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**Post**

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(54) **CHRYSANTHEMUM PLANT NAMED**  
**‘MANAGUA’**  
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(NL)  
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patent is extended or adjusted under 35  
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(57) **ABSTRACT**

A distinct cultivar of Chrysanthemum plant named  
‘Managua’, characterized by its daisy inflorescence form  
with dark orange-colored ray florets; dark green foliage;  
strong flowering stems; freely flowering habit; short  
response time; and excellent postproduction longevity.

**1 Drawing Sheet**

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**BOTANICAL CLASSIFICATION/CULTIVAR**  
**DESIGNATION**

*Chrysanthemum*×*morifolium* cultivar Managua.

**BACKGROUND OF THE INVENTION**

The present invention relates to a new and distinct cultivar  
of Chrysanthemum plant, botanically known as  
*Chrysanthemum*×*morifolium* and referred to by the name  
‘Managua’.

The new Chrysanthemum originated from a cross-  
pollination made by the Inventor in ’s-Gravenzande, The  
Netherlands, of a proprietary selection of Chrysanthemum  
identified as code number DB 4441, not patented, as the  
female, or seed, parent with a proprietary selection of  
Chrysanthemum identified as code number DB 5912, not  
patented, as the male, or pollen, parent. The new Chrysan-  
themum was discovered and selected by the Inventor within  
the progeny of the stated cross in a controlled environment  
in ’s-Gravenzande, The Netherlands, in January, 2001. The  
selection of this plant was based on its inflorescence form,  
color and good substance.

Asexual reproduction of the new Chrysanthemum by  
terminal cuttings harvested in ’s-Gravenzande, The Nether-  
lands since January, 2001, has shown that the unique fea-  
tures of this new Chrysanthemum are stable and reproduced  
true to type in successive generations.

**BRIEF SUMMARY OF THE INVENTION**

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

The following traits have been repeatedly observed and  
are determined to be the unique characteristics of ‘Man-  
agua’. These characteristics in combination distinguish  
‘Managua’ as a new and distinct cultivar:

1. Daisy inflorescence form with dark orange-colored ray  
florets; typically grown as a spray type.

2. Dark green foliage.

3. Strong flowering stems.

4. Freely flowering habit.

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5. Short response time.  
6. Excellent postproduction longevity.

Plants of the new Chrysanthemum can be compared to  
plants of the female parent, the selection DB 4441. In  
side-by-side comparisons conducted by the Inventor in  
’s-Gravenzande, The Netherlands, plants of the new Chry-  
santhemum differed from plants of the selection DB 4441 in  
the following characteristics:

1. Plants of the new Chrysanthemum were more vigorous  
than plants of the selection DB 4441.

2. Apices of ray florets of plants of the new Chrysanthe-  
mum were more rounded than apices of ray florets of plants  
of the selection DB 4441.

3. Ray florets of plants of the new Chrysanthemum were  
darker orange in color than ray florets of plants of the  
selection DB 4441.

4. Plants of the new Chrysanthemum flowered about three  
days later than plants of the selection DB 4441.

Plants of the new Chrysanthemum can be compared to  
plants of the male parent, the selection DB 5912. In side-  
by-side comparisons conducted by the Inventor in  
’s-Gravenzande, The Netherlands, plants of the new Chry-  
santhemum and the selection DB 5912 differed in the  
following characteristics:

1. Plants of the new Chrysanthemum were more vigorous  
than plants of the selection DB 5912.

2. Plants of the new Chrysanthemum had paler green-  
colored leaves than plants of the selection DB 5912.

3. Plants of the new Chrysanthemum had larger inflores-  
cences than of plants of the selection DB 5912.

Plants of the new Chrysanthemum can also be compared  
to plants of the cultivar Tigerrag, not patented. In side-by-  
side comparisons conducted by the Inventor in  
’s-Gravenzande, The Netherlands, plants of the new Chry-  
santhemum and the cultivar Tigerrag differed in the follow-  
ing characteristics:

1. Plants of the new Chrysanthemum were shorter and  
more uniform than plants of the cultivar Tigerrag.

2. Plants of the new Chrysanthemum had more inflores-  
cences per flowering stem than plants of the cultivar Tiger-  
rag.



3. Ray florets of plants of the new *Chrysanthemum* were broader and had more rounded apices than ray florets of plants of the cultivar Tigerrag.

4. Ray florets of plants of the new *Chrysanthemum* and the cultivar Tigerrag differed in ray floret color.

5. Plants of the new *Chrysanthemum* flowered about four days earlier than plants of the cultivar Tigerrag.

#### BRIEF DESCRIPTION OF THE PHOTOGRAPHS

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

The photograph at the top of the sheet comprises a side perspective view of a typical flowering stem of 'Managua'.

