

#### US00PP34983P3

# (12) United States Plant Patent Post

(10) Patent No.: US PP34,983 P3

(45) Date of Patent:

Feb. 14, 2023

### (54) CHRYSANTHEMUM PLANT NAMED 'DLFDALL2'

(50) Latin Name: *Chrysanthemum* **X** *morifolium* Varietal Denomination: **DLFDALL2** 

(71) Applicant: Arie Gerard Post, Delft (NL)

(72) Inventor: Arie Gerard Post, Delft (NL)

(73) Assignee: **DELIFLOR ROYALTIES B.V.**,

Massdijk (NL)

(\*) 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.: 17/833,724

(22) Filed: Jun. 6, 2022

#### (65) Prior Publication Data

US 2022/0394896 P1 Dec. 8, 2022

#### Related U.S. Application Data

Provisional application No. 63/197,948, filed on Jun. 7, 2021.

(51) **Int. Cl.** 

*A01H 5/02* (2018.01) *A01H 6/14* (2018.01)

(52) **U.S. Cl.** 

(2013.01)

(58) Field of Classification Search

Primary Examiner — Susan McCormick Ewoldt (74) Attorney, Agent, or Firm — C. Anne Whealy

#### (57) ABSTRACT

A new and distinct cultivar of *Chrysanthemum* plant named 'DLFDALL2', characterized by its upright plant habit; uniform growth habit; vigorous growth habit and rapid growth rate; durable and robust dark green-colored leaves; strong upright flowering stems; decorative-type inflorescences with bright yellow-colored ray florets; relative tolerance to high production temperatures; and good postproduction longevity.

#### 2 Drawing Sheets

1

Botanical designation: *Chrysanthemum* X *morifolium*. Cultivar denomination: 'DLFDALL2'.

# STATEMENT REGARDING PRIOR DISCLOSURES BY INVENTOR/APPLICANT & ASSIGNEE

A Columbian Plant Breeder's Rights application for the instant plant was filed by the Assignee, Deliflor Royalties B.V. of Maasdijk, The Netherlands on Jul. 12, 2021, application number A212811. Foreign priority is not claimed to this application.

The Inventor/Applicant and Assignee assert that no publications nor advertisements relating to sales, offers for sale or public distribution occurred more than one year prior to the effective filing date of this application. Any information about the claimed plant would have been obtained from a direct or indirect disclosure from the Inventor/Applicant and/or the Assignee. Inventor/Applicant and Assignee claim a prior art exception under 35 U.S.C. 102(b)(1) for disclosure and/or sales prior to the filing date but less than one year prior to the effective filing date.

#### BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct cultivar of *Chrysanthemum* plant, botanically known as *Chrysanthemum* x *morifolium*, typically grown as a cut flower *Chrysanthemum* and hereinafter referred to by the name 30 'DLFDALL2'.

The new *Chrysanthemum* plant is a product of a planned breeding program conducted by the Inventor in Maasdijk,

2

The Netherlands. The objective of the breeding program is to create new cut flower *Chrysanthemum* plants with unique and attractive inflorescences.

The new *Chrysanthemum* plant originated from a cross-pollination in March, 2015 of a proprietary selection of *Chrysanthemum* x *morifolium* identified as code number KR 2011.0438-1, not patented, as the female, or seed, parent with a proprietary selection of *Chrysanthemum* x *morifolium* identified as code number KR 2011.9169-1, not patented, as the male, or pollen, parent. The new *Chrysanthemum* plant was discovered and selected as a single flowering plant from within the progeny of the stated cross-pollination in a controlled greenhouse environment in Maasdijk, The Netherlands in March, 2016.

Asexual reproduction of the new *Chrysanthemum* plant by vegetative terminal cuttings in a controlled greenhouse environment in Maasdijk, The Netherlands since March, 2016 has shown that the unique features of this new *Chrysanthemum* plant are stable and reproduced true to type in successive generations of asexual reproduction.

