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**YEAR-AROUND
CHRYSANTHEMUM
MANUAL**

1953

Gloeckner

CHRYSANTHEMUM CUTTINGS

More and Better Chrysanthemums

Now is the time to change the old theory that Chrysanthemums are merely a catch crop. According to the 1949 United States census report this cut flower crop is valued at \$17,692,647, rating third, with only the rose and carnation out-distancing it. Due to year around production this value has been greatly increased the past three years and very likely exceeds that of the carnation.

The chrysanthemum is one of the best keeping flowers we have, often lasting three weeks under average home conditions. This flower has so many varieties in various forms, such as singles, anemones, buttons, intermediate and large pompons, incurved and reflexed standards, Fugi and spider mums, etc. This versatility does not stop with this but continues into the pot plant field. Chrysanthemum potted plants like the cut flowers are now available the year around.

Year around flowering requires proper planning which is the result of many years of commercial experience with many varieties and growing areas. One grower stated that he learned how to plan his greenhouse crops when he ventured into year around chrysanthemum production.

Your *Gloeckner* representatives have the scientific as well as the commercial experience to give you the service you wish in planning your requirements. They are all well versed in the culture of the chrysanthemum.

It is a *Gloeckner* service to make available the latest cultural information on this crop.

Our interest in you and your crops by no means ends with the sale, as we are more than anxious to have the materials we sell, grow and prove profitable.

Gloeckner

15 EAST 26th ST., NEW YORK 10, N. Y.

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At Madison Square

MUM MANUAL CONTENTS

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TERMS OF SALE

Fifty rooted cuttings of each variety is the **minimum** that can be supplied. More than **50** of a variety must be in **multiples of 50**.

Any **changes** or **cancellations** of chrysanthemum orders must be received at least 30 days before shipping date.

Every effort is being made to deliver stock which is free from pests, but purchases must be made with the understanding that we assume no responsibility for losses which may result from same.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

Fred C. Gloeckner & Co. Inc. give no warranty express or implied, as to the productiveness of any seeds, bulbs or plants it sells, and will not be in any way responsible for the crop. Our liability, in all instances, is limited to the purchase price.

Year Around Flowering of Chrysanthemums

Since the advent of daylength and temperature control we have seen chrysanthemum cut flowers on the markets every month since 1946, thanks to our never-tiring research workers in various federal and state institutions. Season has been eliminated and the flowering time can be accurately controlled.

Daylength Control

When Chrysanthemums are grown around the year it is very necessary that we know when to apply shade or light to make the plants respond as we desire. The following schedule will give you the proper dates for lighting and shading for each response group.

YEAR AROUND LIGHTING AND SHADING SCHEDULE

Response Group	Shading to Stop in Fall	Lighting to Start in Fall	Shading to Start in Spring	Lighting to Stop in Spring
7 week	Sept. 1	July 21	Apr. 14	May 26
8 week	Sept. 8	July 28	Apr. 7	May 19
9 week	Sept. 15	Aug. 4	Mar. 31	May 12
10 week	Sept. 22	Aug. 11	Mar. 24	May 5
11 week	Sept. 29	Aug. 18	Mar. 17	Apr. 28
12 week	Oct. 6	Aug. 25	Mar. 10	Apr. 21
13 week	Oct. 13	Sept. 1	Mar. 3	Apr. 14
14 week	Oct. 20	Sept. 8	Feb. 25	Apr. 7

Lighting

To prevent formation of flower buds the light intensity must be 10 foot candles.

When lighting an entire house the lamps should be installed in the ridge of the house. Usually we figure that it requires 1½ watts per sq. ft. of area covered that includes benches and walks. For smaller installations the spacing given below will be satisfactory for a bench 42" to 48" wide:

60-watt lamps in a reflector, spaced 4 feet apart, 2 to 3 feet above the tops of the plants.

100-watt lamps in a reflector, spaced 6 feet apart, 2 to 3 feet above the tops of the plants.

Lights must be used according to the schedule above. It has been found that best results are secured by interrupting the night. Begin lighting at 10 p.m. for the number of hours shown below:

ADDITIONAL LIGHTING SCHEDULE

3 Hours during the months of August, September, October, March, April and May.

4 Hours during the months of November and February.

5 Hours during the months of December and January.

Year Around Flowering of Chrysanthemums

Shading

Use a good durable **Black Cloth** which when applied will reduce the light intensity to 2 foot candles or less. More light intensity than this will result in delayed flowering and unevenness of bloom.

The cloth should be removed at 5 P.M. and removed at 8 A.M. Continue covering each evening on pompons until the latest buds show color and most of the flowers are well developed. For large flowering varieties shading can be discontinued after all flowering buds have attained the diameter of approximately one-half inch.

Be sure that covering is complete on all benches shaded, as any leaks in light will cause uneven spots in the bench at blooming time.

Black cloth should be applied each evening although missing one night a week will give fair results but delayed flowering results when cloth is not applied each evening.

Temperature Control

For bud formation a minimum temperature of 60-65 degrees should be maintained. During the growing period a night temperature near 60 degrees is ideal. When black cloth treatment is started raise the night temperature to 60 until color shows and then drop to 52 to 55 degrees. Excessive high temperatures prohibit the bud development and during seasons of night temperatures above 90 degrees it is suggested that the black cloth be raised after sunset and lowered again in the morning before daylight. This cooler temperature hastens the development of the buds.

Temperature regulation becomes a problem to the grower who is growing a single bench of chrysanthemums in a cool house. A simple method is to apply black cloth, allowing the cloth to drop to the floor on each side of the bench and then turn on the heat lines under the bench. This will trap the heat under the cloth and raise the temperature sufficiently to set buds.

Interrupted Lighting

You get quality when you control the spray formation in pompons. The control is easy. It will give you no more work but does take a little more planning. The control gives you a spray with a more open head. The spray is more uniform. The flowers are larger and the color is more intense.

In timing a crop which is to receive an interrupted lighting treatment, we must start the short day treatment earlier than normally, advancing the date by the number of long days which will be used to interrupt the short day period. For example, if the short day treatment were to start on January 15 and continue to flowering. The interrupted lighting treatment is set up for 10 short days followed by 10 long days. Short days would be given the plants from January 5 to 15 followed by 10 long days until January 25 and then short days to flowering. Remember that the total number of long days is the same as given in the schedule.

