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Nelson et al.

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(54) **STRAWBERRY PLANT NAMED 'BG-625'**

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(57) **ABSTRACT**

This invention relates to a new and distinct winter planted short day variety of strawberry known as 'BG-625'. This new variety is primarily adapted to the growing conditions of the southern coast of California. Its strong vigorous plant with large uniformly shaped fruit particularly characterizes the new variety. The fruit is medium to light in color and tends to develop raised seeds at times. Fruit size and production tends to fall off late in the season while the peak is relatively strong during the months of March through April.

2 Drawing Sheets

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SUMMARY OF THE INVENTION

The present invention relates to a new and distinct short-day strawberry variety designated as 'BG-625'. This new variety is a result of a controlled cross of 'Anahiem' (U.S. Plant Pat. No. 8,659) and 'PS-592' (U.S. Plant Pat. No. 9,903). Plant Sciences, Inc. on behalf of Berry Genetics, Inc. performed the cross under contract. 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, California, and was subsequently selected from a controlled breeding plot near Oxnard, Calif. in 1997. After its selection, the new variety was further asexually propagated in Siskiyou County, California by stolons and extensively tested over the next several years in fruiting fields near Oxnard, 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 DESCRIPTIONS OF THE PHOTOGRAPHS

The accompanying color photographs show typical specimens of the new variety at various stages of development as nearly true as it is possible to make in color reproductions:

FIG. 1 shows a close-up of typical leaf characteristics taken on May 13, 2000;

FIG. 2 shows a close-up of typical fruit characteristics taken on Apr. 21, 2000.

DESCRIPTION OF THE NEW VARIETY

'BG-625' is primarily adapted to the climate and growing conditions of the southern coast of California. This region provides the necessary winter temperatures required for it to produce a strong vigorous plant and to remain in fruit production from January through June. The nearby Pacific Ocean provides the needed humidity and moderate tempera-

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tures to maintain fruit quality during the winter and spring production months. The following list of traits in combination define 'BG-625' as a unique variety distinguishing it from the most widely grown commercial variety in the region, 'Camarosa' (U.S. Plant Pat. No. 8,708).

'BG-625' is a medium to large plant. When provided with optimum chilling in the nursery propagation fields prior to being dug and artificial cold storage prior to being planted, the plant of 'BG-625' is larger and more vigorous than 'Camarosa'. The plant habit of 'BG-625' is globose where 'Camarosa' is more flat globose. The color of the upper surface of the leaf of 'BG-625' is medium green while 'Camarosa' is medium to light green. The leaf shape in cross section of 'BG-625' is strongly to slightly concave while 'Camarosa' is slightly concave to flat. Leaf blistering of 'BG-625' is medium while 'Camarosa' is medium to strong. The terminal leaflet length to width ratio of 'BG-625' is nearly as long as broad while 'Camarosa' is longer than broad. Leaf gloss of 'BG-625' is medium to strong while 'Camarosa' is medium. Petioles of 'BG-625' are shorter and smaller in diameter than 'Camarosa'. 'BG-625' has fewer serrations per leaf as compared to 'Camarosa'. Table 4 illustrates foliage characteristics of 'BG-625' and 'Camarosa'.

'BG-625' is capable of long season fruit production with fruit of excellent size and quality during the entire season when provided with optimum chilling in the nursery propagation fields and artificially cold stored prior to being planted. 'BG-625' does not fruit as early as 'Camarosa' in January. Fruit production begins up to 1-2 weeks later than 'Camarosa'. 'BG-625' also does not fruit as heavily as 'Camarosa' late in the season (May-June). Over a two year average 'BG-625' yields have been very comparable to 'Camarosa' with similar runner production and a much larger berry size as compared to 'Camarosa' (Table 1). The stolon anthocyanin coloration of 'BG-625' is strong while 'Camarosa' is medium. The stolon pubescence of 'BG-625' is strong and mostly perpendicular to the stolon while 'Camarosa' is medium and mostly parallel to the stolon.

The fruit of 'BG-625' is mostly smooth with very few longitudinal creases and good overall appearance and gloss.

See Table 3 for fruit quality performance ratings. The fruit length to width ratio of 'BG-625' is as long as broad while 'Camarosa' is much longer than broad. The predominant fruit shape of 'BG-625' is conical to cordiform while 'Camarosa' is cylindrical to wedged. The difference in fruit shapes between primaries and secondaries of 'BG-625' is none-or very slight while 'Camarosa' is moderate to marked. 'BG-625' has a narrow band without achenes under the calyx while 'Camarosa' is medium. The surface of the fruit of 'BG-625' tends to be very uniform and even lacking longitudinal creases while 'Camarosa' tends to more of an uneven surface with more longitudinal creases and irregular shapes. The fruit color of 'BG-625' is orange red to red while 'Camarosa' is red. The fruit gloss of 'BG-625' is medium to strong while 'Camarosa' is medium. The insertion of achenes of 'BG-625' are level with the surface of the berry to above while 'Camarosa' tends to be below the surface of the berry. The attitude of the calyx segments of 'BG-625' is typically collapsing to spreading while 'Camarosa' is more reflexed. The fruit firmness of 'BG-625' is medium while 'Camarosa' is very firm. Table 2 illustrates fruit characteristics of 'BG-625' and 'Camarosa'.

