



US00PP19583P3

(12) **United States Plant Patent**
Ackerman et al.

(10) **Patent No.:** **US PP19,583 P3**
(45) **Date of Patent:** **Dec. 23, 2008**

(54) **STRAWBERRY PLANT NAMED ‘PS-5298’**

(50) Latin Name: *Fragaria ananassa*
Varietal Denomination: **PS-5298**

(75) Inventors: **Stephen M. Ackerman**, Salinas, CA (US); **Steven D. Nelson**, Watsonville, CA (US); **Michael D. Nelson**, Watsonville, CA (US)

(73) Assignees: **Plant Sciences, Inc.**, Watsonville, CA (US); **Berry R&D, 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.: **11/710,528**

(22) Filed: **Feb. 26, 2007**

(65) **Prior Publication Data**

US 2008/0141404 P1 Jun. 12, 2008

Related U.S. Application Data

(60) Provisional application No. 60/853,002, filed on Oct. 20, 2006.

(51) **Int. Cl.**
A01H 5/00 (2006.01)

(52) **U.S. Cl.** **Plt./209**

(58) **Field of Classification Search** Plt./209
See application file for complete search history.

Primary Examiner—Annette H Para
Assistant Examiner—June Hwu

(74) *Attorney, Agent, or Firm*—Foley & Lardner, LLP

(57) **ABSTRACT**

This invention relates to a new and distinct variety of strawberry plant named ‘PS-5298’. This new strawberry plant named ‘PS-5298’ is primarily adapted to the growing conditions of the central coast of California, and is primarily characterized by its large plant size; medium to large fruit size; medium to red fruit color; spreading to reflexed calyx segments; medium to strong skin firmness; good fruit production with good flavor, medium green foliage with glossy texture and medium to strong interveinal blistering; and medium to large foliage, concave to flat in shape.

4 Drawing Sheets

1

Latin name of the genus and species of the plant claimed:
Fragaria ananassa.
Variety denomination: ‘PS-5298’.

BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct strawberry variety designated as ‘PS-5298’. This new variety is a result of a controlled cross made by the inventors, Stephen M. Ackerman, Steven D. Nelson, and Michael D. Nelson, in 1997 between strawberry variety ‘PS-592’ (patented, U.S. Plant Pat. No. 9,903) and strawberry variety designated ‘Aromas’ (patented, U.S. Plant Pat. No. 10,451). It is unknown as to which parent variety is the seed parent and which parent variety is the pollen parent. The variety is botanically known as *Fragaria ananassa*.

The seedling resulting from the aforementioned cross was asexually propagated by stolons in a nursery located in Siskiyou County, Calif., and was subsequently selected by the inventors from a controlled breeding plot in Salinas, Calif., in 1999. After its selection, the new variety was further asexually propagated by stolons in both Siskiyou County, Calif. and San Joaquin County, Calif. The new variety was extensively tested over the next several years in fruiting fields of Salinas, Calif. This propagation has demonstrated that the combination of traits disclosed herein as characterizing the new variety are fixed and remain true to type through successive generations of asexual reproduction.

BRIEF SUMMARY OF THE INVENTION

‘PS-5298’ is primarily adapted to the climate and growing conditions of the central coast of California. This region provides the necessary winter temperatures required for it to produce a strong vigorous plant and to remain in fruit pro-

2

duction from April through November. The nearby Pacific Ocean provides the needed humidity and moderate temperatures to maintain fruit quality during the spring and summer production months.

The following traits have been repeatedly observed and are determined to be unique characteristics of ‘PS-5298’, which in combination distinguish this strawberry plant as a new and distinct variety:

1. Large plant size;
2. Medium to large fruit size;
3. Medium to red fruit color;
4. Spreading to reflexed calyx segments;
5. Medium to strong skin firmness;
6. Good fruit production with good flavor;
7. Medium green foliage with glossy texture and medium to strong interveinal blistering; and
8. Medium to large foliage, concave to flat in shape.

The strawberry varieties that are believed to be most closely related to the new strawberry variety ‘PS-5298’ are the parental strawberry variety ‘PS-592’ (patented, U.S. Plant Pat. No. 9,903) and the strawberry variety ‘PS-1150’ (patented, U.S. Pat. No. 10,780).

