color designations as provided by The Royal Horticultural Society (R.H.S.) Colour Chart published by The Royal Horticultural Society of London, England. Color designations, color descriptions, and other phenotypical descriptions may deviate from the stated values and descriptions depending upon variation in environmental, seasonal, climatic and cultural conditions.

CHARACTERISTICS OF THE NEW VARIETY

'Driscoll Sonoma' can be characterized by numerous characteristics. The average priomcane length is 213 cm. The primocane color is N186C (in R.H.S. Colour Chart) on the exposed side and 144A (in R.H.S. Colour Chart) on the shaded side. The floricance color is 146C (in R.H.S. Colour Chart) on both the exposed and shaded sides. The relief between the veins of the leaf of 'Driscoll Sonoma' is weak, meaning there are very minor undulations between the veins and the leaves are nearly flat. The leaf surface has a few small soft hairs on the upper and lower surfaces. The petiole color is N186C (in R.H.S. Colour Chart). The stipule length averages 13 mm, width 1.2 mm, and color 144A (in R.H.S. Colour Chart). Bud burst in Watsonville, Calif. is late relative to most cultivars. Usually bud burst occurs from mid March to early April. Flowering lasts for 3–5 weeks and usually begins in late April to early May. The petals of 'Driscoll Sonoma' are five per flower, ovate in shape, and N155B in color (in R.H.S. Colour Chart). The average length of the pedicel is short, 25 mm. The sepals of 'Driscoll Sonoma' are five per flower, and 138B in color (in R.H.S. Colour Chart). The seeds weigh about 3.4 mg and are approximately 3.2 mm long and about 1.9 mm wide. 'Driscoll Sonoma' is most suitable for market use as a highly flavored fresh market cultivar. 'Driscoll Sonoma' has been successfully shipped for long distance under refrigerated storage and has remained in good condition for up to about 10 days when kept under cold storage conditions.

Table 1 provides information on the plant and fruit characteristics of the new blackberry cultivar, 'Driscoll Sonoma', compared with characteristics of the unpatented blackberry cultivars, 'Olallie' and 'Chester'. Both 'Olallie' and 'Chester' are currently important cultivars for fresh market shipping, and thus are comparable to the proposed use of the new invention, 'Driscoll Sonoma'. Observations of 'Driscoll Sonoma' and 'Chester' were taken in side-by-side comparison in 1999 and 2000. The yield of 'Driscoll Sonoma' is medium, meaning an average yield of about 14,000 pounds per acre in comparison to Olallie which averages around 21,000 pounds per acre.

The new blackberry cultivar is particularly characterized and distinguished from other cultivars by its fruit with excellent flavor and shipping quality. The fruit of 'Driscoll Sonoma' is very attractive with a solid black color that rarely shows post harvest drupelet color reversion.

The canes of 'Driscoll Sonoma' are thornless and of low to moderate vigor until well established. Yield of the new cultivar is moderate in comparison with other varieties.

Driscoll Sonoma is distinguished from its pollen parent, 'Hull Thornless', by being earlier, less vigorous, and having larger less acidic fruit. Driscoll Sonoma is distinguished from its seed parent, 'Navaho', by having greater vigor and larger fruit.

TABLE 1

PLANT CHARACTERISTICS OF 'DRISCOLL SONOMA'

	Driscoll Sonoma	Olallie	Chester
GENERAL			
Vigor	Low-moderate	Moderate-high	high
Growth habit	semi-upright	trailing	semi-upright
Productivity	medium	high	high
Self fruitfulness	yes	yes	yes
Number of young shoots	medium	medium	medium

TABLE 1-continued

PLANT CHARACTERISTICS OF 'DRISCOLL SONOMA'

