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Testolin et al.

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(54) **KIWI PLANT NAMED 'SORELI'**

(50) Latin Name: ***Actinidia chinensis* Planchon**
Varietal Denomination: **Soreli**

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(57) **ABSTRACT**

A new female tetraploid kiwifruit plant, *Actinidia chinensis,* named 'Soreli'. The new variety results from a controlled cross made using tetraploid *A. chinensis* 'A137' as seed-parent and *A. chinensis* 'A134.41' as pollen donor. 'Soreli' bears single flowers; the fruit is large (118 g on average), oblong, circular in cross section with a reddish brown skin and a brilliant yellow flesh; core is small. Fruit taste sweet, acidity is low. Fruit are harvested earlier than both 'Jintao' and 'Hayward'. Bud break occurs 6 and 8 days before 'Jintao' and 'Hayward' respectively and flowering time occurs 2 and 9 days before 'Jintao' and 'Hayward' respectively in Udine (46° 02' N, 13° 13' E; 88 m asl) where the comparative observations were carried out. Fruit has medium storage life (up to 3-4 months).

7 Drawing Sheets

Genus and species: *Actinidia chinensis* Planchon.
Variety denomination: 'Soreli'.

BACKGROUND OF THE NEW VARIETY

The invention relates to a new variety of kiwifruit plant (*Actinidia chinensis* Planchon) named 'Soreli.' The new variety produces fruit for the fresh market, as well as for food products such as juice, jam, wine, spirits, fortified food, nutraceuticals and beauty products.

'Soreli' originated in the course of a plant breeding program initiated in May 1997 at the University of Udine, Italy by crossing 3 female by 6 male breeding lines, according to a North Carolina Model 2 cross design.

Seeds of fruit obtained from the controlled crosses were extracted in the winter of 1997-1998 and sowed in the spring of 1998. Plants were transplanted in the open field in the winter of 1998-1999. Some 108 seedlings were grown for each controlled cross.

Fruits were observed beginning in 2002, and after several years of field observations, storage and sensory evaluation, 'Soreli' was selected from the cross family Ac171 (A137× A134.41) with the code Ac171.76.

Field trials in different growing areas started in 2005 with grafted plants. Propagation was also successfully tested through rooted cuttings and tissue culture, and observations done on regenerated plants bearing fruit confirmed that the new material comes true to the original genotype.

The original plant is still maintained in collection at the experimental farm of University of Udine.

BRIEF SUMMARY OF THE INVENTION

'Soreli' is a new kiwifruit plant obtained as the result of a controlled cross made using the female *A. chinensis* 'A137' as

seed-parent and the male *A. chinensis* 'A134.41' as pollen donor. 'A137' has unknown parentage and 'A134.41' originated from a selection of seeds introduced from the Guangdong province of China in 1993. Both parents ('A137' and 'A134.41') are unpatented breeding lines held at the *Actinidia* germplasm repository of the University of Udine, Italy.

'Soreli' is different from all kiwifruit varieties described up to now in the western literature and in the Chinese literature for which illustrations of the fruit and an English caption are available. It is distinguishable from the most similar variety ('Jintao', not patented) by the following characteristics:

1. Larger, more rounded fruit.
2. More brilliant brown skin colour.
3. Slightly earlier bud break and bloom dates.
4. Earlier maturity date.

DESCRIPTION OF THE DRAWINGS

The illustrations include photographs of 'Soreli' and of 'Jintao', the commercial variety that most resembles 'Soreli' and to which 'Soreli' is compared in the following botanical description.

FIGS. **1***a* and **1***b* show the whole plant of 'Soreli' and 'Jintao', respectively.

FIGS. **2***a* and **2***b* show the shoot of 'Soreli' and 'Jintao', respectively.

FIGS. **3***a* and **3***b* show the leaves of 'Soreli' and 'Jintao', respectively.

FIGS. **4***a* and **4***b* show flowers on the vine of 'Soreli' and 'Jintao', respectively.

FIGS. **5***a* and **5***b* show flowers of 'Soreli' and 'Jintao', respectively.

FIGS. **6***a* and **6***b* show fruit on the vine of 'Soreli' and 'Jintao', respectively.

FIGS. **7***a* and **7***b* show fruit of 'Soreli' and 'Jintao', respectively, in profile and in cross section.

