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- (54) **STRAWBERRY PLANT NAMED ‘PE-13.177.011’**
- (50) Latin Name: *Fragaria x ananassa*
Varietal Denomination: **PE-13.177.011**
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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 ‘PE-13.177.011’. This new strawberry plant named ‘PE-13.177.011’ is primarily adapted to the growing conditions of the central coast of California, and is primarily characterized by its red to orange red fruit color, medium fruit size, and cylindrical to cordate fruit shape; good fruit flavor, with seeds typically held above the surface; smooth fruit surface, even in color, with moderate difference between primary and secondary fruit; medium to large plant size, semi-upright and medium to dense in habit; medium to dark green foliage color, and medium foliage size; and fruiting trusses typically held level with the plant, with strong pubescence.

5 Drawing Sheets

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Latin name of the genus and species of the plant claimed:
Fragaria x ananassa.
Variety denomination: ‘PE-13.177.011’.

BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct strawberry variety named ‘PE-13.177.011’. This new variety is a result of a controlled cross made in 2013 in an ongoing breeding program between strawberry variety designated ‘PE-3.221’ (U.S. Plant Pat. No. 24,950) as the seed (female) parent, and strawberry variety designated ‘PE-7.2059’ (U.S. Plant Pat. No. 28,756) as the pollen (male) parent. The variety is botanically known as *Fragaria x ananassa*.

The seedling resulting from the aforementioned cross was selected from a controlled breeding plot in Ventura County, Calif. in the fall of 2015. After its selection, the new variety was asexually propagated by stolons in Siskiyou and San Joaquin Counties, Calif. The new variety was tested extensively over the next several years in fruiting fields 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

‘PE-13.177.011’ is primarily adapted to the climate and growing conditions of the central coast of California. The nearby Pacific Ocean provides the humidity and moderate temperatures needed to produce a strong, vigorous plant and maintain fruit quality during the fall production months.

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The following traits have been repeatedly observed and are determined to be unique characteristics of ‘PE-13.177.011’, which in combination distinguish this strawberry plant as a new and distinct variety:

1. Fruit is red to orange red in color, medium in size, and cylindrical to cordate in shape;
2. Fruit has good flavor, with seeds typically held above the surface;
3. Fruit surface is smooth, even in color, with moderate difference between primary and secondary fruit;
4. Plant is medium to large in size, semi-upright and medium to dense in habit;
5. Foliage is medium to dark green in color and medium in size; and
6. Fruiting trusses are typically held level with the plant, with strong pubescence.

The strawberry variety that is believed to be most closely related to the new variety ‘PE-13.177.011’ is ‘PE-7.2059’ (U.S. Plant Pat. No. 28,756). In side-by-side comparisons to the similar strawberry variety ‘PE-7.2059’, ‘PE-13.177.011’ differs by the following combination of characteristics as described in Table 1.

TABLE 1

Characteristic	‘PE-13.177.011’	‘PE-7.2059’ (U.S. Plant Pat. No. 28,756)
Fruit: color	Ranges from orange red to red	Red
Fruit: marketable yield (grams/plant)	824	628

TABLE 1-continued

Characteristic	'PE-13.177.011'	'PE-7.2059' (U.S. Plant Pat. No. 28,756)
Fruit: shape	Ranges from cordate to cylindrical	Conical
Fruit: attitude of sepals	Outward	Ranges from outward to upward
Time of flowering: maturing season	Early	Medium
Terminal leaflet: shape of base	Acute	Obtuse
Foliage: shape in cross section	Slightly concave to flat	Strongly to slightly concave
Disease and pest reactions: Fusarium wilt	Resistant	Susceptible

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

'PE-13.177.011' differs from its parents, 'PE-3.211' and 'PE-7.2059' by the following combination of characteristics as described in Tables 2 and 3.

