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Fear et al.

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(54) **RASPBERRY PLANT NAMED 'DRISCOLL FRANCESCA'**

(50) Latin Name: ***Rubus idaeus L.***
Varietal Denomination: **Driscoll Francesca**

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(52) **U.S. Cl.** **Plt./204**
(58) **Field of Search** Plt./204

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(57) **ABSTRACT**

The present invention relates to a new and distinct cultivar of raspberry plant named Driscoll Francesca. The new cultivar is distinguished from other raspberry cultivars by its fruit firmness, fruit structure, yield and flavor. The new cultivar is distinguished from its seed parent by having better flavor, it is distinguished from its pollen parent by producing fruit of consistent shape and good firmness.

3 Drawing Sheets

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

1. BACKGROUND OF THE INVENTION

The new cultivar of raspberry plant was developed from the hybridization of the selection 'Tola' (U.S. Plant Pat. No. 11,087) as the seed parent with the selection 'Isabel' (an unpatented variety) as the pollen parent. The parents were crossed in 1996; whereafter fruit and seed were collected to produce seedlings for field planting in Oxnard, Calif. in 1997. The new cultivar was selected from these seedlings in 1997 for its excellent fruit size and flavor. The new cultivar has been asexually propagated by in vitro shoot tip culture, root sucker division and root cuttings at the Cassin Ranch in Santa Cruz county, Calif. and has been shown to maintain the desired and distinguishing characteristics after propagation over several generations.

2. SUMMARY OF THE INVENTION

The present invention provides a new and distinct cultivar of red raspberry plant named 'Driscoll Francesca'. The cultivar is botanically identified as *Rubus idaeus L.* The 'Driscoll Francesca' red raspberry plant produces a primocane crop which begins in mid-July and continues until mid October. The floricane crop begins in mid-May and continues until late July. Both the primocane and floricane yields are high relative to other comparable varieties. The fruit of 'Driscoll Francesca' is notably quite firm and very consistent with regard to its size and shape throughout its harvest period and has good flavor. The fruit of 'Driscoll Francesca' separates easily from its receptacle.

3. BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying photographs show typical specimens of the primocane fruit, leaves and shoot of the new cultivar, in color as nearly true as it is reasonably possible to make in color illustrations of these characteristics.

FIG. **1** is a photograph of 'Driscoll Francesca' primocane fruiting lateral showing ripe and unripe fruit.

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FIG. **2** is a photograph of 'Driscoll Francesca' primocane leaves showing upper and lower leaf surfaces.

FIG. **3** is a photograph of 'Driscoll Francesca' primocane shoot.

4. DETAILED BOTANICAL DESCRIPTION

The following detailed description of the new raspberry cultivar, 'Driscoll Francesca', is based upon observations taken of 7 to 17 month old plants and fruit grown in Watsonville, Calif. between 2001 and 2002, and is believed to apply to plants of the 'Driscoll Francesca' cultivar grown in similar conditions of soil and climate elsewhere.

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 followed by an alphanumeric code designates the color according to The 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.

Table 1 provides information on the plant and fruit characteristics of the new cultivar 'Driscoll Francesca' compared with characteristics of the unpatented raspberry cultivar 'Heritage'. Observations of the cultivars were taken under similar conditions.

The new variety is particularly characterized and distinguished from other cultivars by its fruit firmness, fruit structure, yield, and flavor.

The fruit color of 'Driscoll Francesca' is a medium red at harvest but darkens after harvest to a deeper color. Fruit of 'Driscoll Francesca' separates easily from the receptacle and is of good firmness at harvest. The fruit of 'Driscoll Francesca' is very consistent in size and shape throughout the harvest period. The average plant height is about 180 cm and the average plant spread is about 80 cm. The prickle color is 187A. The pedicel color is 144A. The sepal color is also 144A.

The reproductive organs of 'Driscoll Francesca' are variable. The pigmentation color of both surfaces of the petals

is 155D and there are five petals per flower. The style pigmentation color is 157D, the average number of styles per flower is about 99, the anther pigmentation color is 155D, and the average number of anthers per flower is about 108. The color of the seeds of 'Driscoll Francesca' is 161A, the average seed weight is about 1.4 mg, and there are an average of about 101 seeds per fruit.

