US00PP34070P2

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

(10) **Patent No.: US PP34,070 P2**
(45) **Date of Patent: Mar. 29, 2022**

(54) **RASPBERRY PLANT VARIETY NAMED 'DRISRASPTWENTY'**

(50) Latin Name: ***Rubus idaeus* L.**
Varietal Denomination: **DrisRaspTwenty**

(71) Applicant: **Driscoll's, Inc.**, Watsonville, CA (US)

(72) Inventors: **Matthias D. Vitten**, Watsonville, CA (US); **Kyle Rak**, Watsonville, CA (US); **Luis Miguel Rodriguez**, Watsonville, CA (US); **James Heilig**, Watsonville, CA (US)

(73) Assignee: **Driscoll's, 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.: **17/016,220**

(22) Filed: **Sep. 9, 2020**

(51) **Int. Cl.**
A01H 5/08 (2018.01)
A01H 6/74 (2018.01)

(52) **U.S. Cl.**
USPC **Plt./204**

(58) **Field of Classification Search**
USPC Plt./204
CPC ... A01H 5/08; A01H 5/02; A01H 6/74; A01H 6/749; A01H 6/7499; A01H 5/00
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

PP4,486	P	11/1979	Reiter	
PP6,493	P	12/1988	Wilhelm	
PP7,436	P	2/1991	Ackerman	
PP7,437	P	2/1991	Ackerman	
PP7,528	P	5/1991	Ackerman	
PP8,022	P	11/1992	Wilhelm	
PP8,027	P	11/1992	Wilhelm	
PP9,340	P	10/1995	Wilhelm et al.	
PP9,653	P	10/1996	Wilhelm et al.	
PP9,696	P	11/1996	Fear	
PP11,067	P	9/1999	Fear et al.	
PP11,087	P	10/1999	Fear et al.	
PP11,094	P	10/1999	Fear et al.	
PP11,102	P	10/1999	Fear et al.	
PP14,761	P2	5/2004	Fear et al.	
PP14,781	P2	5/2004	Fear et al.	
PP14,804	P2 *	5/2004	Fear	A01H 6/7499 Plt./204
PP14,860	P2	6/2004	Fear et al.	
PP14,903	P2	6/2004	Fear et al.	
PP14,904	P2	6/2004	Fear et al.	
PP18,658	P3	3/2008	Fear et al.	
PP18,659	P3	3/2008	Fear et al.	
PP19,137	P3	8/2008	Harrison et al.	
PP19,656	P2	1/2009	Hamilton et al.	
PP22,246	P3	11/2011	Hamilton et al.	
PP22,731	P2	5/2012	Fear et al.	
PP23,477	P3	3/2013	Hamilton et al.	
PP24,610	P3	7/2014	Hamilton et al.	
PP25,044	P3	11/2014	Hamilton et al.	
PP25,045	P3	11/2014	Hamilton et al.	
PP27,644	P3	2/2017	Hamilton et al.	
PP28,775	P2	12/2017	Hamilton et al.	
PP28,856	P3	1/2018	Vitten et al.	
PP29,402	P2	6/2018	Vitten et al.	
PP30,577	P2 *	6/2019	Vitten	A01H 6/7499 Plt./204
PP30,733	P2	7/2019	Hamilton et al.	
PP31,850	P2	6/2020	Hamilton et al.	