Use Interrupted Lighting Only on 8, 9, and 10 Week Response Varieties

Week response	Number of short days followed by 10 long days
8 week	9 short days
9 week	10 short days
10 week	11 short days

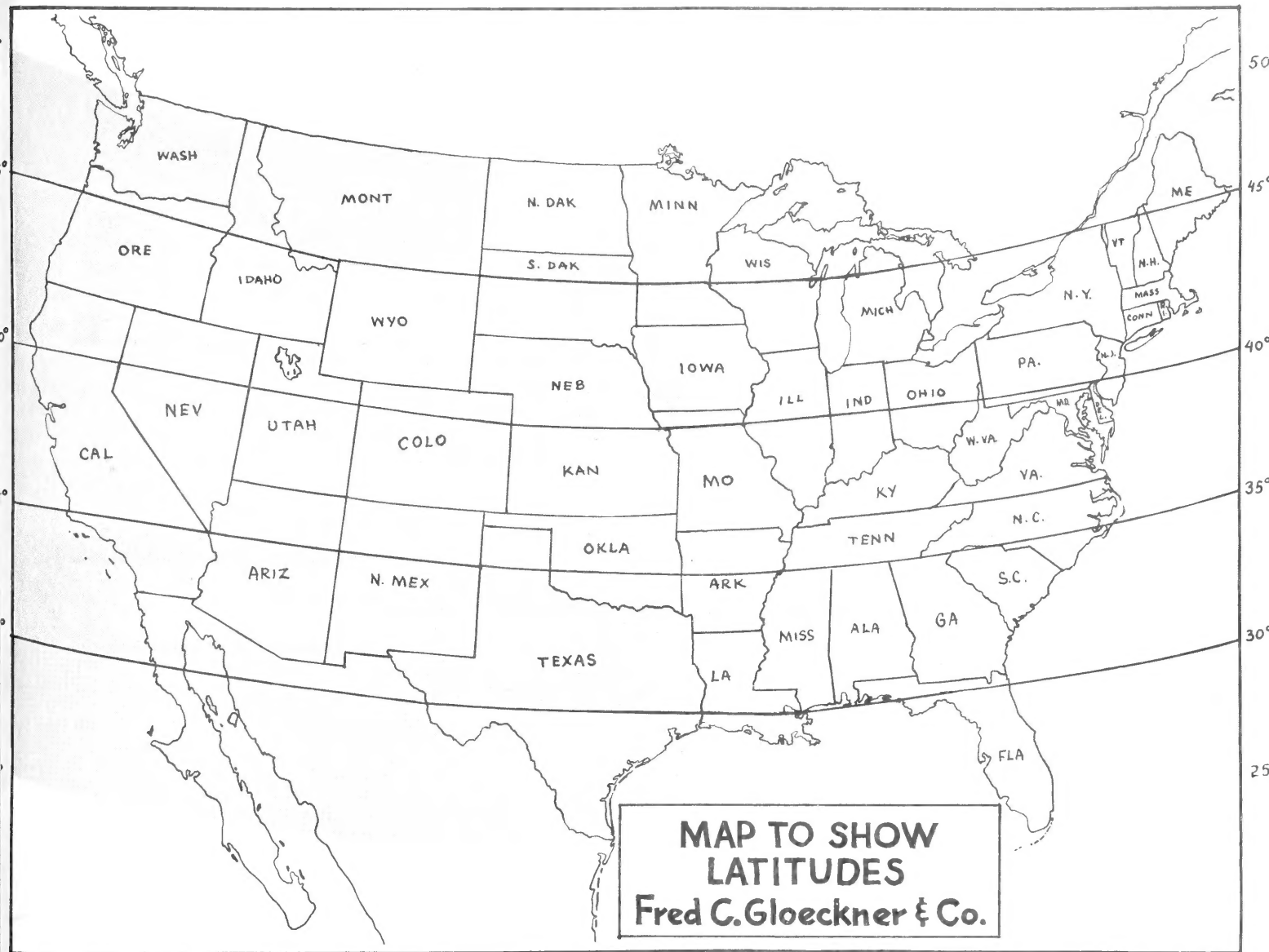
An interrupted lighting treatment of 10 short days, 10 long days, then short days to flowering has made it possible to improve the quality of pompons by improving the spray formation; now this same treatment can be used on certain standard varieties where quality is poor because of open centers. Best to try interrupted lighting on a limited scale until you know how to handle this treatment.

Much research on interrupted lighting is now being done to find the exact number of short days and long days for each response group. We feel that this information is very valuable for growers who use the continuous flowering schedule. Our representatives will know the outcome. Ask them to talk it over with you.

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CHRYSANTHEMUM CUTTINGS

Year Around Flowering of Chrysanthemums



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Covering Entire House with Black Sateen

Year Around Chrysanthemum Flowering Schedule

BLOOM JANUARY 4

Latitude	Plant	Pinch	Lighting Period	Start Shade	Response Group
40-45°	Aug. 10	Aug. 31	Sept. 7—Sept. 28	no	14 Week
	Aug. 10	Aug. 31	Aug. 31—Oct. 5	no	13 Week
	Aug. 10	Aug. 31	Aug. 24—Oct. 12	no	12 Week
	Aug. 10	Aug. 31	Aug. 17—Oct. 19	no	11 Week
35-40°	Aug. 17	Sept. 7	Sept. 7—Sept. 28	no	14 Week
	Aug. 17	Sept. 7	Aug. 31—Oct. 5	no	13 Week
	Aug. 17	Sept. 7	Aug. 24—Oct. 12	no	12 Week
	Aug. 17	Sept. 7	Aug. 17—Oct. 19	no	11 Week
	Aug. 17	Sept. 7	Aug. 17—Oct. 26	no	10 Week
30-35°	Aug. 24	Sept. 14	Aug. 31—Oct. 5	no	13 Week
	Aug. 24	Sept. 14	Aug. 24—Oct. 12	no	12 Week
	Aug. 24	Sept. 14	Aug. 24—Oct. 19	no	11 Week
	Aug. 24	Sept. 14	Aug. 24—Oct. 26	no	10 Week
25-30°	Aug. 31	Sept. 21	Aug. 31—Oct. 12	no	12 Week
	Aug. 31	Sept. 21	Aug. 31—Oct. 19	no	11 Week
	Aug. 31	Sept. 21	Aug. 31—Oct. 26	no	10 Week

VARIETIES IN RESPONSE GROUPS

	14 Week	13 Week	12 Week	11 Week	10 Week
WHITE	S		Chattanooga	Mefo	Ind. White Jean Elizabeth Crystal Queen
	P	Snowcrest Silversmith Snowcap Satelite	Cameo Acclaim Cotillion Snowdrop	Belray Monarch	Sculpture Priscilla Paramount Highbrow
YELLOW	S		Gold. Pearson Yel. Chaffan'ga	Yellow Mefo Harvester Cream Mefo	Ind. Yellow Imp. Ind. Yellow Yellow Queen
	P	Cr. Snowcrest Shamrock Vibrant Siren	Brandywine Yellow Cameo Goldfone Corsair	Goldenrod Highlander Omega Yel. Galaxy	Lollipop Pippin Klondike Bojangles Yel. Highbrow Golden Chord Forty-Niner
BRONZE & RED	S		Oak Leaf		Ind. Bronze
	P	Br. Riviera Topaz Christ. Greeting Merrymaker Poinsettia	Harlequin Holiday Christ. Star Br. Minstrel	Indian Head Amberina Galaxy	Thelma Bourbon Festival
PINK	S			Thanks. Pink	Ind. Pink Dk. Or. Queen Orchid Queen
	P	Serrated Riviera Rosalind	Debutante Minstrel Lt. Pk. Minstrel	Princess (Fla.) Has. Pink	Brocade Grand Slam

