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

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(54) **BLACKBERRY PLANT NAMED 'DRISCOLL EUREKA'**

(50) Latin Name: ***Rubus L. subgenus Rubus***
Varietal Denomination: **Driscoll Eureka**

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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.

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

(56) **References Cited**

PUBLICATIONS

The Newsletter of The North American Bramble Growers Association, Inc., "The Past, Present and Future of the American Black Raspberry," vol. 18, Issue 1, Spring 2002.*

* cited by examiner

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(57) **ABSTRACT**

The present invention relates to a new and distinct cultivar of blackberry plant named Driscoll Eureka. The new cultivar is distinguished from other blackberry cultivars by its early season, low chill requirement and improved quality and shipping characteristics. The new cultivar is distinguished from its seed parent by being early and having better flavored fruit, it is distinguished from its pollen parent by its better flavor.

2 Drawing Sheets

Latin name of the genus and species of the plant claimed: The variety is botanically identified as *Rubus L.* subgenus *Rubus.*

BACKGROUND OF THE INVENTION

This invention relates to a new cultivar of blackberry called 'Driscoll Eureka' . The new cultivar was developed from hybridization of the female cultivar 'Zorro' (U.S. patent application Ser. No. 09/772,327) with the unpatented male selection BY45.1. The parents were crossed in 1996 where after fruit and seed were collected to produce seedlings for field planting in Watsonville, Calif. in 1997. The new cultivar was selected in 1998 for its good flavor and fruit firmness. The cultivar has been asexually propagated in Watsonville, Calif. and reproduced true to type plants by in vitro shoot tip culture.

SUMMARY OF THE INVENTION

The present invention provides a new and distinct blackberry cultivar named 'Driscoll Eureka'. 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. alleghenienses* background with other species such as *R. trivialis, R. argutus, R. procerus,* and *R. ulmifolious* also appearing in its background. The new cultivar produces a floricane crop which begins in May and continues until late July. 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 early season, its low chill requirement, and its improved quality and shipping characteristics.

COMPARISON TO SIMILAR VARIETIES

The variety that we believe to be similar to 'Driscoll Eureka' from those known to us is 'Olallie', an unpatented

variety. 'Driscoll Eureka' is particularly different from 'Olallie' by being slightly earlier ripening, having less postharvest color reversion, having less acidic flavor, and having better fruit firmness. Further detailed comparison of 'Driscoll Eureka' to 'Olallie' and 'Chester' is presented in Table 1.

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 of a 'Driscoll Eureka' fruiting lateral with fruit in various stages of development.

FIG. **2**. is a photograph showing a close-up view of a primocane shoot, mature leaf and stem of 'Driscoll Eureka'.

DESCRIPTION OF THE NEW VARIETY

The following detailed description of the new blackberry cultivar, 'Driscoll Eureka', is based upon recorded observations of 2 to 5 year old plants and fruit grown between 2000 and 2002 in Watsonville, Calif. and is believed to apply to plants of the 'Driscoll Eureka' cultivar grown in similar conditions of soil and climate elsewhere. Plants were planted in 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 with a capital letter and 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.

CHARACTERISTICS OF THE NEW VARIETY

Table 1 provides information on the plant and fruit characteristics of the new blackberry cultivar 'Driscoll Eureka' compared with characteristics of the unpatented blackberry cultivars 'Olallie' and 'Chester'. Both 'Olallie' and 'Chester' are currently important cultivars for fresh market shipping, and thus are comparable to the proposed use of the new invention, 'Driscoll Eureka'. Observations of 'Driscoll Eureka' 'Olallie' and 'Chester' were taken in side-by-side comparison in 2001 and in 2002.

Fruit of the new cultivar is particularly characterized and distinguished from other cultivars by its improved flavor and shipping characteristics. Drupelets of 'Driscoll Eureka' fruit show less postharvest color reversion compared to 'Olallie', the most comparable cultivar fruiting at the same time of the season.