In comparison to the similar strawberry varieties ‘PS-592’ and ‘PS-1150’, the new strawberry variety ‘PS-5298’ differs by the following combination of characteristics as described in Table 1:

TABLE 1

Characteristic	'PS-5298'	'PS-592' (U.S. Plant Pat. No. 9,903)	'PS-1150' (U.S. Plant Pat. No. 10,780)
1. Color of mature fruit	Red	Red to red orange	Red
2. Average fruit weight (gm)	23.5	23.1	17.6
3. Marketable yield (gm/plt)	1,362	1,392	1,010
4. Attitude of calyx	Spreading to reflexed	Spreading to reflexed	Spreading to collapsing
5. Firmness of skin	Medium to strong	Medium	Strong
6. Time of first harvest	Early	Early	Late
7. Plant size	Large	Large	Medium
8. Foliage color (upper side)	Medium green	Medium green	Medium green
9. Interveneal leaf blistering	Medium to strong	Medium to strong	Weak to medium
10. Foliage glossiness	Medium to strong	Strong	Weak
11. Foliage size	Medium to large	Large	Small
12. Fruiting truss position relative to foliage	Ranges from level with to beneath	Ranges from level with to beneath	Above

In comparison to the parental strawberry variety 'Aromas', the new strawberry variety 'PS-5298' differs by the following combination of characteristics:

- 'PS-5298' is partially remontant while 'Aromas' is day-neutral;
- the shape of the foliage in cross section for 'PS-5298' is slightly concave to flat while 'Aromas' is mostly flat to convex;
- the insertion of the achenes for 'PS-5298' is level with the surface of the fruit while 'Aromas' is below the surface of the fruit; and
- the firmness of the fruit flesh for 'PS-5298' ranges from medium to firm while 'Aromas' is very firm.

For identification a series of AFLP molecular markers have been determined for this new variety.

BRIEF DESCRIPTIONS OF THE DRAWINGS

The accompanying color photographs illustrate the overall appearance of typical specimens of the new strawberry variety 'PS-5298', at various stages of development as true as it is reasonably possible with color reproductions of this type. Color in the photographs may differ slightly from the color value cited in the botanical description which accurately describe the color of 'PS-5298'. The depicted plant and plant parts of the new strawberry variety 'PS-5298' were taken in Salinas, Calif., and are approximately 8 to 9 months old.

FIG. 1 shows typical fruiting field characteristics taken in the month of June, 2006;

FIG. 2. shows a close-up view of typical leaf structure taken in the month of June, 2006;

FIG. 3 shows typical mature and immature field fruit taken in the month of June, 2006; and

FIG. 4 shows a close-up view of fruit taken in the month of July, 2006.

DETAILED BOTANICAL DESCRIPTION

'PS-5298' has not been observed under all possible environmental conditions. The characteristics of the new variety may vary in detail, depending upon variations in environmental factors, including weather (temperature, humidity and light intensity), day length, soil type and location.

The aforementioned photographs, together with the following description of the new variety 'PS-5298', unless otherwise noted, is based on observations taken during the 2006 growing season in Salinas, Calif. These measurements and ratings were taken from plants of 'PS-5298' dug from a high-elevation nursery located in Siskiyou County, Calif., during the middle of October 2005 and planted approximately 3 weeks later in Salinas, Calif. The approximate age of the observed plants is 7 to 10 months. Yield observations and fruit quality characteristics are averaged from four years of data collected from the 2003 through 2006 growing seasons. Flower measurements and characteristics are from secondary flowers unless otherwise noted. Fruit characteristics and measurements are from secondary fruit unless otherwise noted.

Color terminology where noted follows the Munsell Book of Colors, Munsell Color, Baltimore, Md. (1976).

The following Tables 2–8 describe fruit, plant, stolon, foliage, fruiting truss, flower and pest/disease characteristics of the new strawberry 'PS-5298' in comparison to the similar strawberry varieties 'PS-592' and 'PS-1150'.

TABLE 2

Characteristic	FRUIT CHARACTERISTICS		
	'PS-5298'	'PS-592' (U.S. Plant Pat. No. 9,903)	'PS-1150' (U.S. Plant Pat. No. 10,780)
Color of mature fruit	7.5R 3/10 to 4/10 Red	7.5R 3/12 to 4/12 Red to orange red	7.5R 4/10 to 3/8 Red
Color of internal flesh	7.5R 4/10 to 4/12 Medium red	7.5R 5/10 to 4/10 Light red	7.5R 4/10 to 4/12 Medium red
Length (cm)	4.9	4.8	4.2
Width (cm)	4.3	4.3	3.7
Ratio length/width	1.15	1.13	1.14
	Slightly longer than broad	Slightly longer than broad	Slightly longer than broad
Calyx diameter (cm)	5.0	5.0	4.2
Average weight (gm)	23.5	23.1	17.6
Size	Medium to large	Medium to large	Small
Achene color	5Y 6/8 to 7.5R 3/8	5Y 6/8 to 7.5R 3/8	5Y 6/8 to 7.5R 3/8
Achenes per berry	285	304	293
Achene weight (mg)	0.64	0.61	0.56
Marketable yield (gm/plt)	1,362	1,392	1,010
Predominant shape	Conical	Conical	Conical
Difference in shapes between primary and secondary fruit	Moderate	Moderate	Slight
Band without achenes	Absent or very narrow	Absent or very narrow	Absent or very narrow
Unevenness of surface	Weak	Weak	Absent or very weak
Evenness of color	Slightly uneven to even	Slightly uneven to even	Even
Glossiness	Medium to strong	Medium to strong	Strong

