

US00PP15377P3

(12) **United States Plant Patent**
Noodelijk

(10) **Patent No.:** **US PP15,377 P3**
(45) **Date of Patent:** **Nov. 30, 2004**

(54) **CHRYSANTHEMUM PLANT NAMED**
'REDOCK ORANGE'

(50) Latin Name: *Chrysanthemum morifolium*
Varietal Denomination: **Redock Orange**

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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 130 days.

(21) Appl. No.: **09/910,030**

(22) Filed: **Jul. 23, 2001**

(65) **Prior Publication Data**

US 2003/0033652 P1 Feb. 13, 2003

(51) **Int. Cl.⁷** **A01H 5/00**

(52) **U.S. Cl.** **Plt./296**

(58) **Field of Search** **Plt./296**

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(57) **ABSTRACT**

A *Chrysanthemum* plant named 'Redock Orange' characterized by its medium sized blooms with orange ray-florets and yellow-green disc florets.

2 Drawing Sheets

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RELATED CULTIVARS

'Redock Orange' is related to 'Redock Dark' (pending Ser. No. 09/910,029) and 'Redock Salmon' (pending Ser. No. 09/910,027). These varieties are all mutants of the original 'Redock' (unpatented).

BACKGROUND OF THE INVENTION

'Redock Orange' is a product of a breeding and selection program that had the objective of finding color mutants of 'Redock'. The new plant of the present invention comprises a new and distinct cultivar of *Chrysanthemum* plant that is a natural occurring sport of a parent *Chrysanthemum* named 'Redock' (unpatented). A comparison with parent *Chrysanthemum* 'Redock' is also made in this application. The new cultivar was discovered as a whole plant mutation in September, 1999 by Rob Noodelijk in a controlled environment (greenhouse) in Rijsenhout, Holland. The first act of asexual reproduction of 'Redock Orange' was accomplished when vegetative cuttings were taken from the initial selection in November 1999 in Rijsenhout, Holland.

SUMMARY OF THE INVENTION

The present invention is a new and distinct variety of *Chrysanthemum* bearing medium sized blooms with orange ray-florets and yellow-green disc florets.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention of a new and distinct variety of *Chrysanthemum* is shown in the accompanying drawings, the color being as nearly true as possible with color photographs of this type.

FIG. 1 shows a plant of the cultivar in full bloom.

FIG. 2 shows the foliage of the cultivar.

DESCRIPTION OF THE INVENTION

This new variety of *Chrysanthemum* is of the botanical classification *Chrysanthemum morifolium*. The observations and measurements were gathered from plants grown in April/May in a greenhouse in Rijsenhout, Holland in a photo-periodic controlled crop under conditions generally used in commercial practice. The greenhouse temperatures

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during this crop were at day-time between 18° C. and 25° C. and at night 20° C. After a long day period of 14 days, the photo-periodic response time in this crop was 47 days. After the long day period to flowering, growth retardants were applied 3 times in an average dose of 2.5 gram/liter water. No tests were done on disease or insect resistance or susceptibility. This new variety produces medium sized blooms with orange ray-florets and yellow-green disc-florets blooming on the plant for 4 weeks. This new variety of *Chrysanthemum* has been found to retain its distinctive characteristics throughout successive propagations; however, the phenotype may vary significantly with variations in environment such as light intensity and temperature. To show the phenotype as described 'Redock Orange' can be planted without assimilation lightning (high pressure sodium lamps) between week 50 and week 40 of the next year under greenhouse conditions in Holland. With assimilation light (minimum level 2500 lux) it can be planted year round under greenhouse conditions in Holland.

From the cultivars known to inventor the most similar existing cultivar in comparison to 'Redock Orange' is 'Redock'. When 'Redock' and 'Redock Orange' are being compared the following differences and similarities are noticed. The difference of 'Redock' and 'Redock Orange' is the orange ray-floret color for which characteristics 'Redock Orange' has been selected out of 'Redock'. All other characteristics of 'Redock' and 'Redock Orange' are similar. From other commercial varieties 'Orange Reagan' (U.S. Plant Pat. No. 8,769) and 'Orange Elite Reagan' are the most similar. The differences between 'Orange Reagan', 'Orange Elite Reagan' and 'Redock Orange' are (1) Flower form and color. The ray-florets of 'Redock Orange' are more upright, less broad, more pointed and more concave. (2) Vigour. Under the same circumstances the plants of 'Redock Orange' are 20 cm longer. (3) Response time. The response time of 'Redock Orange' is shorter. (4) The disc-floret size of 'Redock Orange' is smaller. (5) Foliage size and color. The foliage of 'Redock Orange' is bigger and more yellow-green.