OTHER PUBLICATIONS

Cousineau et al., "Use of Isoenzyme Analysis to Characterize Raspberry Cultivars and Detect Cultivar Mislabeling", HortScience vol. 27, No. 9, Sep. 1992, pp. 1023-1025.
Vitten et al., Unpublished U.S. Appl. No. 17/016,227, filed Sep. 9, 2020, titled "Raspberry Plant Variety Named 'DrisRaspTwentyTwo'".
Vitten et al., Unpublished U.S. Appl. No. 17/016,222, filed Sep. 9, 2020, titled "Raspberry Plant Variety Named 'DrisRaspTwentyOne'".
Harrison et al., Unpublished U.S. Appl. No. 17/003,824, filed Aug. 26, 2020, titled "Raspberry Plant Variety Named 'DrisRaspNineteen'".
Vitten et al., Unpublished U.S. Appl. No. 17/003,817, filed Aug. 26, 2020, titled "Raspberry Plant Variety Named 'DrisRaspEighteen'".
Vitten et al., Unpublished U.S. Appl. No. 16/602,687, filed Nov. 19, 2019, titled "Raspberry Plant Variety Named 'DrisRaspSeventeen'".
Vitten et al., Unpublished U.S. Appl. No. 16/501,853, filed Jun. 19, 2019, titled "Raspberry Plant Named 'DrisRaspFifteen'".
Williams et al., "DNA Polymorphisms Amplified by Arbitrary Primers are useful as Genetic Markers", Nucleic Acids Research, vol. 18, No. 22, 1990, pp. 6531-6535.

* cited by examiner

Primary Examiner — June Hwu
(74) *Attorney, Agent, or Firm* — Morrison & Foerster LLP

(57) **ABSTRACT**

A new and distinct variety of raspberry plant named 'DrisRaspTwenty', particularly selected for its yield potential and fruit size, is disclosed.

4 Drawing Sheets

RASPBERRY PLANT VARIETY NAMED 'DRISRASPTWENTY'

Latin name:

Botanical classification: *Rubus idaeus* L.

Varietal denomination: The varietal denomination of the claimed variety of raspberry plant is 'DrisRaspTwenty'.

BACKGROUND OF THE INVENTION

Raspberries are the edible fruit of a multitude of plant species in the genus *Rubus* of the rose family. Most raspberry species are in the subgenus *Idaeobatus*. Raspberry plants are perennial plants with woody stems. Many of the most important modern commercial red raspberry cultivars derive from hybrids between *R. idaeus* and *R. strigosus*. Recent breeding has resulted in cultivars that are thornless and more strongly upright, not needing staking.

Both the red and the black raspberry species have albino-like pale-yellow natural or horticultural variants. Fruits from such plants are called golden raspberries or yellow raspberries. Most pale-fruited raspberries commercially sold in the eastern United States are derivatives of red raspberries. Yellow-fruited variants of the black raspberry are sometimes grown in home gardens. Despite their dissimilar appearance, golden raspberries retain the distinctive flavor of their respective red or black species.

An individual raspberry fruit is made up of around 100 drupelets, each of which contains a juicy pulp and a single central seed. A raspberry bush can yield several hundred berries a year. Unlike blackberries and dewberries, a raspberry has a hollow core once it is removed from the receptacle.

Raspberries are traditionally planted in the winter as dormant canes, but planting plugs produced by tissue culture is also common. Additionally, the long cane production method consists of growing canes for one year in cold climates where the bud break is early, and then transplanting the canes to warm climates where they quickly flower and can produce an early season crop. A very vigorous crop, raspberries spread well and can be considered invasive, using extended underground shoots (also known as suckers or basal shoots) that can develop roots and individual plants.

Raspberries are a popular fruit that are recognized for their antioxidants, high fiber, and as a good source of vitamin C. Raspberry fruit is typically consumed as fresh fruit, individually quick frozen (IQF) fruit, or in prepared foods, such as purées, juices, jellies, jams, grocery items, baked goods, and snack foods.

Raspberry is an important and valuable commercial fruit crop, widely grown in all temperate regions of the world. Accordingly, there is a need for new varieties of raspberry plant. In particular, there is a need for improved varieties of raspberry plant that are stable, high yielding, and agronomically sound.

SUMMARY OF THE INVENTION

In order to meet these needs, the present invention is directed to an improved variety of raspberry plant. In particular, the invention relates to a new and distinct variety of raspberry plant (*Rubus idaeus* L.), which has been denominated as 'DrisRaspTwenty'.

Raspberry plant variety 'DrisRaspTwenty' was discovered in Santa Cruz County, Calif. in August of 2011 and originated from a cross between the female parent 'DrisRaspTwelve' (U.S. Plant Pat. No. 30,577) and the proprietary male parent 'RG40.2' (unpatented). The original seedling of the new variety was first asexually propagated in Santa Cruz County, Calif. via root cuttings in October 2011.

