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Mowrey et al.

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

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

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(57) **ABSTRACT**

This invention relates to a new and distinct variety of strawberry named 'Driscoll Marin'. The variety is similar to the varieties 'Ana Maria' and 'San Juan'. The variety is distinguished from 'Ana Maria' and 'San Juan', in particular, by its petiole color, achene coloration, growth habit and density, weak vigor, thick stolons, and inflorescence positioned above the foliage.

4 Drawing Sheets

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

BACKGROUND OF THE INVENTION

The new variety originated as a result of a controlled cross between the strawberry plants '67C253' (unpatented Driscoll variety) and 'Lido' (U.S. Plant Pat. No. PP10,534, issued Aug. 4, 1998) in an ongoing breeding program, and was discovered in a controlled breeding plot, in Monterey County, Calif. in May 1998. The original seedling was asexually propagated by stolons in a nursery in Shasta County, Calif. Propagules were transplanted to a controlled breeding plot in Ventura, County, Calif. where it was identified and selected for further evaluation. 'Driscoll Marin' was subsequently asexually propagated and underwent further testing at various locations in Monterey county, Calif. for two 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 Marin'. 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 and 2.

COMPARISON TO SIMILAR VARIETIES

The varieties which we believe to be similar to 'Driscoll Marin' from those known to use are 'Ana Maria' (U.S. Plant Pat. No. PP11,035, issued Aug. 17, 1999) and 'San Juan' (U.S. Plant Pat. No. PP12,899, issued Sep. 3, 2002). There are several characteristics of the new variety that are different from, or not possessed by 'Ana Maria', and 'San Juan'. The new variety has achene coloration that is greyed purple to yellow, weak interveinal blistering on leaves, and a revolute terminal leaflet margin.

'Driscoll Marin' differs from its parent '67C253' (unpatented Driscoll variety) in several characteristics, including, but not limited to, being adapted to Northern California climate, where '67C253' is adapted to a Southern California climate. 'Driscoll Marin' also exhibits superior fruit firmness in comparison to '67C253'. 'Driscoll Marin' differs from its patent 'Lido' (U.S. Plant Pat. No. PP10,534) in several characteristics, including, but not limited to, exhibiting intense red fruit flesh in comparison to the pale pink fruit flesh color of 'Lido'. 'Driscoll Marin' also has superior late season production in comparison to 'Lido'.

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. The plants of 'Driscoll Marin' characterized in the botanical descriptions and depicted in the figures were grown outdoors in an annual production system. Measurements were taken during the late summer in the second half of the production season.

FIG. **1** shows leaves of the plants with three leaflets.

FIG. **2** shows the upper side and under side of the flowers.

FIG. **3** shows a close-up of the strawberry.

FIG. **4** shows the strawberry in longitudinal cross-section

DESCRIPTION OF THE NEW VARIETY

The following detailed description of the new variety is based upon observations taken of plants and fruit grown in Monterey county, Calif., U.S.A. Observations of 'Driscoll Marin', 'Ana Maria' and 'San Juan' were taken in side by side comparison in 2002. This description is in accordance with UPOV terminology. Color designations, color descriptions, and other phenotypical descriptions may deviate from the stated values and description 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 in the secondary fruit on one year old plants. Fruit and flower measurements are an average of both primary and secondary fruit and flowers. In particular, the reproductive structures of 'Driscoll Marin' are fully self-fertile and typical of the species. Anther color is yellow, 13A, pistil color is yellow, 13A, and receptacle color is 150G, yellow green.

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

TABLE 1

QUANTITATIVE COMPARISON OF 'DRISCOLL MARIN', 'ANA MARIA', AND 'SAN JUAN'

	'Driscoll Marin'	'Ana Maria'	'San Juan'
Plant Characteristics			
Height of Plant (cm)	28.8	33.6	30.1
Spread of Plant (cm)	43.5	51.8	47.1
Number of Crowns	4.1	4.3	3.8
Leaf Characteristics			
Terminal Leaflet Length (cm)	8.0	9.8	8.3
Terminal Leaflet Width (cm)	7.8	9.5	7.9
Terminal Leaflet Length/Width Ratio	1.03	1.03	1.05
# Teeth/Terminal Leaflet	20.3	21.3	24.6
Color of upper side	medium to dark green 147A	medium green 147A	medium to dark green 147A
Color of under side	light green 147B	light green 148B	light green 147C
Petiole Length (cm)	18.1	20.7	19
Petiole Color	145A	145B	149A
Bract Frequency	58% typically paired	67% typically single	25% typically paired
Stipule Length (cm)	3.6	3.4	3.6
Stipule Width (cm)	1.10	1.07	1.11
Flower Characteristics			
Petal Length (cm)	1.16	1.29	1.05
Petal Width (cm)	1.09	1.22	1.10
Petal Length/Width Ratio	1.07	1.05	0.95
Flower Diameter (cm)	2.15	2.15	2.15
Calyx Diameter (cm)	2.85	3.07	2.91
Fruiting Truss Length (cm)	31.1	36.9	34.0