TABLE 2-continued

Characteristic	FRUIT CHARACTERISTICS		
	'PS-5298'	'PS-592' (U.S. Plant Pat. No. 9,903)	'PS-1150' (U.S. Plant Pat. No. 10,780)
Insertion of achenes	Level with surface	Level with surface	Level with surface
Insertion of calyx	Ranges from level with to above fruit	Ranges from level with to above fruit	Ranges from level with to above fruit
Attitude of the calyx	Spreading to reflexed	Spreading to reflexed	Spreading to collapsing
Size of calyx in relation to fruit diameter	Slightly larger	Slightly larger	Slightly larger
Adherence of calyx	Strong	Strong	Strong
Firmness of skin	Medium to strong	Medium	Strong
Firmness of flesh	Medium to firm	Medium	Medium to firm
Distribution of red color of the flesh	Marginal and central	Marginal and central	Marginal and central
Hollow center expression	Moderate	Moderate to strong	Moderate to strong
Flavor	Good	Very good	Fair
Soluble solids (% brix)	8.0	8.0	7.4
Time of first flowering	Early	Early	Late
Time of first harvesting	Early	Early	Late
Harvest period	Late March to early December	Late March to early December	Mid April to early December
Type of bearing	Partially remontant	Partially remontant	Partially remontant

TABLE 3

Characteristic	PLANT CHARACTERISTICS		
	'PS-5298'	'PS-592' (U.S. Plant Pat. No. 9,903)	'PS-1150' (U.S. Plant Pat. No. 10,780)
Height (cm)	30.8	31.0	30.0
Spread (cm)	36.8	35.1	28.8
Crowns/plant	5.3	5.0	5.0
Size	Large	Large	Medium
Habit	Globose	Globose	Globose
Density	Medium	Medium to open	Medium
Vigor	Strong	Strong	Medium

TABLE 4

Characteristic	STOLON CHARACTERISTICS		
	'PS-5298'	'PS-592' (U.S. Plant Pat. No. 9,903)	'PS-1150' (U.S. Plant Pat. No. 10,780)
Average number per plant fruiting field	1.1 Few to medium	1.2 Few to medium	0.8 Few
Anthocyanin coloration	7.5R 5/6 to 6/6	7.5R 5/6 to 5/4	7.5R 4/6 to 5/6
Anthocyanin intensity	Weak	Medium	Medium to strong
Diameter at bract (mm)	4.7 Thick	4.4 Thick	4.2 Medium
Pubescence	Medium to strong	Medium	Medium to strong

