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(54) **CHRYSANTHEMUM PLANT NAMED**
'ROYAL NEW YOORLEANS'

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(58) **Field of Search** **Plt./286, 297, 298**

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,616,099 A * 10/1986 Sparkes 47/58

OTHER PUBLICATIONS

Shukla, et al., 1993, "Mutation studies on early and late
varieties of garden chrysanthemums", *J. Nuclear Agric.*
Biol., 22 (3-4): 138-142.*

Broertjes, et al., 1980, "A mutant of a mutant of a . . .
Irradiation of prograssive radiation induced mutants in a
mutation breeding programme with *Chrysanthemum mori-*
folium", *Euphytica*, 29: 525-530.*

Gosling, ed., 1979, "The Chrysanthemum Manual—6th edi-
tion", The National Chrysanthemum Society, London, Essex
Telegraph Press, Ltd., pp. 329-336.*

Broertjes, et al., 1978, "Application of Mutation Breeding
Methods in the Improvement of Vegetatively Propagated
Crops", Elsevier Sci. Pub. Co., New York, pp. 162-175.*

Searle, et al., 1968, "Chrysanthemums the Year Round",
Blanford Press, London, pp. 27-29, 320-327.*

Chan, 1966, "Chrysanthemum and rose mutations induced
by x-rays", *Am. Soc. Hort. Sci. Proc.*, pp. 613-620.*

Broertjes, 1966, "Mutation breeding of chrysanthemums",
Euphytica, 15:156-162.*

Dowrick, et al., 1966, "The induction of mutations in
chrysanthemum using x- and gamma radiation", *Euphytica*,
15:204-210.*

* cited by examiner

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(57) **ABSTRACT**

A distinct cultivar of Chrysanthemum plant named 'Royal
New Yoorleans', characterized by its uniform and upright
plant habit; strong and vigorous growth habit; dark green
foliage; uniform flowering response; early and freely flow-
ering habit; daisy-type inflorescences; purple and white
bi-colored ray florets and bright yellow-colored disc florets;
and good postproduction longevity.

2 Drawing Sheets

1

BACKGROUND OF THE INVENTION

The present Invention relates to a new and distinct culti-
var of Chrysanthemum plant, botanically known as *Chry-*
santhemum×*morifolium* and hereinafter referred to by the
name 'Royal New Yoorleans'.

The new Chrysanthemum is a product of a planned
breeding program conducted by the Inventors in Fort Myers,
Fla. and Salinas, Calif. The objective of the breeding pro-
gram is to create new potted Chrysanthemum cultivars that
are suitable for year-round production with uniform plant
growth habit, good vigor, desirable inflorescence form and
florete colors, fast response time, and good postproduction
longevity.

The new Chrysanthemum is a naturally-occurring whole
plant mutation of a proprietary induced mutation that origi-
nated by exposing unrooted cuttings of the Chrysanthemum
cultivar New Yoorleans, disclosed in U.S. Plant Pat. No.
11,215, to X-ray radiation in December, 1996, in Fort
Myers, Fla. The new Chrysanthemum was discovered and
selected by the Inventors as a single flowering plant within
a population of plants of the irradiated selection in April,
1997 in Salinas, Calif. The selection of this plant was based
on its uniform plant growth habit, good vigor, desirable

2

inflorescence form and floret colors, fast response time, and
good postproduction longevity.

Asexual reproduction of the new Chrysanthemum by
vegetative tip cuttings was first conducted in Salinas, Calif.
in July, 1997. Asexual reproduction by cuttings has shown
that the unique features of this new Chrysanthemum are
stable and reproduced true to type in successive generations.

SUMMARY OF THE INVENTION

The cultivar Royal New Yoorleans has not been observed
under all possible environmental conditions. The phenotype
may vary somewhat with variations in environment such as
temperature, daylength, and/or light level, without, however,
any variance in genotype.