TABLE 1-continued

QUANTITATIVE COMPARISON OF 'DRISCOLL MARIN', 'ANA MARIA', AND 'SAN JUAN'

	'Driscoll Marin'	'Ana Maria'	'San Juan'
Petal Color (cm)	155D	155D	155C
Fruit Characteristics			
Fruit Length (cm)	4.26	3.99	4.33
Fruit Width (cm)	3.52	3.74	3.85
Fruit Length/Width Ratio	1.21	1.07	1.13
Average Berry Weight (g)	24.3	22.5	28.4
External Color	dark red 53A	red 46A	dark red 53A
Internal Color	red 45A	orange red 44B	red 44A
Average % brix	8.12	8.34	8.97
Brix/Acid Ratio	11.36	13.48	15.07
Achene Coloration	greyed purple to yellow 187B to 16A	dark red to yellow 46B to 16A	dark red to yellow 46B to 16A
Yield (g/plant)	1,349	1,504	1,225

TABLE 2

QUALITATIVE COMPARISON OF 'DRISCOLL MARIN', 'ANA MARIA' AND 'SAN JUAN'

	'Driscoll Marin'	'Ana Maria'	'San Juan'
Plant			
Habit	flat	globose to upright	globose to flat globose
Density	open	medium to open	medium
Vigor	weak	strong	medium
Leaf			
Shape in cross section	slightly concave	slightly concave to flat	flat to slightly convex
Interveinal blistering	weak	medium to strong	medium to strong
Glossiness	weak	medium	weak to medium
Number of leaflets	three only	three only	weak sometimes more than 3 leaflets (approx. 17% of leaves)
Terminal leaflet margin profile	revolute	flat	revolute to flat
Terminal leaflet shape of base	obtuse	rounded to oblique	obtuse to rounded
Terminal leaflet shape of teeth	obtuse	obtuse	rounded
Stipule pubescence	medium	sparse	medium
Petiole pubescence	medium	sparse	medium
Petiole pose of hairs	outward to downward	outward	outward to downward
Stolon			
Amount	medium to many	medium to many	medium to many
Anthocyanin coloration	medium	medium	strong
Thickness	thick	thin to medium	medium
Pubescence	medium	sparse to medium	medium

TABLE 2-continued

QUALITATIVE COMPARISON OF 'DRISCOLL MARIN', 'ANA MARIA' AND 'SAN JUAN'

	'Driscoll Marin'	'Ana Maria'	'San Juan'
Inflorescence			
Position relative to foliage	above	level to above	beneath to level with
Diameter of calyx relative to corolla on secondary flowers	same size to larger	smaller to same size	larger
Diameter of inner calyx relative to outer on secondary flowers	same size	smaller to same size	same size
Spacing of petals	free to touching	free to touching	overlapping
Fruiting Truss			
Attitude at first picking	prostrate	semi-erect	prostrate
Fruit			
Predominant shape	conical to almost cylindrical	conical	conical to almost cylindrical
Difference in shapes between primary and secondary fruits	marked with primaries being flattened and secondary fruit more conical	none to very slight	moderate
Band without achenes	very narrow to narrow	narrow to medium	narrow
Unevenness of surface	medium	weak	medium
Evenness of color uneven	even	even	even
Glossiness	strong	strong	very strong
Insertion of achenes	level with surface	level with surface	level with surface
Insertion of calyx	level	level with to set above	level
Pose of the calyx segments	spreading to reflexed	spreading	spreading to reflexed
Size of calyx in relation to fruit on secondary fruit	smaller	same size to larger	same size
Adherence of calyx	strong	weak to medium	strong
Firmness of flesh	firm	soft to medium	firm
Evenness of flesh color	slightly uneven	slightly uneven	slightly uneven to even
Distribution of flesh color	marginal and central	marginal and central	marginal and central
Hollow center size	medium	small	medium
Sweetness	medium	medium to strong	medium to strong
Texture when tasted	fine to medium	fine to medium	medium
Acidity	medium	medium	medium
Time of Flowering	late-March	early-March	early-March
Harvest Interval in 2002	late-April thru early-November	mid-April thru early-November	mid-April thru early-November
Type of Bearing	partially everbearing	partially everbearing	partially everbearing

