

June 15, 1976

W. H. JESSEL, Jr. et al.  
CHRYSANTHEMUM PLANT

Plant Pat. 3,906

Filed May 15, 1975

Sheet 1 of 3



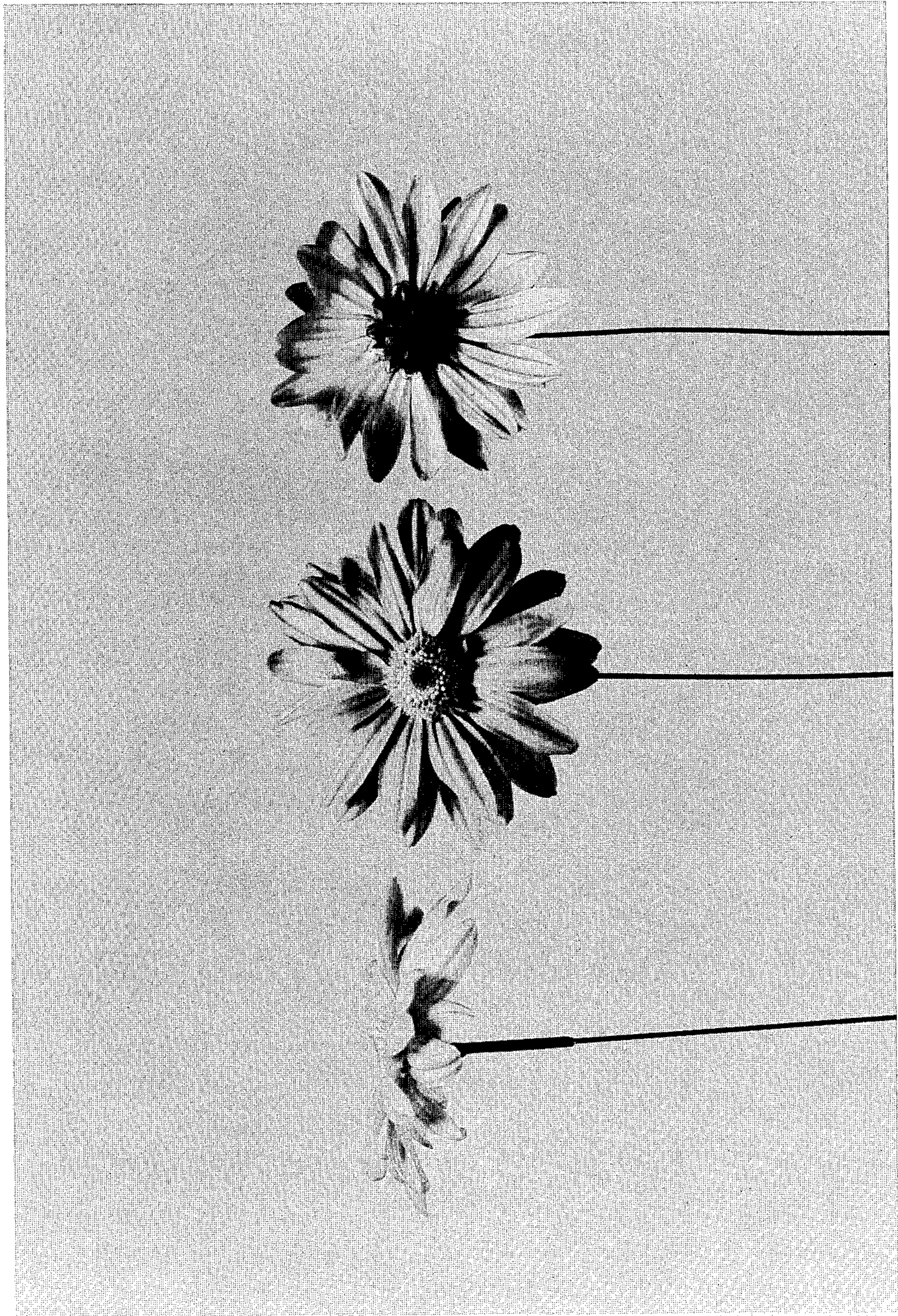