'DrisRaspTwenty' was subsequently asexually propagated via root cuttings, and has undergone testing in Santa Cruz County, Calif. for nine years (2011 to 2020). The present variety has been found to be stable and reproduce true to type through successive asexual propagations via root cuttings and tissue culture.

'DrisRaspTwenty' was particularly selected for its yield potential and fruit size.

BRIEF DESCRIPTION OF THE DRAWINGS

This new raspberry plant is illustrated by the accompanying photographs. The colors shown are as true as can be reasonably obtained by conventional photographic procedures. The photographs are of plants that are two years old.

FIG. **1** illustrates sections of primocanes of raspberry variety 'DrisRaspTwenty'.

FIG. **2** illustrates the upper surface (left leaf) and the lower surface (right leaf) of leaves of raspberry variety 'DrisRaspTwenty'.

FIG. **3** illustrates flowers and fruit of raspberry variety 'DrisRaspTwenty' at various stages of development.

FIG. **4** illustrates a section of a plant with primocanes of raspberry variety 'DrisRaspTwenty'.

DETAILED BOTANICAL DESCRIPTION

The following descriptions set forth the distinctive characteristics of 'DrisRaspTwenty'. Unless where otherwise noted, the data that define these characteristics are based on observations taken from 'DrisRaspTwenty' plants that were two years old, grown in Santa Cruz County, Calif. from 2011 to 2020. These descriptions are in accordance with UPOV terminology. 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. 'DrisRaspTwenty' has not been observed under all possible environmental conditions. The indicated values represent averages calculated from measurements of several plants. Color references are primarily to The R.H.S. Colour Chart of The Royal Horticultural Society of London (R.H.S.) (2015 edition). Descriptive terminology follows the *Plant Identification Terminology An Illustrated Glossary,* 2nd edition by James G. Harris and Melinda Woolf Harris, unless where otherwise defined.

Classification:

Family.—Rosaceae.

Botanical.—*Rubus idaeus* L.

Common name.—Raspberry.

Variety name.—'DrisRaspTwenty'.

Parentage:

Female parent.—'DrisRaspTwelve' (U.S. Plant Pat. No. 30,577).

Male parent.—'RG40.2' (unpatented).

Plant:

Height.—183.5 cm.

Width.—149.3 cm.

Length/width ratio.—1.2.

Growth habit.—Semi-upright.

Primocane (*current year's cane*).—Color: RHS 141C (Strong yellowish green). Cane length in autumn: 192 cm. Internodal distance at central ⅓ of cane: 6.83 cm. Anthocyanin coloration of cane: Absent or

very weak. Cane bloom: Absent or very weak. Time of cane emergence: Medium.

Very young shoot.—Anthocyanin coloration of apex during rapid growth: Absent.

Floricane (*previous year's cane*).—Dormant cane color: RHS 199C (Moderate yellowish brown). Fruiting lateral attitude: Semi-erect. Fruiting lateral length: Medium.

Prickles (*spines*).—Presence: Present. Density: Sparse. Length at 1 in height at end of harvest (from base to tip): 0.44 mm. Color: RHS 60B (Strong purplish red).

Leaves:

Predominant number of leaflets.—Three.

Profile of leaflets in cross section.—Straight.

Leaf rugosity.—Weak.

Color of upper side.—RHS 139A (Dark yellowish green).

Color of lower side.—RHS 139B (Moderate yellowish green).

Surface texture of upper side.—Smooth.

Surface texture of lower side.—Smooth.

Terminal leaflet.—Length: 97.7 mm. Width: 64.0 mm. Length/width ratio: 1.5. Margin: Serrate. Overall shape: Ovate. Apex shape: Cuspidate. Base shape: Cordate.

Lateral leaflets.—Length: 95.6 mm. Width: 56.4 mm. Length/width ratio: 1.7. Relative position of lateral leaflets: Free. Margin: Serrate. Overall shape: Ovate. Apex shape: Cuspidate. Base shape: Cordate.