DETAILED BOTANICAL DESCRIPTION

The following is a detailed botanical description of 'Soreli,' based on observations made during the 2009 growing season at Udine, Italy. It should be understood that the botanical and analytical characteristics described will vary somewhat depending upon cultural practices and climatic conditions, and can vary with location and season. Color descriptions are made with reference to The Royal Horticultural Society Colour Chart. Quantified measurements are expressed as an average of measurements taken from a number of individual plants of the new variety. The measurements of any individual plant, or any group of plants, of the new variety may vary from the stated average.

Descriptors and terminology are in accordance with the UPOV technical guidelines for kiwifruit, adopted by the European Community Plant Variety Office in its technical questionnaire (http://www.cpvo.europa.eu/). Traits of 'Jintao' are reported for comparison in the last column when significantly different.

TABLE 1

	'Soreli'	'Jintao'
Plant: sex	female	
Ploidy	tetraploid	
Plant: vigor	weak	medium
Young shoot: hairiness	present	
Young shoot: density of hair	medium	dense
Young shoot: type of hairiness	velutinous	downy
Young shoot: anthocyanin coloration of growing tip	absent/very weak	
Stem: coloration of leaf axil	purple brown 200B	
Stem: diameter	12.8 mm	
Stem: length	29.8 mm	
Stem: dormant bud diameter	8.1 mm	
Stem: color on upper side of shoot	purple brown 200B	
Stem: colour of shoot on sunny side	purple brown 200B	red brown
Stem: roughness of bark	smooth	
Stem: hairiness	absent	
Stem: size of lenticels	narrow & long, 5.3 mm	variable
Stem: number of lenticels	Few, 6.8 per cm^2	
Stem: colour of lenticels	White 155A	
Stem: size of bud support	medium to large, 12.4 mm	
Stem: presence of bud cover	absent	
Stem: size of hole in bud cover	Large, 5.2 mm	
Stem: leaf scar	shallow	deep
Leaf blade: shape	very broad ovate	
Leaf blade: length	168 mm	
Leaf blade: width	174 mm	
Leaf blade: shape of apex	acuminate	
Leaf blade: arrangement of basal lobes	slightly overlapping	touching each other
Leaf blade: hair on upper side	absent/very sparse	
Leaf blade: hair on lower side	medium	
Leaf blade: colour of upper side	green 137A	
Leaf blade: colour of lower side	green 139C	
Petiole: length	101 mm	
Petiole: diameter	5 mm	
Petiole: color	greyed-purple 185B	
Petiole: anthocyanin coloration of upper side	strong	weak
Inflorescence: predominant no. of flowers	1	
Flower stalk: length	Long, 101 mm	
Flower: number of sepals	>5	

TABLE 1-continued

	'Soreli'	'Jintao'
Sepal: general colour	Green 141D	
Sepal: length	9.2 mm	
Sepal: diameter	4.8 mm	
Flower: diameter	Large, 37.5 mm	
Flower: arrangement of petals	touching	
Petal: length	18.7 mm	
Petal: width	13.4 mm	
Petal: curvature of apex	weakly expressed	
Petal: type of coloration (adaxial side)	single-coloured	bicoloured
Petal: main colour on adaxial side	yellowish white 155D	white
Petal: different shades of colour	absent	
Petal: distribution of colour	lighter towards apex	
Anther: colour	Yellow 6A	
Styles: quantity	many	
Styles: attitude	both erect and horizontal	
Fruit: size	large	medium
Fruit: length	58 mm	
Fruit: diameter	45 mm	
Fruit: general shape	oblong	
Fruit: shape in cross section (at median)	circular	
Fruit: general shape of stylar end	slightly depressed	flat
Fruit: presence of calyx ring	weakly expressed	
Fruit: shape of shoulder at stalk end	squared	
Fruit: length of stalk	Long, 47 mm	
Fruit: diameter of stalk	3 mm	
Fruit: persistence of sepals	absent	
Fruit: colour of skin	greyed-orange 172A	brown
Fruit: hairiness of skin	present	
Fruit: density of hair	very sparse	
Fruit: distribution of hairs	evenly spread	
Fruit: colour of hairs	greyed-orange 163A	
Fruit: adherence of hairs to skin (when rubbed)	strong	
Fruit: colour of skin at maturity for consumption	greyed-orange 172A	brown
Fruit: colour of lenticels	Greyed-orange 166C	
Fruit: length of lenticels	0.8 mm	
Fruit: width of lenticels	0.5 mm	
Fruit: colour of outer pericarp	yellow 4A	
Fruit: colour of inner pericarp (locules)	yellow 12A	
Fruit: diameter of core relative to fruit	Small	
Fruit: general shape of core (in cross section)	Oblate	
Fruit: colour of core	yellow white 155C	
Fruit: sweetness	High	
Fruit: acidity	Low	medium
Time of vegetative bud burst	medium	
Time of beginning of flowering	Medium	
Time of maturity for harvest	Early	Medium
Fruit storage life	medium (up to 3 to 4 months)	