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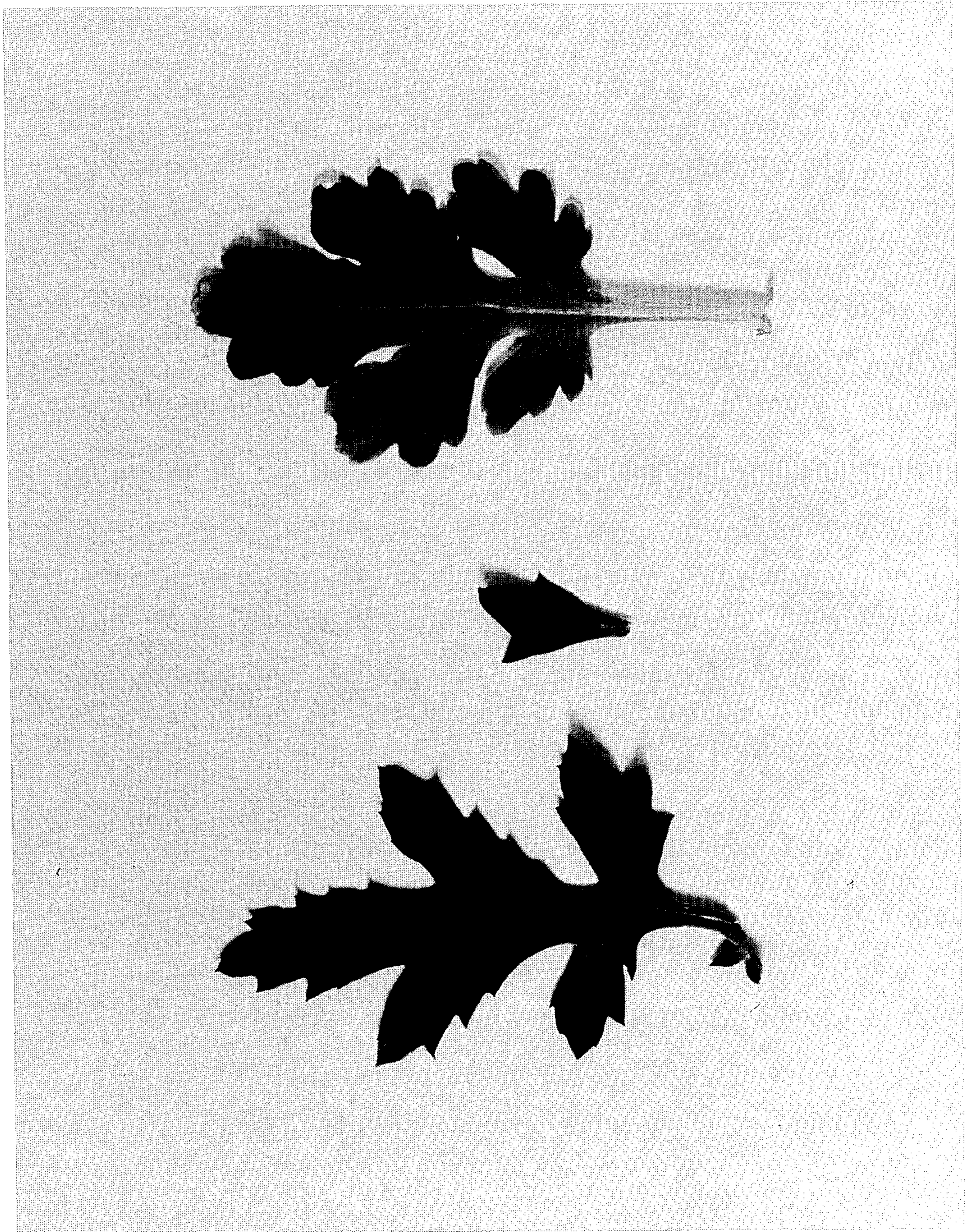
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3,906

