US00PP13525P3

(12) **United States Plant Patent**
Fear

(10) **Patent No.: US PP13,525 P3**
(45) **Date of Patent: Jan. 28, 2003**

(54) **BLACKBERRY PLANT NAMED 'PECOS'**

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(*) 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.: **09/772,211**

(22) Filed: **Jan. 29, 2001**

(65) **Prior Publication Data**

US 2002/0144321 P1 Oct. 3, 2002

(51) **Int. Cl.**[7] **A01H 5/00**
(52) **U.S. Cl.** **Plt./203**
(58) **Field of Search** Plt./203

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(57) **ABSTRACT**

The present invention relates to a new and distinct cultivar of blackberry plant named 'Pecos'. The new cultivar is distinguished from other blackberry cultivars by its fruit of excellent fruit firmness and shipping quality. 'Pecos' is a thornless midseason cultivar. The new cultivar is distinguished from its seed parent by its earlier season, lower chill requirement, and greater vigor. The new cultivar is distinguished from its pollen parent by having firmer fruit and better fresh market shipping quality.

2 Drawing Sheets

LATIN NAME OF THE GENUS AND SPECIES OF THE PLANT CLAIMED

Rubus hybrid.

VARIETY DENOMINATION

'Pecos'.

1. BACKGROUND OF THE INVENTION

This invention relates to a new cultivar of blackberry called 'Pecos'. The new cultivar was developed from hybridization of the patented female selection 'Navaho', U.S. Plant Pat. No. 6,679, with the patented male cultivar 'Loch Ness', U.S. Plant Pat. No. 6,782. The parents were crossed in Spring 1991 whereafter fruit and seed were collected to produce seedlings for field planting in Watsonville, Calif. in 1991. The new cultivar was selected in July 1993 for its thornless canes and firm, attractive fruit. The cultivar was asexually propagated in Watsonville, Calif., and reproduced true to type plants by in vitro shoot tip culture, root sucker division, and root cuttings.

2. SUMMARY OF THE INVENTION

The present invention provides a new and distinct blackberry cultivar named 'Pecos'. The variety is botanically identified as Rubus L. subgenus Rubus. The variety is a complex Rubus hybrid, which can be characterized as an erect tetraploid with considerable *R. allegheniensis* background with other species such as *R. trivialis, R. argutus* and *R. ulmifolious* also appearing in its background. The new cultivar produces a floricane crop which begins in late June and continues until late August. The new blackberry variety is distinguished from other varieties by a number of characteristics as set forth in Table 1. In particular, the new cultivar is distinguished by its thornless canes, midsummer production, firm fruit and excellent shipping qualities. The fruit of 'Pecos' is medium glossy and medium-sized compared to other cultivars. It has a solid black color with minimal postharvest drupelet color reversion. There have

been no observed plant or fruit diseases and no observed pest resistance or susceptibility. The variety has been developed for fresh market shipping use, and has performed well in coast-to-coast shipping tests and held up well after cold storage at 34 degrees Fahrenheit for periods of up to ten days.

3. COMPARISON TO SIMILAR VARIETIES

The varieties that we believe to be similar to 'Pecos' from those known to us are its parent varieties, 'Loch Ness' (U.S. Plant Pat. No. 6,782) and 'Navaho' (U.S. Plant Pat. No. 6,679). 'Pecos' is intermediate between its parents for many characteristics. 'Pecos' is particularly characterized by having more vigor and a lower chilling requirement than 'Navaho', and having firmer fruit that 'Loch Ness'. The season of ripening of 'Pecos' is similar to that of 'Loch Ness' and earlier than that of 'Navaho'.

4. BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying photographs show typical specimens of the fruit, leaves and shoot of the new cultivar, in color as nearly true as reasonably possible in color illustrations of this type.

FIG. **1** is a photograph showing a primocane shoot and mature leaf of 'Pecos'.

FIG. **2** is a photograph showing a 'Pecos' fruiting lateral with fruit in various stages of development.