The primocane and floricane yields of 'Driscoll Francesca' are high relative to the variety 'Heritage'.

'Driscoll Francesca' is distinguishable from its pollen parent, selection 'Isabel', by producing fruit of consistent shape and good firmness. The new cultivar is distinguished from its seed parent, selection 'Tola', by having better flavor.

4.1 DISEASE AND STRESS RESISTANCE

Resistance is unknown to powdery mildew. Cold tolerance of the new cultivar has not been established. Post harvest fruit rot resistance is good in comparison over many selections and varieties.

TABLE I

PLANT CHARACTERISTICS OF 'DRISCOLL FRANCESCA'

	Driscoll Francesca	Heritage
General		
Plant size	Medium	Large
Growth habit	Semi-Erect	Erect
Productivity	High	Medium
Self-fruitfulness	Self-fruitful	Self-fruitful
Time of bud burst	Medium	Late
Primocane fruiting		
Percent of cane length flowering as primocane	30–50	20–40
Percent of total yield	40	53
Primocanes		
Number of young shoots		Medium
Young shoot pigmentation	Weak	Medium
Length (cm)	212	196
Time of shoot emergence	Medium	Very late
Glaucosity (waxy bloom)	Strong	Weak
Strength	Medium	Medium
Cane cross section (from mid cane of primocane)	Rounded to angular	Rounded
Dormant cane color	purple mainly with brown	brown to purple brown
Prickles		
Pigmentation	brown to purple	green-brownish to green
Density on young shoots	medium	Dense
Attitude of tip	Downward	Downward
Size: Length (base to tip) at 1 m height at the end of season (mm)	1	2.3
Texture	smooth	Rigid
Presence and Distribution on Petioles	Present: irregularly	Present irregularly distributed
Pubescence on canes	Absent	Absent
Internodal distance (cm) (at central ⅓ of cane)	4.9	5.3
LEAVES		
Arrangement	Compound	Compound
Relief between veins	Weak	Very weak

TABLE I-continued

PLANT CHARACTERISTICS OF 'DRISCOLL FRANCESCA'

	Driscoll Francesca	Heritage
Number of leaflets	Sometimes 3, somtimes 5	Sometimes 3, sometimes 5
Overlapping of lateral leaflets	Free to touching	Free to touching
Glossiness	Medium	Medium
Lateral leaflet: length of stalket (lower pair)	Very short	Very short
Terminal leaflet		
Length (cm)	11.4	14.6
Width (cm)	8	7.8
Shape	Ovate	Ovate
Tip	Acuminate	Acuminate
Base	Cordate	Acute to rounded
Margin	Doubly serrate	Doubly serrate
Lateral leaflets (basal pair)		
Length (cm)	10.4	14.7
Width (cm)	6.6	8.6
Orientation	Opposite	Opposite
Shape	Ovate	Ovate
Tip	Acuminate	Acuminate
Base	Round	Oblique
Margin	Doubly serrate	Doubly serrate
Rachis length between terminal leaflet and adjacent Lateral leaflets (cm)	3.6	1.5
Color		
Face	147A	147A
Underside	148B	148B
Petiole length (cm)	4.5	7.7
Stipule orientation	Erect	Erect
FLOWERS		
Flowering period		
Primocane	15 weeks, Early May mid September	19 weeks, Late May Late September
Floricane	12 weeks, Late March to Late June	10 weeks, Late March to mid June
Flower diameter (cm)	2.0	1.8
Petal		
Length (cm)	0.8	0.8
Width (cm)	0.4	0.3
Pedicel coloration	Present, medium intensity	Present, strong intensity
FRUIT		
Harvest season		
Primocane	Mid July–early October	Early July–early November
Floricane	Mid May–late July	Late May–late July
Fruiting Lateral		
Length (4^{th} lateral from tip) (cm)	61.5	49.8
Number of fruit per lateral	18	20.3

TABLE I-continued

PLANT CHARACTERISTICS OF 'DRISCOLL FRANCESCA'

