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Fear et al.

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

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

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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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(57) **ABSTRACT**

The present invention relates to a new and distinct cultivar of blackberry plant named Driscoll Cowles. The new cultivar is distinguished from other blackberry cultivars by its mid-late season crop, large fruit size and thornless canes. Driscoll Cowles produces fruit with improved quality and shipping characteristics. The new cultivar is distinguished from its seed parent by having larger fruit; it is distinguished from its pollen parent by its larger, better flavored fruit.

2 Drawing Sheets

1. BACKGROUND OF THE INVENTION

This invention relates to a new cultivar of blackberry called 'Driscoll Cowles'. The new cultivar was developed from hybridization of the female cultivar 'Sonoma' (U.S. patent application Ser. No. 09/772,330) with the unpatented male variety 'Loch Ness'. The parents were crossed in 1993 where after fruit and seed were collected to produce seedlings for field planting in Watsonville, Calif. in 1994. The new cultivar was selected in 1995 for its good flavor, large fruit size, fruit firmness and thornless canes. The cultivar has been asexually propagated in Watsonville, Calif. and reproduced true to type plants by in vitro shoot tip culture.

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

2. SUMMARY OF THE INVENTION

The present invention provides a new and distinct blackberry cultivar named 'Driscoll Cowles'. 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. alleghenien-sis* 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 mid-July and continues until late September. 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 mid-late season of fruit ripening, its large fruit size and its improved flavor.

3. COMPARISON TO SIMILAR VARIETIES

The variety that we believe to be similar to 'Driscoll Cowles' from those known to us is 'Chester', an unpatented variety. 'Driscoll Cowles' is particularly different from 'Olallie' by being slightly earlier ripening, having larger fruit size and having less acidic flavor. Further detailed comparison of 'Driscoll Cowles' to 'Olallie' and 'Chester' is presented in Table1.

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 of a 'Driscoll Cowles' fruiting lateral branch 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 Cowles'.

5. DESCRIPTION OF THE NEW VARIETY

The following detailed description of the new blackberry cultivar, 'Driscoll Cowles', is based upon recorded observations of 2–5 year old plants and fruit grown between 1998 and 2002 in Watsonville, Calif., and is believed to apply to plants of the 'Driscoll Cowles' 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 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.

5.1 CHARACTERISTICS OF THE NEW VARIETY

Table 1 provides information on the plant and fruit characteristics of the new blackberry cultivar 'Driscoll Cowles' 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 Cowles'. Observations of 'Driscoll Cowles', 'Olallie' and 'Chester' were taken in side-by-side comparison between 1998 and 2002.

Fruit of the new cultivar is particularly characterized and distinguished from other cultivars by its improved flavor, larger size, and thornless canes.

'Driscoll Cowles' is moderately productive and produces most of its crop in the mid to late part of the harvest season. Canes of 'Driscoll Cowles' are vigorous, thornless and have buds with a moderate to high chill requirement. The average plant height is about 334 cm and the average plant spread is about 85 cm. The pigmentation of the young shoots is 145A. The sepals average about 9.9 mm in length and the average width of a sepal is about 4.9 mm. Sepal pigmentation color is 146B. The coloration of the pedicel is 144A.

The style pigmentation color is 143B, the average number of styles per flower is about 121, the anther pigmentation color is 155A, and the average number of anthers per flower is about 180. The number of petals per flower is five. The color of the seeds of 'Driscoll Cowles' is 152A and the average seed weight is 3.3 mg.

'Driscoll Cowles' is distinguished from its pollen parent, 'Loch Ness', by having larger better flavored fruit. 'Driscoll Cowles' is distinguished from its seed parent, 'Sonoma', by having larger fruit.

TABLE 1

PLANT CHARACTERISTICS OF 'DRISCOLL COWLES'

	Driscoll Cowles	Chester	Olallie
GENERAL			
Vigor	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	late	late	early
CANES			
Primocanes			
Young shoot pigmentation	medium	medium	weak
Glucosity (waxy bloom)	absent	medium	weak
Cane cross section from mid) cane of primocane)	weak grooved	angular to grooved	rounded to angular
Dormant cane color	purple brown	purple brown	brown to purple brown
Spines	absent	absent	present
Pubescence on canes	present	present	present
LEAVES			
Length (cm)	8.9	9.2	8.4
Width (cm)	5.6	6.4	6.3
Relief between veins	strong	weak	medium
Number of leaflets	usually 5	usually 5	sometimes 3, sometimes 5
Glossiness	medium	medium	medium

TABLE 1-continued

PLANT CHARACTERISTICS OF 'DRISCOLL COWLES'