5. DESCRIPTION OF THE NEW VARIETY

The following detailed description of the new blackberry cultivar, 'Pecos', is based upon recorded observations of plants two to five years old grown using commercial growing practices in Watsonville, Calif., and is believed to apply to plants of the 'Pecos' cultivar grown in similar conditions of soil and climate elsewhere. Plants were planted on soil previously pre-plant fumigated and regularly fertilized and irrigated with drip irrigation. This description is in accordance with terminology used by the International Union for

the Protection of New Varieties of Plants (UPOV). Throughout this specification, color names beginning with a small letter signify that the name of the color, as used in common speech, is aptly descriptive. Color data beginning with a capital letter and followed by an alphanumeric code indicate the most similar color designations as provided by The Royal Horticultural Society (R.H.S.) Colour Chart published by The Royal Horticultural Society of London, England. 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.

5.2 CHARACTERISTICS OF THE NEW VARIETY

Table 1 provides information on the plant and fruit characteristics of the new blackberry cultivar 'Pecos' compared with characteristics of the blackberry cultivars 'Olallie' (non-patented) and 'Chester' (non-patented). Both 'Olallie' and 'Chester' are currently important cultivars for fresh market shipping, and thus are comparable to the proposed use of the new invention, 'Pecos'.

The new blackberry cultivar is particularly characterized and distinguished from other cultivars by its fruit of excellent fruit firmness and shipping quality. Flavor of 'Pecos' has been rated superior to many other cultivars in sensory tests.

Canes of 'Pecos' are thornless and moderately vigorous. The average cane length for 'Pecos' under a normal growing season is 5.75 feet and the average cane length for 'Chester' is 9 feet. The primocane color on the exposed side of the cane is 187B and 146B on the shaded side. Floricanes are 187B on the exposed side and 146B on the shaded sided.

The fruit yield of 'Pecos' is medium, averaging around 11,000 lbs per acre in comparison to the fruit yield of 'Olallie' which averages around 21,000 lbs per acre.

The leaf of 'Pecos' has very minor undulations between where the veins are and is nearly flat. The leaf surface of 'Pecos' has a few small, soft hairs on both the upper and lower leaf surface.

The petiole color is 187B when exposed to full sun. The bud break of 'Pecos' is in early April and usually 1–2 weeks before 'Chester'. The petal color of 'Pecos' is N155B. The pedicel length averages 14 mm under normal growing conditions. The sepal color is 139C.

'Pecos' is distinguished from its pollen parent, 'Loch Ness', by having firmer fruit with better fresh market shipping quality. 'Pecos' is distinguished from its seed parent, 'Navaho' by its earlier season, lower chill requirement and greater vigor.

TABLE 1

PLANT CHARACTERISTICS OF 'PECOS'

	'Pecos'	'Olallie'	'Chester'
GENERAL			
Vigor	moderate	moderate-high	high
Growth habit	semi-upright	trailing	semi-upright
Productivity	medium	high	high
Self fruitfulness	yes	yes	yes
Number of young shoots	few	medium	medium
CANES			

TABLE 1-continued

PLANT CHARACTERISTICS OF 'PECOS'

