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Ackerman et al.

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(54) **STRAWBERRY PLANT NAMED 'VALOR'**

(50) Latin Name: ***Fragaria ananassa***
Varietal Denomination: **VALOR**

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See application file for complete search history.

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(57) **ABSTRACT**

This invention relates to a new and distinct variety of strawberry plant named 'VALOR'. This new strawberry plant named 'VALOR' is primarily adapted to the growing conditions of the central coast of California, and is primarily characterized by its medium plant size; medium to large fruit; red to dark red fruit color; strong fruit skin firmness; medium to dark green foliage; good fruit flavor; medium sized foliage and short fruiting trusses.

5 Drawing Sheets

Latin name of the genus and species of the plant claimed: *Fragaria ananassa.*

Variety denomination: 'VALOR'.

BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct strawberry variety named 'VALOR'. This new variety is a result of a controlled cross made in 2001 in an ongoing breeding program between strawberry variety designated 'PS-1269' (patented, U.S. Plant Pat. No. 10,686) and the unpatented strawberry breeding line designated 'PS-3003'. It is unknown as to which strawberry parent is the seed parent and which strawberry parent is the pollen parent. The variety is botanically known as *Fragaria ananassa.*

The seedling resulting from the aforementioned cross was selected from a controlled breeding plot in Ventura County, Calif. in the fall of 2003. After its selection, the new variety was asexually propagated by stolons in a nursery located in San Joaquin County, Calif. The new variety was extensively tested over the next several years in Ventura County, 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

'VALOR' is primarily adapted to the climate and growing conditions of the central coast of California. The nearby Pacific Ocean provides the needed humidity and moderate temperatures to produce a strong vigorous plant and maintain fruit quality during the fall production months.

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

1. Medium plant size;
2. Medium to large fruit size;
3. Red to dark red fruit color;
4. Strong fruit skin firmness;
5. Medium to dark green foliage color;
6. Good fruit flavor;
7. Medium sized foliage; and
8. Short fruiting trusses.

The new strawberry variety 'VALOR' differs from the parental strawberry varieties 'PS-1269' (patented, U.S. Plant Pat. No. 10,686) and the unpatented strawberry breeding line 'PS-3003', by the following characteristics:

1. Type of bearing: 'VALOR' is everbearing while 'PS-1269' is partial everbearing and 'PS-3003' is everbearing;
2. Firmness of the skin: 'VALOR' is strong while 'PS-1269' is medium and 'PS-3003' is strong;
3. Fruit color: 'VALOR' is red to dark red while 'PS-1269' is red and 'PS-3003' is orange red to red; and
4. Plant vigor: 'VALOR' is medium while 'PS-1269' is medium to large and 'PS-3003' is medium.

The strawberry variety that is believed to be most closely related to the new strawberry variety 'VALOR' is 'PS-2880' (patented, U.S. Plant Pat. No. 15,597). In comparison to the similar strawberry variety 'PS-2880', the new strawberry variety 'VALOR' differs by the following combination of characteristics as described in Table 1:

TABLE 1

Characteristic	'VALOR'	'PS-2880' (U.S. Plant Pat. No. 15,597)
1. Average fruit weight (gm)	23.3	20.7

TABLE 1-continued

Characteristic	'VALOR'	'PS-2880' (U.S. Plant Pat. No. 15,597)
2. Marketable yield (gm/plt)	566	457
3. Unevenness of fruit surface	Weak	Medium to strong
4. Insertion of achenes	Level with to below the surface	Above the surface
5. Attitude of calyx	Spreading	Spreading to reflexed
6. Firmness of the skin	Strong	Medium
7. Plant size	Medium	Medium to large
8. Average number of stolons	Medium	Few
9. Foliage color (upper surface)	Medium to dark green	Light to medium green
10. Interveinal leaf blistering	Medium	Medium to strong
11. Foliage size	Medium	Medium to large
12. Fruiting truss length (cm)	20.5	27.1

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

BRIEF DESCRIPTIONS OF THE PHOTOGRAPHS

The accompanying color photographs illustrate the overall appearance of typical specimens of the new strawberry variety 'VALOR', 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 'VALOR'. The depicted plant and plant parts of the new strawberry variety 'VALOR' were taken in Ventura County, Calif., and are approximately 3 to 4 months old.