	Driscoll Cowles	Chester	Olallie
Cross Section	concave to flat	concave to flat	concave
Terminal leaflet			
Length (cm)	10	10.7	9.1
Width (cm)	7.5	8.3	7.9
Shape	ovate	ovate	ovate
Tip	acuminate	acuminate	acuminate
Base	cordate	cordate	cordate
Margin	doubly serrated	doubly serrated	doubly serrated
Lateral Leaflet			
Length (cm)	8.9	9.2	8.4
Width (cm)	5.6	6.4	6.3
Overlap of lateral leaflets	yes	yes	yes
Shape	ovate	ovate	ovate
Tip	acuminate	acuminate	acuminates
Base	rounded to cordate	rounded	rounded
Margin	doubly serrate	doubly serrated	doubly serrated
Rachis length (between terminal leaflet and adjacent lateral (leaflets) (cm)	3.8	3.0	2.5
Overlapping of lateral leaflets	touching	overlapping	overlapping
Petiole			
Length (cm)	8.6	5.9	3.9
Pigmentation of upper surface	red purple/ maroon 183B	red purple/ maroon	green to slightly pink
Pigmentation of underside	146A	yellow green	yellow green
Stipule orientation	erect	erect	clasping to erect
Color			
Face	147A	146A	146A
Underside	146A	146A	146A
FLOWERS			
Flowering period time of beginning of flowering	very late	very late	early
Flower size	medium	medium	medium
Flower diameters (cm)	4.7	4.3	4.3
Flower number (at 3rd node from tip of lateral mean and range)	7.0	9.5	4.2
Petal			
Length (cm)	2.2	2.0	2.0
Width (cm)	1.7	1.4	1.3
Color	155-D	N74D	
Pedicel			
Coloration	medium	weak	very weak
Length (cm)	3.5	1.8	
FRUIT			
Fruit harvest season	mid-late	late	early
Color	black	black	black
Immature	187-A	187-A	187-B
Maturing	202-A	202-A	202-A
Mature fruit	202-A	202-A	202-A
Glossiness	strong	medium	medium
Shape	narrow ovate	round to ovate	narrow ovate

TABLE 1-continued

PLANT CHARACTERISTICS OF 'DRISCOLL COWLES'

	Driscoll Cowles	Chester	Olallie
Dimensions	to long conical		
Fruit size	large	small	medium
Length (cm)	2.9	2.1	2.9
Width (cm)	2.2	2.0	1.7
Weight (g/fruit)	6.1	3.9	5.3
Soluble solids (%)	11.2	9.6	10.4
Titratable acidity (% as citric acid)	1.34	1.84	2.06
Number of druplets/ fruit	82	46	86
Firmness	Firm	Firm	Soft

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 'Driscoll Cowles', '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.