The inflorescence position of the flowers relative to the foliage of 'BG-625' is level with to above while 'Camarosa' is level with to beneath. 'BG-625' typically has no anthocyanin coloration to the inflorescence while 'Camarosa' is light. The pedicel's holding the primary and secondary berries of 'BG-625' are both longer than 'Camarosa'. See Table 5 for inflorescence characteristics. The flower size of 'BG-625' is medium to large while 'Camarosa' is large. The petal length to width ratio of 'BG-625' is broader than long while 'Camarosa' is longer than broad. 'BG-625' also has typically fewer petals per flower than 'Camarosa'. See Table 6 for flower characteristics.

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

SPECIFIC DESCRIPTION OF THE NEW VARIETY

Unless otherwise noted, this detailed description is based on observations taken during the 2000-growing season in Oxnard, Calif. These measurements and ratings were made from plants dug from a high-elevation nursery located in Siskiyou County, California during the first week in October 1999 and planted 3 days later in Oxnard, Calif. Yield observations are averaged from data collected during the 1999 and 2000 growing seasons. 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. 'BG-625' has not been observed under all possible environmental conditions. Color terminology follows the Munsell Book of Colors, Munsell Color, Baltimore, Md. (1976).

Fruit Characteristics

'BG-625' fruit, fruit production and runner production (fruiting field) characteristics as compared to those of 'Camarosa'.

TABLE 1

1999–2000 average market fruit yield, fruit size and runner production characteristics from plants harvested from January through May, 1999 and 2000 of 'BG-625' dug from a high elevation nursery (Macdoel, California) during the first week of October and planted 4–5 days later and compared with 'Camarosa' in Oxnard, California

Cultivar	1999	2000	1999–2000 Average Fresh* Yield Fresh GM/PL	1999–2000	1999– 2000
	Total Fresh* Yield GM/PL	Total Fresh* Yield GM/PL		Average Fresh GM/PL	Average Fresh GRM PL
	Fruit Size	Runners/ PL			
'BG-625'	971	693	832	29.2	0.6
'Camarosa'	876	799	837	22.8	0.4

TABLE 2

Comparison of secondary fruit characteristics of 'BG-625' and 'Camarosa' from Oxnard, California, April 7, 2000.

Character	'BG-625'	'Camarosa'
Munsell Color	7.5R 3/12 to 4/12	5R 3/8 to 3/10
<u>Fruit Length</u>		
mean (cm)	3.8	4.5
range	2.9–4.9	4.1–5.1
<u>Fruit Width</u>		
mean (cm)*	3.8	3.2
range	3.3–4.3	2.8–3.5
Fruit Length/Width Ratio	1.00	1.40
<u>Calyx Diameter</u>		
mean (cm)	4.8	4.7
range	4.1–5.5	3.7–5.6

*Width is measured across the widest part of the berry, typically across the shoulders

TABLE 3

Comparison of 1998–2000 fruit quality characteristics of 'BG-625' and 'Camarosa' from Oxnard, California.*

Character	'BG-625'	'Camarosa'
Skin Firmness	7.7	9.0
Fruit Appearance	7.3	7.0
Fruit Gloss	8.0	7.6

*Results are averaged from 3 years of replicated holding test performed from January through May 1998–2000. (Ratings are based on a scale from 1–10; the higher the rating, the stronger and the more attractive and glossy the berry).

Fruit characteristics are taken from secondary fruit on a first year planting.

Fruit:

Ratio of length/width.—As long as broad.

Size.—Very large (mean length 3.8 cm, mean width 3.8 cm).

Predominant shape.—Conical to cordiform.

Difference in shapes between primary and secondary fruit.—None or very slight.

Band without achenes.—Narrow.

Unevenness of surface.—Absent or very weak.

Color.—Orange red to red.

Evenness of color.—Even.

Glossiness.—Medium to strong.

Insertion of achenes.—Level with the surface to above the surface.

Insertion of calyx.—In the basin to level.

Attitude of the calyx segments.—Collapsing to spreading.

Size of calyx in relation to fruit diameter.—Slightly larger to much larger.

Adherence of calyx (when fully ripe).—Strong.

Firmness of skin.—Medium (See Table 3).

Firmness of flesh.—Medium (See Table 3).

Color of flesh.—Light red (7.5R 3/12 to 4/12).

Distribution of red color of the flesh.—Marginal and central.

Hollow center.—N/A.

Time of flowering (50% of plants at first flower).—Medium.

Time of ripening (50% of plants with ripe fruit).—Medium.

Type of bearing.—Not remontant.

Plant Characteristics

Plant characteristics are based upon plants planted with optimum field chilling and subsequent optimum artificial cold storage.