	'Pecos'	'Olallie'	'Chester'
Primocanes			
Anthocyanin coloration	absent	present	present
Spines	absent	present	absent
color	—	purple	—
attitude of tip	—	horizontal	—
texture	—	heavy	—
presence and distribution on petioles	absent	present; irregularly distributed	absent
density in central third of shoot	—	medium	—
Internodal distance (cm)-central third of mature cane	2.9	2.6	3.1
Glaucosity on full grown shoot	absent or very weak	weak	weak
Strength of full grown shoot	strong	medium	strong
Cane cross section	angular to grooved	rounded to angular	angular to grooved
LEAVES			
Relief between veins	medium	medium	medium
Number of leaflets	sometimes 3 sometimes 5	usually 3	usually 5
Leaf color	medium	medium	light
upper side	137A, 147A	137A, 137B	147A
underside	146A, 147B	147B	146A
Glossiness of upper surface	medium to glossy	medium	dull
Leaf cross section	concave	concave-flat	concave
Terminal leaflet			
length (cm)	11	8.9	11.1
width (cm)	8.8	7.6	9
shape	cordate	cordate	cordate
tip	acuminate	acuminate	acuminate
base	cordate	cordate	cordate
margin	double serrate	double serrate	double serrate
Lateral leaflet			
overlap of lateral leaflets	overlapping	overlapping	overlapping
length (cm)	10.6	8.7	10.2
width (cm)	7.4	6.1	7.1
shape	ovate	ovate	ovate
tip	acuminate	acuminate	acute
base	acute	acute	acute
margin	double serrate	double serrate	serrate
Petiole			
mean length (cm)	7.9	5.3	7.9
range	3.7–12.5	3.6–8.7	3.9–10.2
pigmentation of upper surface	light reddish	green-slightly pink	purple
pigmentation of underside	green	green-slightly pink	green-pinkish
Length of stalklet	short	very short	medium
Rachis length (cm) between terminal and adjacent lateral leaflets)	3	2.8	3.1
Stipule orientation	erect	variable; clasping to erect	erect
FLOWERS			
Time of bud burst	late	early	late
Time of beginning of flowering	medium	early	late
Flower size	medium-large	small to medium	small to medium
Petal size			
length (mm)	20.3	16.5	18.3

TABLE 1-continued

PLANT CHARACTERISTICS OF 'PECOS'

	'Pecos'	'Olallie'	'Chester'
width (mm)	14.7	11.7	10.9
Anthocyanin color of pedicel	absent	absent	present
Intensity of pedicel coloration	—	—	weak
Length of pedicel	short	long	short
Flower number (third node from tip of lateral)	0.95	3.6	2
FRUIT			
Harvest season	mid	early	mid to late
Dimensions	4.5	5.2	3.2
weight (g/fruit)			
Size	medium	medium	small
length (cm)	2.1	3.3	1.9
width (cm)	1.8	1.4	1.9
Fruiting lateral length (in mid cane)	short	medium	medium-long
mean number of fruit per lateral	7.2	6.2	22.8
range	4–9	3–9	17–40
Shape	ovate to elliptic; longer than broad	narrow ovate; much longer than broad	round to ovate; as long as broad
Color	black	purple-black to black	black
immature	187A	178A–183B	184A
maturing	187A	187A	200A–202A
mature	202A	200A	202A
Firmness	very firm	medium	firm
Glossiness	medium	medium-strong	medium
Soluble solids	10.8	9.7	9.9
Titratable acidity (% as citric acid) (ml of added 0.1 N NaOH to pH 8.1)	10.6	13.3	9.9
Number of drupelets per fruit	60	86	40

Table 2 provides information on the seed weight of the new blackberry cultivar 'Pecos' compared with characteristics of the blackberry cultivars 'Zorro' (application Ser. No. 09/772,327), 'Olallie' (non-patented), 'Chester' (non-patented), 'Sleeping Beauty' (application Ser. No. 09/772,329), and 'Sonoma'.

TABLE 2

Cultivar	Seed Weight
'Zorro'	2.3 mg
'Olallie'	2.1 mg
'Chester'	3.5 mg
'Sleeping Beauty'	4.1 mg
'Pecos'	3.5 mg
'Sonoma'	3.4 mg

5.2 NUCLEIC ACID FINGERPRINTING

Distinctive patterns of polymorphism can be detected using a variety of nucleic acid analysis methods. In one non-limiting example, molecular genetic maps can be produced using random amplified polymorphic DNA (RAPD) (Williams et al., 1990, "DNA polymorphisms amplified by arbitrary primers are useful as genetic markers", Nucleic Acids Res. 18(22):6531–5). Using a variety of oligonucleotide primers, alone or in combination, RAPD analysis of 'Pecos', 'Chester', and 'Olallie' yielded DNA fragment patterns that uniquely distinguish each of these genetically distinct genotypes.