#### SUMMARY OF THE INVENTION

The following traits have been repeatedly observed and are determined to be the unique characteristics of 'DLFDALL2'. These characteristics in combination distinguish 'DLFDALL2' as a new and distinct *Chrysanthemum* plant:

- 1. Upright plant habit; uniform growth habit.
- 2. Vigorous growth habit and rapid growth rate.
- 3. Durable and robust dark green-colored leaves.
- 4. Strong upright flowering stems.

- 5. Decorative-type inflorescences with bright yellowcolored ray florets.
- 6. Relatively tolerant to high production temperatures.
- 7. Good postproduction longevity.

Plants of the new *Chrysanthemum* differ primarily from 5 plants of the female parent selection in the following characteristics:

- 1. Leaves of plants of the new *Chrysanthemum* are lighter green in color than leaves of plants of the female parent selection.
- 2. Ray floret apices of plants of the new Chrysanthemum are mostly obtuse whereas ray floret apices of plants of the female parent selection are emarginate.

Plants of the new *Chrysanthemum* differ primarily from plants of the male parent selection in the following charac- 15 teristics:

- 1. Inflorescences of plants of the new Chrysanthemum are fully double type (decorative) whereas inflorescences of plants of the male parent selection are semi-double type.
- 2. Ray florets of plants of the new *Chrysanthemum* are bright yellow in color whereas ray florets of plants of the male parent selection are white in color.

Plants of the new *Chrysanthemum* can be compared to plants of Chrysanthemum X morifolium 'DLFALT2', not 25 patented. In side-by-side comparisons, plants of the new Chrysanthemum differ primarily from plants of 'DLFALT2' in relative leaf length to petiole length as plants of the new Chrysanthemum have longer relative leaf length to petiole length than plants of 'DLFALT2'. In addition, ray florets of 30 plants of the new Chrysanthemum are slightly darker yellow in color than ray florets of plants of 'DLFALT2'.

#### BRIEF DESCRIPTION OF THE PHOTOGRAPHS

The accompanying photographs illustrate the overall appearance of the new *Chrysanthemum* plant showing the colors as true as it is reasonably possible to obtain in colored reproductions of this type.

The photograph on the first sheet (FIG. 1) is a side 40 perspective view of a typical flowering stem of 'DLFDALL2' grown as a spray-type cut flower.

The photograph on the second sheet (FIG. 2) is a close-up view of upper (left) and lower (right) surfaces of typical inflorescences and typical leaves of 'DLFDALL2'.

### DETAILED BOTANICAL DESCRIPTION

The aforementioned photographs and following observations and measurements describe plants grown during the 50 spring in ground beds in a glass-covered greenhouse in Maasdijk, The Netherlands and under cultural practices typical of commercial cut *Chrysanthemum* production. Plants were initially given long day/short night treatments followed by short day/long night treatments to induce flower 55 initiation and development. During the production of the plants, day temperatures ranged from 18° C. to 25° C., night temperatures ranged from 20° C. to 22° C. and light levels averaged 7 klux. Plants were grown as single-stem spraytype plants and were ten weeks old when the photographs 60 and the description were taken. In the following description, color references are made to The Royal Horticultural Society Colour Chart, 2015 Edition, except where general terms of ordinary dictionary significance are used.

Botanical classification: Chrysanthemum X morifolium 65 'DLFDALL2'.

Parentage:

Female, or seed, parent.—Proprietary selection of Chrysanthemum x morifolium identified as code number KR 2011.0438-1, not patented.

Male, or pollen, parent.—Proprietary selection of Chrysanthemum x morifolium identified as code number KR 2011.9169-1, not patented.

#### Propagation:

*Type.*—Terminal vegetative cuttings.

Time to initiate roots, summer.—About four days at temperatures about 20° C.

Time to initiate roots, winter.—About six days at temperatures about 20° C.

Time to produce a rooted young plant, summer.— About 13 days at temperatures about 20° C.