S—Standard

P—Pompon

Gloeckner

CHRYSANTHEMUM CUTTINGS

Year Around Chrysanthemum Flowering Schedule

BLOOM JANUARY 11

Latitude	Plant	Pinch	Lighting Period	Start Shade	Response Group
40-45°	Aug. 10	Aug. 31	Sept. 7 —Oct. 5	no	14 Week
	Aug. 10	Aug. 31	Aug. 31—Oct. 12	no	13 Week
	Aug. 10	Aug. 31	Aug. 24—Oct. 19	no	12 Week
	Aug. 10	Aug. 31	Aug. 17—Oct. 26	no	11 Week
35-40°	Aug. 17	Sept. 7	Sept. 7 —Oct. 5	no	14 Week
	Aug. 17	Sept. 7	Aug. 31—Oct. 12	no	13 Week
	Aug. 17	Sept. 7	Aug. 24—Oct. 19	no	12 Week
	Aug. 17	Sept. 7	Aug. 17—Oct. 26	no	11 Week
	Aug. 17	Sept. 7	Aug. 10—Nov. 2	no	10 Week
30-35°	Aug. 24	Sept. 14	Aug. 31—Oct. 12	no	13 Week
	Aug. 24	Sept. 14	Aug. 24—Oct. 19	no	12 Week
	Aug. 24	Sept. 14	Aug. 24—Oct. 26	no	11 Week
	Aug. 24	Sept. 14	Aug. 24—Nov. 2	no	10 Week
25-30°	Aug. 31	Sept. 21	Aug. 31—Oct. 19	no	12 Week
	Aug. 31	Sept. 21	Aug. 31—Oct. 26	no	11 Week
	Aug. 31	Sept. 21	Aug. 31—Nov. 2	no	10 Week

VARIETIES IN RESPONSE GROUPS

	14 Week	13 Week	12 Week	11 Week	10 Week
WHITE	S		Chattanooga	Mefo	Ind. White Jean Elizabeth Crystal Queen
	P	Snowcrest Silversmith Snowcap Satelite	Cameo Acclaim Cotillion Snowdrop	Belray Monarch	Sculpture Priscilla Paramount Highbrow
YELLOW	S		Gold. Pearson Yel. Chat'n'ga	Yellow Mefo Harvester Cream Mefo	Ind. Yellow Imp. Ind. Yellow Yellow Queen
	P	Cr. Snowcrest Shamrock Vibrant Siren	Brandywine Yel. Cameo Goldtone Corsair	Goldenrod Highlander Omega Yel. Galaxy	Lollipop Pippin Klondike Bojangles Yel. Highbrow Golden Chord Forty-Niner
BRONZE & RED	S		Oak Leaf		Ind. Bronze
	P	Br. Riviera Topaz Christ. Greeting Merrymaker Poinsettia	Harlequin Holiday Christ. Star Br. Minstrel	Indian Head Amberina Galaxy	Thelma Bourbon Festival
PINK	S			Thanks. Pink	Ind. Pink Dk. Or. Queen Orchid Queen
	P	Serrated Riviera Rosalind	Debutante Minstrel Lt. Pk. Minstrel	Princess (Fla.) Has. Pink	Brocade Grand Slam

Year Around Chrysanthemum Flowering Schedule

BLOOM JANUARY 18

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Aug. 17	Sept. 7	Sept. 7 —Oct. 12	no	14 Week
	Aug. 17	Sept. 7	Aug. 31—Oct. 19	no	13 Week
	Aug. 17	Sept. 7	Aug. 24—Oct. 26	no	12 Week
	Aug. 17	Sept. 7	Aug. 17—Nov. 2	no	11 Week
35-40°	Aug. 24	Sept. 14	Sept. 7 —Oct. 12	no	14 Week
	Aug. 24	Sept. 14	Aug. 31—Oct. 19	no	13 Week
	Aug. 24	Sept. 14	Aug. 24—Oct. 26	no	12 Week
	Aug. 24	Sept. 14	Aug. 24—Nov. 2	no	11 Week
	Aug. 24	Sept. 14	Aug. 24—Nov. 9	no	10 Week
30-35°	Aug. 31	Sept. 21	Aug. 31—Oct. 19	no	13 Week
	Aug. 31	Sept. 21	Aug. 31—Oct. 26	no	12 Week
	Aug. 31	Sept. 21	Aug. 31—Nov. 2	no	11 Week
	Aug. 31	Sept. 21	Aug. 31—Nov. 9	no	10 Week
25-30°	Sept. 7	Sept. 28	Sept. 7 —Oct. 26	no	12 Week
	Sept. 7	Sept. 28	Sept. 7 —Nov. 2	no	11 Week
	Sept. 7	Sept. 28	Sept. 7 —Nov. 9	no	10 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	14 Week	13 Week	12 Week	11 Week	10 Week
WHITE	S		Chattanooga	Mefo	Ind. White Jean Elizabeth Crystal Queen
	P	Snowcrest Silversmith Snowcap Satelite	Cameo Acclaim Cotillion Snowdrop	Belray Monarch	Sculpture Priscilla Paramount Highbrow
YELLOW	S		Gold. Pearson Yel. Chattan'ga	Yellow Mefo Cream Mefo Harvester	Ind. Yellow Imp. Ind. Yellow Yellow Queen
	P	Cr. Snowcrest Shamrock Vibrant Siren	Brandywine Yel. Cameo Goldtone Corsair	Goldenrod Highlander Omega Yel. Galaxy	Lollipop Pippin Klondike Bojangles Yel. Highbrow Golden Chord Forty-Niner
BRONZE & RED	S		Oak Leaf		Ind. Bronze
	P	Br. Riviera Topaz Christ. Greeting Merrymaker Poinsettia	Harlequin Holiday Christ. Star Br. Minstrel	Indian Head Amberina Galaxy	Thelma Bourbon Festival
PINK	S			Thanks. Pink	Ind. Pink Dk. Or. Queen Orchid Queen
	P	Serrated Riviera Rosalind	Debutante Minstrel Li. Pk. Minstrel	Princess (Fla.) Has. Pink	Brocade Grand Slam