TABLE 5

Characteristic	FOLIAGE CHARACTERISTICS		
	'PS-5298'	'PS-592' (U.S. Plant Pat. No. 9,903)	'PS-1150' (U.S. Plant Pat. No. 10,780)
<u>Foliage:</u>			
Color of upper surface	7.5GY 4/4 to 3/4 Medium green	7.5GY 4/4 Medium green	7.5GY 4/4 to 3/4 Medium green
Color of under side	5GY 5/4 to 6/4 Light grey green	5GY 5/4 to 6/4 Light grey green	5GY 5/4 to 6/4 Light grey green
Petiole length (cm)	23.1	21.1	19.0
Petiole diameter (mm)	3.8	4.7	3.1
Petiolule length (mm)	14.0	15.7	9.3
Stipule length (mm)	20.7	20.8	14.5
Stipule width (mm)	8.3	8.5	8.4
Size bract leaflets	Small	Small to medium	Small
Shape in cross section	Slightly concave to flat	Slightly concave	Slightly concave to slightly convex
Interveinal blistering	Medium to strong	Medium to strong	Weak to medium
Glossiness	Medium to strong	Strong	Weak
Number of leaflets	3	3	3 to 4
Petiole pubescence	Moderate to sparse	Moderate to sparse	Moderate to sparse
Petiole attitude of hairs	Strongly outward	Strongly outward	Strongly outward
Stipule anthocyanin coloration	Weak	Medium	Absent or very weak
Stipule anthocyanin color	10RP 4/10 to 4/12 Red purple	10RP 4/8 to 4/10 Red purple	10RP 5/6 to 5/8 Red purple
Petiole color	5GY 7/6 to 7/8 Medium yellow green	5GY 7/6 to 7/8 Medium yellow green	5GY 7/6 to 7/8 Medium yellow green
Petiolule color	5GY 7/6 to 7/8 Light to medium green	5GY 7/6 to 7/8 Light to medium green	5GY 7/6 to 7/8 Light to medium green
Stipule color	5GY 5/6 to 6/6 Light to medium green	5GY 5/6 to 6/6 Light to medium green	5GY 7/6 to 7/8 Light to medium green
Bract leaves color	7.5GY 4/4 to 3/4 Medium green	7.5GY 4/4 to 3/4 Medium green	7.5GY 4/4 to 3/4 Medium green
<u>Terminal Leaflet:</u>			
Length (cm)	9.3	9.5	7.2
Width (cm)	7.6	8.0	6.4
Length/width ratio	1.22	1.19	1.13
	Much longer than broad	Much longer than broad	Longer than broad
Serrations/leaf	20.4	20.7	19.3
Size	Medium to large	Large	Small
Shape of base	Acute	Acute	Obtuse
Shape of teeth	Obtuse	Obtuse	Obtuse

TABLE 6

Characteristic	FRUITING TRUSS CHARACTERISTICS		
	'PS-5298'	'PS-592' (U.S. Plant Pat. No. 9,903)	'PS-1150' (U.S. Plant Pat. No. 10,780)
Length (cm)	37.4	37.3	38.1
Position relative to foliage	Ranges from level with to	Ranges from level with to beneath	Above the foliage

TABLE 6-continued

FRUITING TRUSS CHARACTERISTICS			
Characteristic	'PS-5298'	'PS-592' (U.S. Plant Pat. No. 9,903)	'PS-1150' (U.S. Plant Pat. No. 10,780)
	beneath the foliage	the foliage	
Pubescence	Medium	Medium	Medium
Anthocyanin intensity	Light	Light	Moderate
Anthocyanin color	10RP 4/10 to 5/10 Red purple	10RP 4/10 to 5/10 Red purple	10RP 4/8 to 4/10 Red purple
Attitude at first pick	Prostrate	Prostrate	Prostrate

TABLE 7

FLOWER CHARACTERISTICS			
Characteristic	'PS-5298'	'PS-592' (U.S. Plant Pat. No. 9,903)	'PS-1150' (U.S. Plant Pat. No. 10,780)
Petal color	N9.5/90.0%R to N9.25/84.2%R White	N9.5/90.0%R to N9.25/84.2%R White	N9.5/90.0%R to N9.25/84.2%R White
Corolla diameter (mm)	32.3 Large	30.6 Medium	30.5 Medium
Calyx diameter (mm)	39.9	38.8	34.0
Petal length (mm)	12.4	12.1	12.5
Petal width (mm)	12.6	11.5	10.8
Petal length/width ratio	0.98	1.05	1.15
Petals/flower	5.9	6.0	6.2
Sepal length (mm)	16.0	15.7	13.1
Sepal width (mm)	6.2	6.2	5.4
Sepal length/width ratio	2.57	2.54	2.42
Sepals/flower	11.8	11.9	12.4

TABLE 7-continued

FLOWER CHARACTERISTICS			
Characteristic	'PS-5298'	'PS-592' (U.S. Plant Pat. No. 9,903)	'PS-1150' (U.S. Plant Pat. No. 10,780)
Sepals color	5GY 4/6 to 5/6 Medium green	5GY 4/6 to 5/6 Medium green	5GY 4/6 to 5/6 Medium green
Size of calyx relative to corolla	Larger	Larger	Larger
Size of inner calyx relative to outer calyx	Ranges from same size to smaller	Ranges from same size to smaller	Ranges from same size to smaller
Relative position of petals	Overlapping	Overlapping	Overlapping

TABLE 8

PEST AND DISEASE REACTIONS			
Characteristic	'PS-5298'	'PS-592' (U.S. Plant Pat. No. 9,903)	'PS-1150' (U.S. Plant Pat. No. 10,780)
Two spotted spider mite	Moderately susceptible	Moderately susceptible	Moderately susceptible
Lygus bug	Susceptible	Susceptible	Susceptible
Flower thrips	Moderately susceptible	Moderately susceptible	Moderately susceptible
Powdery mildew	Moderately susceptible	Moderately susceptible	Moderately susceptible
Botrytis fruit rot	Moderately Susceptible	Moderately susceptible	Moderately susceptible
Angular leaf spot	Moderately susceptible	Moderately susceptible	Moderately susceptible
Virus complex	Unknown	Unknown	Unknown

We claim:

1. A new and distinct strawberry plant named 'PS-5298', as herein described and illustrated by the characteristics set forth above.