## CHRYSANTHEMUM PLANT

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Akron, Ohio, assignors to Yoder Brothers, Inc., Bar-  
berton, Ohio

Filed May 15, 1975, Ser. No. 577,891

Int. Cl. A01h 5/00

U.S. Cl. Plt.—74

### 1 Claim

The present invention comprises a new and distinct cul-  
tivar of *Chrysanthemum morifolium*, Ramat., hereinafter  
referred to by the cultivar name Tantalizer (#72097002).

Tantalizer was originated from a cross made in a con-  
trolled breeding program in Barberton, Ohio in the year  
1971. The female, or seed parent, was #68210008 (un-  
named seedling), a bronze daisy originated by the present  
inventors from a cross between Dramatic (#67079001;  
U.S. Plant Pat. No. 3,189) and Aglow (#65781001; U.S.  
Plant Pat. No. 3,212). Both Dramatic and Aglow are  
products of the breeding program of the present inventors.

The male, or pollen parent of Tantalizer, was Nero  
(#21700E01; unpatented; commercially available), a  
red bronze daisy of parentage unknown to the present  
inventors.

Tantalizer was discovered and selected as a flowered  
seedling within the progeny of the stated cross by William  
E. Duffett and Walter H. Jessel, Jr. on Nov. 3, 1972 in a  
controlled environment in Barberton, Ohio.

Tantalizer is a product of a planned breeding program  
which had the objective of creating daisy type sprays  
adaptable to commercial cut programs with high grade-  
out (Society of American Florist standards), tall plant  
height, and efficient nine and ten week flowering response  
specifically for the fall, winter and spring flowering  
periods. These traits in combination were not present in  
previously available commercial cultivars.

The first act of asexual reproduction of Tantalizer was  
accomplished when vegetative cuttings were taken from  
the initial selection in December 1972 in a controlled en-  
vironment in Barberton, Ohio by a technician working  
under formulations established and supervised by William  
E. Duffett and Walter H. Jessel, Jr. Horticultural exami-  
nation of selected units initiated May 3, 1973 has demon-  
strated that the combination of characteristics as herein  
disclosed for Tantalizer are firmly fixed and are retained  
through successive generations of asexual reproduction.

Tantalizer has not been observed under all possible  
environments. The phenotype may vary significantly with  
variations in environment such as temperature, light in-  
tensity, and daylength. The following observations, meas-  
urements, and comparisons describe single stem spray  
plants grown in a greenhouse in Barberton, Ohio under  
environmental conditions which approximate those gener-  
ally used in commercial practice, as described in Chart  
A and Chart B which appear at the end of the present  
specification.

The following traits have been repeatedly observed and  
are determined to be basic characteristics of Tantalizer  
which in combination distinguish this chrysanthemum as  
a new and distinct cultivar:

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(1) Daisy inflorescence type with moderate longitudinal  
petal roll in opening stages.

(2) Flat inflorescence form not known to reflex.

(3) Diameter across face of inflorescence up to 4.0  
inches at maturity.

(4) Orange bronze ray floret color with minimal color  
oxidation under fall, winter, and spring light conditions.

(5) Medium green disc floret color at immature, un-  
opened stage.

(6) Minimal pollen development.

(7) Uniform nine week flowering response.

(8) Very tall plant height.

(9) Semi-upright branching habit.

(10) High percentage gradeout in top grades (SAF  
standards).

(11) Thin and weak peduncles during high light, high  
temperature periods (June through September).

The accompanying photographic drawings show typical  
inflorescence and foliage characteristics of Tantalizer with  
colors being as nearly true as possible with illustrations  
of this type. Sheet 1 is a color photograph of Tantalizer.  
Sheet 2 is a black and white photograph showing three  
views of the inflorescence of Tantalizer. Sheet 3 is a black  
and white photograph of the foliage of Tantalizer at  
three stages of growth.

Of the many commercial cultivars known to the pres-  
ent inventors, the most similar existing cultivars in com-  
parison to Tantalizer are Crackerjack (#51026002; un-  
patented), Divinity (#57452002; unpatented), Galaxy  
(#46331007; unpatented), and Nero (#21700E01; un-  
patented). Reference is made to attached Chart C which  
compares certain characteristics of the above mentioned  
cultivars with the same characteristics of Tantalizer. Gen-  
eral comparisons are as follows:

In comparison to Crackerjack, Tantalizer has a more  
orange ray floret color, green immature disc floret color,  
higher gradeout percentage in top grades (SAF standards),  
taller plant height, less abundant pollen, and shorter flow-  
ering response period. The inflorescence type of Tantalizer  
is similar to that of Crackerjack.

In comparison to Divinity, Tantalizer has orange bronze  
ray floret color, higher gradeout percentage in top grades  
(SAF standards), taller plant height, less abundant pollen,  
shorter flowering response period, and different inflo-  
rescence type. The immature disc florets of Tantalizer  
are similar in color to those of Divinity.

In comparison to Galaxy, Tantalizer has a more orange  
ray floret color, higher gradeout percentage in top grades  
(SAF standards), green immature disc floret color, taller  
plant height, less abundant pollen, and shorter flowering  
response period. The inflorescence type of Galaxy is simi-  
lar to that of Tantalizer.

In comparison to Nero, Tantalizer has a more orange  
ray floret color, and taller plant height. The immature  
disc floret color, percentage gradeout in top grades (SAF  
standards), scarcity of pollen, flowering response period,  
and the inflorescence type of Tantalizer are similar to  
those of Nero.