Year Around Chrysanthemum Flowering Schedule

BLOOM JANUARY 25

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Aug. 17	Sept. 14	Sept. 7 —Oct. 19	no	14 Week
	Aug. 17	Sept. 14	Aug. 31—Oct. 26	no	13 Week
	Aug. 17	Sept. 14	Aug. 24—Nov. 2	no	12 Week
	Aug. 17	Sept. 14	Aug. 17—Nov. 9	no	11 Week
35-40°	Aug. 24	Sept. 21	Sept. 7 —Oct. 19	no	14 Week
	Aug. 24	Sept. 21	Aug. 31—Oct. 26	no	13 Week
	Aug. 24	Sept. 21	Aug. 24—Nov. 2	no	12 Week
	Aug. 24	Sept. 21	Aug. 24—Nov. 9	no	11 Week
	Aug. 24	Sept. 21	Aug. 24—Nov. 16	no	10 Week
30-35°	Sept. 7	Sept. 28	Sept. 7 —Oct. 26	no	13 Week
	Sept. 7	Sept. 28	Sept. 7 —Nov. 2	no	12 Week
	Sept. 7	Sept. 28	Sept. 7 —Nov. 9	no	11 Week
	Sept. 7	Sept. 28	Sept. 7 —Nov. 16	no	10 Week
25-30°	Sept. 14	Oct. 5	Sept. 14—Nov. 2	no	12 Week
	Sept. 14	Oct. 5	Sept. 14—Nov. 9	no	11 Week
	Sept. 14	Oct. 5	Sept. 14—Nov. 16	no	10 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	14 Week	13 Week	12 Week	11 Week	10 Week
WHITE	S		Chattanooga	Mefo	Ind. White Jean Elizabeth Crystal Queen
	P	Snowcrest Silvermist Snowcap Satelite	Cameo Acclaim Cofillion Snowdrop	Belray Monarch	Sculpture Priscilla Paramount Highbrow
YELLOW	S		Gold. Pearson Yel. Chattan'ga	Yellow Mefo Cream Mefo Harvester	Ind. Yellow Imp. Ind. Yellow Yellow Queen
	P	Cr. Snowcrest Shamrock Vibrant Siren	Brandywine Yel. Cameo Goldtone Corsair	Goldenrod Highlander Omega Yel. Galaxy	Lollipop Pippin Klondike Bojangles Yel. Highbrow Golden Chord Forty-Niner
BRONZE & RED	S		Oak Leaf		Ind. Bronze
	P	Br. Riviera Topaz Christ. Greeting Merrymaker Poinsettia	Harlequin Holiday Christ. Star Br. Minstrel	Indian Head Amberina Galaxy	Thelma Bourbon Festival
PINK	S			Thanks. Pink	Ind. Pink Dk. Or. Queen Orchid Queen
	P	Serrated Riviera Rosalind	Debutante Minstrel Lt. Pk. Minstrel	Princess (Fla.) Has. Pink	Brocade Grand Slam

Year Around Chrysanthemum Flowering Schedule

BLOOM FEBRUARY 1

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Aug. 24	Sept. 21	Sept. 7 —Oct. 26	no	14 Week
	Aug. 24	Sept. 21	Aug. 31—Nov. 2	no	13 Week
	Aug. 24	Sept. 21	Aug. 24—Nov. 9	no	12 Week
	Aug. 24	Sept. 21	Aug. 24—Nov. 16	no	11 Week
	Aug. 24	Sept. 21	Aug. 24—Nov. 23	no	10 Week
35-40°	Aug. 31	Sept. 28	Sept. 7 —Oct. 26	no	14 Week
	Aug. 31	Sept. 28	Aug. 31—Nov. 2	no	13 Week
	Aug. 31	Sept. 28	Aug. 31—Nov. 9	no	12 Week
	Aug. 31	Sept. 28	Aug. 31—Nov. 16	no	11 Week
	Aug. 31	Sept. 28	Aug. 31—Nov. 23	no	10 Week
30-35°	Sept. 14	Oct. 5	Sept. 14—Nov. 2	no	13 Week
	Sept. 14	Oct. 5	Sept. 14—Nov. 9	no	12 Week
	Sept. 14	Oct. 5	Sept. 14—Nov. 16	no	11 Week
	Sept. 14	Oct. 5	Sept. 14—Nov. 23	no	10 Week
25-30°	Sept. 21	Oct. 12	Sept. 21—Nov. 9	no	12 Week
	Sept. 21	Oct. 12	Sept. 21—Nov. 16	no	11 Week
	Sept. 21	Oct. 12	Sept. 21—Nov. 23	no	10 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	14 Week	13 Week	12 Week	11 Week	10 Week
WHITE	S		Chattanooga	Mefo	Jean Elizabeth Ind. White Crystal Queen
	P	Snowcrest Silversmith Snowcap Satellite	Cameo Acclaim Cotillion Snowdrop Snow Queen	Belray Monarch	Sculpture Priscilla Paramount Highbrow
YELLOW	S		Gold. Pearson Yel. Chattan'ga	Yellow Mefo Harvester	Imp. Ind. Yellow Yellow Queen Ind. Yellow
	P	Cr. Snowcrest Yel. Snowcrest Shamrock Vibrant Sunrise Siren	Brandywine Yel. Cameo Goldtone Corsair	Goldenrod Highlander Omega Yel. Galaxy	Lollipop Pippin Klondike Bojangles Yel. Highbrow Golden Chord Forty-Niner
BRONZE & RED	S		Oak Leaf		Ind. Bronze
	P	Br. Riviera Topaz Christ. Greeting Merrymaker Poinsettia	Harlequin Holiday Christ. Star Br. Minstrel	Indian Head Amberina Galaxy	Thelma Bourbon Festival
PINK	S			Thanks. Pink	Ind. Pink Dk. Or. Queen Orchid Queen
	P	Riviera Rosalind Serrated Riviera	Debutante Minstrel Lt. Pk. Minstrel	Princess (Fla.) Hasegawa Pink	Brocade Grand Slam

Year Around Chrysanthemum Flowering Schedule

BLOOM FEBRUARY 8

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Aug. 31	Sept. 28	Sept. 7 —Nov. 2	no	14 Week
	Aug. 31	Sept. 28	Aug. 31—Nov. 9	no	13 Week
	Aug. 31	Sept. 28	Aug. 31—Nov. 16	no	12 Week
	Aug. 31	Sept. 28	Aug. 31—Nov. 23	no	11 Week
	Aug. 31	Sept. 28	Aug. 31—Nov. 30	no	10 Week
35-40°	Sept. 7	Oct. 5	Sept. 7 —Nov. 9	no	13 Week
	Sept. 7	Oct. 5	Sept. 7 —Nov. 16	no	12 Week
	Sept. 7	Oct. 5	Sept. 7 —Nov. 23	no	11 Week
	Sept. 7	Oct. 5	Sept. 7 —Nov. 30	no	10 Week
30-35°	Sept. 21	Oct. 12	Sept. 21—Nov. 9	no	13 Week
	Sept. 21	Oct. 12	Sept. 21—Nov. 16	no	12 Week
	Sept. 21	Oct. 12	Sept. 21—Nov. 23	no	11 Week
	Sept. 21	Oct. 12	Sept. 21—Nov. 30	no	10 Week
25-30°	Sept. 28	Oct. 19	Sept. 28—Nov. 16	no	12 Week
	Sept. 28	Oct. 19	Sept. 28—Nov. 23	no	11 Week
	Sept. 28	Oct. 19	Sept. 28—Nov. 30	no	10 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	14 Week	13 Week	12 Week	11 Week	10 Week
WHITE	S		Chattanooga	Mefo	Jean Elizabeth Crystal Queen Ind. White
	P	Snowcrest Silversmith Snowcap Satellite	Cameo Acclaim Cotillon Snowdrop	Belray Monarch	Sculpture Priscilla Paramount Highbrow
YELLOW	S		Golden Pearson Yel. Chattan'ga	Yellow Mefo Harvester	Imp. Ind. Yellow Ind. Yellow Yellow Queen
	P	Cr. Snowcrest Yel. Snowcrest Shamrock Vibrant	Brandywine Yel. Cameo Goldtone Corsair	Goldenrod Highlander Omega Yel. Galaxy	Lollipop Pippin Klondike Yel. Highbrow Golden Chord Forty-Niner
BRONZE & RED	S		Oak Leaf		Ind. Bronze
	P	Br. Riviera Topaz Xmas. Greeting Poinsettia Merrymaker	Harlequin Holiday Xmas. Star Br. Minstrel	Indian Head Amberina Galaxy	Thelma Bourbon Festival
PINK	S			Thanks. Pink	Ind. Pink Dk. Or. Queen Orchid Queen
	P	Riviera Rosalind Serrated Riviera	Debutante Minstrel Lt. Pk. Minstrel	Princess (Fla.) Hasegawa Pink	Mermaid Brocade Grand Slam Pinky