Information reported below relates to observations made at the experimental farm of the University of Udine (46° 02' N, 13° 13' E; 88 m asl) during the years 2002-2008 (data are means±std dev).

TABLE 2

Trait	'Soreli'	'Jintao'	'Hayward' (not patented)
bud break	March 15 ± 13	March 21 ± 8	March 23 ± 8
flowering time (50% open flowers)	May 12 ± 9	May 14 ± 8	May 23 ± 8
harvesting time (>7% SSC) (*)	October 10 ± 8	October 11 ± 5	November 02 ± 7

TABLE 2-continued

Trait	'Soreli'	'Jintao'	'Hayward' (not patented)
fruit weight (g) at harvest	118 ± 13	95 ± 6	109 ± 6
fruit firmness (kg/cm2) at harvest	4.8 ± 1.9	6.8 ± 0.5	8.2 ± 0.8
fruit SSC (%) at harvest	11.1 ± 1.9	8.1 ± 0.7	6.7 ± 0.5
fruit SSC at maturity	14.5 ± 1.8	15.3 ± 0.9	13.4 ± 1.3

(*) Hayward was harvested at lower SSC content (>6.2 %) because of the risk of frost

We claim:

1. We claim a new and distinct kiwifruit plant of the species *A. chinensis* (tetraploid) substantially as described and illustrated herein, characterized by yellow sweet flesh and brilliant brown fruit skin, large fruit size, oblong fruit shape with a slightly depressed stylar end.