The following traits have been repeatedly observed and
are determined to be the unique characteristics of 'Royal
New Yoorleans'. These characteristics in combination dis-
tinguish 'Royal New Yoorleans' as a new and distinct
Chrysanthemum:

1. Uniform and upright plant habit.
2. Strong and vigorous growth habit.
3. Dark green foliage.
4. Uniform flowering response.

5. Typically grown as a spray-type.
6. Early flowering, eight-week response time.
7. Freely flowering habit.
8. Daisy-type inflorescences that are about 6.3 cm in diameter.
9. Purple and white bi-colored ray florets and bright yellow-colored disc florets.
10. Good postproduction longevity with plant maintaining good substance and color for at least three weeks in an interior environment.

Plants of the new *Chrysanthemum* can be compared to plants of the cultivar New Yoorleans. In side-by-side comparisons conducted by the Inventors in Salinas, Calif., plants of the New *Chrysanthemum* differ from plants of the cultivar New Yoorleans in the following characteristics:

1. Ray florets of plants of the new *Chrysanthemum* have a larger ratio of purple to white coloration than ray florets of plants of the cultivar New Yoorleans.
2. Purple ray floret color of plants of the new *Chrysanthemum* is darker than purple ray floret color of plants of the cultivar New Yoorleans.
3. Retention of ray floret coloration under high temperature and/or low light conditions is better on plants of the new *Chrysanthemum* than plants of the cultivar New Yoorleans.

BRIEF DESCRIPTION OF THE PHOTOGRAPHS

The accompanying colored photographs illustrate the overall appearance of the new *Chrysanthemum* showing the colors as true as it is reasonably possible to obtain in colored reproductions of this type. Colors in the photographs may differ from the color values cited in the detailed botanical description which accurately describe the colors of the new *Chrysanthemum*.

The photograph on the first sheet comprises a side perspective view of a typical flowering plant of 'Royal New Yoorleans' grown a spray-type.

The photograph at the top of the second sheet comprises a close-up view of typical inflorescences of 'Royal New Yoorleans' grown as a spray-type.

The photograph at the bottom of the second sheet comprises a close-up view of typical inflorescences of the new *Chrysanthemum* (left) and 'New Yoorleans' (right).

DETAILED BOTANICAL DESCRIPTION

In the following description, color references are made to The Royal Horticultural Society Colour Chart except where general terms of ordinary dictionary significance are used. The following observations and measurements describe plants grown and flowered during the winter in Salinas, Calif., in a fiberglass-covered greenhouse and under conditions which approximate those generally used in commercial potted *Chrysanthemum* production. During the production of these plants, the following conditions were measured: day temperatures, 21 to 27° C.; night temperatures, 17 to 19° C.; and light levels, 5,000 to 6,000 foot-candles. Four unrooted cuttings were directly stuck in 15-cm containers, exposed to long day/short night conditions, and pinched once about 14 days later. At that time, the photoinductive short day/long night treatments were started. Plants used for this description were grown as spray-types. Measurements and numerical values represent averages of typical flowering plants.

Botanical classification: *Chrysanthemum*×*morifolium* cultivar Royal New Yoorleans.

Commercial classification: Daisy-type potted *Chrysanthemum*.

Parentage: Naturally-occurring whole plant mutation of a proprietary *Chrysanthemum*×*morifolium* induced mutation, not patented.

Propagation:

Type.—Terminal tip cuttings.

Time to initiate roots.—About four days at 21° C.

Time to produce a rooted cutting.—About ten days at 21° C.

Root description.—White, fibrous.

Rooting habit.—Freely branching.

Plant description:

Appearance.—Herbaceous daisy-type potted *Chrysanthemum* typically grown as a spray-type. Stems mostly upright and somewhat outwardly spreading; uniform crown. Freely branching, about three lateral branches develop after removal of terminal apex (pinching); dense and full plant. Vigorous.

Plant height.—About 28.5 cm.

Plant width.—About 37 cm.