In the following description, color references are made to The Munsell Limit Color Cascade, 1972 edition. The color values were determined between 2:00 and 2:30 p.m. on Mar. 11, 1975 under 160 foot candle light intensity and between 4:30 and 5:00 p.m. on June 27, 1975 under 160 foot candle light intensity at Barberton, Ohio.

**BOTANICAL CLASSIFICATION**

*Chrysanthemum morifolium*, Ramat., cv Tantalizer

**(I) Inflorescence**

**(A) Capitulum:**

*Form.*—Flat.

*Type.*—Daisy.

*Permanence.*—10–14 days.

*Diameter across face.*—3.0 to 4.0 inches.

*Gynoecium.*—Present both ray and disc florets; inferior, bicarpellate ovary; single style; 2-lobed stigma.

**(II) Plant**

- 5 (A) General appearance: Upright; very tall.
- (B) Duration and texture: Herbaceous; perennial.
- (C) Foliage:

- 10 *Color (abaxial).*—Approximately 21–15.
- Color (adaxial).*—Approximately 21–13 overlaid with white.
- Shape.*—Spatulate; deeply lobed.
- Texture.*—Glabrous.
- Arrangement.*—Alternate.
- Veination.*—Prominent.
- 15 *Margin.*—Coarsely serrated.

**CHART A—AVERAGE GREENHOUSE CHRYSANTHEMUM ENVIRONMENTS USED FOR BARBERTON, OHIO**

Season	Temperature used (° F.)			Lighting used	Black cloth used	Supp., CO <sub>2</sub>
	Night	Bright day	Cloudy day			
Fall.....	65 to 56..	65 to 80..	60 to 75..	2 to 4 weeks at 3 hours per night of 7–10 f.c....	To Sept. 15: on, 5:30 p.m., off, 7:30 a.m.....	From Oct. 15: 300 p.p.m.
Winter.....	58 to 62..	65 to 70..	60 to 65..	2 to 5 weeks at 5 hours per night of 7–10 f.c....	None.....	300 p.p.m.
Spring.....	58 to 65..	65 to 80..	60 to 75..	2 to 4 weeks at 5 hours per night of 7–10 f.c....	From Mar. 15: on, 5:30 p.m., off, 7:30 a.m.....	To Apr. 15: 300 p.p.m.
Summer.....	62 to 68..	70 to 90..	65 to 75..	1 to 2 weeks at 3 hours per night of 7–10 f.c....	On, 6:00 p.m.; off, 8:00 a.m.....	None.

NOTE.—For intensity of direct solar radiation, refer to Chart B.

**(B) Corolla of ray florets:**

*Texture (adaxial).*—Glabrous.

*Appearance and form.*—Ligulate.

*Arrangement.*—Whorled on receptacle.

*Persistence.*—Resists shatter.

*Color (abaxial).*—Approximately 29–11 (Mar. 11, 1975); to approximately 27–6 streaked with 29–11 (June 27, 1975).

*Color (adaxial).*—27–5 streaked with 29–10 to 29–11 (Mar. 11, 1975); 27–3 (June 27, 1975).

**(C) Corolla of disc florets:**

*Appearance.*—Gamopetalous, tubular; 5-lobed.