* * * * *

FIG. 1A

FIG. 1B

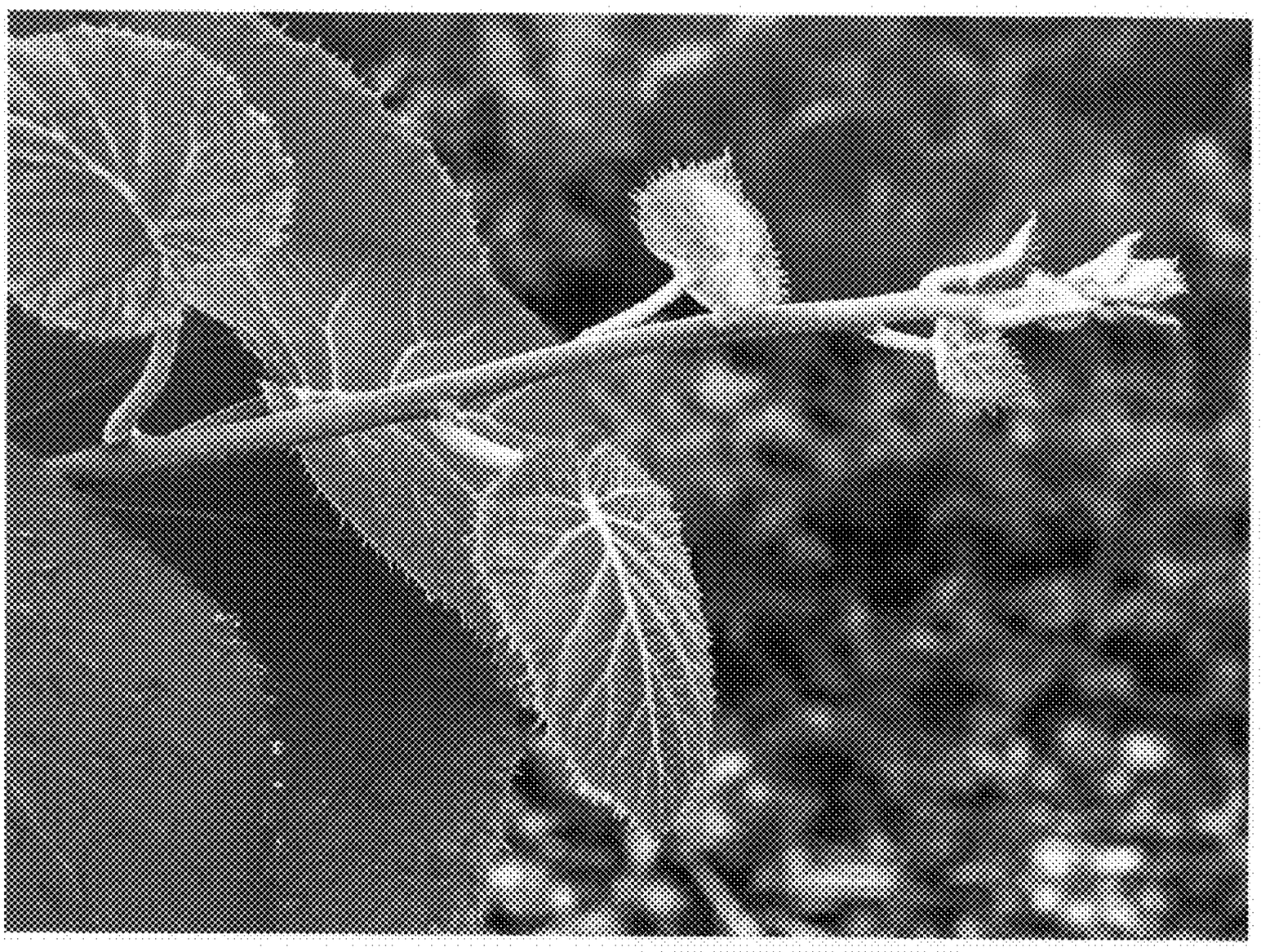

FIG. 2A

FIG. 2B

