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Mowrey et al.

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(54) **STRAWBERRY PLANT NAMED 'DRISCOLL SAUSALITO'**

(50) Latin Name: ***Fragaria×ananassa***
Varietal Denomination: **Driscoll Sausalito**

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(57) **ABSTRACT**

This invention relates to a new and distinct variety of strawberry named 'Driscoll Sausalito'. The variety is similar to the varieties 'Driscoll Lanai' and 'San Juan'. The variety is distinguished from 'Driscoll Lanai' and 'San Juan,' in particular, by its sweetness, acidity, internal color, longer petal length, longer flower diameter, anythocyanin color and coloration and moderate resistance to powdery mildew.

5 Drawing Sheets

Latin name of the genus and species of the plant claimed: The variety is botanically identified as *Fragaria×ananassa*.

Variety denomination: The strawberry variety denomination is 'Driscoll Sausalito'.

BACKGROUND OF THE INVENTION

The new variety originated as a result of a controlled cross between the strawberry plants 'San Juan' (U.S. Plant Pat. No. 12,899) and 14C185 (Unpatented Driscoll Variety) in an ongoing breeding program, and was discovered in Monterey County, Calif. in 2000. The original seedling of the new cultivar was asexually propagated by stolons in a Nursery in Shasta County, Calif. Propagules were transplanted to a controlled breeding plot in Monterey County, Calif., where the variety was identified and selected for further evaluation. 'Driscoll Sausalito' was subsequently asexually propagated and underwent further testing in Monterey County, Calif. for five years. This propagation and testing has demonstrated that the combination of traits disclosed herein which characterize the new variety are fixed and retained true to type through successive generations of asexual reproduction.

SUMMARY OF THE INVENTION

The present invention relates to a new and distinct variety of strawberry named 'Driscoll Sausalito'. The variety is botanically identified as *Fragaria×ananassa*. The new variety is distinguished from other varieties by a number of characteristics as set forth in Tables 1–4.

COMPARISON TO SIMILAR VARIETIES

The varieties which we believe to be similar to 'Driscoll Sausalito' from those known to us are 'Driscoll Lanai' (U.S. Plant Pat. No. 15,145) and 'San Juan' (U.S. Plant Pat. No. 12,899). There are several characteristics of the new variety

that are different from, or not possessed by 'Driscoll Lanai' and 'San Juan'. For example, the new variety has a different internal color, longer petal length, longer flower diameter, different anythocyanin color and coloration and is moderately resistant to powdery mildew. Additional characteristics of 'Driscoll Sausalito' include an orbicular petal shape, a rounded petal apex and an obtuse petal base. The typical and observed petal number of 'Driscoll Sausalito' is six and the petal margin is entire. The typical and observed sepal number of 'Driscoll Sausalito' is ten. 'Driscoll Sausalito' also has a laceolate sepal shape, an acute sepal apex and a serrate sepal margin. 'Driscoll Sausalito' also has a typical and observed broadly obviate leaflet shape and an obtuse leaflet apex. The average number of strawberries on the fruiting truss of 'Driscoll Sausalito' is one.

'Driscoll Sausalito' is distinguished from its parent, 'San Juan' as indicated in Tables 1–4. Plants of 14C185 were not available for side by side comparison. 'Driscoll Sausalito' differs from 14C185 by having brighter red, more uniformly colored berries and superior shelf-life.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying photographs show typical specimens of the new variety, including fruit, foliage and flowers, in color as nearly true as it is reasonably possible to make in color illustrations of these characteristics.

FIG. **1** shows the whole the plant.

FIG. **2** shows the upper side of the leaves of the plant.

FIG. **3** shows the under side and upper side of the flowers.

FIG. **4** shows a close-up of the fruit.

FIG. **5** shows the fruit in longitudinal cross-section.

DESCRIPTION OF THE NEW VARIETY

The following detailed description of the new variety is based upon observations taken on plants harvested from a nursery in Shasta country, Calif. in October, 2004 and held in cold storage until planting in Monterey County, Calif. in November 2004. Plants were grown in raised beds of soil under conditions typical of commercial strawberry production in Monterey County, Calif. Observations of 'Driscoll Sausalito', 'Driscoll Lanai', and 'San Juan' were made in side by side comparison in July 2005. Fruits were harvested twice weekly from April, 2004 to November, 2004 for yield determination. 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. Colors are described and the most similar color designations are provided from The Royal Horticultural Society (R.H.S.) Colour Chart.