Rachis length between terminal leaflet and adjacent lateral leaflets.—37.1 mm.

Petiole.—Length: 56.5 mm. Diameter: 2.31 mm. Color: RHS 132D (Light green).

Flowers:

Diameter.—28.14 mm.

Petal.—Length: 5.61 mm. Width: 3.9 mm. Length/width ratio: 1.4. Color of upper side: RHS NN155C (White). Color of lower side: RHS NN155C (White).

Sepal.—Length: 8.47 mm. Width: 4.33 mm. Shape: Deltoid. Color: RHS 135D (Light yellowish green).

Pedicel.—Length: 44.30 mm. Diameter: 0.42 mm. Color: RHS 139B (Moderate yellowish green). Surface texture: Semi-prickly.

Peduncle.—Color: RHS 139B (Moderate yellowish green). Anthocyanin coloration: Absent. Surface texture: Smooth with sparse prickles.

Fruit:

Length.—25.83 mm.

Diameter.—24.23 mm.

Length/width ratio.—1.1.

General shape in lateral view.—Conical.

Color.—RHS 46A (Strong red).

Glossiness.—Strong.

Firmness.—Medium.

Adherence to plug.—Weak.

Size of single drupe.—Medium.

Number of drupelets per berry.—80-100.

Average weight per berry.—6.1 g.

Soluble solids (° *Brix*): 10.1.

Seed:

Length.—3 mm.

Width.—1 mm.

Shape.—Lens.

Color.—RHS 165B (Brownish orange).

Production:

Main bearing type.—Both on floricane (previous year's cane) in summer and on primocane (current year's cane) in autumn.

Primocane (*current year's cane*).—Time of beginning of flowering: Early June. Time of beginning of fruit ripening: Early July. Length of fruiting period: Early July to late October. Yield: 18,667 kg to 35,003 kg of fruit per hectare per season from 7-month-old plants when grown in Watsonville, Calif.

Floricane (*previous year's cane*).—Time of vegetative bud burst: Early March. Time of beginning of flowering: Mid-April. Time of beginning of fruit ripening: Mid-May. Length of fruiting period: Early May to late July. Yield: 29,772 kg to 42,901 kg of fruit per hectare per season from 12-month-old plants when grown in Watsonville, Calif.

Fruit storage life and shipping quality: Following harvest, fruit can be stored for 10 days if maintained under cooled temperatures that are standard for raspberry storage.

Market use: Fresh fruit.

Hardiness zone (heat/cold tolerance): Zones 4-8, preferring cool climates.

Plant/fruit disease and pest resistance/susceptibility: Not observed to date.

COMPARISONS TO PARENTAL AND REFERENCE RASPBERRY VARIETIES

'DrisRaspTwenty' differs from the female parent 'DrisRaspTwelve' (U.S. Plant Pat. No. 30,577) in that for 'DrisRaspTwenty' the leaves have predominantly three leaflets, the leaf rugosity is weak, and the fruit shape in lateral view is conical, whereas for 'DrisRaspTwelve' the leaves have equally three and five leaflets, the leaf rugosity is medium, and the fruit shape in lateral view is trapezoidal.

'DrisRaspTwenty' differs from the proprietary male parent 'RG40.2' (unpatented) in that 'DrisRaspTwenty' has an improved fruit size and yield in the floricane crop when compared to 'RG40.2'.

'DrisRaspTwenty' differs from reference raspberry variety 'Driscoll Maravilla' (U.S. Plant Pat. No. 14,804) in that for 'DrisRaspTwenty' the leaves have predominantly three leaflets, the relative position of the lateral leaflets is free, the fruit's adherence to the plug is weak, and the fruit glossiness is strong, whereas for 'Driscoll Maravilla' the leaves have predominantly five leaflets, the relative position of the lateral leaflets is overlapping, the fruit's adherence to the plug is medium, and the fruit glossiness is medium.