Lateral branches.—Length: About 23 cm. Diameter: About 4 mm. Internode length: About 1.75 cm. Strength: Strong. Texture: Pubescent. Color: 146A.

Foliage description.—Arrangement: Alternate. Quantity of leaves per lateral stem: About 11 or 12. Length: About 6.9 cm. Width: About 6.1 cm. Apex: Rounded, cuspidate to mucronate. Base: Attenuate to truncate. Margin: Palmately lobed, sinuses between lateral lobes parallel to divergent. Texture: Upper and lower surfaces with very fine pubescence; veins prominent on lower surface. Color: Young foliage, upper surface: Darker than 147A. Young foliage, lower surface: Darker than 147B. Mature foliage, upper surface: Close to 147A. Mature foliage, lower surface: Close to 147B. Venation, upper surface: Close to 146C. Venation, lower surface: 147B to 146C. Petiole length: About 2.1 cm. Petiole diameter: About 3.5 mm. Petiole color: Close to 146C.

Inflorescence description:

Appearance.—Daisy-type inflorescence form with elongated oblong-shaped ray florets. Inflorescences borne on terminals above foliage. Disk and ray florets arranged acropetally on a capitulum. Not fragrant. Typically grown as a natural or center-budded spray-type.

Flowering response.—Under natural conditions, plants flower in the autumn/winter in the Northern Hemisphere. At other times of the year, inflorescence initiation and development can be induced under short day/long night conditions (at least 13.5 hours of darkness). Early flowering; plants exposed to two weeks of long day/short night conditions followed by photoinductive short day/long night conditions flower about 50 to 55 days later when grown during the winter.

Postproduction longevity.—Inflorescences maintain good color and substance for at least three weeks in an interior environment.

Quantity of inflorescences.—Freely flowering, about 9 inflorescences develop per lateral stem, or about 27 inflorescences per plant.

Inflorescence bud.—Height: About 7 mm. Diameter: About 9 mm. Color: Close to 137A.

Inflorescence size.—Diameter: About 6.3 cm. Depth (height): About 1.8 cm. Diameter of disc: About 1.6 cm. Receptacle diameter: About 6 mm.

Ray florets.—Shape: Elongated-oblong. Orientation: Initially upright, then about 70° from vertical. Aspect: Mostly flat and straight. Length: About 3.2 cm. Width: About 1.2 cm. Corolla tube length: About 2 mm. Apex: Acute. Base: Attenuate; short corolla tube. Margin: Entire. Texture: Smooth, glabrous, satiny. Number of ray florets per inflorescence: About 23 arranged in one or two rows. Color: When opening and fully expanded, upper surface: Apex and mid-section: Closest to 61A. Base: 155D. When opening and fully expanded, lower surface: Apex to center: 155D underlain with 71A. Base to center: 155D.

Disc florets.—Arrangement: Massed at center of receptacle. Shape: Tubular, elongated. Apex: Five-pointed. Length: About 6 mm. Width: Apex: About 1.5 mm. Base: About 1 mm. Number of disc florets

per inflorescence: About 144. Color: Immature: 154A to 5A. Mature: Apex: 7A. Mid-section: Close to 145C. Base: 155D.

Peduncles.—Length: First peduncle: About 3.2 cm. Fourth peduncle: About 5.3 cm. Seventh peduncle: About 5.7 cm. Diameter: About 2 mm. Angle to vertical: About 45 to 50° from vertical. Strength: Moderately strong, flexible. Texture: Pubescent. Color: 146A.

Reproductive organs.—Androecium: Present on disc florets only. Anther color: 9A. Pollen: Not observed. Gynoecium: Present on both ray and disc florets.

Seed.—Seed production has not been observed.

Disease resistance: Resistance to pathogens common to Chrysanthemums has not been observed on plants grown under commercial greenhouse conditions.

It is claimed:

1. A new and distinct cultivar of Chrysanthemum plant named 'Royal New Yoorleans', as illustrated and described.

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