TABLE 2

Characteristic	'PE-13.177.011'	'PE-3.211' (U.S. Plant Pat. No. 26,193)
Fruit: size	Medium	Small
Fruit: marketable yield	High	Low
Fruit: insertion of achenes	Above the surface	Even with the surface
Plant: size	Medium	Large
Fruiting truss: position relative to foliage	Level with	Below

TABLE 3

Characteristic	'PE-13.177.011'	'PE-7.2059' (U.S. Plant Pat. No. 28,756)
Fruit: color	Ranges from orange red to red	Red
Fruit: marketable yield	High	Medium
Time of flowering: maturing season	Early	Medium
Foliage: shape in cross section	Slightly concave to flat	Strongly to slightly concave
Disease and pest reactions: Fusarium wilt	Resistant	Susceptible

BRIEF DESCRIPTIONS OF THE PHOTOGRAPHS

The accompanying color photographs illustrate the overall appearance of typical specimens of the new strawberry variety 'PE-13.177.011' 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 descriptions which accurately describe the color of 'PE-13.177.011'. The depicted plant and plant parts of the new strawberry variety 'PE-13.177.011' are approximately three to four months old. The photographs were taken in Ventura County, Calif.

FIG. 1 shows fruiting field characteristics of 'PE-13.177.011', taken in the month of November 2021;

FIG. 2 shows upper and lower surfaces of flower and flower parts of 'PE-13.177.011', taken in the month of October 2021;

FIG. 3 shows typical fruiting truss and truss parts of 'PE-13.177.011', taken in the month of November 2021;

FIG. 4 shows upper and lower surfaces of leaf and leaf parts of 'PE-13.177.011', taken in the month of November 2021; and

FIG. 5 shows internal and external mature fruit characteristics of 'PE-13.177.011', taken in the month of November 2021.

DETAILED BOTANICAL DESCRIPTION

The new variety 'PE-13.177.011' has not been observed under all possible environmental conditions. The characteristics of the new variety 'PE-13.177.011' may vary in detail, depending upon variations in environmental factors, including weather (temperature, humidity and light intensity), day length, soil type and location. In addition, the characteristics of any parental variety or comparison variety included in Tables 1, 2 and 3 of the present invention 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 'PE-13.177.011', unless otherwise noted, are based on observations taken during the 2021 growing season in Ventura County, Calif. These measurements and ratings were taken from plants of 'PE-13.177.011' dug from a low-elevation nursery located in San Joaquin County, Calif. in January 2021 and planted approximately six months later in Ventura County, Calif. The approximate age of the observed plants is three to four months. Yield observations including average weight and marketable yield, along with fruit quality characteristics including soluble solids, are averaged from five years of data collected from the 2017 through 2021 growing seasons. Flower measurements and characteristics are from secondary flowers unless otherwise noted. Fruit characteristics and measurements are from secondary fruit, unless otherwise noted.

Where noted, color terminology follows The Royal Horticultural Society Colour Chart, London, Sixth Edition (2015).

The following characteristics describe fruit, plant, stolon, foliage, fruiting truss, flower, reproductive organs and pest and disease characteristics of the new strawberry 'PE-13.177.011'.

Fruit characteristics:

Color of mature fruit.—RHS 45A (ranges from orange red to red).

Color of internal flesh.—RHS 44A (ranges from light red to medium red).

Color of core.—RHS 44C (medium red).

Average length (cm).—4.3.

Average width (cm).—3.5.

Size.—Medium.

Average length/width ratio.—1.23 (ranges from slightly longer than broad to much longer than broad).

Hollow center average length (mm).—15.8.

Hollow center average width (mm).—5.6.

Hollow center expression.—Moderate.

Season average weight (gm).—23.3.

Marketable yield season (gm/plant).—824.

Predominant shape.—Ranges from cordate (cordiform) to cylindrical.