The following is a description of the plant and characteristics that distinguish 'Redock Orange' as a new and distinct variety. The color designations are taken from the plant itself. Accordingly, any discrepancies between the color

designations and the colors depicted in the photographs are due to photographic tolerances. The color chart used in this description is: The Royal Horticultural Society Colour Chart, 1995 edition.

TABLE 1

Botanical Description of CULTIVAR 'Redock Orange'	
<u>Bud</u>	
Size	Small, cross-section 0.7 cm height 0.9 cm
Outside color	Greyed-orange 170 C
Involucral bracts	3 rows, length 8 mm, width 3 mm
Involucral bracts among disc-florets	Not present
Involucral bracts color	Green 147 B
<u>Bloom</u>	
Type	Single
Height	High
Size	Medium
Fully expanded	7.0 cm
Number of blooms per single stem	Average of 14
Seeds	Not produced
Performance (blooming period)	4 weeks
Fragrance	Typical <i>chrysanthemum</i>
<u>Color</u>	
Center of the flower (disc-florets)	Immature yellow-green 144 A Mature yellow-green 151 C Orange 26 B
Color of upper surface of the majority of the ray-florets	Orange 26 B
Color of the lower surface of the majority of the ray-florets	Yellow-orange 16 B
Tonality from distance	A spray mum with orange flowers and a yellow-green disc
Discoloration to color	To color yellow-orange 16 A
<u>Ray florets</u>	
Texture	Upper and under side smooth
Number	26-28
Cross-section	Strongly concave
Longitudinal axis of majority	Reflexing
Length of corolla tube	Short
Ray-floret length	3.3 cm
Ray-floret width	1.0 cm
Ratio length/width	Medium
Shape of tip	Pointed, very occasionally round
<u>Disc florets</u>	
Disc diameter	0.8-1.0 cm
Distribution of disc florets	Numerous, clearly visible at all stages of flowering
Shape	Tubular
Color	Yellow-green 144 A
Receptacle shape	Conical raised
<u>Reproductive Organs</u>	
Stamen (present in disc florets only)	Thin 3 mm in length
Stamen color	Yellow-green 144 B
Pollen	No pollen present
Pollen color	Not applicable
Styles (present in both ray and disc florets)	Thin
Style color	Yellow-green 144 B
Style length	4 mm
Stigma color	Yellow-green 144 B
Stigma width	2 mm
Ovaries	Enclosed in calyx

TABLE 1-continued

Botanical Description of CULTIVAR 'Redock Orange'	
<u>Plant</u>	
Form	A spray mum meant for erect culture
Growth habit	Upright
Growth rate	Very vigorous
Height	125-135 cm
Internodes	2.5-3.0 cm
Spray formation	Corymbiform
Stem color	Yellow-green 147 B
Stem strength	Medium
Stem brittleness	Present
Stem anthocyanin coloration	Absent
Peduncle length	Near the top 16 cm, near the middle 23 cm, near the bottom 28 cm
Peduncle color	Green 147 B
Peduncle, attachment	Brittle
Peduncle, angle with stem	Small, 30° C.
Flowering response (photo-periodic controlled crop, not natural season)	47 days
<u>Foliage</u>	
Color	Upper side yellow-green 147 A Under side green 138 B
Size	large; length 12.0-14.0 cm width 7.0-8.0 cm
Quantity (number per single stem)	30-34
Shape	Ovate and deeply lobed
Texture upper side	Fleshy and glabrous
Texture under side	Pubescent
Ribs and veins upper side	Ribs and veins well developed
Ribs and veins under side	Ribs and veins well developed
Venation arrangement	Palmate
Shape of the margin	Lobed
Shape of base of sinus between lateral lobes	Round
Margin of sinus between lateral lobes	Converging
Shape of base	Rounded
Apex	Mucronate