	Driscoll Francesca	Heritage
Color		
Immature	44A	42C
Maturing	46A	46A
Mature Fruit		
Glossiness	Weak	Medium
Shape	Ovate	Ovate
Dimensions		
Size	Medium	Small
Length (mm)	22	17
Width (mm)	21	18
Length: width	1.05	0.94
Weight (g/Fruit)		
Primocane	4.2	3.1
Floricane	3.7	2.3
Soluble solids (%)	11.3	10.8
Titratable acidity (% as citric acid)	1.41	1.58
Seed weight (mg)	2.8	1.5
Number druplets/fruit	101	72
Adherence to plug	Medium	Medium
Firmness	Medium	Firm
Yield	High	Medium

4.2 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 Francesca and Heritage yielded DNA fragment patterns that uniquely distinguish each of these genetically distinct genotypes.

We claim:

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

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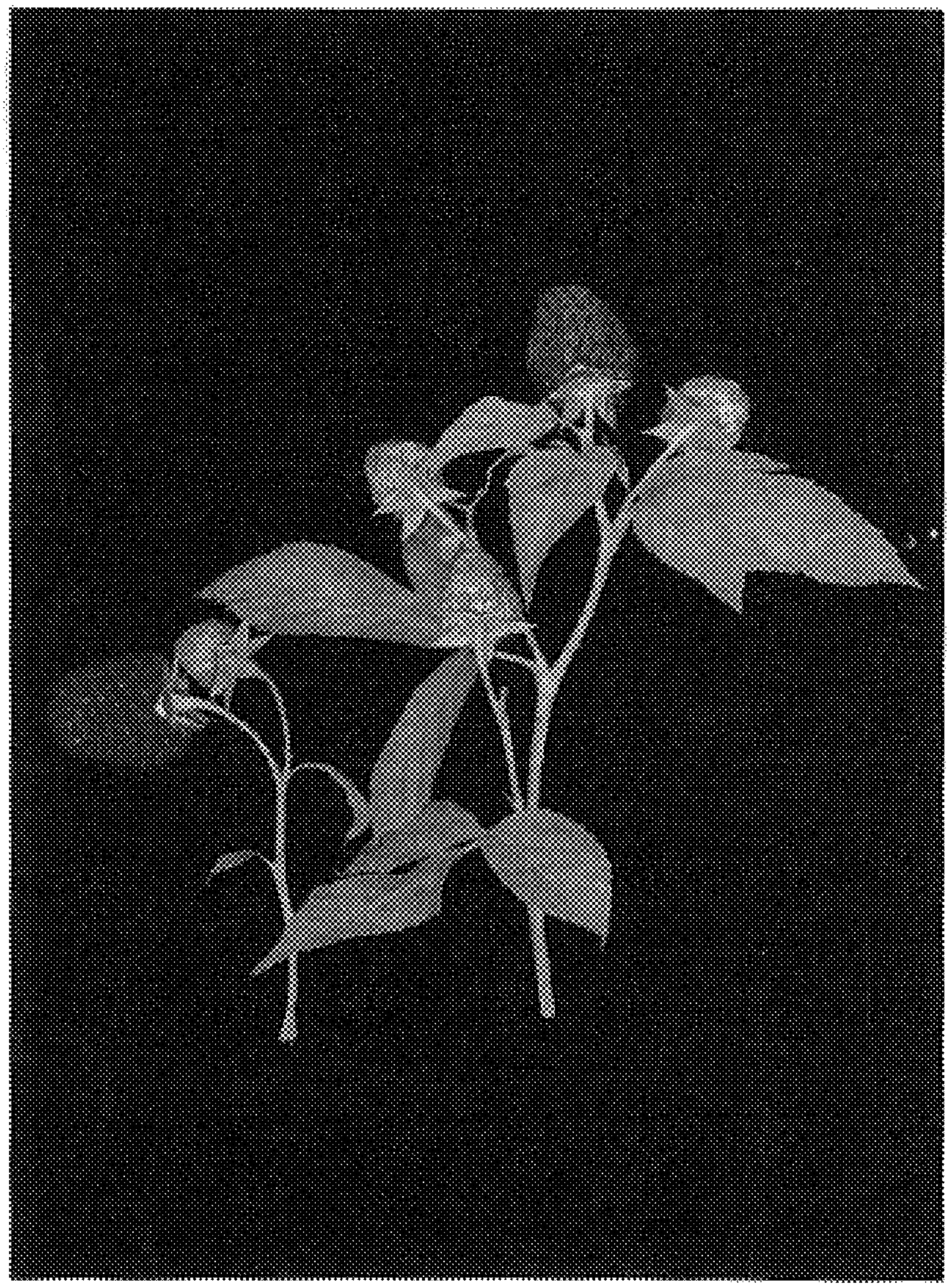