- Difference in shape between primary and secondary fruit.*—Moderate.
- Band without achenes.*—Narrow.
- Evenness of surface.*—Even or very slightly uneven.
- Evenness of color.*—Even or very slightly uneven.
- Glossiness.*—Ranges from medium to strong.
- Insertion of achenes.*—Ranges from level with surface to above surface.
- Average calyx diameter (cm).*—3.9.
- Position of calyx attachment.*—Inserted.
- Attitude of sepals.*—Outward.
- Size of calyx in relation to fruit diameter.*—Slightly larger.
- Adherence of calyx (when fully ripe).*—Strong.
- Firmness of flesh.*—Medium.
- Keeping quality.*—Very good.
- Fruit market.*—Fresh.
- Post-harvest fruit longevity (at 1 to 3 degrees Celsius).*—7 to 10 days.
- Distribution of red color of the flesh.*—Marginal and central.
- Flavor.*—Good.
- Soluble solids (% Brix).*—7.7.
- Achene color, shaded side.*—RHS 160A (greyed yellow group).
- Achene color, sun-exposed side.*—RHS 184A (greyed purple group).
- Achene average length (mm).*—1.8.
- Achene average width (mm).*—1.8.
- Achene average weight (mg).*—0.61.
- Achene average quantity per berry.*—319.
- Achene shape.*—Elliptic.
- Flowering season (50% of plants with at least one flower).*—Early (August in Ventura County, Calif.).
- Maturing season (50% of plants with mature fruit).*—Early (October in Ventura County, Calif.).
- Flowering season.*—August to December (in Ventura County, Calif.).
- Harvest season.*—September to January (in Ventura County, Calif.).
- Harvest maturity.*—October (in Ventura County, Calif.).
- Plant hardiness.*—Zone 10 (USDA Plant Hardiness Zone Map).
- Type of bearing.*—Fully remontant (non-flowering runners).
- Plant characteristics:
- Average height (cm).*—24.0.
- Average spread (cm).*—40.2.
- Size.*—Ranges from medium to large.
- Habit.*—Semi-upright.
- Density.*—Ranges from medium to dense.
- Vigor.*—Strong.
- Stolon characteristics:
- Color.*—RHS 146C (yellow green group).
- Anthocyanin coloration.*—RHS 182B (greyed red group).
- Anthocyanin intensity.*—Medium.
- Pubescence.*—Dense.
- Attitude of hairs.*—Strongly outward.
- Average quantity in nursery (per square foot).*—4 to 5 (ranges from few to medium).
- Average diameter at first bract (mm).*—4.0 (thick).
- Length from mother plant to first daughter (cm).*—23.3.
- Terminal leaflet characteristics:
- Average length (cm).*—8.1.
- Average width (cm).*—7.0.
- Average area terminal (cm²).*—56.9.
- Average length/width ratio.*—1.15 (longer than broad).
- Shape of base.*—Acute.
- Shape of apex.*—Obtuse.
- Margins (shape of teeth).*—Rounded (crenate).
- Average serrations per leaf.*—21.5.
- Foliage characteristics:
- Color of upper surface.*—RHS NN137B (ranges from medium green to dark green).
- Color of lower surface.*—RHS N138C (green group).
- Color of venation, upper surface.*—RHS NN137C (green group).
- Color of venation, lower surface.*—RHS 147D (yellow green group).
- Number of leaflets.*—3.
- Leaf size.*—Ranges from medium to small.
- Average length (cm).*—11.9.
- Average width (cm).*—15.5.
- Average area foliage (cm²).*—184.3.
- Shape in cross section.*—Slightly concave to flat.
- Interveinal blistering.*—Medium.
- Texture of upper surface.*—Medium.
- Texture of lower surface.*—Smooth.
- Venation pattern.*—Pinnate reticulate.
- Leaf glossiness.*—Medium.
- Leaf variegation.*—Absent.
- Petiole characteristics:
- Petiole color.*—RHS 144C (yellow green group).
- Petiole average length (cm).*—16.5.
- Petiole average diameter (mm).*—3.6.
- Attitude of hairs.*—Slightly outward.
- Frequency of bract leaflets.*—35% occurrence (occasionally).
- Size of bract leaflets.*—Small.
- Pubescence.*—Ranges from moderate to sparse.
- Petiolule color.*—RHS 144C (yellow green group).
- Petiolule average length (mm).*—12.8.
- Petiolule average diameter (mm).*—2.1.
- Stipule characteristics:
- Color.*—RHS 146D (yellow green group).
- Anthocyanin coloration.*—N/A.
- Anthocyanin intensity.*—Absent or very weak.
- Average length (mm).*—16.5.
- Average width (mm).*—11.1.
- Shape.*—Triangular.
- Texture.*—Light.
- Shape of base.*—N/A.
- Shape of apex.*—Acuminate.
- Margins.*—Entire (smooth).
- Fruiting truss characteristics:
- Anthocyanin coloration.*—N/A.
- Anthocyanin intensity.*—Absent or very weak.
- Average length at maturity (cm).*—26.8.
- Position relative to foliage.*—Level with.
- Flower quantity (season average per plant).*—41.7 (medium).
- Average fruit quantity per truss.*—7.2 (ranges from medium to many).
- Attitude at first pick.*—Prostrate.
- Primary pedicel color.*—RHS 144B (yellow green group).
- Primary pedicel average length (cm).*—7.6.
- Primary pedicel average diameter (mm).*—3.3.