Plant:

Size.—Medium to large.

Habit.—Globose.

Density.—Medium.

Vigor.—Medium to strong.

Stolons:

Number.—Medium.

Anthocyanin coloration.—Strong.

Thickness.—Medium.

Pubescence.—Strong.

Foliation Characteristics

‘BG-625’ foliage characteristics as compared to those of ‘Camarosa’.

TABLE 4

Comparison of leaf characteristics of ‘BG-625’ and ‘Camarosa’ from Oxnard, California, April 7, 2000.		
Character	‘BG-625’	‘Camarosa’
Munsell Color (upper surface)	7.5GY 3/4 to 3/6	5GY 3/4 to 3/6
<u>Terminal Leaflet Length</u>		
mean (cm)	6.2	6.5
range	5.9–6.6	5.7–7.3
<u>Terminal Leaflet Width</u>		
mean (cm)	6.3	6.7
range	5.4–7.5	5.5–8.1
Terminal Leaflet ratio (L/W)	0.99	0.97
<u>Petiole Length</u>		
mean (cm)	15.1	16.6
range	12.2–18.5	15.3–18.3
<u>Petiole Width</u>		
mean (mm)	3.6	3.9
range	3.2–4.0	3.0–5.0
<u>Petiolule Length</u>		
mean (mm)	5.3	7.3

TABLE 4-continued

Comparison of leaf characteristics of ‘BG-625’ and ‘Camarosa’ from Oxnard, California, April 7, 2000.		
Character	‘BG-625’	‘Camarosa’
range	3–9	5–10
Serrations/Leaf	17.7	19.8
<u>Serration Depth</u>		
mean (mm)	5.6	5.4
range	4.5–6.4	4.2–6.2

Foliation characteristics are taken from a fully mature tri-foliate during mid season.

Foliation:

Color of upper surface.—Medium green (7.5GY 3/4 to 3/6).

Shape in cross section.—Strongly to slightly concave.

Blistering.—Medium.

Glossiness.—Medium to strong.

Terminal leaflet:

Mean length.—6.2 cm.

Mean width.—6.3 cm.

Length/width ratio.—As long as broad.

Shape of base.—Obtuse.

Shape of incision of margins.—Serrate.

Depth of serrations.—Medium to deep.

Petiole:

Pubescence.—Moderate to heavy.

Anthocyanin coloration of stipule.—N/A.

Attitude of hairs.—Slightly outward.

Mean length.—15.1 cm.

Mean width.—3.6 cm.

Thickness.—Medium.

Flowers and Inflorescences

‘BG-625’ inflorescence and flower characteristics as compared to those of ‘Camarosa’.

TABLE 5

Comparison of inflorescence characteristics of ‘BG-625’ and ‘Camarosa’ from Oxnard, California, April 7, 2000.		
Character	‘BG-625’	‘Camarosa’
<u>Primary Pedicel Length</u>		
mean (cm)	17.5	16.8
range	12.0–23.0	12.0–19.0
<u>Primary Pedicel Width</u>		
mean (cm)	3.2	3.2
range	2.7–3.5	2.8–4.2
<u>Secondary Pedicel Length</u>		
mean (cm)	19.4	14.3
range	17.0–22.2	10.0–17.3
<u>Secondary Pedicel Width</u>		
mean (cm)	3.1	2.9
range	2.6–4.2	2.5–3.5

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TABLE 6

Comparison of secondary flower characteristics of 'BG-625' and 'Camerosa' from Oxnard, California, April 7, 2000.		
Character	'BG-625'	'Camerosa'
<u>Flower Diameter</u>		
mean (cm)	2.9	3.8
range	2.4-3.3	3.2-4.5
<u>Petal Length</u>		
mean (mm)	1.1	1.1
range	1.0-1.2	1.0-1.2
<u>Petal Width</u>		
mean (mm)	1.2	1.1
range	1.0-1.3	1.0-1.2
Petal L/W Ratio	0.95	1.00
Petals/Flower	5.3	6.4

Inflorescence characteristic are taken from a fully mature plant during mid season. Flower characteristics are taken from a secondary flower during mid season at full maturity:

Inflorescence:

Position relative to foliage.—Level with to above.

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Secondary pedicel length.—Very long.

Secondary pedicel width.—Thick.

Pubescence.—Weak to medium.

Flowers:

Color.—White.

Mean flower diameter.—2.9 cm.

Size of calyx relative to corolla.—Larger.

Relative position of petals (observed on flowers with 5 or 6 petals).—Free to touching.

Length/width ratio.—Broader than long.

Pest Reactions

This new variety may not be resistant to any of the known insects, diseases or viruses common in California. It is known to be susceptible to the two-spotted spider mite, aphid and flower thrips. It is also known to be susceptible to grey fruit mold, powdery mildew and angular leafspot. The susceptibility of the new variety to any of the virus complexes of California has not been determined.

We claim:

1. A new and distinct strawberry variety as herein described and illustrated by the characteristics set forth above.

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