'DrisRaspTwenty' differs from reference raspberry variety 'DrisRaspSeven' (U.S. Plant Pat. No. 25,045) in that for 'DrisRaspTwenty' the bloom on current season's cane is absent or very weak, the predominant number of leaflets on leaves is three, the leaf rugosity is weak, and the fruit glossiness is strong, whereas for 'DrisRaspSeven' the bloom on current season's cane is medium, the predominant number of leaflets on leaves is five, the leaf rugosity is medium, and the fruit glossiness is medium.

What is claimed is:

1. A new and distinct variety of raspberry plant designated 'DrisRaspTwenty' as shown and described herein.

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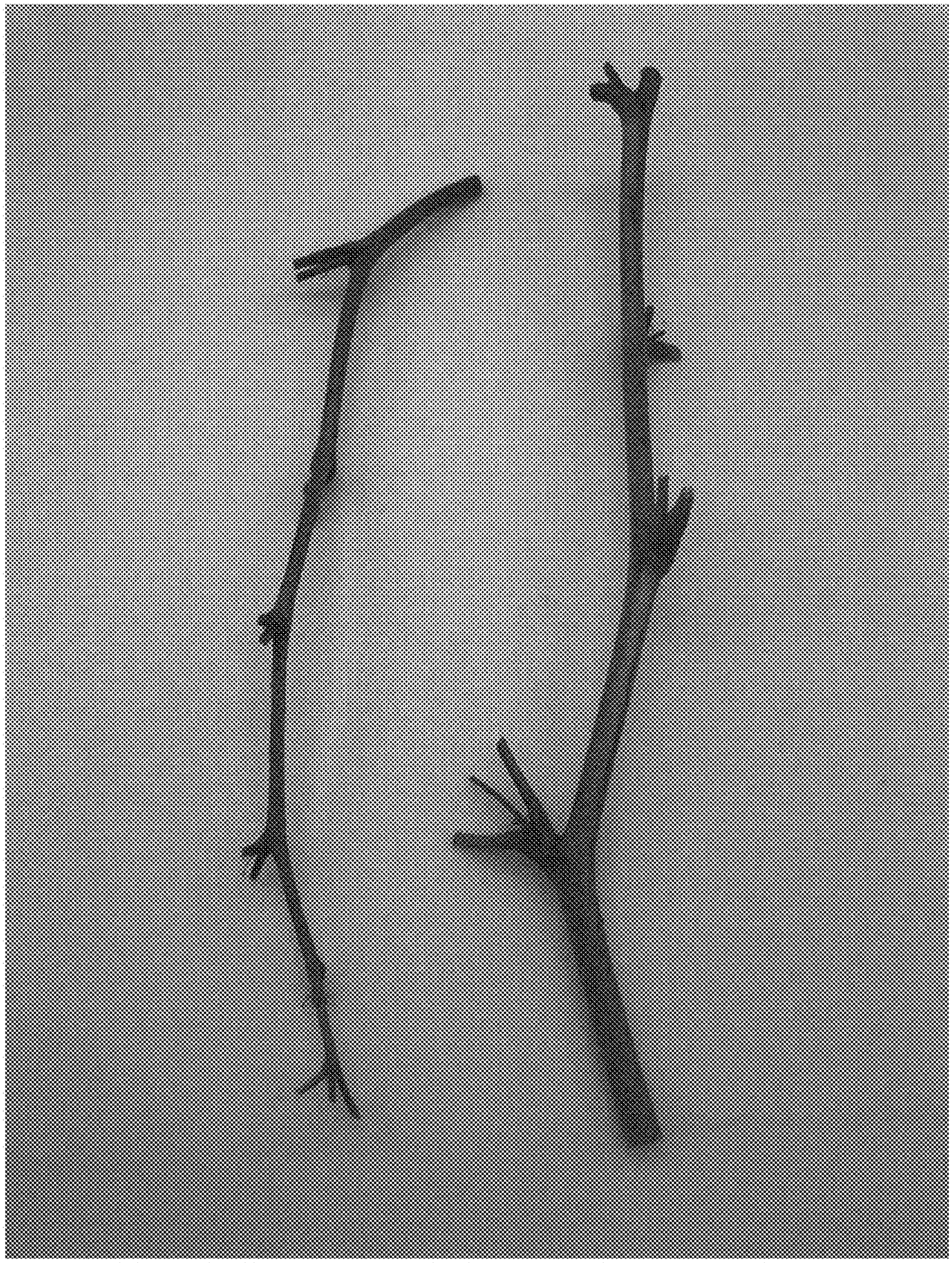