Pedicel attitude of hairs.—Strongly outward.
Pedicel texture.—Strong.
Primary peduncle color.—RHS 144B (yellow green group).
Primary peduncle average length (cm).—6.8. 5
Primary peduncle average diameter (mm).—5.8.
Peduncle texture.—Strong.
 Flower characteristics:
Petal color, upper surface.—RHS NN155C (white group). 10
Petal color, lower surface.—RHS NN155C (white group).
Petal average length (mm).—11.8.
Petal average width (mm).—11.0.
Petal average length/width ratio.—1.07 (longer than 15 broad).
Average petal quantity per flower.—6.3.
Petal shape.—Obovate.
Petal texture, upper surface.—Smooth.
Petal texture, lower surface.—Smooth. 20
Petal shape of base.—Acute.
Petal shape of apex.—Rotund.
Petal margins.—Entire (smooth).
Sepal color, upper surface.—RHS 137B (green group).
Sepal color, lower surface.—RHS 138B (green group). 25
Sepal average length (mm).—13.3.
Sepal average width (mm).—4.9.
Sepal average length/width ratio.—2.66.
Average sepal quantity per flower.—11.9.
Sepal shape.—Ovate. 30
Sepal texture, upper surface.—Light.
Sepal texture, lower surface.—Light.
Sepal shape of apex.—Acuminate.
Sepal margins.—Ranges from entire (smooth) to acute (serrated). 35
Corolla average diameter (mm).—31.3 (medium).
Flower average depth (mm).—17.0 (deep).

Calyx average diameter (mm).—34.5.
Size of calyx relative to corolla.—Larger.
Relative position of petals (flowers with 5 or 6 petals).—Overlapping.
Size of inner calyx relative to outer calyx.—Smaller.
 Reproductive organs:
Anther color.—RHS 13A (yellow orange group).
Filament color.—RHS 145C (yellow green group).
Filament average length (mm).—1.2.
Anther average length (mm).—0.9.
Anther average width (mm).—0.7.
Anther shape.—Elliptic.
Pollen amount.—Moderate.
Ovary color.—RHS 148C (yellow green group).
Style color.—RHS 151B (yellow green group).
Pistil average quantity per flower.—319.
Pistil average length (mm).—1.1.
Style average length (mm).—0.9.
Stigma average diameter (mm).—0.3.
Stigma shape.—Rounded.
 Disease and pest reactions:
Powdery mildew (Sphaerotheca macularis).—Susceptible.
Botrytis fruit rot (Botrytis cinerea).—Moderately susceptible.
Fusarium wilt (Fusarium oxysporum).—Moderately resistant.
Anthraco nose crown rot (Colletotrichum fragariae).—Susceptible.
Two-spotted spider mite (Tetranychus urticae).—Moderately susceptible.

We claim:

1. A new and distinct strawberry plant named 'PE-13.177.011', as herein described and illustrated by the characteristics set forth above.