Year Around Chrysanthemum Flowering Schedule

BLOOM FEBRUARY 15

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Sept. 7	Oct. 5	Sept. 7 —Nov. 9	no	14 Week
	Sept. 7	Oct. 5	Sept. 7 —Nov. 16	no	13 Week
	Sept. 7	Oct. 5	Sept. 7 —Nov. 23	no	12 Week
	Sept. 7	Oct. 5	Sept. 7 —Nov. 30	no	11 Week
	Sept. 7	Oct. 5	Sept. 7 —Dec. 7	no	10 Week
35-40°	Sept. 14	Oct. 12	Sept. 14—Nov. 16	no	13 Week
	Sept. 14	Oct. 12	Sept. 14—Nov. 23	no	12 Week
	Sept. 14	Oct. 12	Sept. 14—Nov. 30	no	11 Week
	Sept. 14	Oct. 12	Sept. 14—Dec. 7	no	10 Week
30-35°	Sept. 28	Oct. 19	Sept. 28—Nov. 16	no	13 Week
	Sept. 28	Oct. 19	Sept. 28—Nov. 23	no	12 Week
	Sept. 28	Oct. 19	Sept. 28—Nov. 30	no	11 Week
	Sept. 28	Oct. 19	Sept. 28—Dec. 7	no	10 Week
25-30°	Oct. 5	Oct. 26	Oct. 5 —Nov. 23	no	12 Week
	Oct. 5	Oct. 26	Oct. 5 —Dec. 7	no	11 Week
	Oct. 5	Oct. 26	Oct. 5 —Dec. 14	no	10 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	14 Week	13 Week	12 Week	11 Week	10 Week
WHITE	S		Chattanooga	Mefo	Jean Elizabeth Crystal Queen Ind. White
	P	Snowcrest Silversmith Snowcap Satellite	Cameo Acclaim Cotillon Snowdrop	Belray Monarch	Sculpture Priscilla Paramount Highbrow
YELLOW	S		Golden Pearson Yel. Chattan'ga	Yellow Mefo Harvester	Imp. Ind. Yellow Ind. Yellow Yellow Queen
	P	Cr. Snowcrest Yel. Snowcrest Shamrock Vibrant Sunrise	Brandywine Yel. Cameo Goldtone Corsair	Goldenrod Highlander Omega Yel. Galaxy	Yel. Highbrow Lollipop Pippin Klondike Golden Chord Forty-Niner
BRONZE & RED	S		Oak Leaf		Ind. Bronze
	P	Br. Riviera Topaz Xmas. Greeting Poinsettia Merrymaker	Harlequin Holiday Xmas. Star Br. Minstrel	Indian Head Amberina Galaxy	Thelma Bourbon Festival
PINK	S			Thanks. Pink	Ind. Pink Dk. Or. Queen Orchid Queen
	P	Serrated Riviera Riviera Rosaling	Debutante Minstrel Lt. Pk. Minstrel	Princess (Fla.) Hasegawa Pink	Brocade Grand Slam

Year Around Chrysanthemum Flowering Schedule

BLOOM FEBRUARY 22

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Sept. 14	Oct. 12	Sept. 14—Nov. 23	no	13 Week
	Sept. 14	Oct. 12	Sept. 14—Nov. 30	no	12 Week
	Sept. 14	Oct. 12	Sept. 14—Dec. 7	no	11 Week
	Sept. 14	Oct. 12	Sept. 14—Dec. 14	no	10 Week
35-40°	Sept. 21	Oct. 19	Sept. 21—Nov. 23	no	13 Week
	Sept. 21	Oct. 19	Sept. 21—Nov. 30	no	12 Week
	Sept. 21	Oct. 19	Sept. 21—Dec. 7	no	11 Week
	Sept. 21	Oct. 19	Sept. 21—Dec. 14	no	10 Week
30-35°	Oct. 5	Oct. 26	Oct. 5 —Nov. 23	no	13 Week
	Oct. 5	Oct. 26	Oct. 5 —Nov. 30	no	12 Week
	Oct. 5	Oct. 26	Oct. 5 —Dec. 7	no	11 Week
	Oct. 5	Oct. 26	Oct. 5 —Dec. 14	no	10 Week
25-30°	Oct. 12	Nov. 2	Oct. 12 —Nov. 30	no	12 Week
	Oct. 12	Nov. 2	Oct. 12 —Dec. 7	no	11 Week
	Oct. 12	Nov. 2	Oct. 12 —Dec. 14	no	10 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	13 Week	12 Week	11 Week	10 Week
WHITE	S	Chattanooga	Mefo	Ind. White Jean Elizabeth Crystal Queen
	P	Cameo Acclaim Cotillion Snowdrop Snow Queen	Belray Monarch	Sculpture Eskimo Priscilla Paramount Highbrow
YELLOW	S	Golden Pearson Yel. Chattanooga	Yellow Mefo Harvester	Imp. Ind. Yellow Ind. Yellow Yellow Queen
	P	Brandywine Yel. Cameo Goldtone Corsair	Goldenrod Highlander Omega Yel. Galaxy	Thorobred Lollipop Pippin Klondike Yel. Highbrow Golden Chord Forty-Niner
BRONZE & RED	S	Oak Leaf		Ind. Bronze
	P	Harlequin Holiday Xmas. Star Br. Minsirel	Indian Head Amberina Galaxy	Thelma Bourbon Festival
PINK	S		Thanks. Pink	Ind. Pink Dk. Orchid Queen Orchid Queen
	P	Debutante Minsirel	Princess (Fla.) Hasegawa Pink	Brocade Grand Slam