PROPAGATION

The new variety is principally propagated by way of stolons. Although propagation by stolons is presently preferred, other known methods of propagating strawberry plants may be employed.

CHARACTERISTICS OF THE NEW VARIETY

Information on the new variety is presented in Tables 1, 2, 3 and 4. In the tables, the flowers described are secondary flowers except where indicated. The fruit described is the secondary fruit on seven month old plants. Fruit and flower measurements are an average of both primary and secondary fruit and flowers.

Table 1 provides information on the plant and fruit characteristics of the new variety 'Driscoll Sausalito' compared with characteristics of 'Driscoll Lanai' and 'San Juan'. Table 2 provides additional information of the plant and fruit characteristics of the new variety 'Driscoll Sausalito' compared with characteristics of the varieties 'Driscoll Lanai' and 'San Juan'. Table 3 provides reactions of the new variety to stresses, pests and diseases compared with reactions of the varieties 'Driscoll Lanai' and 'San Juan'. Table 4 provides isozyme characteristics of the new variety as compared to that of the varieties 'Driscoll Lanai' and 'San Juan'.

TABLE 1

QUANTITATIVE COMPARISON OF 'DRISCOLL SAUSALITO', 'DRISCOLL LANAI' AND 'SAN JUAN'

	'Driscoll Sausalito'	'Driscoll Lanai'	'San Juan'
Plant Characteristics			
Height of Plant (cm)	24.7	23.4	28.9
Spread of Plant (cm)	45.6	38.3	51.7
Number of Crowns	3.5	3.3	4.3
Leaf Characteristics			
Terminal Leaflet Length (cm)	6.9	6.7	7.5
Terminal Leaflet Width (cm)	6.6	6.6	7.6
Terminal Leaflet Length/Width Ratio	1.04	1.00	0.99
# Teeth/Terminal Leaflet	17.8	21.1	20.4
Color of upper side	137A light green	139A light green	147A medium green
Color of under side	137C light green	138B light green	147C light green
Petiole Length (cm)	19.4	18.0	25.7
Petiole Diameter (mm)	3.6	2.9	3.7
Petiole Color	145B yellow green	145A yellow green	149A yellow green
Petiolule Length (mm)	8.0	10.7	7.5
Petiolule Diameter (mm)	1.8	1.7	2.1
Petiolule Color	145C yellow green	145A yellow green	149A yellow green
Bract Frequency	8% typically single	0%	33% typically single
Stipule Length (cm)	3.5	3.2	3.5
Stipule Width (cm)	0.9	0.8	0.7
Stolon Characteristics			
Anthocyanin color	185A greyed purple	60A red purple	59A red purple
Diameter at bract (mm)	3.16	2.93	3.49
Avg. # of Daughter plants (2003 Nursery)	56	59	69
Flower Characteristics			
Petal Length (cm)	1.4	1.1	1.1
Petal Width (cm)	1.3	1.2	1.2
Petal Length/Width Ratio	1.08	0.94	0.90
Flower Diameter (cm)	3.1	2.8	2.6
Calyx Diameter (cm)	3.6	3.9	3.5
Sepal Length (mm)	11.4	11.7	11.7
Sepal Width (cm)	5.5	4.8	5.6
Color of Upper Side of Petal	155C white	155C white	155C white
Receptical Color	154C yellow green	154C yellow green	154C yellow green
Anther Color	13A yellow	9A yellow	9A yellow
Fruiting Truss Length (cm)	25.3	25.3	33.1
Fruit Characteristics			
Fruit Length (cm)	3.8	3.8	3.9
Fruit Width (cm)	3.6	4.0	4.3
Fruit Length/Width Ratio	1.04	0.96	0.90
Average Berry Weight (g)	2.18	23.9	25.4
External Color	46A orange red	45B orange red	53A dark red
Internal Color	35A whitish	47C orange red	44A red
Achene Coloration	185A to 162B greyed purple to greyed yellow	185B to 154B greyed purple to greyed yellow	46B to 16A dark red to yellow
Achenes per berry	195	292	304
Achene weight (g)	0.0006	0.0005	0.0006
2004 Marketable Yield (g/plant)	1,283	1,377	984

TABLE 2

QUALITATIVE COMPARISON OF 'DRISCOLL SAUSALITO', 'DRISCOLL LANAI' AND 'SAN JUAN'