FIG. 1

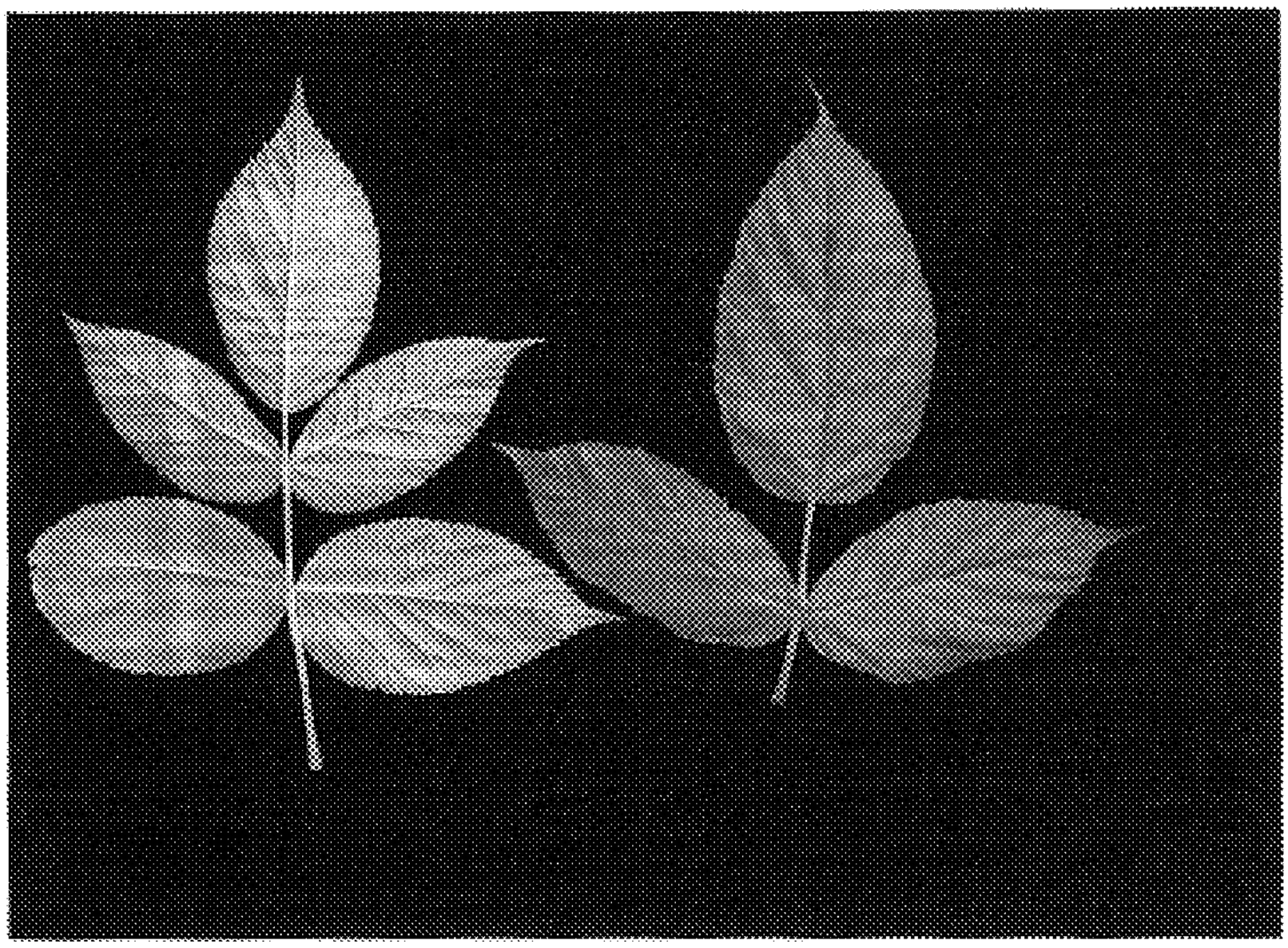