* * * * *

FIG. 1



FIG. 2



FIG. 3

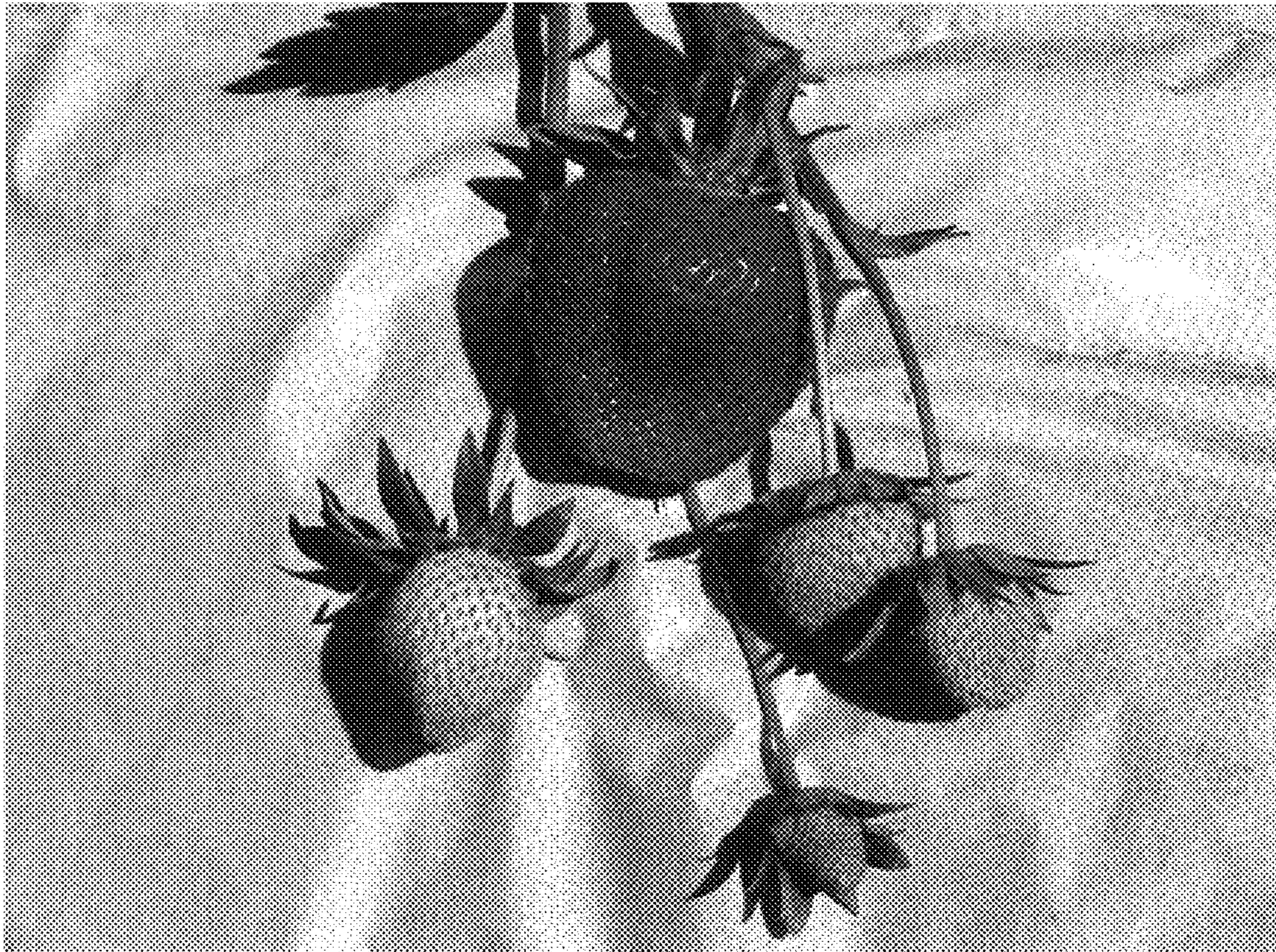


FIG. 4