	'Driscoll Sausalito'	'Driscoll Lanai'
Plant		
Habit	flat	flat
Canopy Density	medium	open
Vigor	weak to medium	medium
Leaf		
Shape in cross section	slightly concave	slightly concave to flat
Interveinal blistering	medium	medium
Glossiness	weak	weak
Number of leaflets	three only	three only
Terminal leaflet margin profile	revolute	revolute
Terminal leaflet shape of base	rounded	rounded
Terminal leaflet shape of teeth	rounded	rounded
Stipule pubescence	sparse	medium to dense
Petiole pubescence	sparse to medium	medium dense
Petiole pose of hairs	outward	downward
Stolon		
Anthocyanin coloration	very strong	strong
Thickness	medium	medium to thick
Pubescence	very sparse	dense
Inflorescence		
Position relative to foliage	beneath to level	level to above
Diameter of calyx relative to corolla on secondary flowers	larger	same size to larger
Diameter of inner calyx relative to outer on secondary flowers	larger	larger
Spacing of petals	overlapping	overlapping
Fruiting Truss		
Attitude at first picking	prostrate	prostrate
Fruit		
Predominant shape	conical	conical to ovoid
Difference in shapes between primary and secondary fruits	slight	slight
Band without achenes	medium	narrow to medium
Unevenness of surface	weak	weak
Evenness of color	slightly uneven	even
Glossiness	strong	strong
Insertion of achenes	level to above fruit surface	level with surface
Insertion of calyx	level to above	level
Pose of the calyx segments	spreading to reflexed	spreading to reflexed
Size of calyx in relation to fruit on secondary fruit	same size	smaller
Adherence of calyx	strong	strong
Firmness of flesh	medium	medium
Evenness of flesh color	slightly uneven	uneven
Distribution of flesh color	marginal and central	marginal and central
Hollow center size	small	medium
Sweetness	strong	medium
Texture when tasted	fine	fine
Acidity	weak to medium	medium
Time of First Flowering After Planting in 2005	mid-February	mid-February
Harvest Interval in 2005	early April to early November	late March to early November
Type of Bearing	partially everbearing	partially everbearing

TABLE 2-continued

QUALITATIVE COMPARISON OF 'DRISCOLL SAUSALITO', 'DRISCOLL LANAI' AND 'SAN JUAN'

	'San Juan'
Plant	
Habit	globose to flat globose
Canopy Density	medium
Vigor	medium
Leaf	
Shape in cross section	flat to slightly convex
Interveinal blistering	medium to strong
Glossiness	weak to medium weak
Number of leaflets	sometimes more than 3 leaflets (approx. 17% of leaves)
Terminal leaflet margin profile	revolute to flat
Terminal leaflet shape of base	obtuse to rounded
Terminal leaflet shape of teeth	rounded
Stipule pubescence	medium
Petiole pubescence	medium
Petiole pose of hairs	outward to downward
Stolon	
Anthocyanin coloration	strong
Thickness	medium
Pubescence	medium
Inflorescence	
Position relative to foliage	beneath to level
Diameter of calyx relative to corolla on secondary flowers	larger
Diameter of inner calyx relative to outer on secondary flowers	same size
Spacing of petals	overlapping
Fruiting Truss	
Attitude at first picking	prostrate
Fruit	
Predominant shape	conical to almost cylindrical
Difference in shapes between primary and secondary fruits	moderate
Band without achenes	narrow
Unevenness of surface	medium
Evenness of color	even
Glossiness	very strong
Insertion of achenes	level with surface
Insertion of calyx	level
Pose of the calyx segments	spreading to reflexed
Size of calyx in relation to fruit on secondary fruit	same size
Adherence of calyx	strong
Firmness of flesh	firm
Evenness of flesh color	slightly uneven to even
Distribution of flesh color	marginal and central
Hollow center size	medium
Sweetness	medium to strong
Texture when tasted	medium
Acidity	medium
Time of First Flowering After Planting in 2005	mid-February

TABLE 2-continued

QUALITATIVE COMPARISON OF 'DRISCOLL SAUSALITO', 'DRISCOLL LANAI' AND 'SAN JUAN'

Harvest Interval in 2005	late March to early November	
Type of Bearing	partially everbearing	

TABLE 3

REACTIONS TO STRESS PESTS AND DISEASES FOR 'DRISCOLL SAUSALITO', 'DRISCOLL LANAI' AND 'SAN JUAN'