FIG. **1** shows typical fruiting field characteristics of 'VALOR' taken in the month of October 2007.

FIG. **2** shows a close-up view of a typical leaf structure of 'VALOR' taken in the month of November 2007.

FIG. **3** shows typical mature and immature field fruit of 'VALOR' taken in the month of October 2007.

FIG. **4** shows a close-up view of mature fruit of 'VALOR' taken in the month of October 2007.

FIG. **5** shows typical internal and external mature fruit characteristics of 'VALOR' taken in the month of October 2007.

DETAILED BOTANICAL DESCRIPTION

'VALOR' 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 'VALOR', unless otherwise noted, is based on observations taken during the 2007 growing season in Ventura County, Calif. These measurements and ratings were taken from plants of 'VALOR' dug from a low-elevation nursery located in San Joaquin County, Calif., during late January 2007 and planted approximately 6 months later in Ventura County, Calif. The approximate age of the observed plants is 3 to 4 months. Yield observations and fruit quality characteristics are averaged from four years of data collected from the 2004 through 2007 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 'VALOR' in comparison to the similar strawberry variety 'PS-2880' (patented, U.S Plant Pat. No. 15,597).

TABLE 2

FRUIT CHARACTERISTICS

Characteristic	'VALOR'	'PS-2880' (U.S. Plant Pat. No. 15,597)
Color of mature fruit	7.5R 3/8 to 4/10 Red to dark red	7.5R 4/8 to 3/8 Red
Color of internal flesh	7.5R 3/12 to 4/12 Red to dark red	7.5R 3/12 to 4/12 Red to dark red
Color of fruit core	7.5R 4/10 to 4/12 Red	7.5R 4/12 to 5/12 Red
Length (cm)	4.3	4.7
Width (cm)	3.8	3.6
Ratio length/ width	1.13 Slightly longer than broad	1.29 Slightly longer than broad
Calyx diameter (cm)	4.9	5.2
Average weight (gm)	23.6	20.7
Achene color	5Y 5/6 to 7.5R 3/8	5Y 6/8 to 7.5R 3/8
Achenes per berry	406	364
Achene weight (mg)	0.48	0.53
Marketable yield (gm/plt)	566	457
Size	Medium to large	Medium
Predominant shape	Conical	Conical to wedged
Difference in shapes between primary and secondary fruit	Slight to moderate	Moderate
Band without achenes	Absent or very narrow	Absent or very narrow
Unevenness of surface	Weak	Medium to strong
Evenness of color	Even	Even to slightly uneven
Glossiness	Medium to strong	Medium to strong
Insertion of achenes	Level with to below the surface	Above the surface
Insertion of calyx	In the basin	In the basin to level
Attitude of the calyx	Spreading	Spreading to reflexed
Size of calyx in relation to fruit diameter	Slightly larger	Slightly larger
Adherence of calyx	Strong	Weak
Firmness of skin	Strong	Medium
Firmness of flesh	Firm	Firm
Distribution of red color of the flesh	Marginal and central	Marginal and central
Hollow center expression	Absent or very weak	Strong to moderate
Flavor	Good	Fair to good

TABLE 2-continued

FRUIT CHARACTERISTICS

Characteristic	'VALOR'	'PS-2880' (U.S. Plant Pat. No. 15,597)
Soluble solids (% brix)	8.0	7.7
Time of first flowering	Early to medium	Early to medium
Time of first harvesting	Early to medium	Early to medium
Harvest period	Late September to mid December	Late September to mid December
Type of bearing	Everbearing	Everbearing
Keeping quality	Very good	Good

TABLE 3

PLANT CHARACTERISTICS

Characteristic	'VALOR'	'PS-2880' (U.S. Plant Pat. No. 15,597)
Height (cm)	22.2	26.4
Spread (cm)	35.1	35.8
Size	Medium	Medium to large
Habit	Globose	Globose
Density	Medium	Medium
Vigor	Medium	Medium to strong