TABLE 2

	Differences with the comparison Varieties			
	'Redock Orange'	'Redock'	'Orange Reagan'	'Orange Elite Reagan'
Ray-floret color	Orange 26 B	Purple 75 C	Greyed-Orange 169 A	Yellow-Orange 20 B
Flower height	High	High	Low	Low
Cross-section of ray-floret	Strongly concave	Strongly concave	Flat	Flat
Vigour	Very vigorous	Very vigorous	Vigorous	Vigorous
Plant height	125-135 cm	125-135 cm	100-125 cm	105-130 cm

I claim:

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

* * * * *



Fig. 1

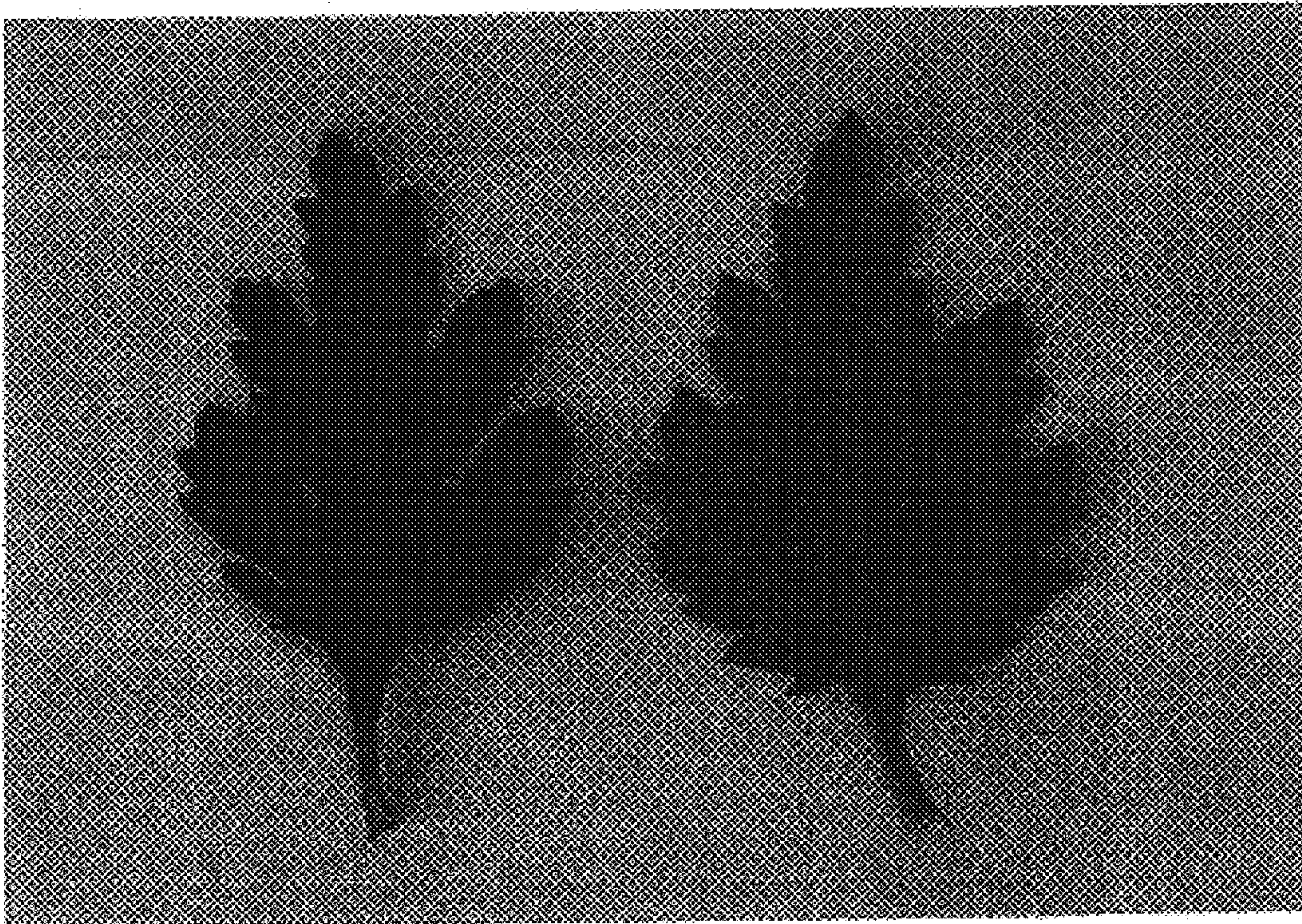


Fig. 2