	'Driscoll Sausalito'	'Driscoll Lanai'	'San Juan'
Reaction to Pests			
Tetranychus urticae	susceptible	susceptible	moderately susceptible
Lygus Hesperus	susceptible	susceptible	susceptible
Reaction To Diseases			
Botrytis fruit rot	susceptible	susceptible	susceptible
Powdery mildew	moderately resistant	susceptible	susceptible
Verticillium wilt	moderately resistant	moderately resistant	susceptible
Strawberry Mottle Virus	moderately resistant	moderately resistant	moderately resistant
Xanthomonas fragariae	moderately susceptible	moderately susceptible	moderately susceptible

ISOZYME ANALYSIS

In addition to the morphological description above, the new cultivar 'Driscoll Sausalito' has been analyzed to obtain an indication of its genetic makeup to provide further means for identifying the new variety and distinguishing it from other somewhat similar and/or related strawberry varieties. Specifically, leaf samples of 'Driscoll Sausalito', 'Driscoll Lanai' and 'San Juan' were analyzed by electrophoresis for isozyme patterns of the enzymes phosphoglucoisomerase ("PGI"), leucine aminopeptidase ("LAP") and phosphoglucomutase ("PGM"). See J. Amer. Soc. Hort. Sci. 106:684–687. Isozyme characterization of the three varieties is presented in Table 4, with the letters representing the banding patterns for each enzyme as designated in the above-identified article.

TABLE 4

ISOZYME ANALYSIS FOR 'DRISCOLL SAUSALITO', 'DRISCOLL LANAI' AND 'SAN JUAN'

Locus	'Driscoll Sausalito'	'Driscoll Lanai'	'San Juan'
PGI	A2	A1	A2
LAP	B3	B3	B3
PGM	C2	C2	C4

What is claimed:

1. A new and distinct variety of strawberry plant, substantially as shown and described.

* * * * *

FIG. 1

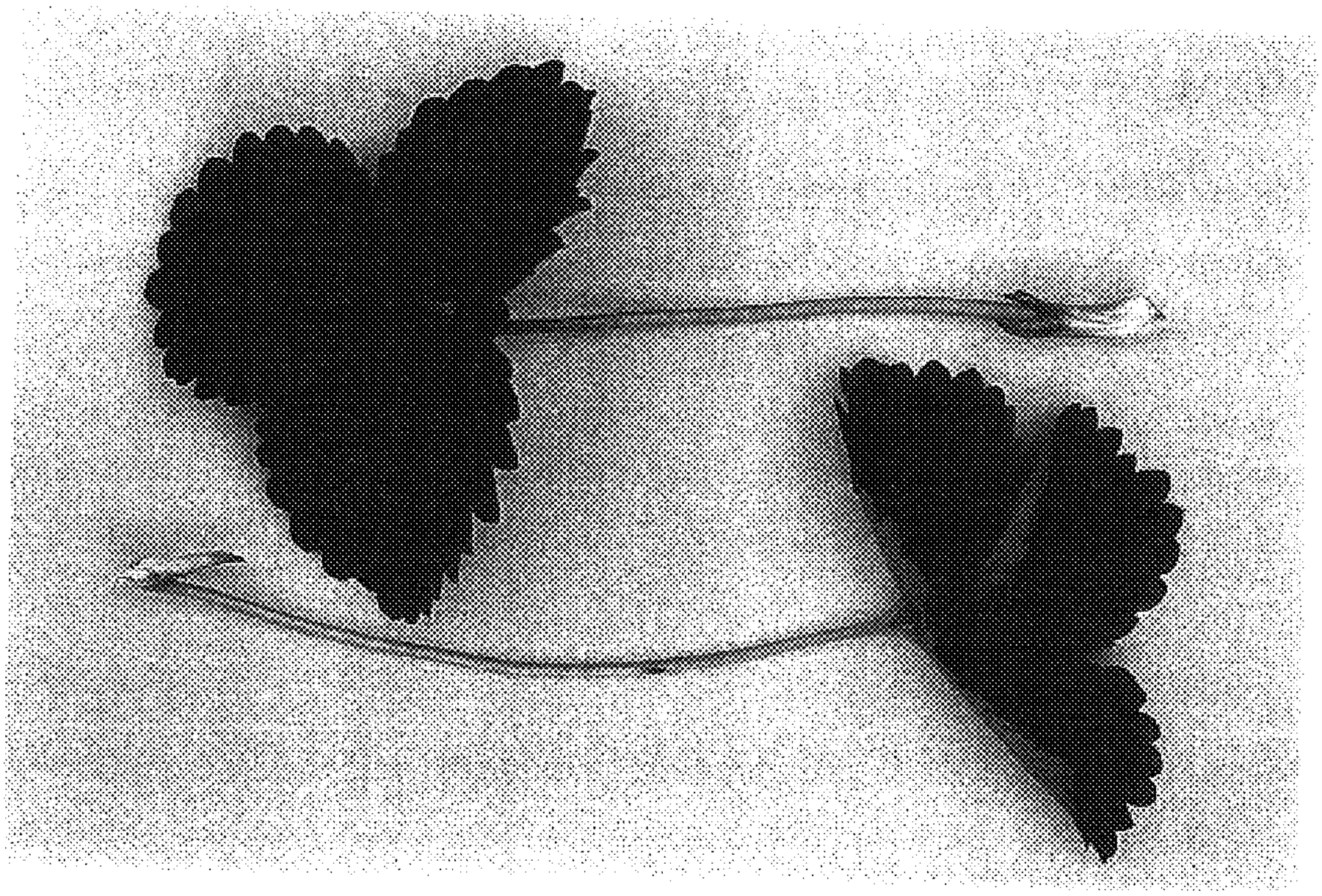

FIG. 2

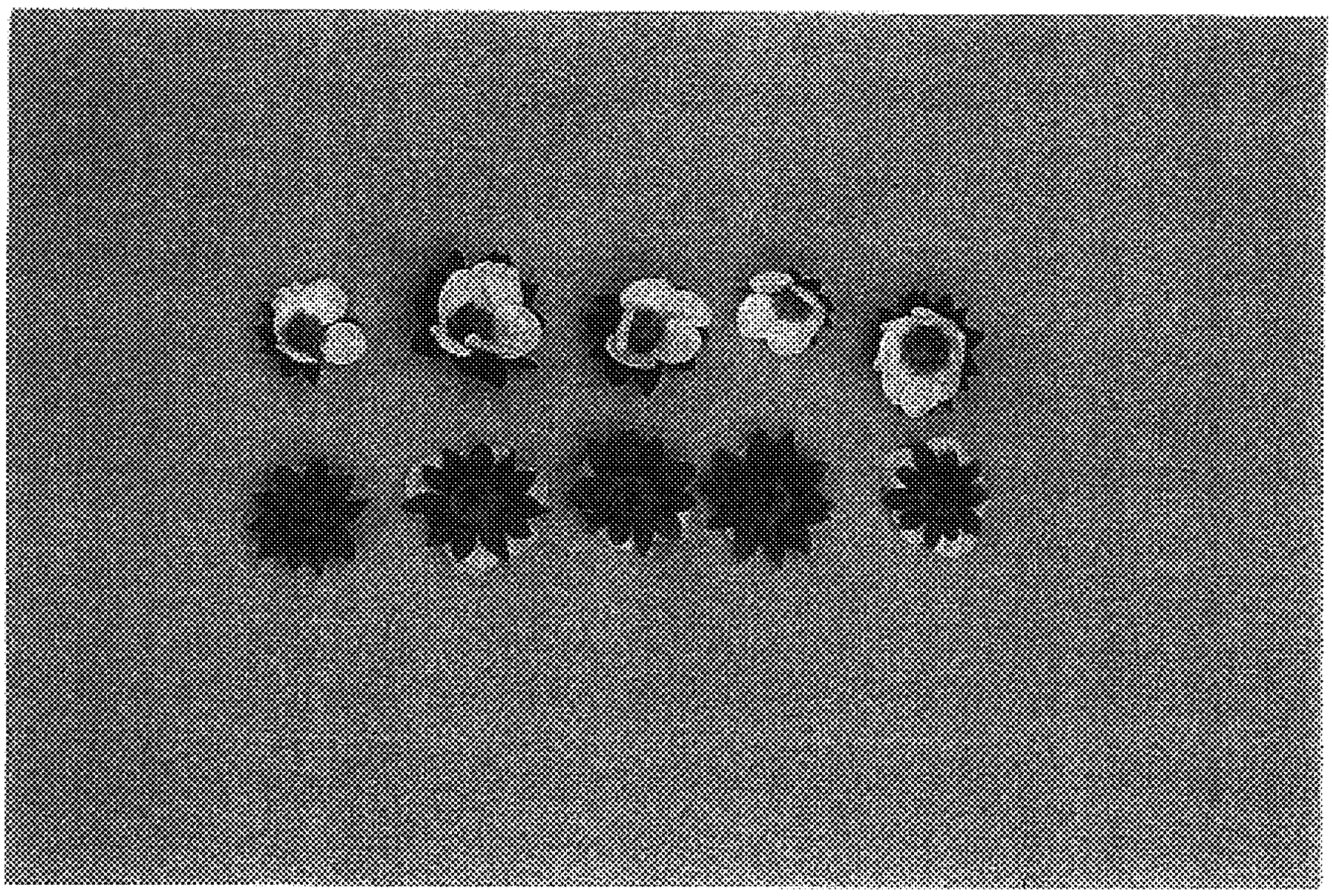