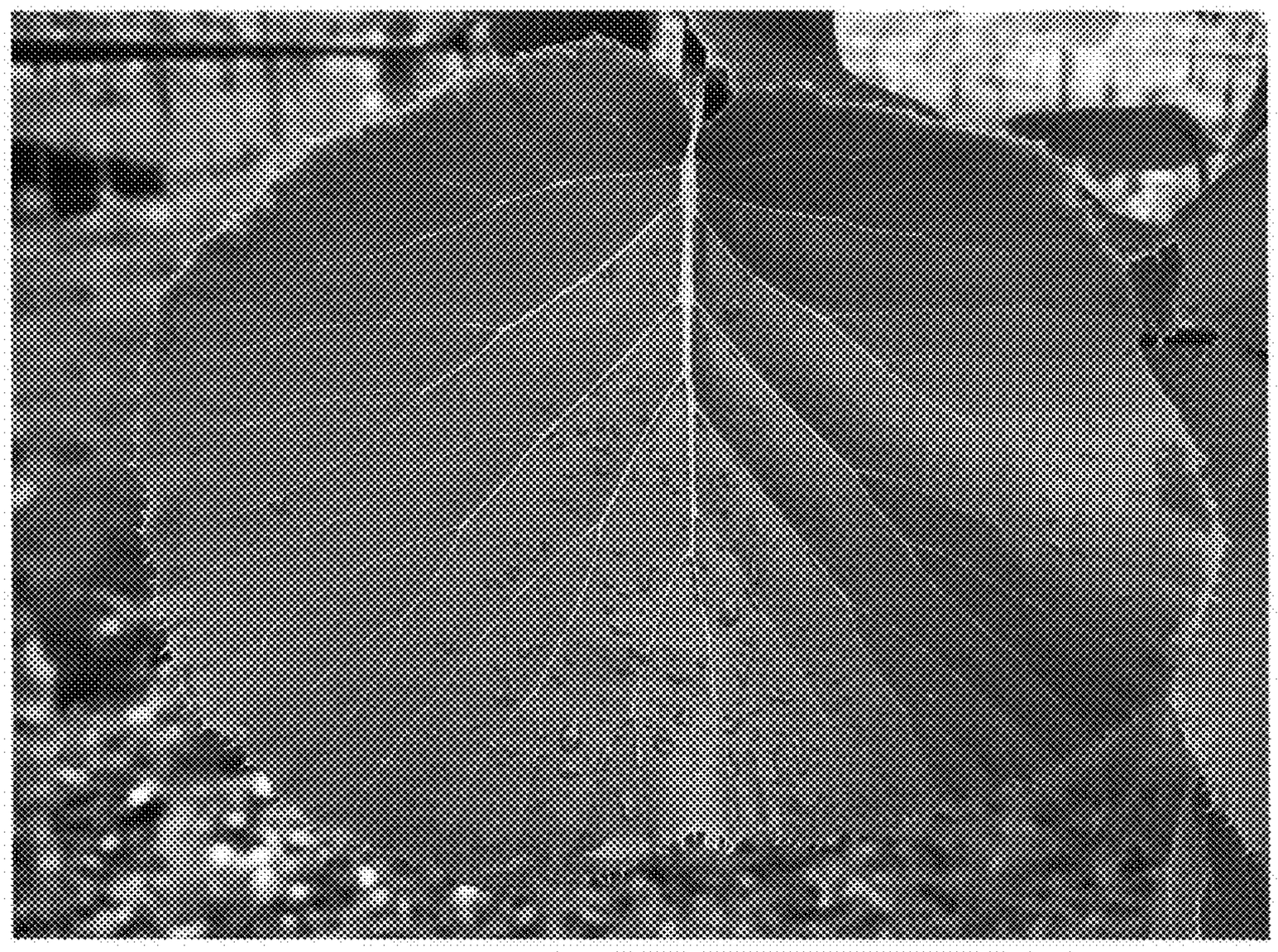

FIG. 3A

FIG. 3B

FIG. 4A

FIG. 4B

FIG. 5A