TABLE 4

STOLON CHARACTERISTICS

Characteristic	'VALOR'	'PS-2880'(U.S. Plant Pat. No. 15,597)
Average stolon number per plant from the fruiting field	6.1 Medium to few	5.3 Few
Anthocyanin coloration	7.5R 4/8 to 5/8	7.5R 4/6 to 5/6
Anthocyanin intensity	Medium to weak	Medium
Diameter at bract (mm)	3.2 Medium to thick	3.3 Medium to thick
Pubescence	Strong	Strong

TABLE 5

FOLIAGE CHARACTERISTICS

Characteristic	'VALOR'	'PS-2880' (U.S. Plant Pat. No. 15,597)
Foliage:		
Color of upper surface	7.5GY 2/4 to 3/4 Medium to dark green	7.5GY 3/4 to 4/4 Light to medium green
Color of under side	5GY 5/4 to 6/4 Light grey green	5GY 5/4 to 6/4 Light grey green
Shape in cross section	Slightly concave to flat	Slightly concave to flat
Interveinal blistering	Medium	Medium to strong
Glossiness	Medium	Medium to strong
Number of leaflets	Three	Three

TABLE 5-continued

FOLIAGE CHARACTERISTICS

Characteristic	'VALOR'	'PS-2880' (U.S. Plant Pat. No. 15,597)
Terminal Leaflet:		
Length (cm)	8.5	10.3
Width (cm)	8.6	8.8
Length/width ratio	0.98	1.18
Serrations/ leaf	20.3	22.9
Size	Medium	Medium to large
Shape of base	Obtuse	Acute
Shape of teeth	Obtuse	Obtuse
Petiole:		
Length (cm)	14.8	13.9
Diameter (mm)	4.1	4.3
Color of petiole	5GY 5/6 to 6/6 Yellow green	5GY 7/6 to 7/8 Yellow green
Petiolule length (mm)	14.3	15.3
Color of petiolule	5GY 5/6 to 6/6 Yellow green	5GY 7/6 to 7/8 Yellow green
Pubescence	Sparse	Moderate
Attitude of hairs	Slightly outward	Slightly outward
Stipule:		
Length (mm)	24.9	26.3
Width (mm)	11.6	9.2
Anthocyanin coloration	Weak 10RP 4/10 to 4/12 Red purple	Weak 7.5RP 5/10 to 5/12 Red purple
Color of stipule	2.5GY 4/4 to 4/6 Medium green	2.5GY 4/6 to 5/6 Medium to light green

TABLE 6

FRUITING TRUSS CHARACTERISTICS

Characteristic	'VALOR'	'PS-2880' (U.S. Plant Pat. No. 15,597)
Length (cm)	20.5	27.1
Position relative to foliage	Level with	Level with
Pubescence	Medium to strong	Medium
Anthocyanin intensity	Very light to none 5R 4/8 to 5/8 Greyed red	Light 2.5R 5/6 to 6/6 Greyed red
Attitude at first pick	Prostrate	Prostrate

TABLE 7

FLOWER CHARACTERISTICS

Characteristic	'VALOR'	'PS-2880' (U.S. Plant Pat. No. 15,597)
Petal color	N 9.5/90.0% R to 9.25/84.2% R White	N 9.5/90.0% R to 9.25/84.2% R White
Sepal color	7.5GY 4/4 to 3/4 Green	7.5GY 4/4 to 3/4 Green
Corolla diameter (mm)	32.5 Medium to large	33.6 Medium to large
Calyx diameter (mm)	40.9	34.1
Petal length (mm)	12.5	13.0

TABLE 7-continued

FLOWER CHARACTERISTICS

Characteristic	'VALOR'	'PS-2880' (U.S. Plant Pat. No. 15,597)
Petal width (mm)	12.7	13.8
Petal length/width ratio	0.99	0.95
Petals/flower	5.7	6.5
Sepal length (mm)	15.6	12.3
Sepal width (mm)	6.9	4.4
Sepal length/width ratio	2.25	2.78
Sepals/flower	11.7	12.3
Size of calyx relative to corolla	Larger	Same size to larger
Size of inner calyx relative to outer calyx	Smaller	Smaller
Relative position of petals	Touching to overlapping	Overlapping