Year Around Chrysanthemum Flowering Schedule

BLOOM MARCH 1

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Sept. 21	Oct. 19	Sept. 21—Dec. 7	no	12 Week
	Sept. 21	Oct. 19	Sept. 21—Dec. 14	no	11 Week
	Sept. 21	Oct. 19	Sept. 21—Dec. 21	no	10 Week
35-40°	Sept. 28	Oct. 26	Sept. 28—Dec. 7	no	12 Week
	Sept. 28	Oct. 26	Sept. 28—Dec. 14	no	11 Week
	Sept. 28	Oct. 26	Sept. 28—Dec. 21	no	10 Week
30-35°	Oct. 12	Nov. 2	Oct. 12 —Dec. 7	no	12 Week
	Oct. 12	Nov. 2	Oct. 12 —Dec. 14	no	11 Week
	Oct. 12	Nov. 2	Oct. 12 —Dec. 21	no	10 Week
	Oct. 12	Nov. 2	Oct. 12 —Dec. 28	no	9 Week
25-30°	Oct. 19	Nov. 9	Oct. 19 —Dec. 14	no	11 Week
	Oct. 19	Nov. 9	Oct. 19 —Dec. 21	no	10 Week
	Oct. 19	Nov. 9	Oct. 19 —Dec. 28	no	9 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	12 Week	11 Week	10 Week	9 Week	
WHITE	S		Mefo	Ind. White Jean Elizabeth Crystal Queen	Queen's Lace
	P	Belray Monarch Wh. Valencia	Sculpture Priscilla Paramount Highbrow	Shasta Little America Encore Moonglow	Keepsake Arcadia
YELLOW	S	Golden Pearson	Cream Mefo Yellow Mefo Harvester	Imp. Ind. Yellow Ind. Yellow Yellow Queen	Gold Lace Yellow Lace
	P	Goldenrod Highlander Omega Yel. Valencia Yel. Galaxy	Lollipop Pippin Klondike Yel. Highbrow Golden Chord Forty-Niner	Brigadoon Yellow Shasta	Golden Herald Gold Coast Yel. Arcadia Mary L. Hall Starbright Sunray
BRONZE & RED	S	Oak Leaf		Ind. Bronze	Nomago
	P	Indian Head Amberina Galaxy Apr. Valencia	Thelma Bourbon Festival	Beauregard Dk. Br. Mast'p'ce Br. Linda Lou	Buckskin Seneca Buccaneer Red Seneca
PINK	S		Thanks. Pink	Ind. Pink Dk. Orchid Queen Orchid Queen	
	P	Princess (Fla.) Valencia Dark Valencia	Brocade Grand Slam	Linda Lou Pandora Taffeta	Reward October Pink Rainbow Pink Dot

Year Around Chrysanthemum Flowering Schedule

BLOOM MARCH 8

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Sept. 28	Oct. 26	Sept. 28—Dec. 14	no	12 Week
	Sept. 28	Oct. 26	Sept. 28—Dec. 21	no	11 Week
	Sept. 28	Oct. 26	Sept. 28—Dec. 28	no	10 Week
35-40°	Oct. 5	Nov. 2	Oct. 5 —Dec. 14	no	12 Week
	Oct. 5	Nov. 2	Oct. 5 —Dec. 21	no	11 Week
	Oct. 5	Nov. 2	Oct. 5 —Dec. 28	no	10 Week
30-35°	Oct. 19	Nov. 9	Oct. 19—Dec. 14	no	12 Week
	Oct. 19	Nov. 9	Oct. 19—Dec. 21	no	11 Week
	Oct. 19	Nov. 9	Oct. 19—Dec. 28	no	10 Week
	Oct. 19	Nov. 9	Oct. 19—Jan. 4	no	9 Week
25-30°	Oct. 26	Nov. 16	Oct. 26—Dec. 21	no	11 Week
	Oct. 26	Nov. 16	Oct. 26—Dec. 28	no	10 Week
	Oct. 26	Nov. 16	Oct. 26—Jan. 4	no	9 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	12 Week	11 Week	10 Week	9 Week	
WHITE	S		Mefo	Ind. White Jean Elizabeth Crystal Queen	Queen's Lace
	P	Belray Monarch Wh. Valencia	Sculpture Priscilla Paramount Highbrow	Shasta Little America Encore Moonglow	Keepsake Arcadia
YELLOW	S	Golden Pearson	Cream Mefo Yellow Mefo Harvester	Imp. Ind. Yellow Ind. Yellow Yellow Queen	Gold Lace Yellow Lace
	P	Goldenrod Highlander Omega Yel. Galaxy Yel. Valencia	Lollipop Pippin Klondike Yel. Highbrow Golden Chord Forty-Niner	Brigadoon Yellow Shasta	Golden Herald Gold Coast Yel. Arcadia Mary L. Hall Starbright Sunray
BRONZE & RED	S	Oak Leaf		Ind. Bronze	
	P	Indian Head Amberina Galaxy Apr. Valencia	Thelma Bourbon Festival	Beauregard Dk. Br. Mast'p'ce Br. Linda Lou	Buckskin Seneca Buccaneer Red Seneca
PINK	S		Thanks. Pink	Ind. Pink Dk. Orchid Queen Orchid Queen	Mary Garden
	P	Princess (Fla.) Valencia Dk. Valencia	Brocade Grand Slam	Linda Lou Pandora Taffeta	Reward October Pink Rainbow Pink Dot

Year Around Chrysanthemum Flowering Schedule

BLOOM MARCH 15

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Oct. 5	Nov. 2	Oct. 5 —Dec. 21	no	12 Week
	Oct. 5	Nov. 2	Oct. 5 —Dec. 28	no	11 Week
	Oct. 5	Nov. 2	Oct. 5 —Jan. 4	no	10 Week
35-40°	Oct. 12	Nov. 9	Oct. 12—Dec. 21	no	12 Week
	Oct. 12	Nov. 9	Oct. 12—Dec. 28	no	11 Week
	Oct. 12	Nov. 9	Oct. 12—Jan. 4	no	10 Week
	Oct. 12	Nov. 9	Oct. 12—Jan. 11	no	9 Week
30-35°	Oct. 26	Nov. 16	Oct. 26—Dec. 21	no	12 Week
	Oct. 26	Nov. 16	Oct. 26—Dec. 28	no	11 Week
	Oct. 26	Nov. 16	Oct. 26—Jan. 4	no	10 Week
	Oct. 26	Nov. 16	Oct. 26—Jan. 11	no	9 Week
25-30°	Nov. 2	Nov. 23	Nov. 2 —Dec. 28	no	11 Week
	Nov. 2	Nov. 23	Nov. 2 —Jan. 4	no	10 Week
	Nov. 2	Nov. 23	Nov. 2 —Jan. 11	no	9 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	12 Week	11 Week	10 Week	9 Week	
WHITE	S		Mefo	Ind. White Jean Elizabeth Crystal Queen	Queen's Lace
	P	Belray Monarch Wh. Valencia	Sculpture Priscilla Paramount Highbrow	Shasta Little America Encore Moonglow	Keepsake Arcadia
YELLOW	S	Golden Pearson	Cream Mefo Yellow Mefo Harvester	Imp. Ind. Yellow Ind. Yellow Yellow Queen	Gold Lace Yellow Lace
	P	Goldenrod Highlander Omega Yel. Galaxy Yel. Valencia	Lollipop Pippin Klondike Yel. Highbrow Golden Chord Forty-Niner	Brigadoon Yellow Shasta	Golden Herald Gold Coast Yel. Arcadia Mary L. Hall Starbright Sunray
BRONZE & RED	S	Oak Leaf		Ind. Bronze	Nomago
	P	Indian Head Amberina Galaxy Apr. Valencia	Thelma Bourbon Festival	Beauregard Dk. Br. Mast'p'ce Br. Linda Lou	Buckskin Seneca Buccaneer Red Seneca
PINK	S		Thanks. Pink	Ind. Pink Dk. Orchid Queen Orchid Queen	
	P	Princess (Fla.) Valencia Dk. Valencia	Brocade Grand Slam	Linda Lou Pandora Taffeta	Reward October Pink Rainbow Pink Dot