FIG. 5B

FIG. 6A

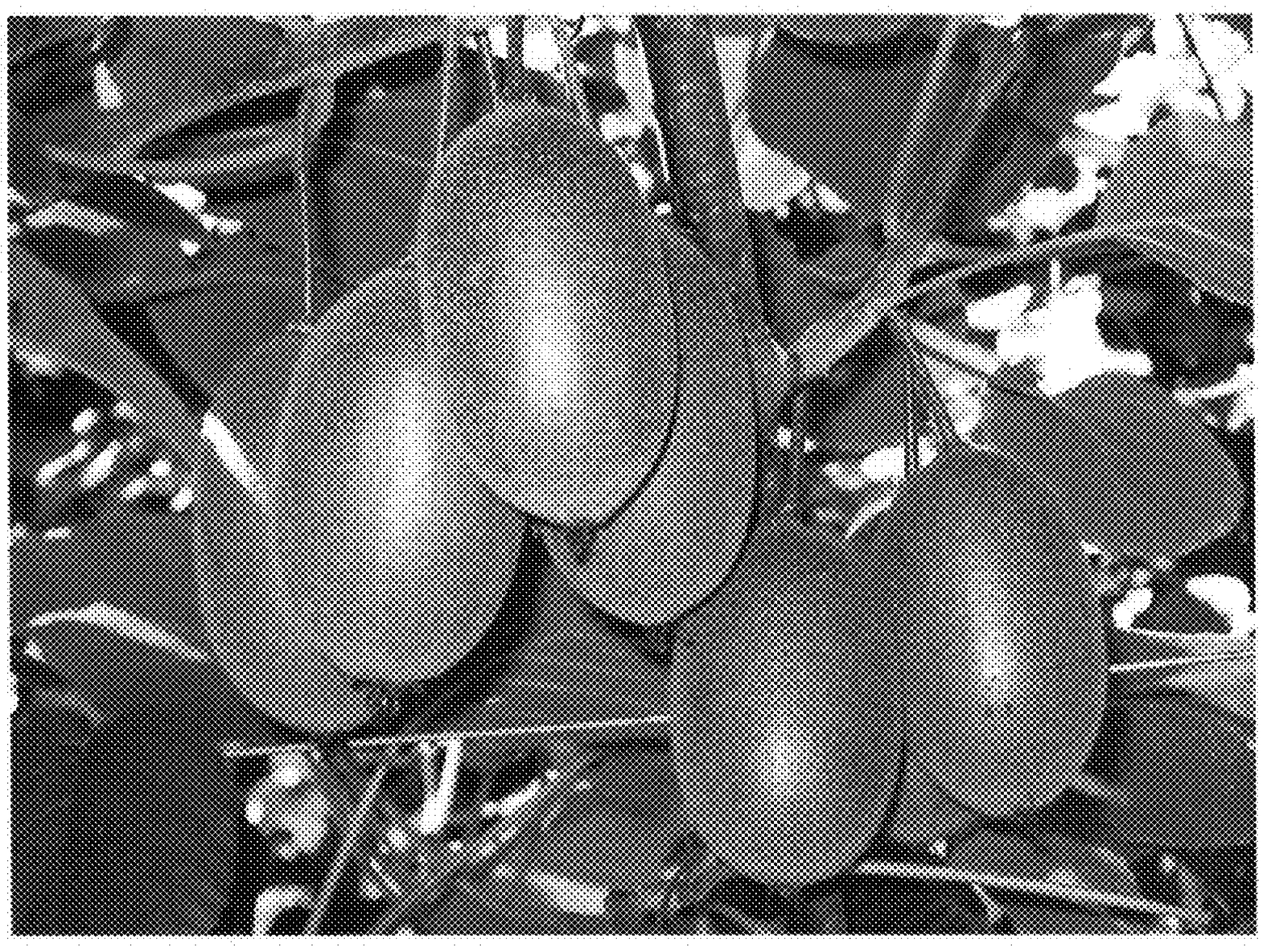

FIG. 6B