FIG. 2

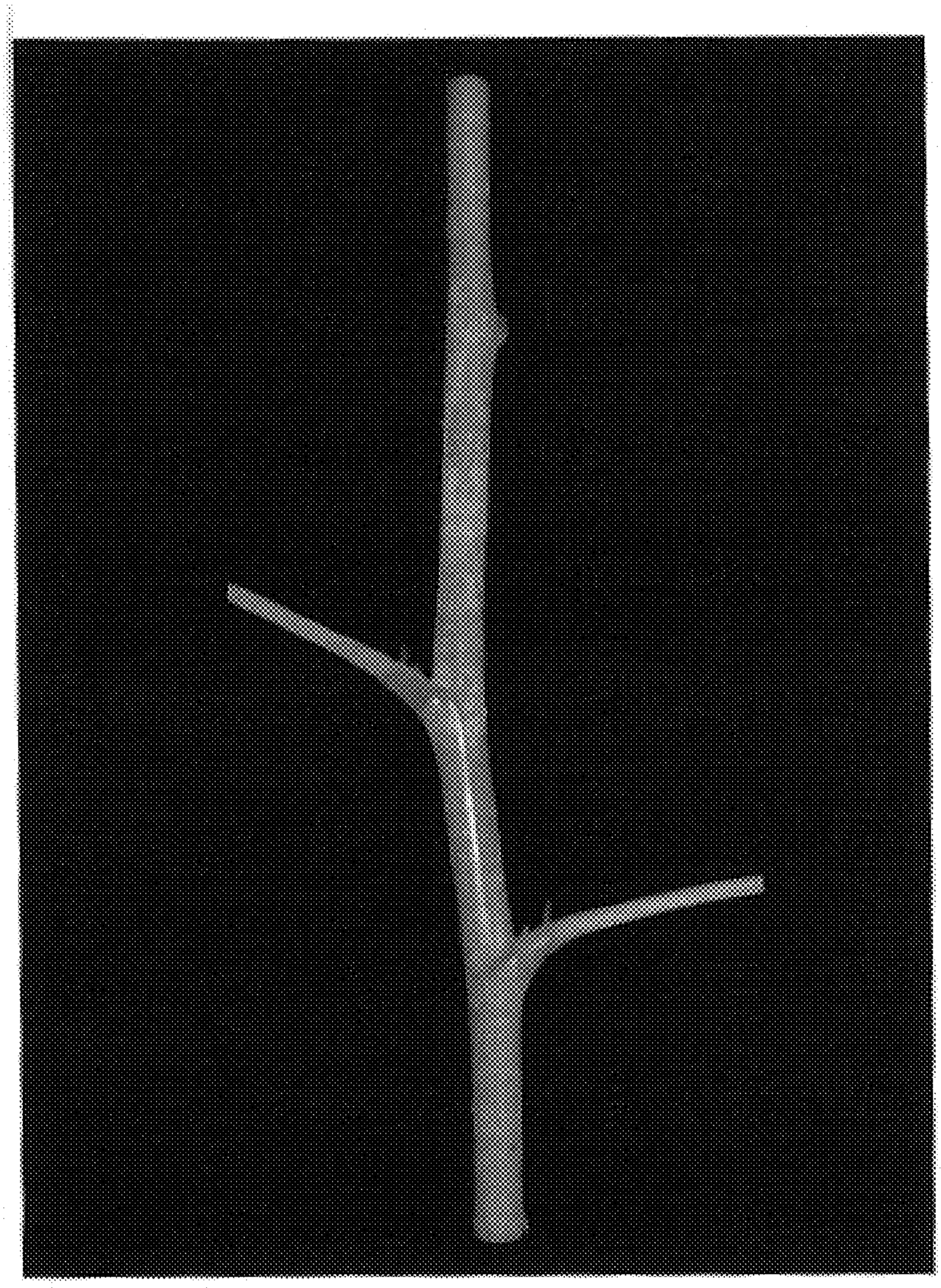

FIG. 3