FIG. 3

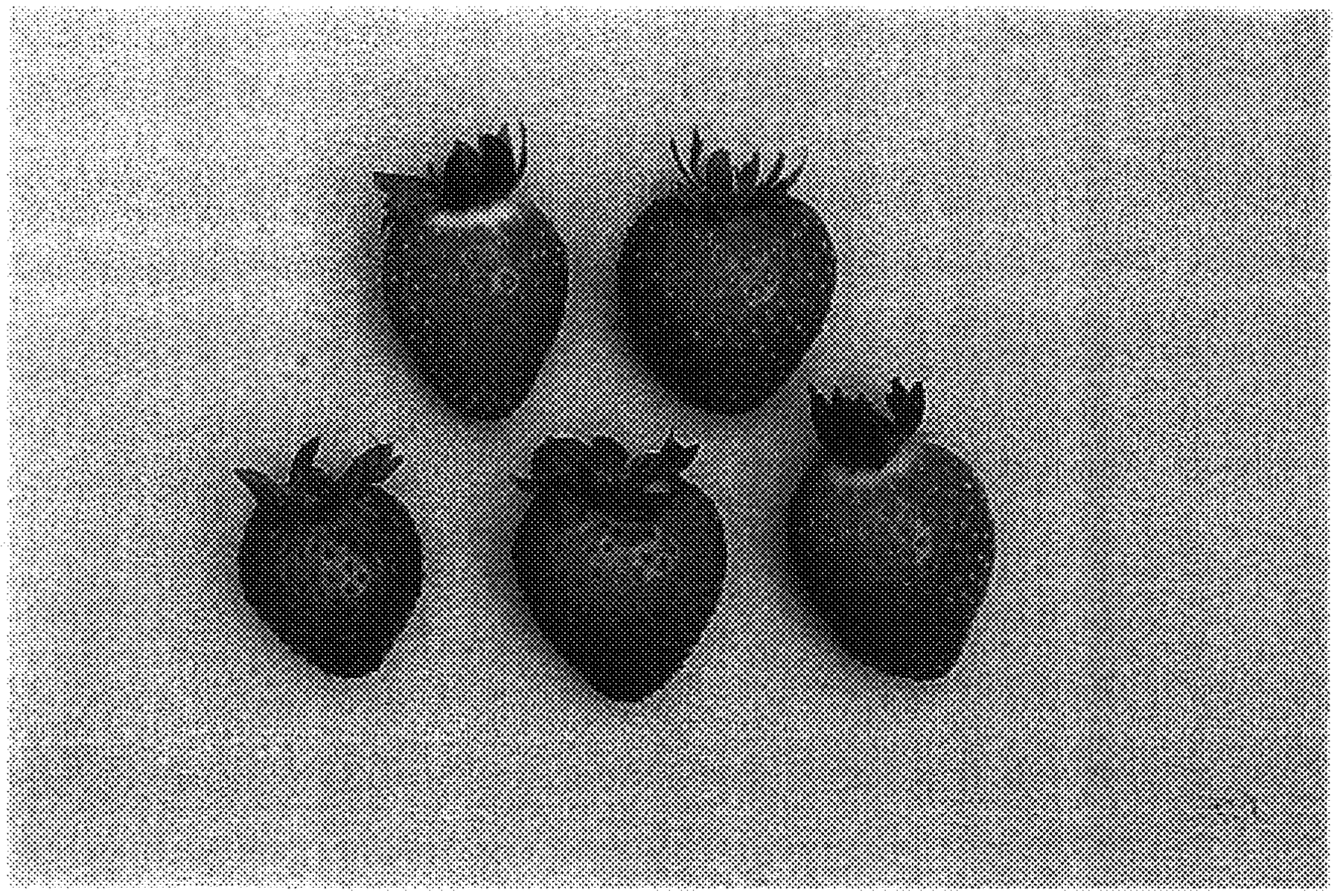

FIG. 4

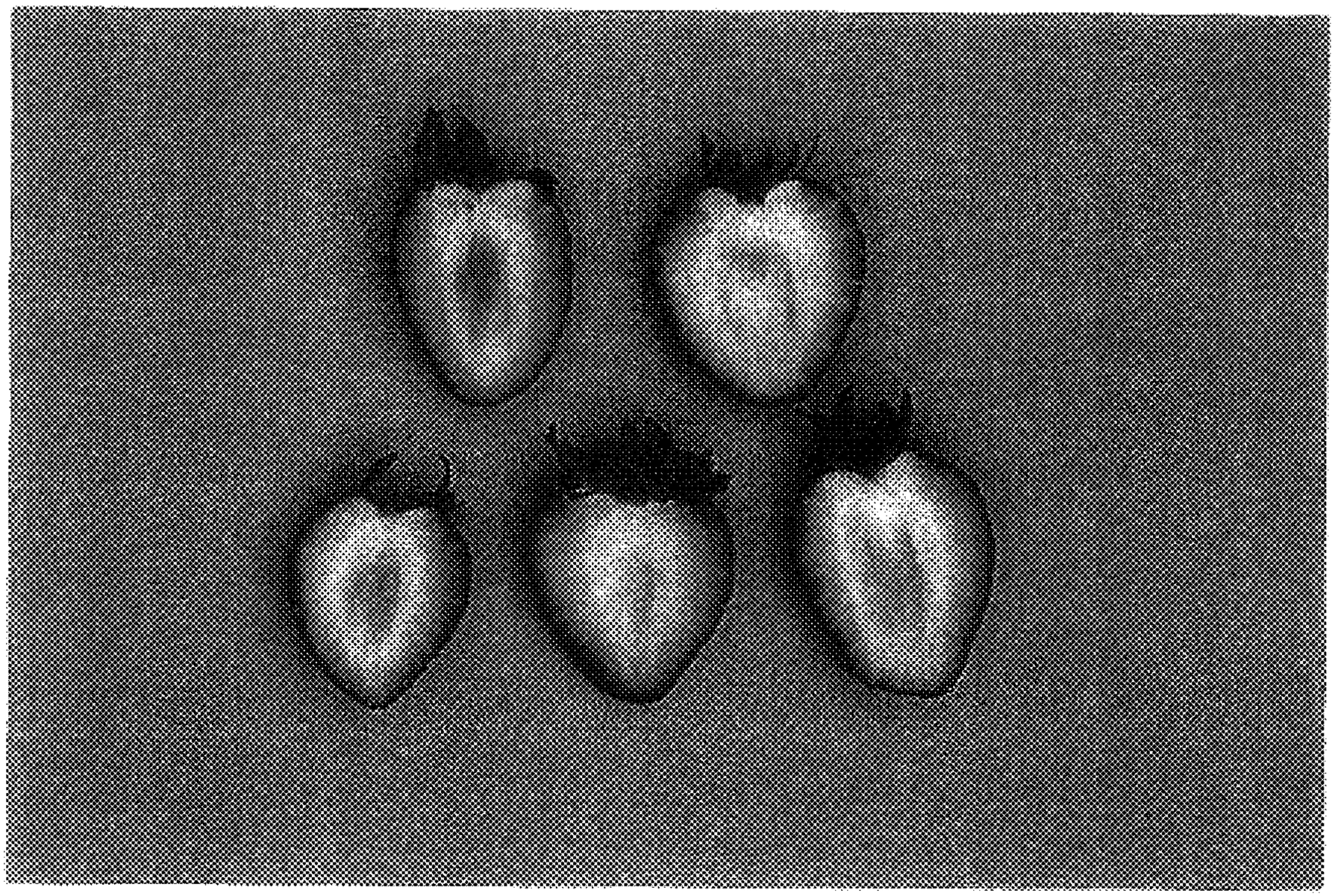

FIG. 5