TABLE 8

PEST AND DISEASE REACTIONS

Characteristic	'VALOR'	'PS-2880' (U.S. Plant Pat. No. 15,597)
Two spotted spider mite	Moderately susceptible	Moderately susceptible
Lygus bug	Susceptible	Susceptible
Flower thrips	Moderately susceptible	Moderately susceptible
Powdery mildew	Susceptible	Susceptible
Botrytis fruit rot	Moderately susceptible	Moderately susceptible
Angular leaf spot	Moderately susceptible	Susceptible

We claim:

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

* * * * *

FIG. 1

FIG. 2

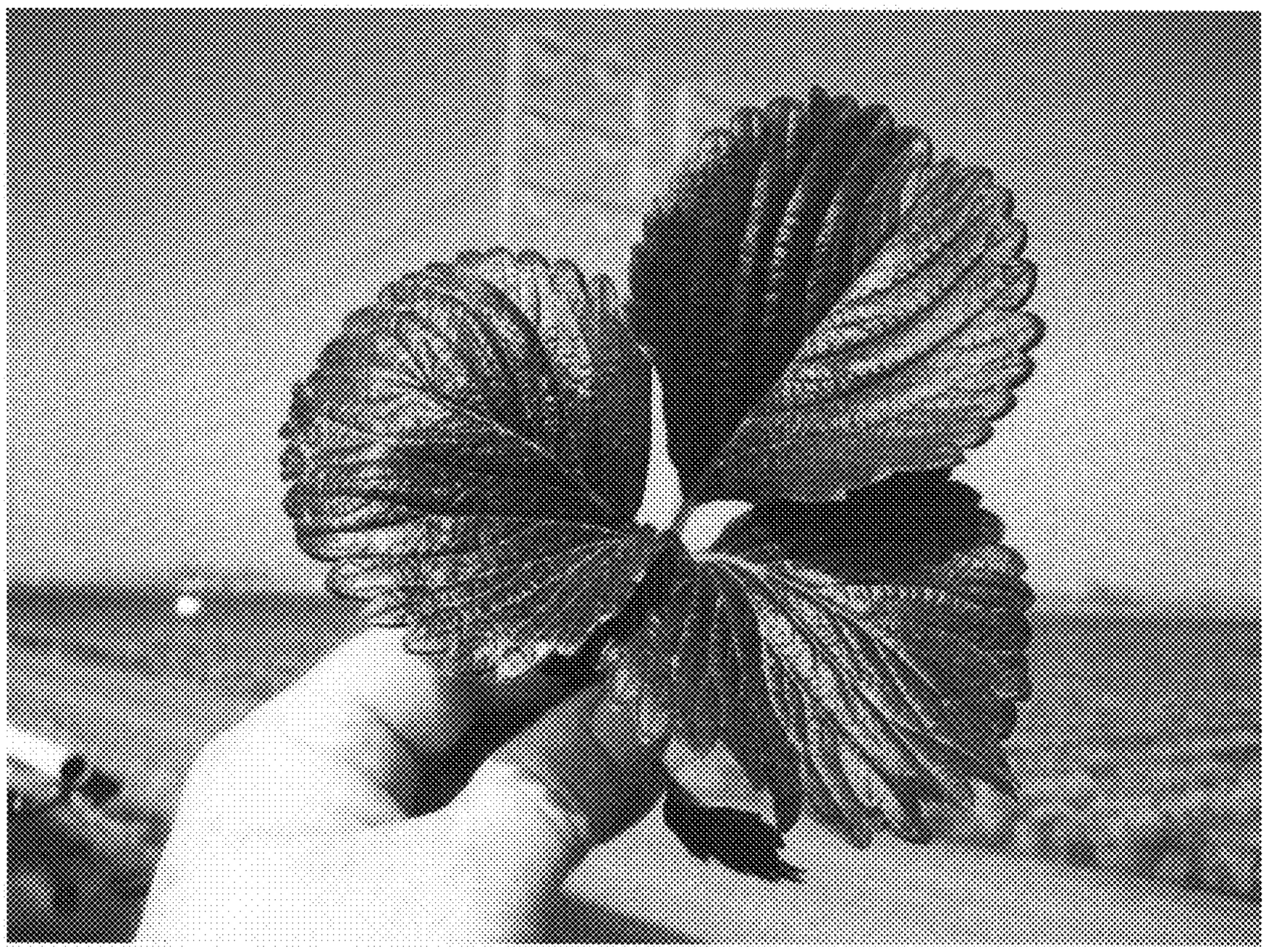

FIG. 3

FIG. 4

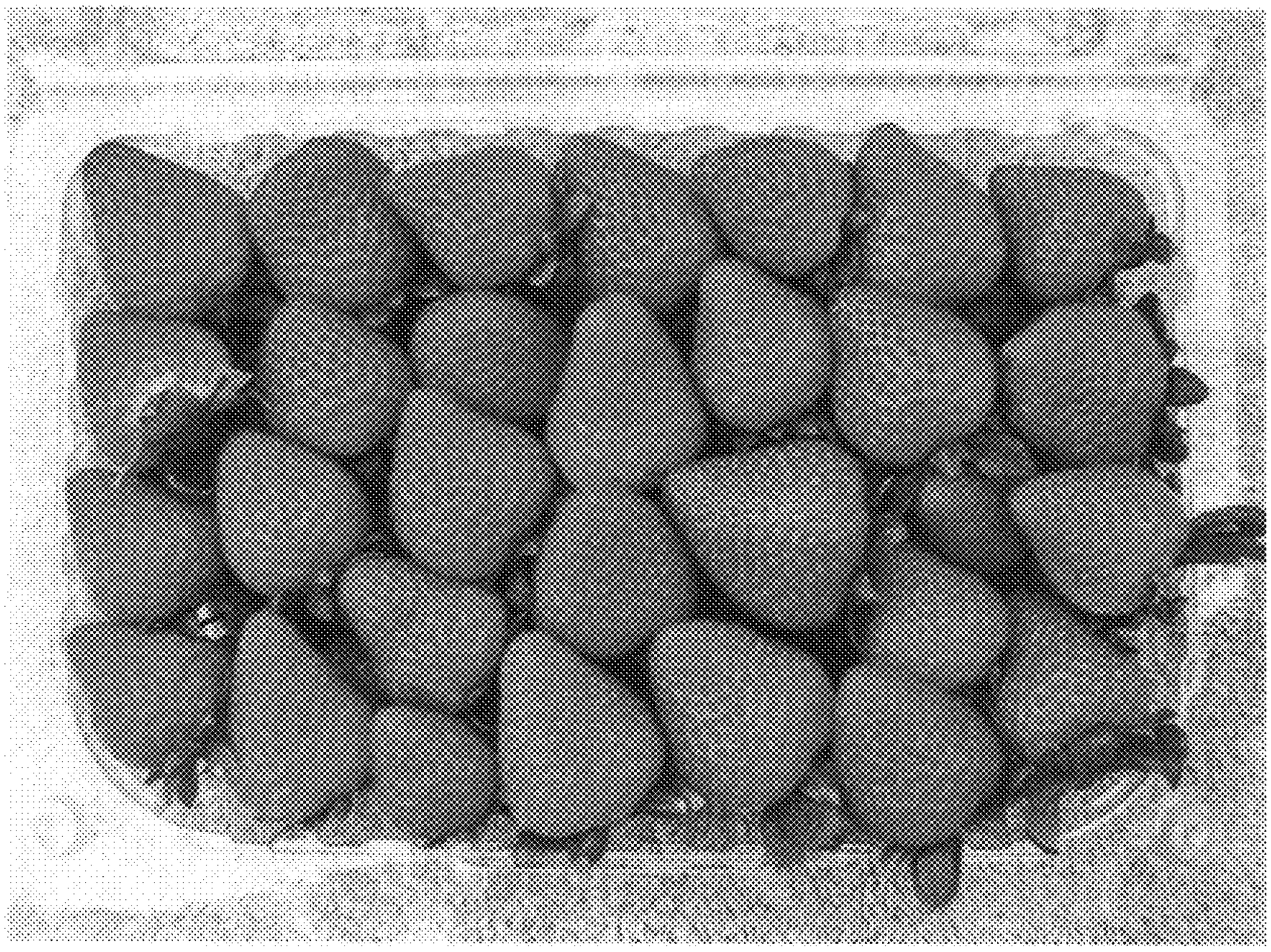

FIG. 5