'Driscoll Eureka' is moderately productive and produces most of its crop in the early part of the harvest season. Canes of 'Driscoll Eureka' are vigorous, thorny and have buds with a low chill requirement. The average plant height is about 279 cm and the average plant spread is about 169 cm.

The style pigmentation color is 143B, the average number of styles per flower is about 112, the anther pigmentation color is 155A, and the average number of anthers per flower is about 121. The number of petals per flower is five. The color of the sepal pigmentation is 144A. The color of the seeds of 'Driscoll Eureka' is 152C and the average seed weight is 2.9 mg.

'Driscoll Eureka' is distinguished from its pollen parent, BY45.1, by having better flavor.

'Driscoll Eureka' is distinguished from its seed parent, 'Zorro', by being earlier and having better flavored fruit.

TABLE 1

PLANT CHARACTERISTICS OF 'DRISCOLL EUREKA'

	Eureka	Driscoll Chester	Olallie
GENERAL			
Vigor	moderate-high	high	moderate-high
Growth habit	semi-erect	semi-erect	spreading
Productivity	moderate	high	high
Self-fruitfulness	self-fruitful	self-fruitful	self-fruitful
Time of bud burst	early	late	early
CANES			
Primocanes			
Young shoot pigmentation	weak	medium	weak
glucosity (waxy bloom)	absent or weak	medium	weak
cane cross section (from mid cane of primocane)	angular to grooved	angular to grooved	rounded to angular
dormant cane color	brown to purple	purple brown	brown to purple brown
Spines	present	absent	present
pigmentation	purple	—	purple
color	184A	—	187A
density on young shoots	medium	—	medium

TABLE 1-continued

PLANT CHARACTERISTICS OF 'DRISCOLL EUREKA'

	Eureka	Driscoll Chester	Olallie
attitude of tip	downward	—	downward to horizontal
size	medium	—	medium
size: Length (base to tip)(mm)	3.4	—	3.0
texture	smooth	—	heavy
presence and distribution on petioles	present irregularly distributed	—	present irregularly distributed
Pubescence on canes	present	present	present
LEAVES			
Relief between veins	medium	weak	medium
Number of leaflets	usually 5	usually 5	sometimes 3 sometimes 5
Glossiness	medium	medium	medium
Leaf cross section	concave	concave to flat	concave
Terminal leaflet			
length (cm)	8.6	10.7	9.1
width (cm)	7.2	8.3	7.9
shape	ovate	ovate	ovate
tip	acuminate	acuminate	acuminate
base	cordate	cordate	cordate
margin	doubly serrate	doubly serrate	doubly serrate
Lateral leaflet			
length (cm)	7.9	9.2	8.4
width (cm)	5.5	6.4	6.3
shape	ovate	ovate	ovate
tip	acuminate	acuminate	acuminate
base	rounded to cordate	rounded	rounded
margin	doubly serrated	doubly serrated	doubly serrated
rachis length (between terminal leaflet and adjacent lateral leaflets) (cm)	3.0	3.0	2.5
overlapping of lateral leaflets	overlapping	overlapping	overlapping
Petiole			
length (cm)	6.2	5.9	3.9
pigmentation of upper surface	red purple/ maroon 183A	red purple/ maroon	green to slightly pink
pigmentation of underside	yellow green 146A	yellow green	yellow green
Stipule orientation	clasping	erect	clasping to erect
Color			
face	147A	146A	146A
underside	147B	146A	146A
FLOWERS			
Flowering period (time of beginning of flowering)	very early	very late	early
Flower size	medium	medium	medium
Flower diameter (cm)	4.8	4.3	4.3
Flower number (at 3rd node from tip of lateral mean and range)	5.0	9.5	4.2
Petal			
length (cm)	2.3	2.0	2.0
width (cm)	1.7	1.4	1.3
Pedicel			
coloration	absent	weak	very weak
length (cm)	2.4	1.8	—