* * * * *

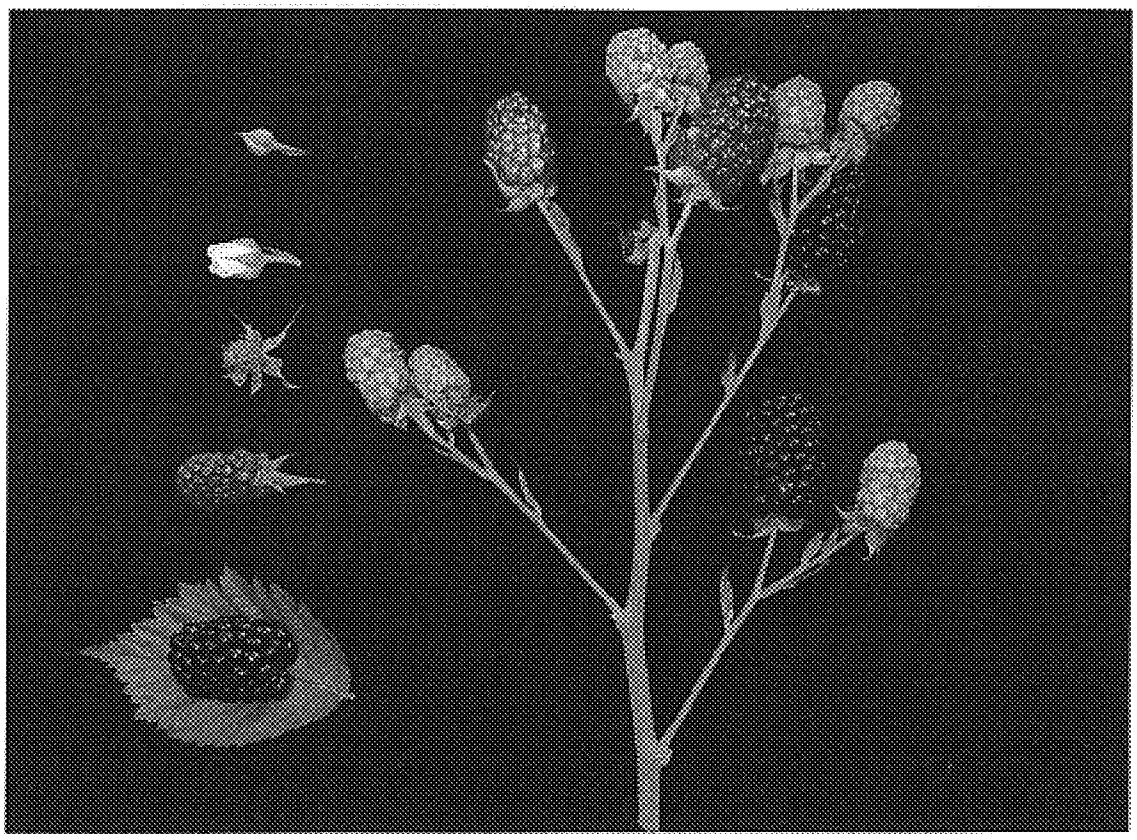

FIG. 1

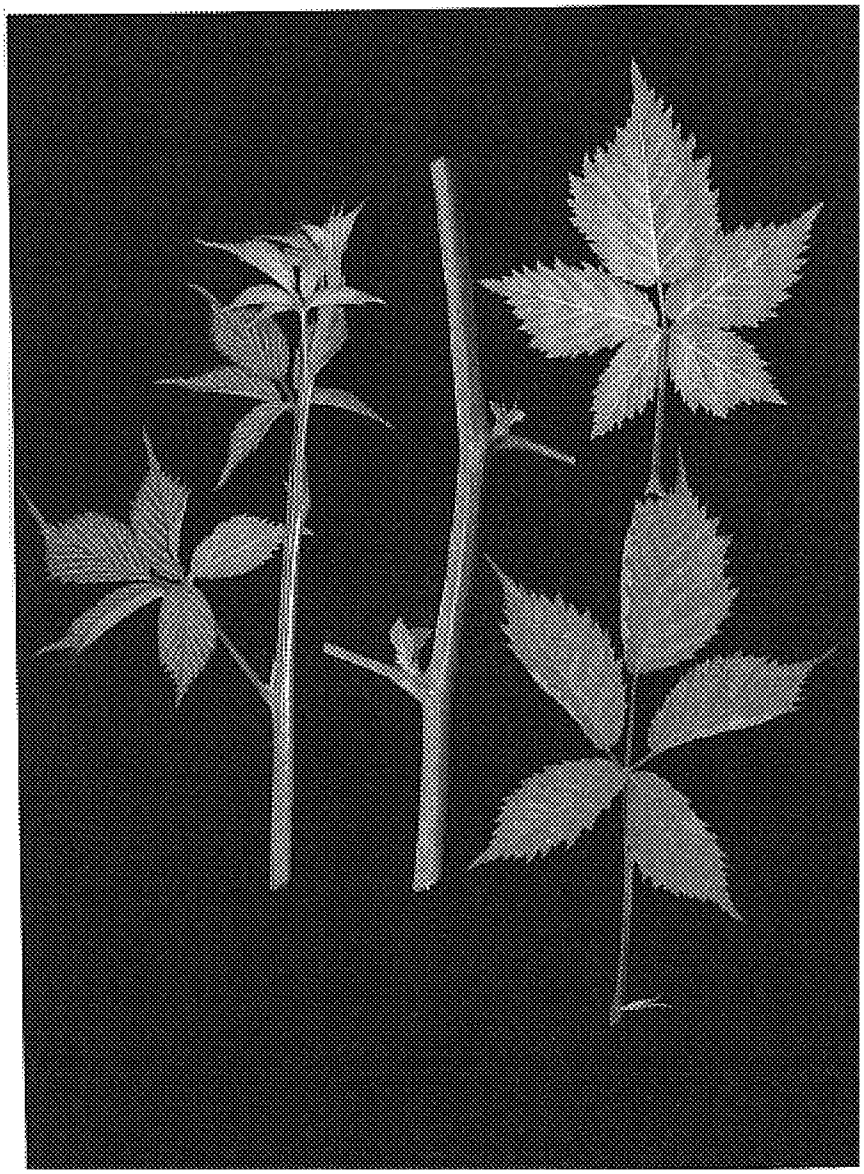

FIG. 2