* * * * *

FIG. 1



FIG. 2

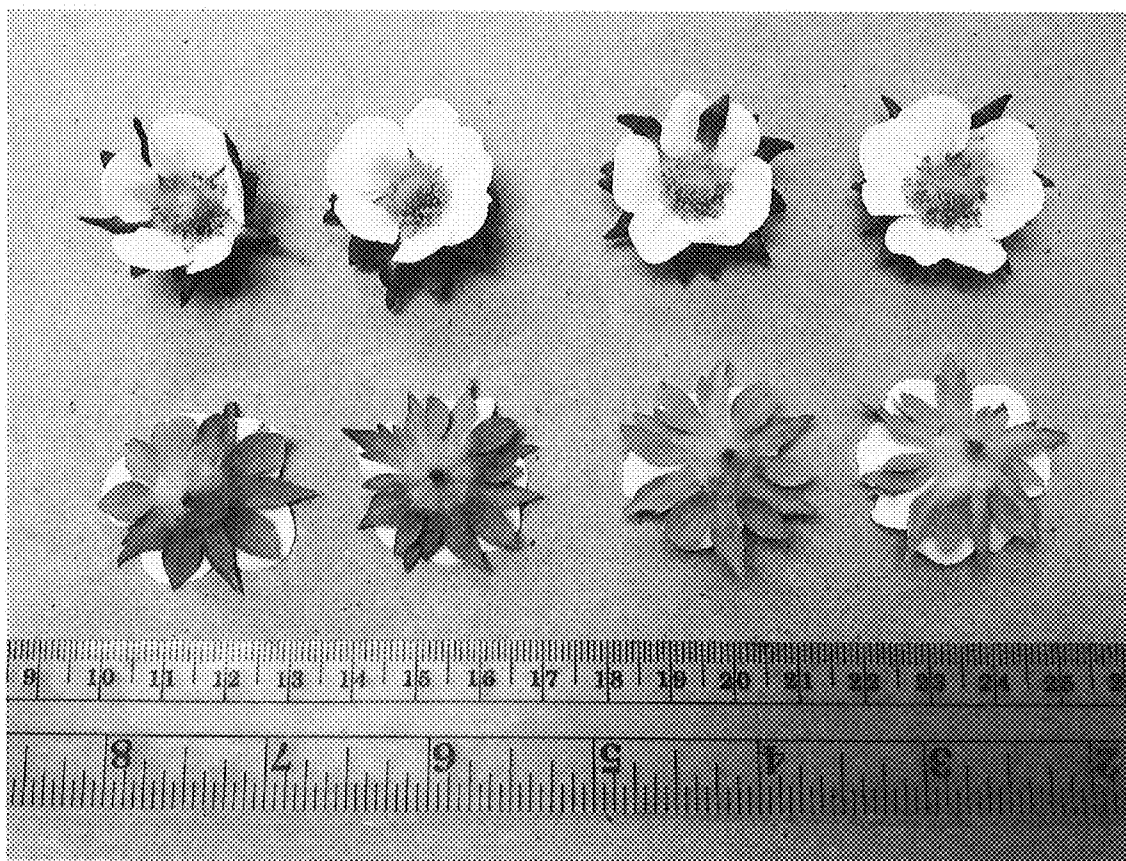


FIG. 3

