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Boeder

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(54) **CHRYSANTHEMUM PLANT NAMED ‘STEPS’**

OTHER PUBLICATIONS

(50) Latin Name: *Chrysanthemum morifolium*
Varietal Denomination: **Steps**

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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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Related U.S. Application Data

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(51) **Int. Cl.**⁷ **A01H 5/00**

(52) **U.S. Cl.** **Plt./286**

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

(56) **References Cited**

U.S. PATENT DOCUMENTS

PP14,155 P3 9/2003 Noodelijik Plt./286

Brummitt, 1997. The Garden, Horticultural Science: *Chrysanthemum* once again, pp. 662–663.*

Chrysanthemum Breeder’s Association (CBA) Catalogue 2000 excerpt listing the *Chrysanthemum* variety ‘Scott.’

Chrysanthemum Breeder’s Association (CBA) Catalogue 2001 listing the *Chrysanthemum* variety ‘Scott.’ See pp. 16 and 19 (color photograph).

Chrysanthemum Breeder’s Association (CBA) Catalogue 2002 listing the *Chrysanthemum* variety ‘Scott.’ See pp. 17 and 19 (color photograph).

* cited by examiner

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(57) **ABSTRACT**

A new variety of *Chrysanthemum* plant named ‘Steps,’ has a good uniform canopy of large dark pink flowers with a yellow/green disc. The new variety has a medium vigor and a free branching and uniform spreading habit with good foliage presentation.

1 Drawing Sheet

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Latin name of the genus and species: Botanical classification: *Chrysanthemum morifolium*.

Variety denomination: The new *Chrysanthemum* variety denomination is ‘Steps.’

BACKGROUND OF THE INVENTION

The present invention comprises a new and distinct cultivar of *Chrysanthemum* botanically known as *Chrysanthemum morifolium*, and referred to by the cultivar name ‘Steps’. ‘Steps’, identified as ‘21174-0’ originated from a cross made in a controlled breeding program in Chichester, West Sussex, United Kingdom. The female parent of the new variety is an undistributed, unpatented seedling identified as ‘P371D4’. The male parent of the new variety is an undistributed, unpatented seedling identified as ‘P381D4.’

The new variety ‘Steps’ has been asexually reproduced by vegetative cuttings in Chichester, West Sussex, United Kingdom and the distinguishing characteristics are retained through successive generations of asexual reproduction.

BRIEF SUMMARY OF THE INVENTION

‘Steps’ is a pot type of *Chrysanthemum* plant variety having dark pink single spoon flowers.

Comparison with Female Parent

Plants of the new *Chrysanthemum* variety ‘Steps’ are dissimilar to the parent ‘P371D4’ in plant habitat and growth

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rate. In side-by-side comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new *Chrysanthemum* variety ‘Steps’ compared to plants of the parent ‘P371D4’ in the following characteristics.

1. The new variety ‘Steps’ produces dark pink single spoon flowers whereas the parent ‘P371D4’ produces bronze single flowers.
2. Plants of the new variety ‘Steps’ have similar size and similar height inflorescence to plants of the parent ‘P371D4.’

Comparison with Male Parent

Plants of the new *Chrysanthemum* variety ‘Steps’ are dissimilar to the male parent ‘P381D4’ in plant habitat and growth rate. In side-by-side comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new *Chrysanthemum* variety ‘Steps’ differed from plants of the parent ‘P381D4’ in the following characteristics.

1. The new variety ‘Steps’ produces dark pink single spoon flowers whereas the parent ‘P381D4’ produces pink single flowers.
2. Plants of the new variety ‘Steps’ have smaller and shorter inflorescence than plants of the parent ‘P381D4’.

Comparison with Other Varieties

Plants of the new *Chrysanthemum* variety 'Steps' are similar to 'Scott' (U.S. Plant Pat. No. 14,155) in plant habitat and growth rate. However, in side-by-side comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new *Chrysanthemum* variety 'Steps' compared to plants of 'Scott' in the following characteristics.

1. The new variety 'Steps' produces dark pink single spoon flowers whereas 'Scott' produces purple single spoon flowers.
2. Plants of the new variety 'Steps' have larger and taller inflorescence than plants of 'Scott'.

BRIEF DESCRIPTION OF ILLUSTRATIONS

Typical specimens of the plant and flowers for the new *Chrysanthemum* variety 'Steps' are shown in the accompanying digital photograph. The colors shown are as true as possible within the usual limits of this kind of illustration.

FIG. 1 is a whole plant view of the new variety 'Steps' grown in a pot. The plant shown in the illustration is 55 days after the commencement of Short Days.

DETAILED BOTANICAL DESCRIPTION

The following description of the new *Chrysanthemum* variety 'Steps' is of plants grown in a greenhouse in Chichester, West Sussex, United Kingdom in the month of February. The cultivar has not been observed under all possible environmental conditions. The phenotype may vary significantly with variations in the environment such as temperature, length of day and light intensity, without any variance in genotype. The commercial classification of the new variety is a pot *Chrysanthemum*.

Plants of the new variety have been grown successfully under temperature conditions averaging about 18° C. at night and about 24° C. to 25° C. during the day under light conditions of about 5000 to 6000 foot candles. The plants respond well to the use of growth retardant, such as B9 treatment. To produce a commercial product the plants may be pinched once with the center bud removed. The typical container size for commercial growth is 14 cm. It has been observed that the shelf life of the new variety is about 24 days with a response time of about 8 weeks. The new variety is suitable for growth in a temperature range of 17° C. to 28° C.