Year Around Chrysanthemum Flowering Schedule

BLOOM MARCH 22

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Oct. 12	Nov. 9	Oct. 12—Dec. 28	no	12 Week
	Oct. 12	Nov. 9	Oct. 12—Jan. 4	no	11 Week
	Oct. 12	Nov. 9	Oct. 12—Jan. 11	no	10 Week
	Oct. 12	Nov. 9	Oct. 12—Jan. 18	no	9 Week
35-40°	Oct. 19	Nov. 16	Oct. 19—Dec. 28	no	12 Week
	Oct. 19	Nov. 16	Oct. 19—Jan. 4	no	11 Week
	Oct. 19	Nov. 16	Oct. 19—Jan. 11	no	10 Week
	Oct. 19	Nov. 16	Oct. 19—Jan. 18	no	9 Week
30-35°	Nov. 2	Nov. 23	Nov. 2 —Dec. 28	no	12 Week
	Nov. 2	Nov. 23	Nov. 2 —Jan. 4	no	11 Week
	Nov. 2	Nov. 23	Nov. 2 —Jan. 11	no	10 Week
	Nov. 2	Nov. 23	Nov. 2 —Jan. 18	no	9 Week
25-30°	Nov. 16	Dec. 7	Nov. 16—Jan. 4	no	11 Week
	Nov. 16	Dec. 7	Nov. 16—Jan. 11	no	10 Week
	Nov. 16	Dec. 7	Nov. 16—Jan. 18	no	9 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	12 Week	11 Week	10 Week	9 Week
WHITE	S		Ind. White Jean Elizabeth Crystal Queen	Queen's Lace
	P	Belray Monarch Wh. Valencia	Sculpture Priscilla Paramount Highbrow	Keepsake Arcadia
YELLOW	S	Golden Pearson	Cream Mefo Yellow Mefo Harvester	Imp. Ind. Yellow Ind. Yellow Yellow Queen
	P	Goldenrod Highlander Omega Yel. Galaxy Yel. Valencia	Lollipop Pippin Klondike Yel. Highbrow	Brigadoon Yellow Shasta
BRONZE & RED	S	Oak Leaf		Ind. Bronze
	P	Indian Head Amberina Galaxy Apr. Valencia	Thelma Bourbon Festival	Beauregard Dk. Br. Mast'p'ce Br. Linda Lou
PINK	S		Thanks. Pink	Ind. Pink Dk. Orchid Queen Orchid Queen
	P	Princess Valencia Dk. Valencia	Brocade Grand Slam	Linda Lou Pandora Taffeta
				Reward October Pink Rainbow Pink Dot

Year Around Chrysanthemum Flowering Schedule

BLOOM MARCH 29

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Oct. 19	Nov. 16	Oct. 19—Jan. 4	no	12 Week
	Oct. 19	Nov. 16	Oct. 19—Jan. 11	no	11 Week
	Oct. 19	Nov. 16	Oct. 19—Jan. 18	no	10 Week
	Oct. 19	Nov. 16	Oct. 19—Jan. 25	no	9 Week
35-40°	Oct. 26	Nov. 23	Oct. 26—Jan. 4	no	12 Week
	Oct. 26	Nov. 23	Oct. 26—Jan. 11	no	11 Week
	Oct. 26	Nov. 23	Oct. 26—Jan. 18	no	10 Week
	Oct. 26	Nov. 23	Oct. 26—Jan. 25	no	9 Week
30-35°	Nov. 9	Nov. 30	Nov. 9 —Jan. 4	no	12 Week
	Nov. 9	Nov. 30	Nov. 9 —Jan. 4	no	11 Week
	Nov. 9	Nov. 30	Nov. 9 —Jan. 18	no	10 Week
	Nov. 9	Nov. 30	Nov. 9 —Jan. 25	no	9 Week
25-30°	Nov. 23	Dec. 14	Nov. 23—Jan. 11	no	11 Week
	Nov. 23	Dec. 14	Nov. 23—Jan. 18	no	10 Week
	Nov. 23	Dec. 14	Nov. 23—Jan. 25	no	9 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	12 Week	11 Week	10 Week	9 Week
WHITE	S	Mefo	Ind. White Jean Elizabeth Crystal Queen	Queen's Lace
	P	Belray Monarch Wh. Valencia	Sculpture Priscilla Paramount Highbrow	Keepsake Arcadia
YELLOW	S	Golden Pearson	Cream Mefo Yellow Mefo Harvester	Imp. Ind. Yellow Ind. Yellow Yellow Queen
	P	Goldenrod Highlander Omega Yel. Galaxy Yel. Valencia	Lollipop Pippin Klondike Yel. Highbrow	Brigadoon Yellow Shasta
BRONZE & RED	S	Oak Leaf	Ind. Bronze	Nomago
	P	Indian Head Amberina Galaxy Apr. Valencia	Thelma Bourbon Festival	Beauregard Dk. Br. Mast/p'ce Br. Linda Lou
PINK	S		Thanks. Pink	Ind. Pink Dk. Orchid Queen Orchid Queen
	P	Princess (Fla.) Valencia Dk. Valencia	Brocade Grand Slam	Linda Lou Pandora Taffeta
				Reward October Pink Rainbow Pink Dot