STRESS PEST AND DISEASE RESISTANCE AND SUSCEPTIBILITY

TABLE 3

REACTIONS TO STRESS PESTS AND DISEASES FOR 'DRISCOLL MARIN', 'SAN JUAN' AND 'ANA MARIA'

	'MARIN'	'Ana Maria'	'San Juan'
Reaction to Stress			
high pH	moderately resistant	moderately resistant	moderately resistant
high soil salt levels	moderately resistant	moderately resistant	moderately resistant
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 susceptible	moderately susceptible	susceptible
Verticillium wilt	susceptible	susceptible	susceptible
Strawberry Mottle Virus	moderately resistant	moderately resistant	moderately resistant
Xanthomanas fragariae	susceptible	moderately susceptible	moderately susceptible

ISOZYME ANALYSIS

In addition to the morphological description above, the new cultivar 'Driscoll Marin' has been analyzed to obtain an indication of its genetic makeup to provide further means for identifying the new variety and distinguishing it from some other somewhat similar and/or related strawberry varieties. Specifically, leaf samples of 'Driscoll Marin', 'Ana Maria' 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 MARIN', 'ANA MARIA' AND 'SAN JUAN'

Locus	'Driscoll Marin'	'Ana Maria'	'San Juan'
PGI	A3	A1	A2
LAP	B3	B3	B3
PGM	C2	C4	C4

What is claimed is:

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

* * * * *

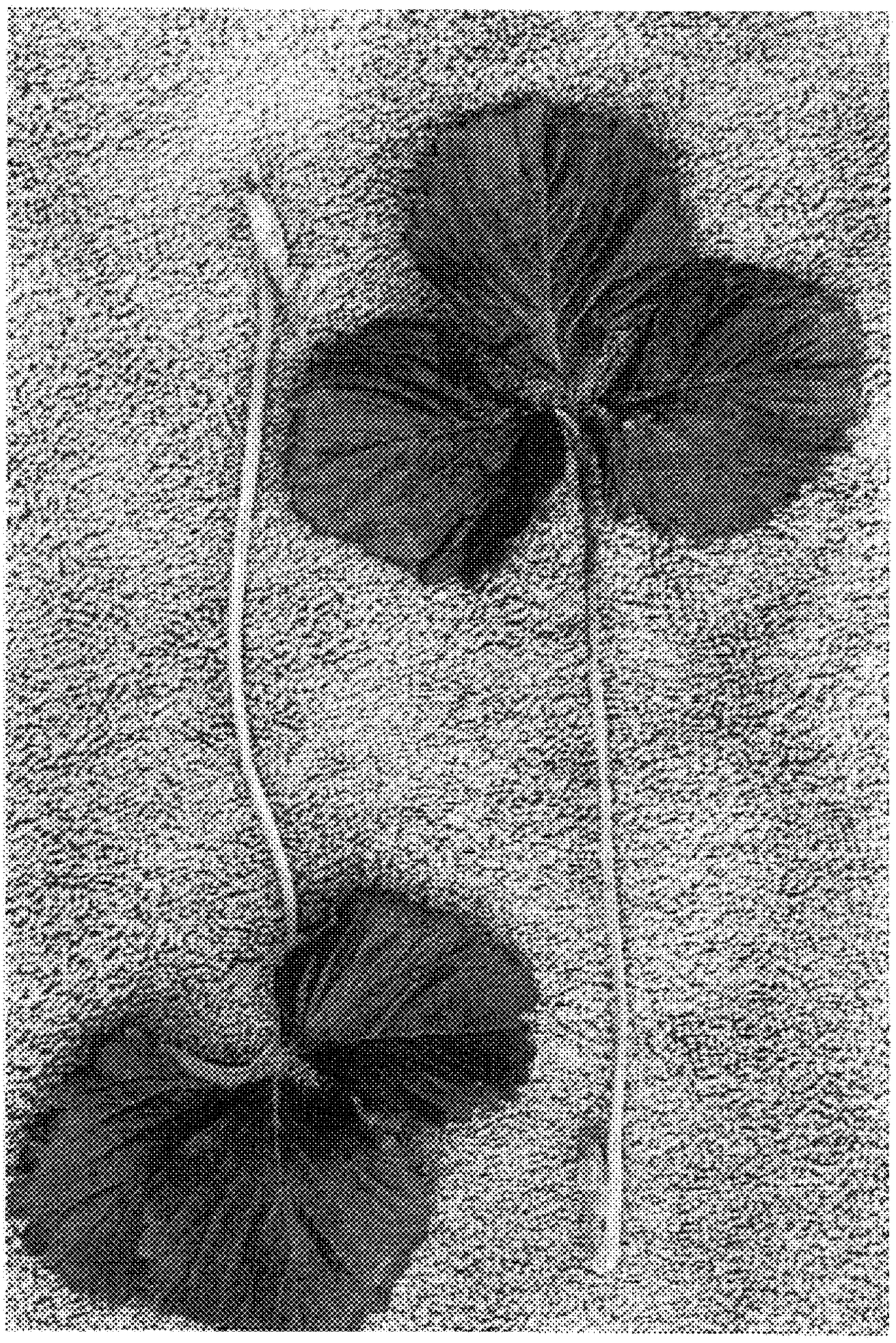