I claim:

1. A new and distinctive cultivar of blackberry plant, substantially as shown and described.

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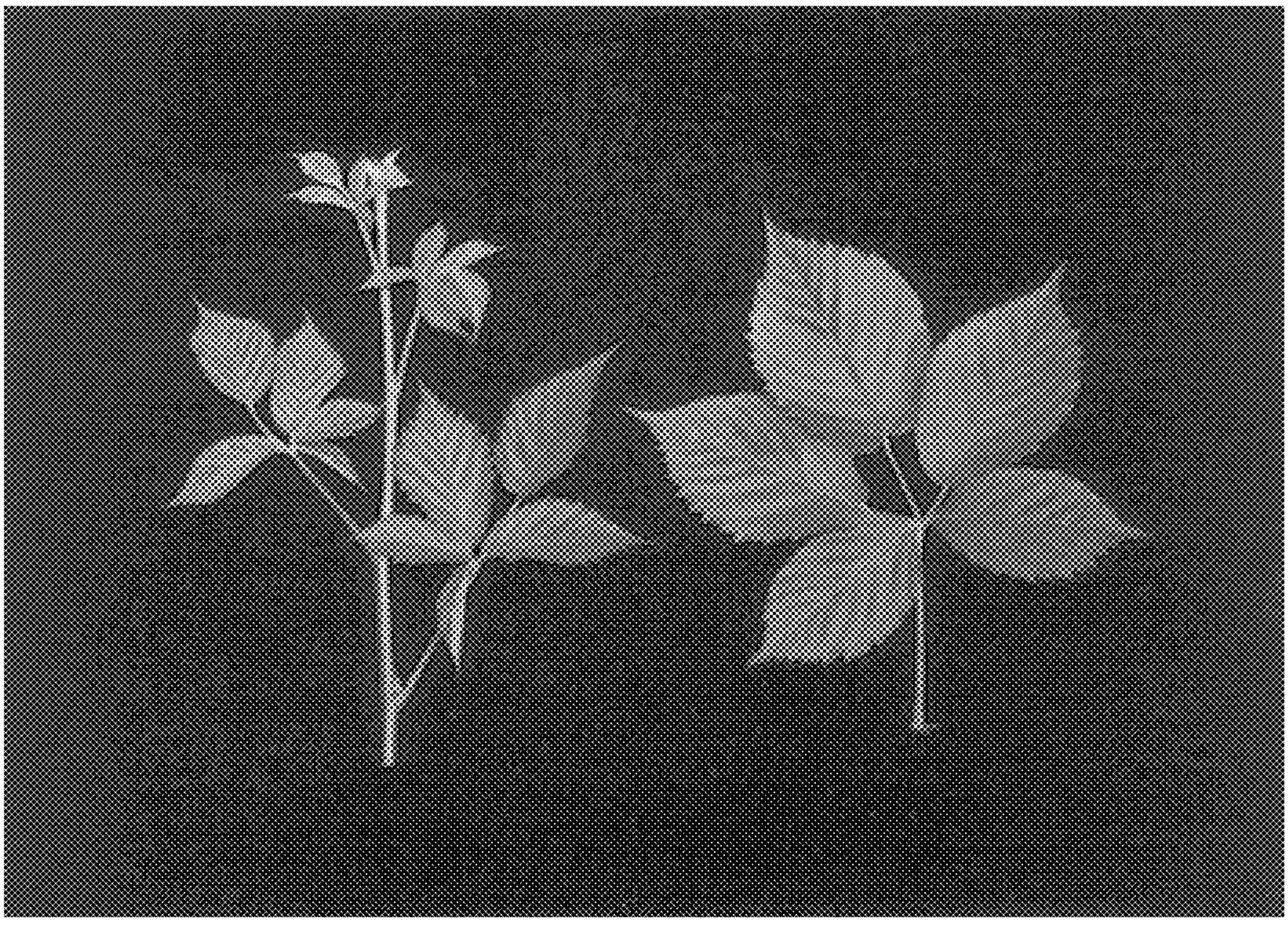

FIG. 1

FIG. 2