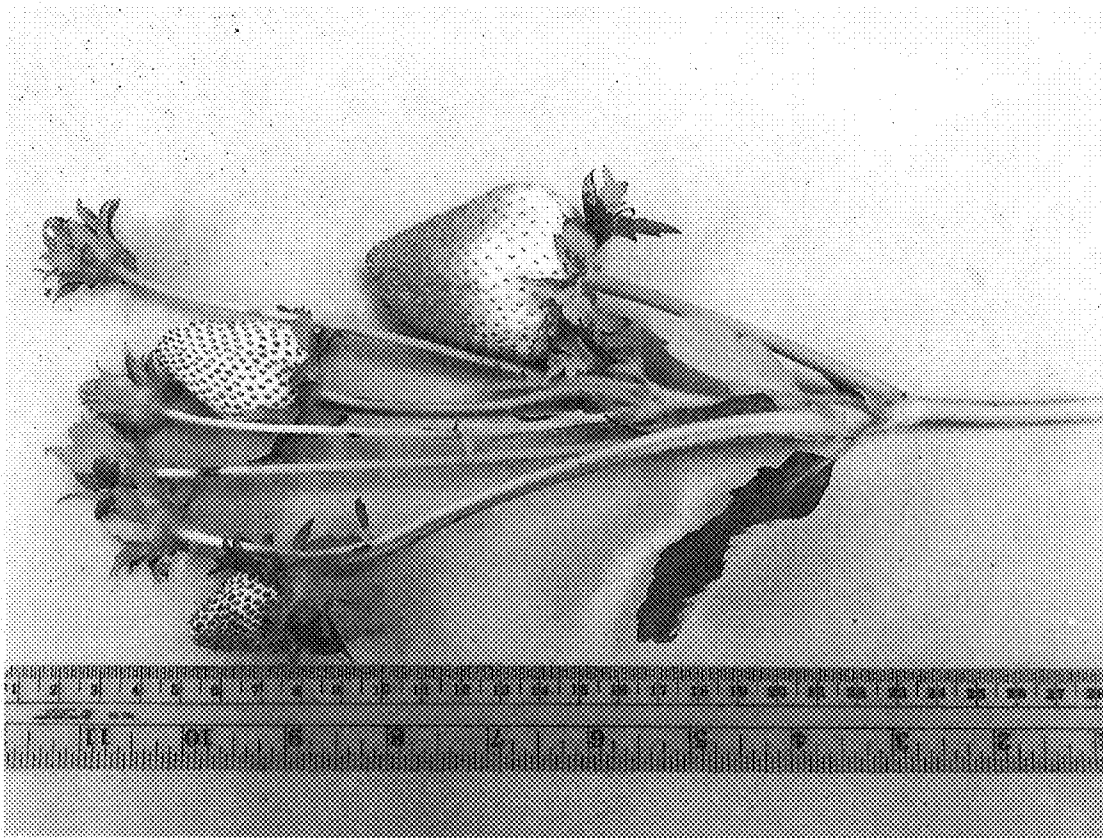


FIG. 4

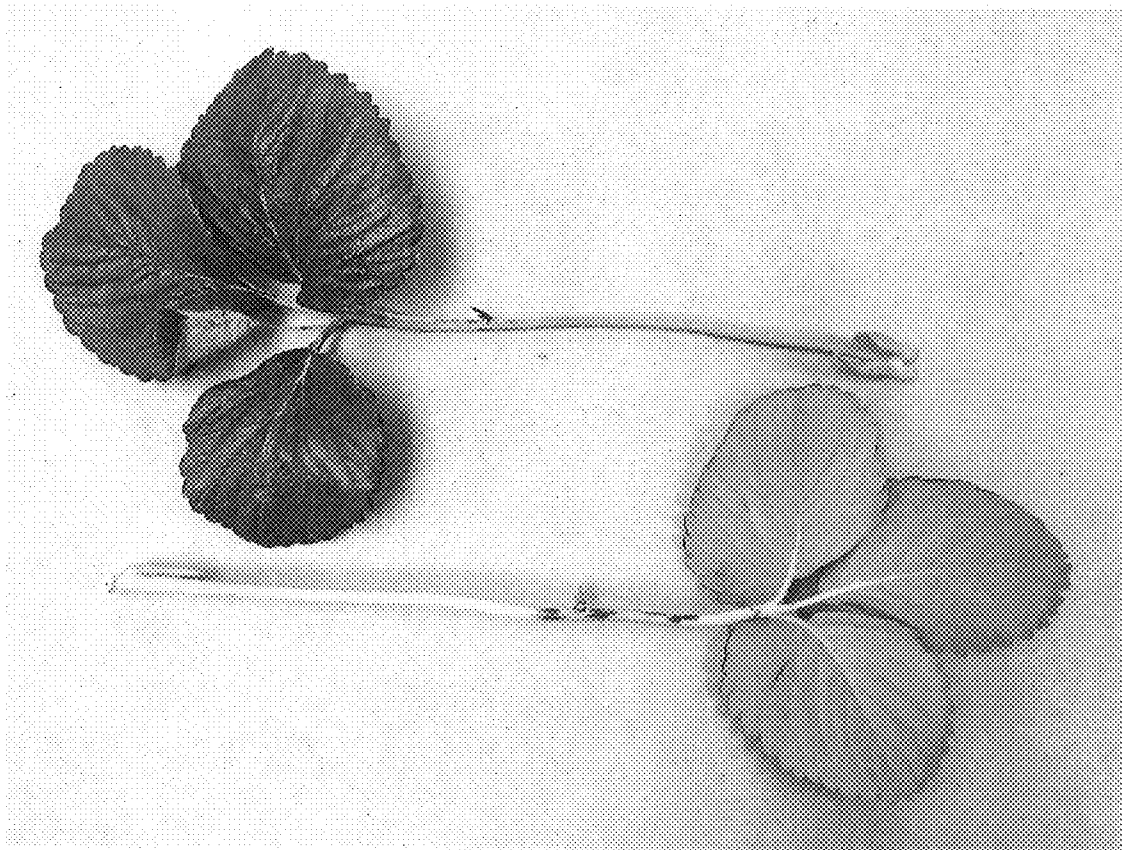


FIG. 5