TABLE 1-continued

PLANT CHARACTERISTICS OF 'DRISCOLL EUREKA'

	Eureka	Driscoll Chester	Olallie
FRUIT			
Fruit harvest season	early	late	early
Color	black	black	black
immature	187A	187A	187B
maturing	202A	202A	202A
mature fruit	202A	202A	202A
Glossiness	strong	medium	medium
Shape	ovate	round to ovate	narrow ovate
Dimensions			
fruit size	medium	small	medium large
length (cm)	2.3	2.1	2.9
width (cm)	2.0	2.0	1.7
Weight (g/fruit)	4.2	3.9	5.3
Soluble solids (%)	11.9	9.6	10.4
Titratable acidity (% as citric acid) (ml. of added .1 N NaOH to pH 8.1)	1.34	1.84	2.06

TABLE 1-continued

PLANT CHARACTERISTICS OF 'DRISCOLL EUREKA'

	Eureka	Driscoll Chester	Olallie
Number of druplets per fruit	61	46	86
Firmness	firm	firm	soft

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 Driscoll Eureka, Chester, and Olallie yielded DNA fragment patterns that uniquely distinguish each of these genetically distinct genotypes.

We claim:

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

* * * * *

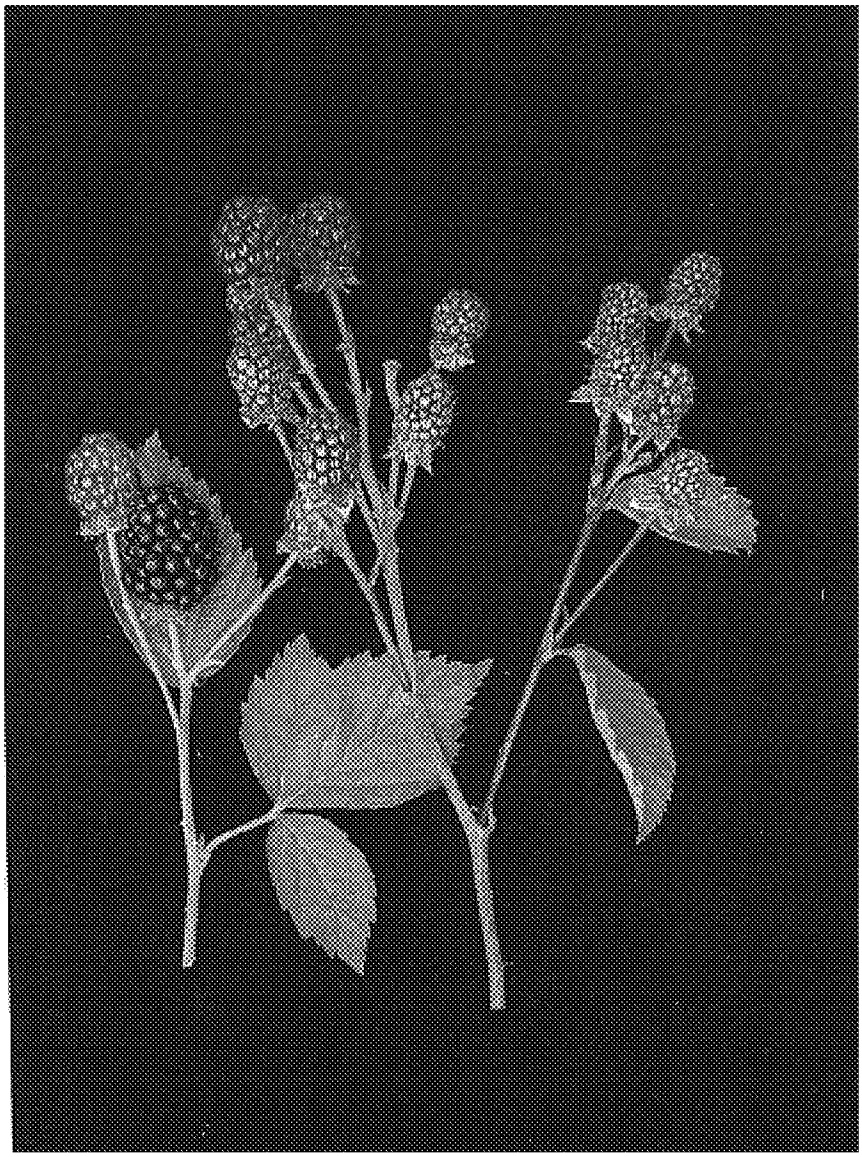

FIG. 1

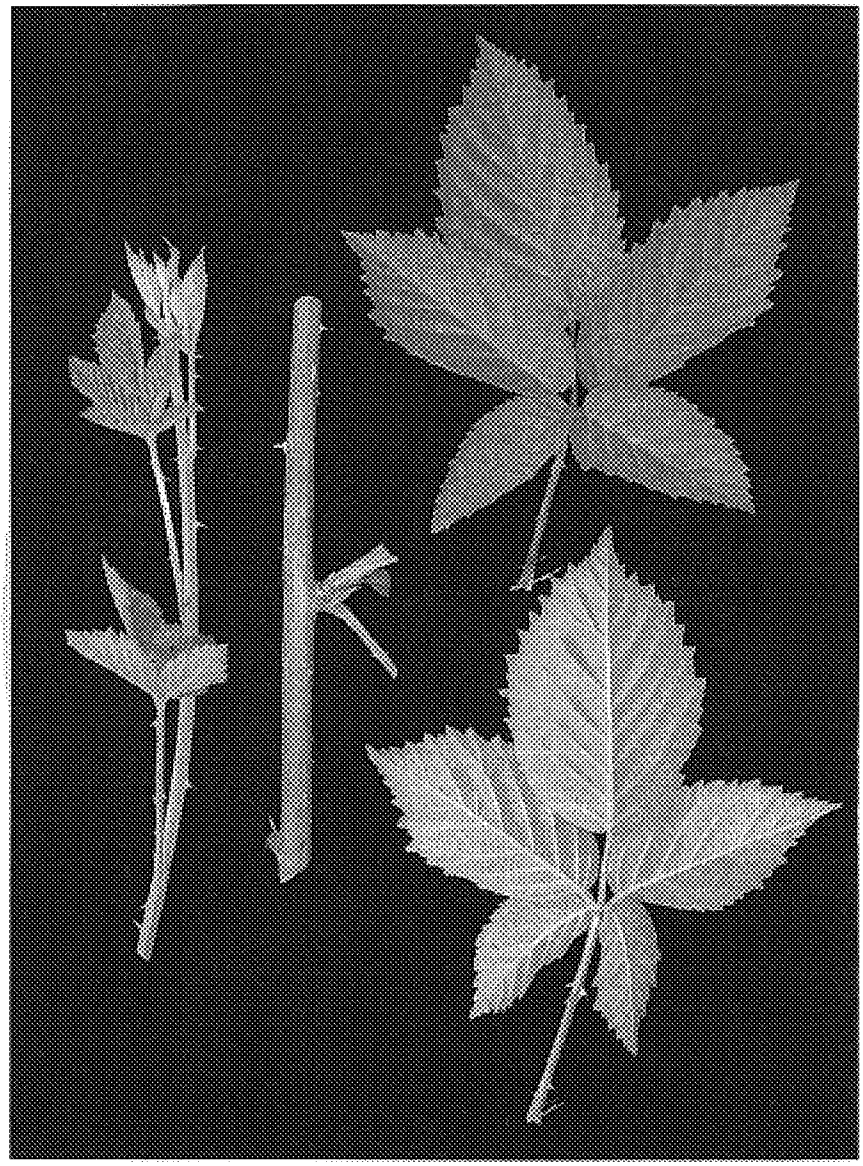

FIG. 2