The following description is with respect to a plant produced as pot *Chrysanthemum*. In the description of this new *Chrysanthemum* variety, color values have been taken from The Royal Horticultural Society Colour Chart (R.H.S.C.C.).

Plant

Plant type: Pot.
Habit: Upright and free branching.
Height: 24 cm.
Width: 34 cm.
Branching characteristics: Upright and free branching.
Length of lateral branches: 6–11 cm.
Diameter of lateral branches: 0.5–0.6 cm.
Texture of lateral branches: Slightly pubescent.
Number of breaks from pinch: 3–5.
Stem color: 137C.
Stem length: 5.5–6 cm.

Stem diameter: 0.6 cm.

Response time: 55.

Vigor: Medium.

Shelf life: 24 days.

Disease/pest (susceptibility/resistance observed): None observed to date.

Growth retardant type and treatment: 3 applications of 2.5 gm/liter B9 @ 2, 21 and 28 days after sticking of unrooted cuttings. The plants were grown for 3 weeks in Long Day conditions (20 hours of light) and then transferred to Short Day conditions (13 hours of dark).

Propagation:

Type.—Vegetative Propagation Via Stem Cuttings.

Time to rooting.—12–14 days with soil temperatures of 18° C.

Rooting habit.—Fine and Fibrous.

Other treatments or conditions: None.

Foliage

Numbers of leaves per lateral branch: 8–10.

Compound or single: Single.

Arrangement of leaves: Alternate.

Shape of leaf.—Typically 5 lobed ovate.

Size of leaf.—Width (cm): 3–7 cm. Length (cm): 4–10 cm.

Leaf apex.—Rounded.

Base.—Acute.

Attachment.—Petioled.

Aspect.—Slightly undulating.

Margin.—Palmetely lobed.

Surface characteristics.—Top: Slightly pubescent.

Bottom: Pubescent.

Petiole:

Color.—137C.

Length.—1.5 cm.

Diameter.—0.2 cm.

Texture.—Slightly pubescent.

Venation: Net prominent midvein at underside.

Color.—Upper side: Near 138B. Under side: Near 138C.

Color:

Mature leaf, upper side.—Near 137A; under side: Near 138A.

Young leaf, upper side.—Near 137B; under side: Near 137C.

Flower

Flower appearance: Matte.

Flower type: Single.

Flower form: Cupped.

Flower shape: Circular.

Flower habit: Cyme.

Number of blossoms per branch: 3–5.

Inflorescence form: Pyramid.

Depth of fully expanded blossoms.—1.5 cm.

Diameter of fully expanded blossoms.—8.5 cm.

Sepals:

Number.—25–30.

Outer color.—Near 137C.

Length.—0.5–0.8 cm.

Width.—0.1–0.3 cm.

Texture/appearance.—Pubescent.

Peduncle: Peduncle length is shortest at the terminal flower and progressively longer moving down the stem.

Length.—3–10 cm, average 5 cm.

Diameter.—0.5–0.6 cm.

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Color.—Near 137.

Surface.—Pubescent.

Habit.—Slightly Curving.

Strength.—Moderately strong.

Pedicle:

Length.—Terminal: 2.5–6 cm; lateral: 2.5–8 cm.

Diameter.—0.2–0.3 cm.

Color.—Near 138B.

Surface.—Pubescent.

Habit.—Slightly Curving.

Strength.—Moderately strong.

Ray florets:

Form/shape.—Spatulate.

Texture/appearance.—Matte.

Number per flower.—30–35.

Length.—2.5 to 5 cm. Width: 0.3–1 cm Apex: Rounded.

Base.—Tubular.

Corolla tube length.—1 cm.

Corolla tube diameter.—0.2 cm.

Spoon length.—1.5 cm.

Spoon width.—0.3–1 cm.

Margin.—Entire.

Disc florets:

Form/shape.—Cylindrical.

Texture/appearance.—Shiny.

Number per flower.—200–300.

Length.—0.6 cm; Width 0.1 cm.

Diameter of disc.—2 cm.

Fragrance: None.

Flower bud (at onset of color):

Length.—1 cm.

Diameter.—1.2 cm.

Form/shape.—Globular.

General flower color:

1. *Ray florets, spoon, upper side*.—Immature: Near 67A. Mature: Near 67B. Older/Fading: Near 67C.

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Corolla tube, inner side: 67A. Corolla tube, outer side: 65B.

2. *Ray florets, spoon, under side*.—Immature: Near 67B. Mature: Near 67D. Older/Fading: Near 73B.

3. *Disc florets*.—Immature: Near 143A. Mature: Near 144B. Older/Fading: Near 151A.

4. *Bud*.—138B.

Flower progression with age: No change in flower form, slight colour fading as flowers mature.

Lastingness of blooms: About 24 days.

Reproductive Organs

Gynoecium: Present on Ray and Disc Florets.

Ray florets per individual flower:

Pistil number.—About 30.

Stigma color.—Near 5B.

Stigma shape.—Forked.

Style color.—Near 5B.

Style length.—0.5 cm.

Disc florets per individual flower:

Pistil number.—About 30.

Stigma color.—Near 7A.

Stigma shape.—Forked.

Style color.—Near 7A.

Style length.—0.4 cm.

Androecium: Not observed.

Fruit and seeds: None observed to date.

What is claimed is:

1. A new and distinct variety of *Chrysanthemum* plant, substantially as described and illustrated herein.

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