	Driscoll Sonoma	Olallie	Chester
CANES			
Primocanes			
Anthocyanin coloration	absent	present	present
Spines	absent	present	absent
color	—	purple	—
attitude of tip	—	horizontal	—
texture	—	heavy	—
presence and distribution on petioles	absent	present; irregularly distributed	absent
density in central third of shoot	—	medium	—
Internodal distance (cm) - central third of mature cane	3	2.6	3.1
Glaucosity on full grown shoot	weak	weak	weak
Strength of full grown shoot	strong	medium	strong
Cane cross section	angular	rounded to angular	angular to grooved
LEAVES			
Relief between veins	medium	medium	medium
Number of leaflets	usually 5	usually 3	usually 5
Leaf color	medium	medium	light
upper side	139A, 147A	137A, 137B	147A
underside	147B	147B	146A
Glossiness of upper surface	medium	medium	dull
Leaf cross section	concave	concave-flat	concave
Terminal leaflet			
length (cm)	10.8	8.9	11.1
width (cm)	8.5	7.6	9
shape	cordate	cordate	cordate
tip	acuminate	acuminate	acuminate
base	rounded	cordate	cordate
margin	double serrate	double serrate	double serrate
Lateral leaflet			
overlap of lateral leaflets	overlapping	overlapping	overlapping
length (cm)	10.3	8.7	10.2
width (cm)	7.1	6.1	7.1
shape	ovate	ovate	ovate
tip	acuminate	acuminate	acute
base	rounded to acute	acute	acute
margin	double serrate	double serrate	serrate
Petiole			
mean length (cm)	9.4	5.3	7.9
range	7.3–11.1	3.6–8.7	3.9–10.2
pigmentation of upper surface	reddish	green-slightly pink	purple
pigmentation of underside	green	green-slightly pink	green-pinkish
Length of stalklet	short	very short	medium
Rachis length (cm) between terminal and adjacent lateral leaflets)	3.8	2.8	3.1
Stipule orientation	erect	variable; clasping to erect	erect
FLOWERS			
Time of bud burst	late	early	late
Time of beginning	late	early	late

TABLE 1-continued

PLANT CHARACTERISTICS OF 'DRISCOLL SONOMA'

	Driscoll Sonoma	Olallie	Chester
of flowering			
Flower size	medium-large	small to medium	small to medium
Petal size			
length (mm)	19.6	16.5	18.3
width (mm)	14	11.7	10.9
Anthocyanin color of pedicel	absent	absent	present
Intensity of pedicel coloration	—	—	weak
Length of pedicel	short	long	short
Flower number (third node from tip of lateral)	1.25	3.6	2
FRUIT			
Harvest season	mid-late	early	mid-late
Dimensions			
weight (g/fruit)	3.6	5.2	3.2
size	medium-small	medium	small
length (cm)	2.4	3.3	1.9
width (cm)	2.1	1.4	1.9
Fruiting lateral length (in mid cane)	medium-long	medium	medium-long
mean number of fruit per lateral	11.6	6.2	22.8
range	8–16	3–9	17–40
Shape	ovate to elliptic longer than broad	narrow ovate much longer than broad	round to ovate as long as broad
Color	black	purple-black to black	black

TABLE 1-continued

PLANT CHARACTERISTICS OF 'DRISCOLL SONOMA'

	Driscoll Sonoma	Olallie	Chester
immature	183A	178A–183B	184A
maturing	187A	187A	200A–202A
mature	202A	200A	202A
Firmness	medium	medium	firm
Glossiness	medium	medium-strong	medium
Soluble solids	12	9.7	9.9
Titratable acidity (% as citric acid) (ml of added 0.1 N NaOH to pH 8.1)	9	13.3	9.9
Number of drupelets per fruit	60	86	40

NUCLEIC ACID FINGERPRINTING

Distinctive patterns of polymorphism can be detected using a variety of nucleic acid analysis methods. In one non-limiting example, molecular genetic maps can be produced using random amplified polymorphic DNA (RAPD) (Williams et al., 1990, "DNA polymorphisms amplified by arbitrary primers are useful as genetic markers", Nucleic Acids Res. 18(22):6531–5). Using a variety of oligonucleotide primers, alone or in combination, RAPD analysis of Driscoll Sonoma, Chester, and Olallie yielded DNA fragment patterns that uniquely distinguish each of these genetically distinct genotypes.