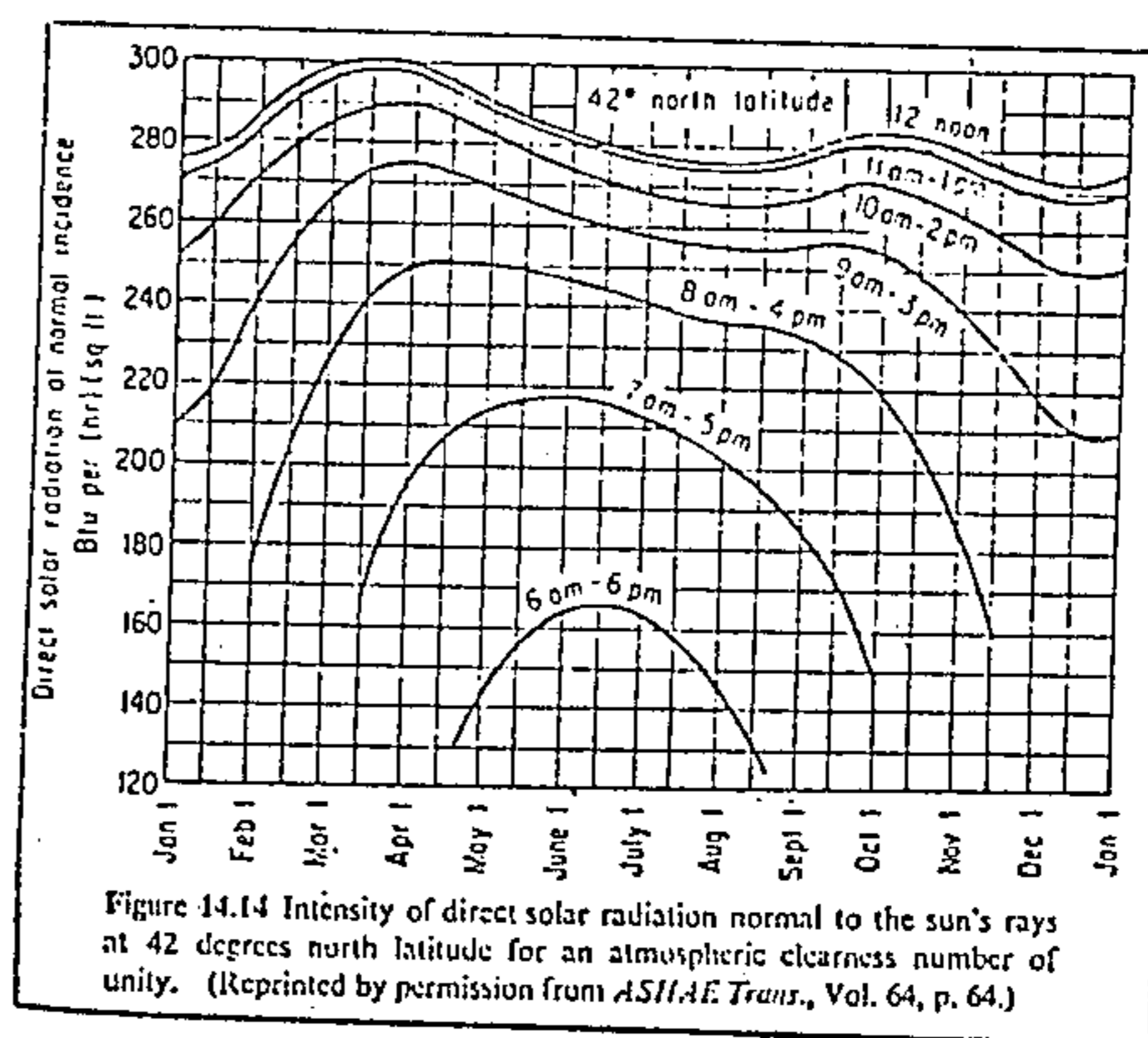
*Color.*—23–10 to 27–6.

**(D) Reproductive organs:**

*Androecium.*—Present disc florets only; syngenesious stamen; scant pollen.

**CHART B**

**INTENSITY OF DIRECT SOLAR RADIATION**



**CHART C—COMPARISON OF TANTALIZER WITH CRACKERJACK, DIVINITY, GALAXY AND NERO**

Cultivar	Ray floret color	Immature disc floret color	Gradeout (SAF)	Plant height	Pollen	Flowering response period (weeks)	Inflorescence type
Tantalizer.....	Orange bronze.....	Green.....	High.....	Very tall.....	Scant.....	9	Daisy.
Crackerjack.....	Red bronze.....	Yellow.....	Medium.....	Tall.....	Abundant.....	12	Do.
Divinity.....	White.....	Green.....	Low.....	do.....	Moderate.....	10	Anemone.
Galaxy.....	Copper bronze.....	Yellow.....	Medium.....	Medium.....	Abundant.....	12	Daisy.
Nero.....	Red bronze.....	Green.....	High.....	Tall.....	Scant.....	9	Do.

NOTE.—Comparisons made of plants in a greenhouse in Barberton, Ohio under conditions as described in Chart A and Chart B.

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We claim:

1. A new and distinct cultivar of chrysanthemum characterized particularly as to uniqueness by the combined characteristics of daisy inflorescence type with moderate longitudinal petal roll in opening stages, flat inflorescence form not known to reflex, diameter across face of inflorescence up to 4.0 inches at maturity, orange bronze ray floret color with minimal color oxidation under fall, winter, and spring light conditions, medium green disc floret color at immature, unopened stage, minimal pollen

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development, uniform nine week flowering response, very tall plant height, semi-upright branching habit, high percentage gradeout in top grades (SAF standards), and thin and weak peduncles during high light, high temperature periods (June through September).

No references cited.

ROBERT E. BAGWILL, Primary Examiner