FIG. 1

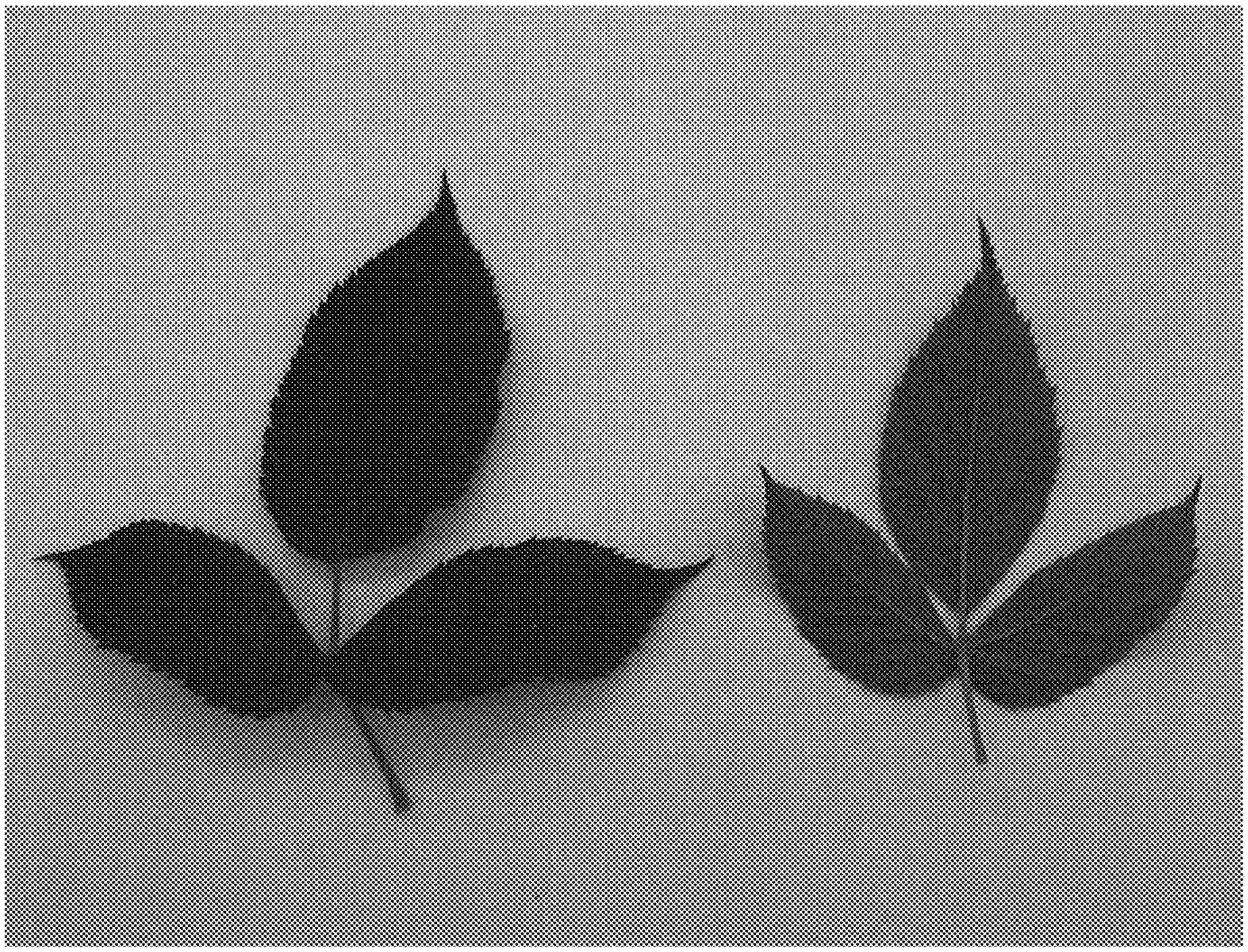

FIG. 2