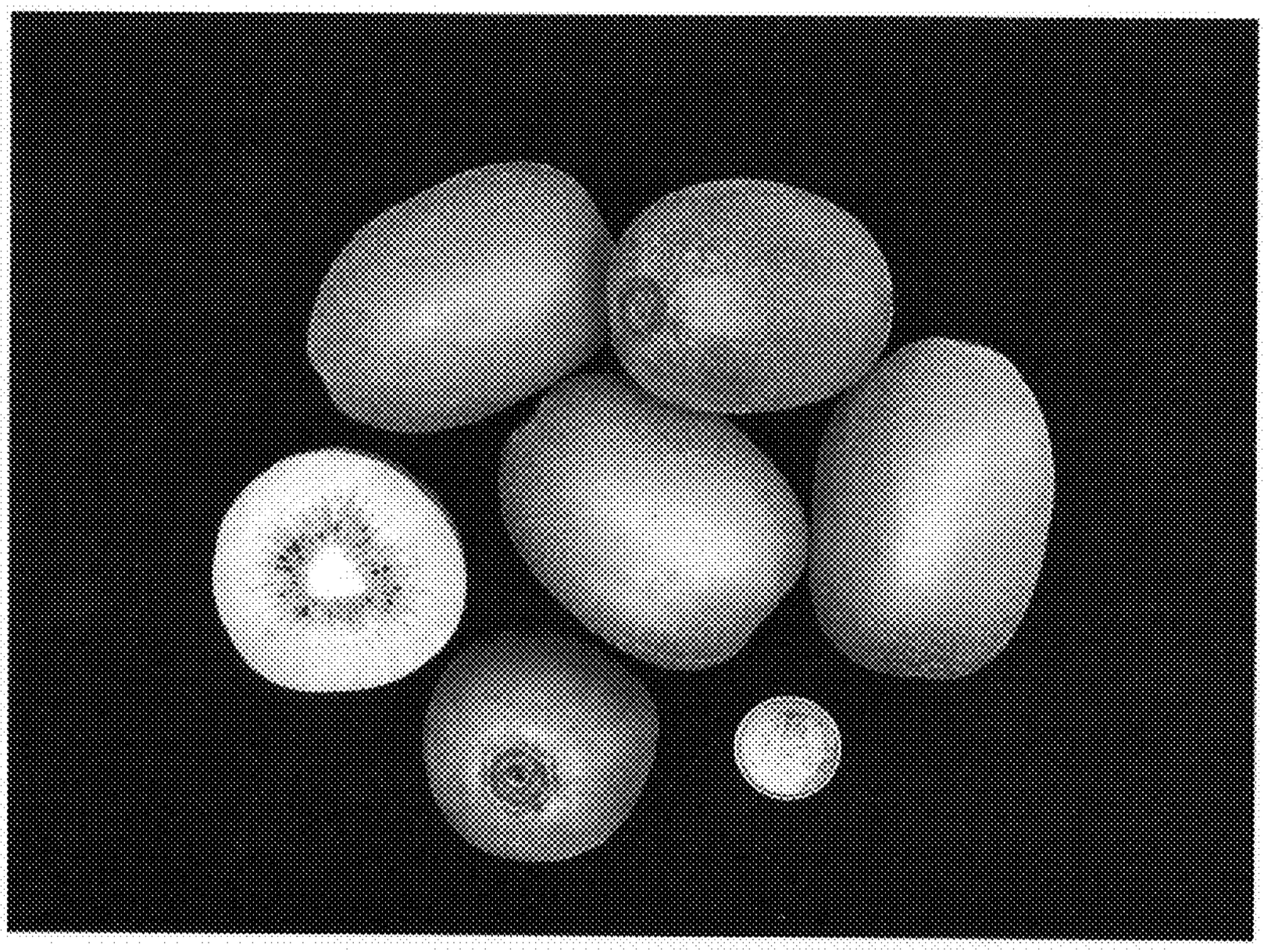

FIG. 7A

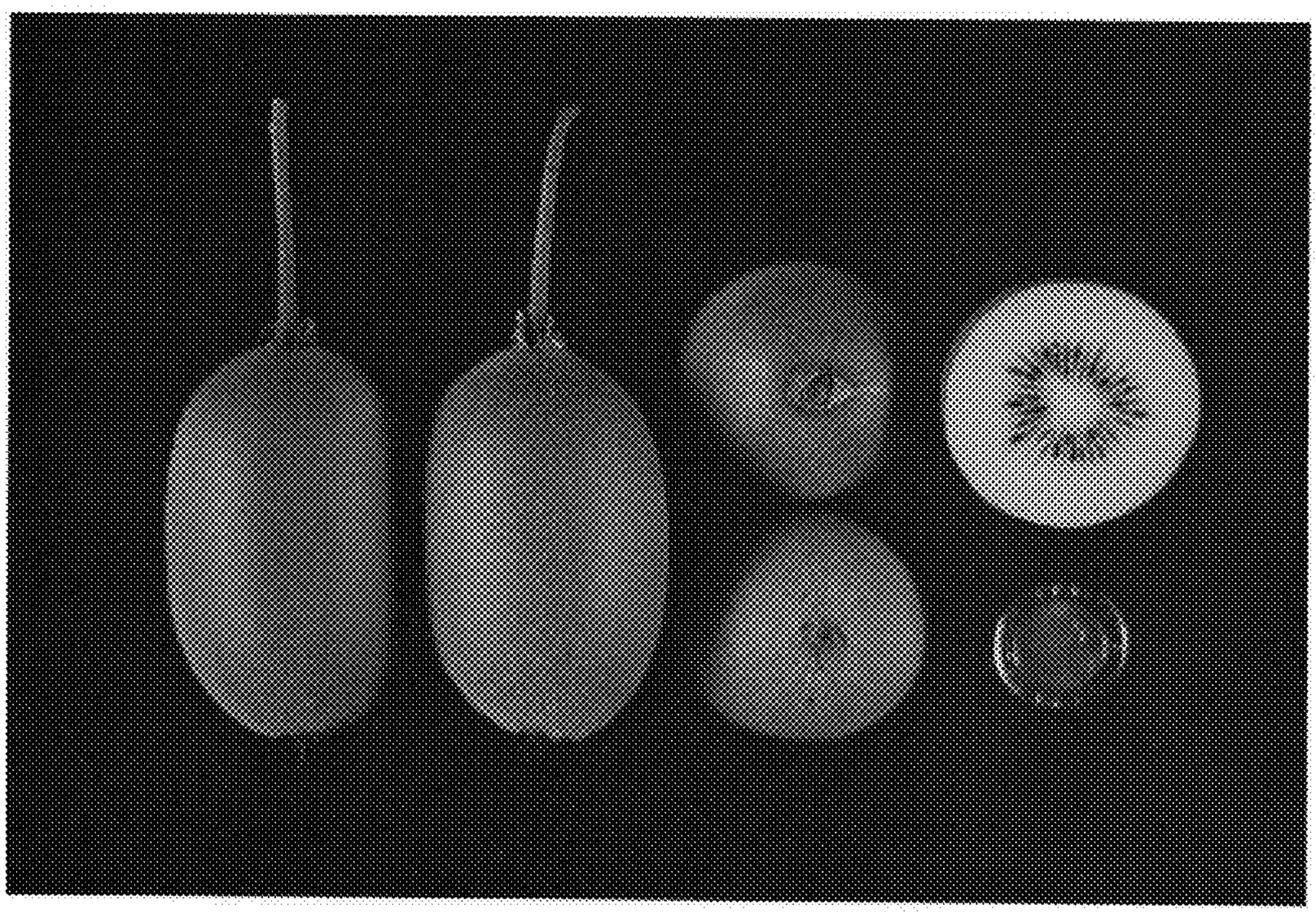

FIG. 7B