FIG. 1

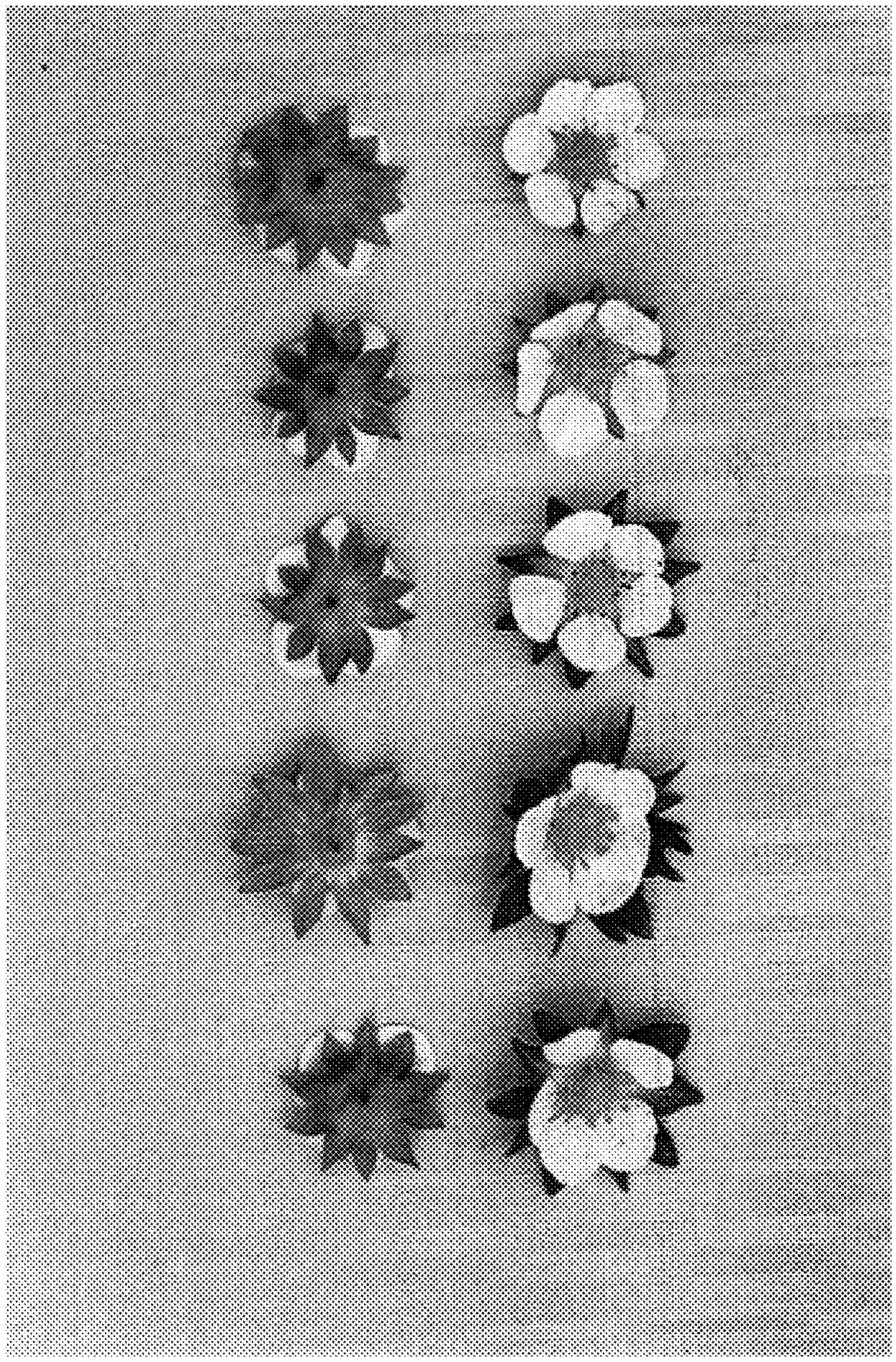

FIG. 2