Time to produce a rooted young plant, winter.—About 15 days at temperatures about 20° C.

Root description.—Fine, fibrous; typically creamy white in color, actual color of the roots is dependent on substrate composition, water quality, fertilizers, substrate temperature and physiological age of roots.

Rooting habit.—Freely branching, medium density.

#### Plant description:

Plant and growth habit.—Herbaceous decorative-type cut flower that is typically grown as a single stem spray-type; upright plant habit; vigorous growth habit and rapid growth rate.

Plant height, soil level to top of foliar plane.—About 77 cm.

Plant height, soil level to top of inflorescence plane.— About 86.8 cm.

Plant (spray) diameter.—About 21 cm.

Flowering stem length.—About 75.4 cm.

Flowering stem diameter.—About 6 mm.

Flowering stem internode length.—About 2.9 cm.

Flowering stem strength.—Strong.

Flowering stem aspect.—Erect.

Flowering stem texture and luster.—Moderately pubescent; slightly glossy.

Flowering stem color, developing.—Close to 144A. Flowering stem color, developed.—Close to 144A; at the ridges, close to 148A.

Leaf description.—Arrangement: Alternate; simple. Length: About 9.5 cm. Width: About 5.7 cm. Shape, in overall outline: Obovate to broadly oblong. Apex: Abruptly acute. Base: Attenuate. Margin: Palmately lobed, coarsely dentate to serrate; sinuses convergent and medium to deep in depth; not undulate. Texture and luster, upper surface: Moderately pubescent, not rugose; slightly velvety; slightly glossy. Texture and luster, lower surface: Moderately pubescent, not rugose; slightly velvety; matte. Venation pattern: Pinnate. Color: Developing leaves, upper surface: Close to 137B. Developing leaves, lower surface: Close to a blend of 138A and 147B. Fully developed leaves, upper surface: Close to a blend of 137A and NN137C; venation, close to 146C. Fully developed leaves, lower surface: Close to 147B; venation, close to 146D. Petioles: Length: About 1.6 cm. Diameter: About 2.5 mm by 3 mm. Strength: Moderately strong. Texture and luster, upper and lower surfaces: Densely pubescent; moderately glossy. Color, upper surface: Close to 146D; edges, close to 137C. Color, lower surface: Close to 146D; edges, close to 147B. Stipules: Quantity and appearance: Two leafy stip-

ules, opposite, at the petiole attachment to the stem. Length: About 8.5 mm. Width: About 1.2 cm. Shape: Reniform; apex, acute; base, broadly cuneate; margins, entire. Texture and luster, upper surface: Moderately pubescent; slightly glossy. Texture and luster, lower surface: Moderately pubescent; matte. Color, upper surface: Close to a blend of 137A and NN137C. Color, lower surface: Close to 147B.

5

#### Inflorescence description:

Appearance.—Decorative-type inflorescence form with oblanceolate-shaped ray florets and tubular disc florets; inflorescences, rotate and flattened in overall shape; inflorescences borne perpendicular to peduncles and face upright; ray and disc florets develop acropetally on a capitulum.

Fragrance.—Faintly fragrant; typical of Chrysanthe-mums.

Flowering response.—Under natural conditions, plant 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); uniform flowering habit and short response time, plants exposed to two weeks of long day/short night conditions after planting followed by photoinductive short day/long night conditions flower about 50 days later when grown as a spraytype.

Postproduction longevity.—Good postproduction longevity; after a seven-day storage period, cut flowers will maintain good color and substance for about two weeks in an interior environment; inflorescences persistent.

Quantity of inflorescences.—Typically grown as a spray-type, about 17 inflorescences (varying <sup>35</sup> between 12 and 22) develop per flowering stem.

Inflorescence size.—Diameter: About 7.4 cm. Depth (height): About 2.5 cm. Disc diameter: About 3 mm; inconspicuous.

Receptacles.—Height: About 4 mm. Diameter: About 6 40 mm. Shape: Broadly ovate. Color: Close to 145C.