We claim:

1. A new and distinctive cultivar of blackberry plant, substantially as shown and described.

* * * * *

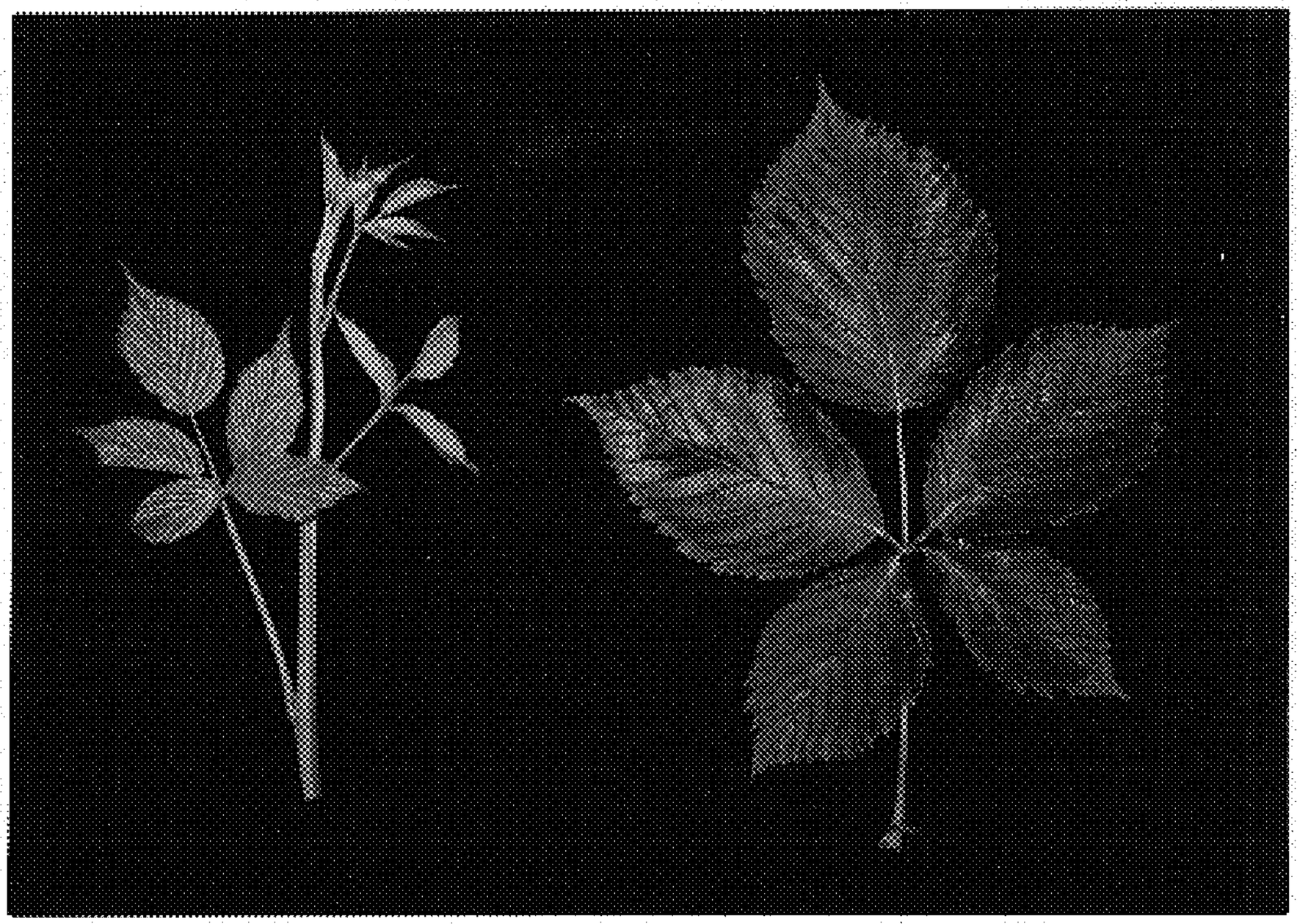

FIG. 1

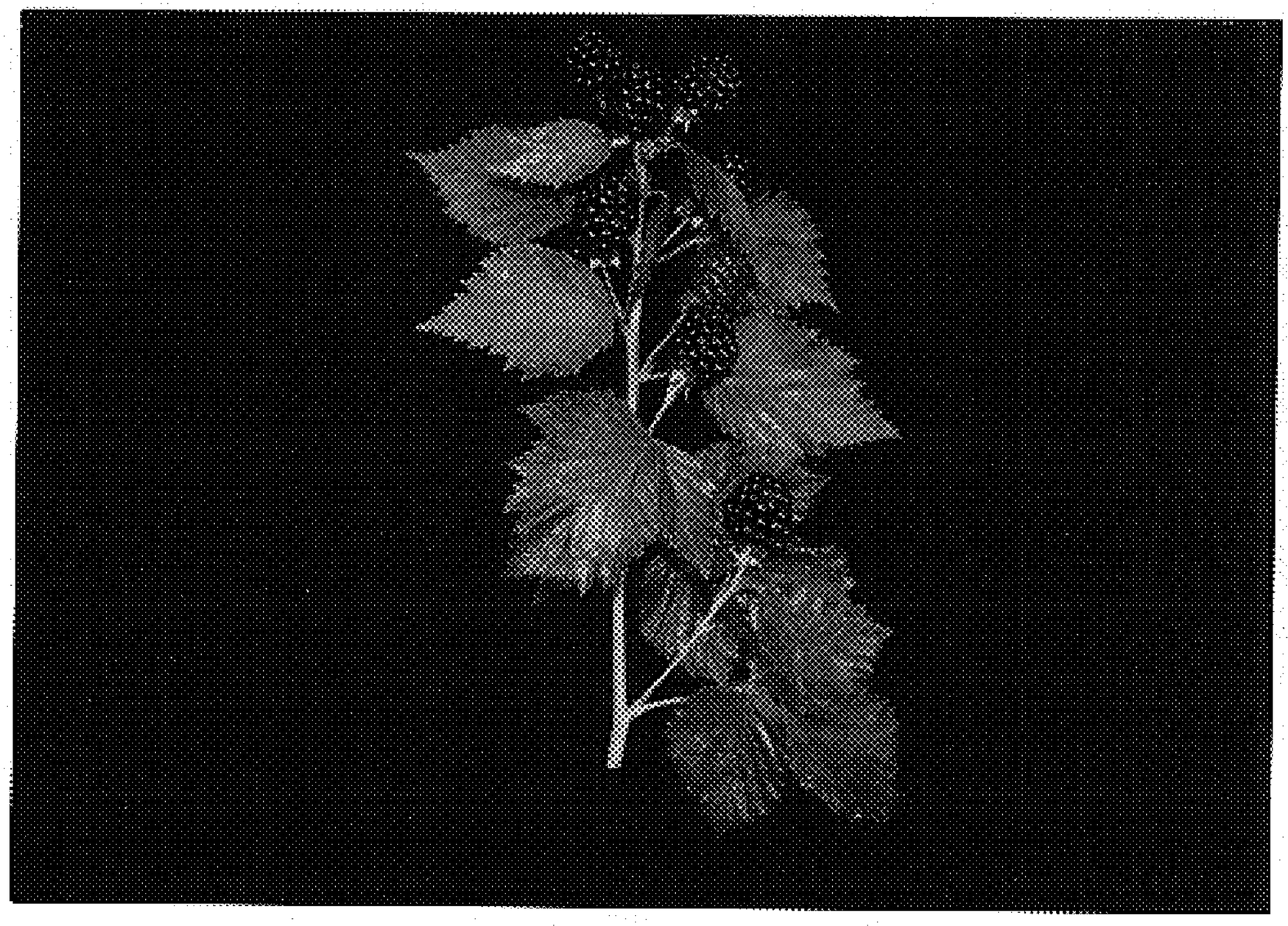

FIG. 2