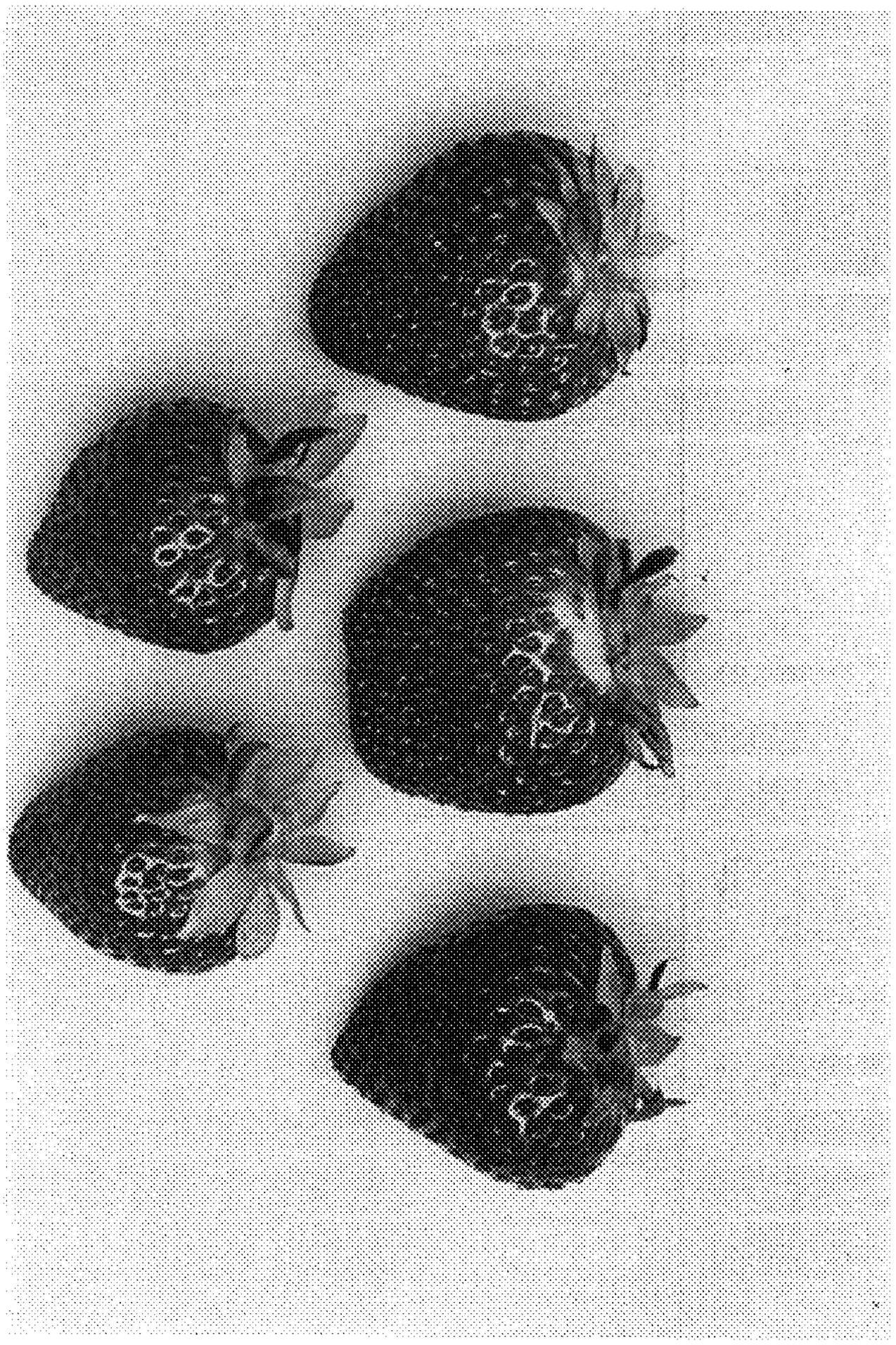

FIG. 3

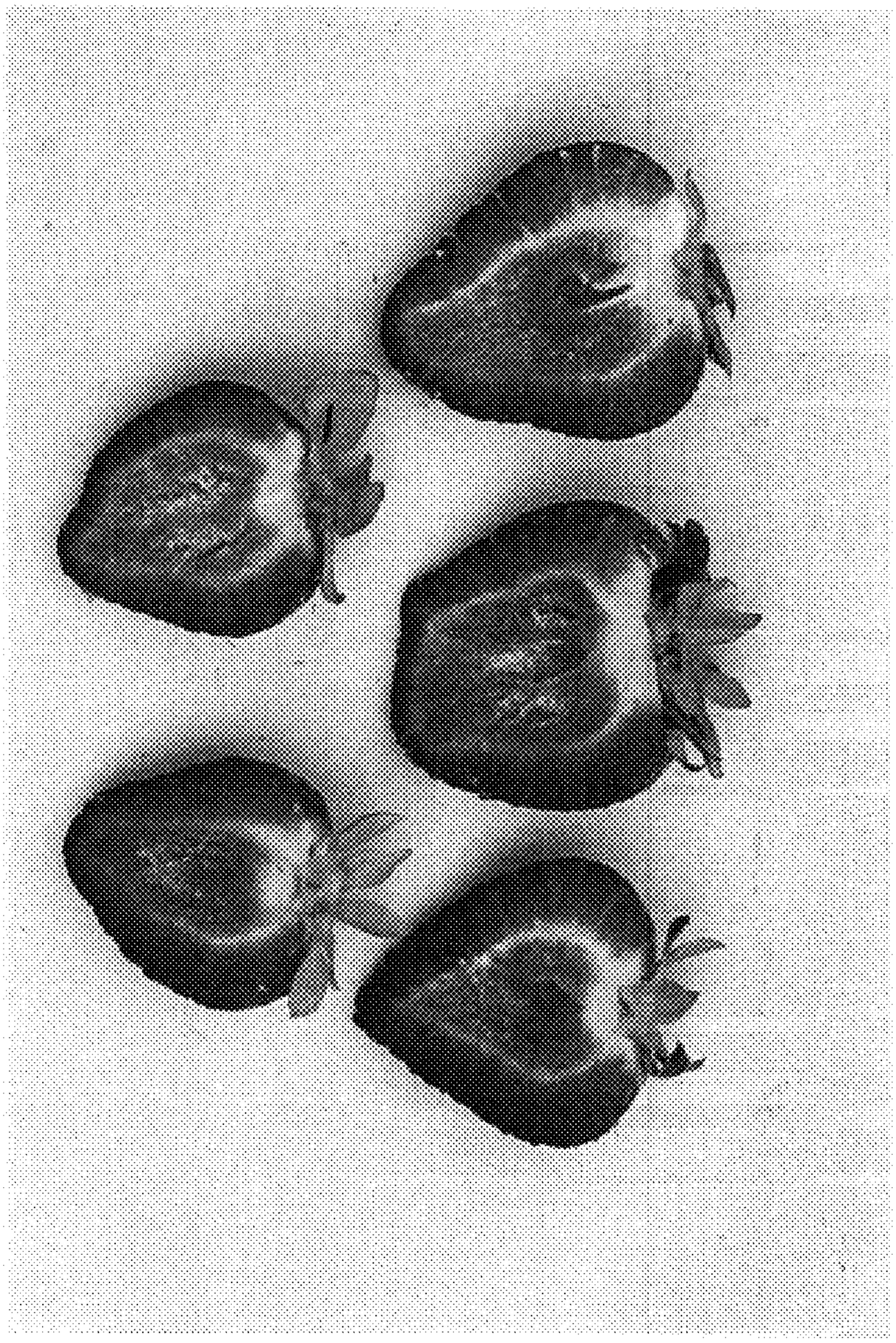

FIG. 4