Inflorescence buds.—Height: About 1.1 cm. Diameter: About 1.2 cm. Shape: Roughly spherical. Texture and luster: Moderately pubescent; slightly glossy. Color: Developing involucral bracts, close to 137C 45 and 145B; developing ray florets, close to 4A.

Ray florets.—Quantity and arrangement: About 200 arranged in about five whorls. Length: About 2.4 cm, varying between 0.6 cm and 3.4 cm. Width: About 8 mm, varying between 0.1 cm and 1.2 cm. Shape: Oblanceolate; slightly to moderately concave; moderately carinate. Apex: Mostly obtuse to occasionally minutely and abruptly acute. Base: Cuneate. Margin: Entire; not undulate. Aspect: About 50° from vertical, varying from 10° to 70° from vertical. Texture and luster, upper and lower surfaces: Smooth, glabrous; slightly velvety; matte. Color: When opening, upper surface: Close to 6A. When opening, lower surface: Close to 6B; towards the base, close to 5B. Fully opened, upper surface: Close to 5A; towards

the base, close to 5B; venation, close to 5A and 5B; color does not change with subsequent development. Fully opened, lower surface: Close to 5B; venation, close to 5B; color does not change with subsequent development.

0

Disc florets.—Quantity and arrangement: About 70 randomly arranged at the center of the receptacle; disc florets typically do not fully develop. Length: About 5 mm. Diameter: About 1.5 mm. Shape: Tubular. Apex: Obtuse. Margin, free-part: Entire. Texture and luster, inner and outer surfaces: Smooth, glabrous; glossy. Color, when opening: Towards the apex, close to 151A; mid-section and towards the base, close to 145D. Color, fully opened: Towards the apex, close to 145D.

Involucral bracts.—Quantity and arrangement: About 32 arranged in about three whorls. Length: About 1 cm. Width: About 3.5 mm. Shape: Oblong to ovate. Apex: Bluntly acute. Base: Cuneate. Margin: Entire. Texture and luster, upper surface: Smooth, glabrous; glossy. Texture and luster, lower surface: Moderately pubescent; matte. Color, upper surface: Close to NN137B; lateral margins, translucent and close to 196D and apical margins tinged with close to N199A. Color, lower surface: Close to 138A; lateral margins, translucent and close to 196D and apical margins tinged with close to N199A.

Peduncles.—Length: About 8 cm. Diameter: About 3 mm. Strength: Strong. Aspect: Upright. Texture and luster: Moderately to densely pubescent; moderately glossy. Color: Close to 143A; at the ridges, close to 146B.

Reproductive organs.—Androecium: To date, stamen development has not been observed on plants of the new *Chrysanthemum*. Gynoecium: Present only on ray florets as disc florets do not fully develop. Quantity: One per floret. Pistil length: About 4 mm. Style length: About 3.25 mm. Style color: Close to 150B to 150C. Stigma diameter: About 0.5 mm. Stigma shape: Cleft, decurrent. Stigma color: Close to 14B. Ovary color: Close to 157A.

Seeds and fruits.—To date, seed and fruit development have not been observed on plants of the new *Chrysanthemum*.

Pathogen & pest resistance: Plants of the new *Chrysanthemum* have been observed to be resistant to Fusarium (*Fusarium oxysporum* f. sp. *chrysanthemi*) and Western Flower Thrips (*Frankliniella occidentalis*). To date, plants of the new *Chrysanthemum* have not been observed to be resistant to other pathogens and pests common to *Chrysanthemum* plants grown under commercial conditions.

Temperature tolerance: Plants of the new *Chrysanthemum* have been observed to tolerate temperatures ranging from about -12° C. to 35° C. and to be suitable for USDA Hardiness Zones 8 to 10. It is claimed:

1. A new and distinct *Chrysanthemum* plant named 'DLFDALL2' as illustrated and described.

\* \* \* \* \*



FIG. 1