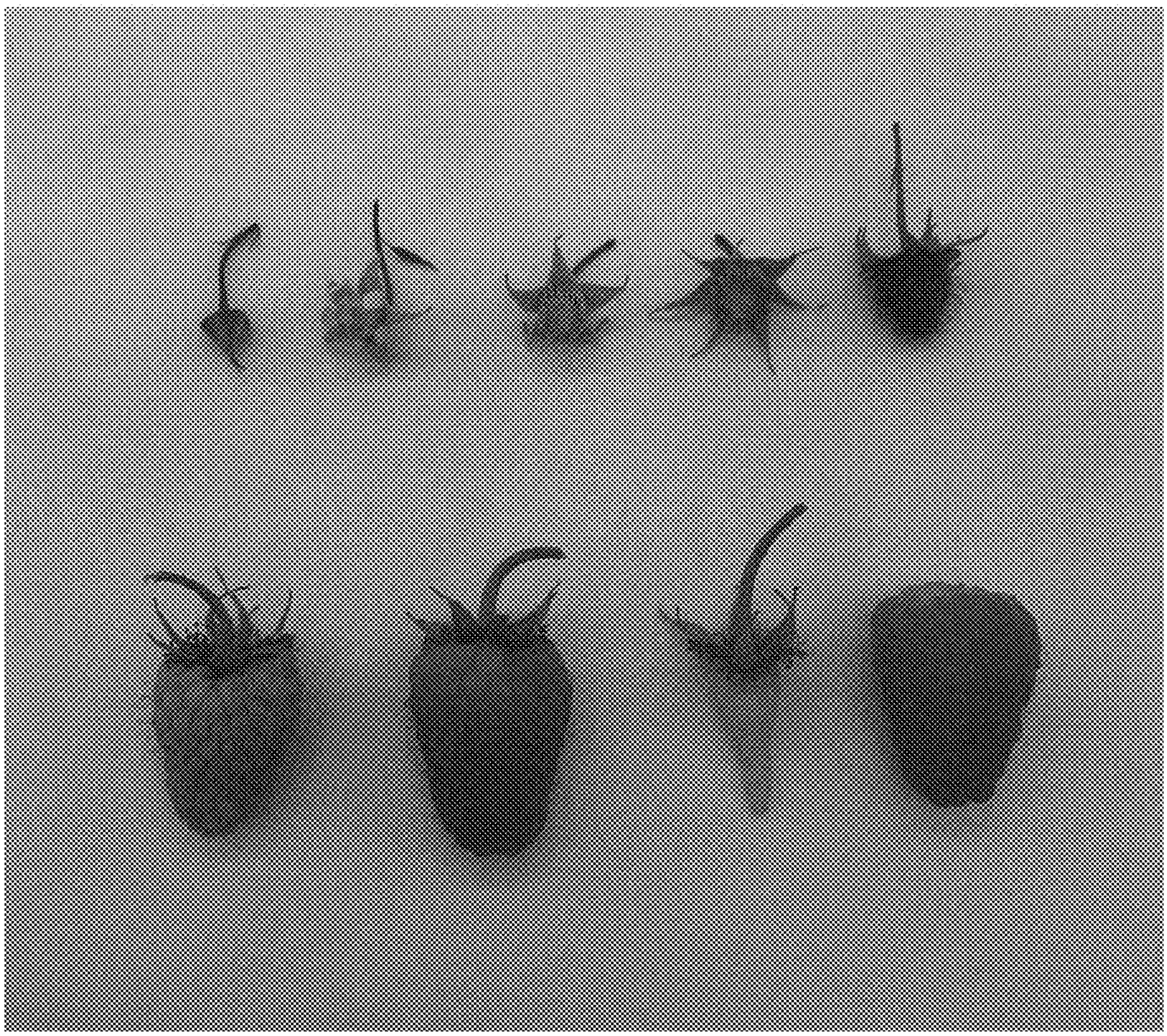

FIG. 3

FIG. 4