The photograph at the bottom of the sheet comprises a close-up view of a typical leaf and a typical inflorescence of 'Managua'.

#### 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 aforementioned photographs, following observations and measurements describe plants grown in ground beds in 's-Gravenzande, The Netherlands, under commercial practice in a glass-covered greenhouse. Plants were initially given short nyctoperiods followed by long nyctoperiods to induce flower initiation and development. Average day and night temperatures were 18 and 19° C., respectively. Plants were grown as single-stem spray types and were about 11 weeks from planting when the photographs and description were taken.

Botanical classification: *Chrysanthemum*×*morifolium* cultivar Managua.

Commercial classification: Cut *Chrysanthemum* with daisy inflorescence form; typically grown as a spray-type.

Parentage:

*Female or seed parent*.—Proprietary selection of *Chrysanthemum*×*morifolium* identified as code number DB 4441, not patented.

*Male or pollen parent*.—Proprietary selection of *Chrysanthemum*×*morifolium* identified as code number DB 5912, not patented.

Propagation:

*Type*.—Terminal tip cuttings.

*Time to initiate roots, summer*.—About 5 days at 20° C.

*Time to initiate roots, winter*.—About 6 days at 20° C.

*Root description*.—Fine, fibrous and well-branched.

Plant description:

*Appearance*.—Herbaceous cut *Chrysanthemum* with daisy inflorescence form; typically grown as a spray type. Upright with strong stems.

*Growth rate*.—Moderate; moderately vigorous to vigorous.

*Crop time*.—For cut flowers, about 11 weeks are required to produce flowering stems.

*Flowering stem description*.—Length: About 80 cm. Diameter, at base: About 6 mm. Strength: Strong.

Aspect: Upright. Branching habit: Plants are typically grown as single stems. Color: 144A.

*Foliage description*.—Arrangement: Alternate. Length: About 12.25 cm. Width: About 8.5 cm. Apex: Mucronate. Base: Obtuse to truncate. Margin: Palmately lobed. Texture, upper and lower surfaces: Rough; pubescent. Petiole length: About 2.5 cm. Color: Young foliage, upper surface: 139A. Young foliage, lower surface: 147B. Fully expanded foliage, upper surface: 137A. Fully expanded foliage, lower surface: 147B. Venation, upper and lower surfaces: 147B. Petiole: 137A.

Inflorescence description:

*Appearance*.—Daisy inflorescence form. Inflorescences borne on terminals, arising from leaf axils. Ray and disc florets arranged acropetally on the receptacle.

*Flowering response*.—Under natural conditions, plant typically flowers in November in the Northern Hemisphere. At other times of the year, inflorescence initiation and development can be induced under long nyctoperiod conditions (at least 13.5 hours of darkness). Early flowering; plants exposed to short nyctoperiods conditions after planting followed by photoinductive long nyctoperiod conditions flower about 7.5 weeks later.

*Postproduction longevity*.—Inflorescences will maintain good substance and form for about 5 weeks on the plant and for about 3.5 weeks after harvesting cut flowering stems.

*Quantity of inflorescences per flowering stem*.—About 17.

*Inflorescence size*.—Diameter: About 5.5 cm. Depth (height): About 2 cm. Diameter of disc: About 1.7 cm.

*Inflorescence buds*.—Length: About 6 mm. Diameter: About 8 mm. Shape: Oblate. Color: 137C.

*Ray florets*.—Length: About 2.7 cm. Width: About 1.3 cm. Shape: Elongated oblong. Apex: Rounded. Base: Acute to attenuate. Margin: Entire. Texture: Smooth, glabrous. Number of ray florets per inflorescence: About 22. Color: When opening, upper surface: Slightly darker than 169A. When opening, lower surface: 167C. Fully opened, upper surface: Close to 169A. Fully opened, lower surface: 20A.

*Disc florets*.—Shape: Oblong, tubular. Length: About 4 mm. Width: About 1 mm. Number of disc florets per inflorescence: About 185. Color: Immature: 144D. Mature: 144C.

*Peduncles*.—Length, terminal peduncle: About 2.6 cm. Length, fourth peduncle: About 6 cm. Diameter: About 2 mm. Angle: About 60° to main stem. Texture: Pubescent. Color: 138A.

*Reproductive organs*.—Androecium: Present on disc florets only. Anther color: 12A. Amount of pollen: Moderate. Pollen: 12A. Gynoecium: Present on both ray and disc florets.

*Seed*.—Seed production has not been observed.

Disease/pest resistance: Resistance to known *Chrysanthemum* pathogens and pests has not been observed on plants of the new *Chrysanthemum*.

It is claimed:

1. A new and distinct cultivar of *Chrysanthemum* plant named 'Managua', as illustrated and described.

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