Year Around Chrysanthemum Flowering Schedule

BLOOM APRIL 5

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Nov. 2	Nov. 30	Nov. 2 —Jan. 18	no	11 Week
	Nov. 2	Nov. 30	Nov. 2 —Jan. 25	no	10 Week
	Nov. 2	Nov. 30	Nov. 2 —Feb. 1	no	9 Week
35-40°	Nov. 9	Dec. 7	Nov. 9 —Jan. 18	no	11 Week
	Nov. 9	Dec. 7	Nov. 9 —Jan. 25	no	10 Week
	Nov. 9	Dec. 7	Nov. 9 —Feb. 1	no	9 Week
30-35°	Nov. 23	Dec. 14	Nov. 23—Jan. 18	no	11 Week
	Nov. 23	Dec. 14	Nov. 23—Jan. 25	no	10 Week
	Nov. 23	Dec. 14	Nov. 23—Feb. 1	no	9 Week
	Nov. 23	Dec. 14	Nov. 23—Feb. 8	no	8 Week
25-30°	Nov. 30	Dec. 28	Nov. 30—Jan. 25	no	10 Week
	Nov. 30	Dec. 28	Nov. 30—Feb. 1	no	9 Week
	Nov. 30	Dec. 28	Nov. 30—Feb. 8	no	8 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	11 Week	10 Week	9 Week	8 Week
WHITE	S Mefo	Ind. White Jean Elizabeth Crystal Queen	Queen's Lace Albatross	Silver Sheen
	P Sculpture Priscilla Paramount Highbrow	Shasta Little America	Keepsake Halo	Norona Pristine Calif. White Daisy
YELLOW	S Cream Mefo Yellow Mefo Harvester	Imp. Ind. Yellow Ind. Yellow Yellow Queen	Gold Lace Yellow Lace Good News	Blazing Gold
	P Lollipop Pippin Klondike Yel. Highbrow	Yellow Shasta	Yellow Halo Gold Coast Sunray Yel. Arcadia Mary L. Hall Starbright Golden Herald	Moondrift
BRONZE & RED	S	Ind. Bronze	Detroit News Nomago	
	P Thelma Bourbon Festival	Beauregard Dk. Br. Mast'p'ce Br. Linda Lou	Buckskin Seneca Red Seneca Buccaneer	James Stewart
PINK	S	Ind. Pink Dk. Orchid Queen Orchid Queen		
	P Brocade Grand Slam	Linda Lou Pandora Taffeta	Reward October Pink Rainbow Pink Dot	Mary McArthur

Year Around Chrysanthemum Flowering Schedule

BLOOM APRIL 12

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Nov. 9	Dec. 7	Nov. 9 —Jan. 25	no	11 Week
	Nov. 9	Dec. 7	Nov. 9 —Feb. 1	no	10 Week
	Nov. 9	Dec. 7	Nov. 9 —Feb. 8	no	9 Week
35-40°	Nov. 16	Dec. 14	Nov. 16—Jan. 25	no	11 Week
	Nov. 16	Dec. 14	Nov. 16—Feb. 1	no	10 Week
	Nov. 16	Dec. 14	Nov. 16—Feb. 8	no	9 Week
30-35°	Nov. 23	Dec. 21	Nov. 23—Jan. 25	no	11 Week
	Nov. 23	Dec. 21	Nov. 23—Feb. 1	no	10 Week
	Nov. 23	Dec. 21	Nov. 23—Feb. 8	no	9 Week
	Nov. 23	Dec. 21	Nov. 23—Feb. 15	no	8 Week
25-30°	Dec. 14	Jan. 4	Dec. 14—Feb. 1	no	10 Week
	Dec. 14	Jan. 4	Dec. 14—Feb. 8	no	9 Week
	Dec. 14	Jan. 4	Dec. 14—Feb. 15	no	8 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	11 Week	10 Week	9 Week	8 Week
WHITE	S Mefo	Ind. White Jean Elizabeth Crystal Queen	Queen's Lace Albatross	Silver Sheen
	P Sculpture Priscilla Paramount Highbrow	Shasta Little America	Keepsake Halo	Norona Pristine Calif. White Daisy
YELLOW	S Cream Mefo Yellow Mefo Harvester	Imp. Ind. Yellow Ind. Yellow Yellow Queen	Gold Lace Yellow Lace Good News	Blazing Gold
	P Lollipop Pippin Klondike Yel. Highbrow	Yellow Shasta	Yellow Halo Gold Coast Sunray Yel. Arcadia Mary L. Hall Starbright Golden Herald	Moondrift
BRONZE & RED	S	Ind. Bronze	Detroit News Nomago	
	P Thelma Bourbon Festival	Beauregard Dk. Br. Mast'p'ce Br. Linda Lou	Buckskin Seneca Red Seneca Buccaneer	James Stewart
PINK	S	Ind. Pink Dk. Orchid Queen Orchid Queen		
	P Brocade Grand Slam	Linda Lou Pandora Taffeta	Reward October Pink Pink Dot Rainbow	Mary McArthur

Gloeckner

CHRYSANTHEMUM CUTTINGS

Year Around Chrysanthemum Flowering Schedule

BLOOM APRIL 19

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Nov. 16	Dec. 21	Nov. 16—Feb. 1	Mar. 15	11 Week
	Nov. 16	Dec. 21	Nov. 16—Feb. 8	Mar. 22	10 Week
	Nov. 16	Dec. 21	Nov. 16—Feb. 15	Mar. 29	9 Week
35-40°	Nov. 23	Dec. 28	Nov. 23—Feb. 1	Mar. 15	11 Week
	Nov. 23	Dec. 28	Nov. 23—Feb. 8	Mar. 22	10 Week
	Nov. 23	Dec. 28	Nov. 23—Feb. 15	Mar. 29	9 Week
	Nov. 23	Dec. 28	Nov. 23—Feb. 22	no	8 Week
30-35°	Dec. 7	Jan. 4	Dec. 7 —Feb. 8	Mar. 22	10 Week
	Dec. 7	Jan. 4	Dec. 7 —Feb. 15	Mar. 29	9 Week
	Dec. 7	Jan. 4	Dec. 7 —Feb. 22	April 5	8 Week
25-30°	Dec. 28	Jan. 18	Dec. 28—Feb. 8	Mar. 22	10 Week
	Dec. 28	Jan. 18	Dec. 28—Feb. 15	Mar. 29	9 Week
	Dec. 28	Jan. 18	Dec. 28—Feb. 22	April 5	8 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	11 Week	10 Week	9 Week	8 Week
WHITE	S Mefo	Ind. White Jean Elizabeth Crystal Queen	Queen's Lace Albatross	Silver Sheen
	P Sculpture Priscilla Paramount Highbrow	Shasta Little America	Keepsake Halo	Norona Pristine Calif. White Daisy
YELLOW	S Cream Mefo Yellow Mefo Harvester	Imp. Ind. Yellow Ind. Yellow Yellow Queen	Gold Lace Yellow Lace Good News	Blazing Gold
	P Lollipop Pippin Klondike Yel. Highbrow	Yellow Shasta	Yellow Halo Gold Coast Sunray Yel. Arcadia Mary L. Hall Starbright Golden Herald	Moondrift
BRONZE & RED	S	Ind. Bronze	Detroit News Nomago	
	P Thelma Bourbon Festival	Beaugard Dk. Br. Mast'p'ce Br. Linda Lou	Buckskin Seneca Red Seneca Buccaneer	James Stewart
PINK	S	Ind. Pink Dk. Orchid Queen Orchid Queen		
	P Brocade Grand Slam	Linda Lou Pandora Taffeta	Reward October Pin Pink Dot Rainbow	Mary McArthur

Year Around Chrysanthemum Flowering Schedule

BLOOM APRIL 26

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Nov. 23	Dec. 28	Nov. 23—Feb. 8	Mar. 15	11 Week
	Nov. 23	Dec. 28	Nov. 23—Feb. 15	Mar. 22	10 Week
	Nov. 23	Dec. 28	Nov. 23—Feb. 22	Mar. 29	9 Week
35-40°	Nov. 30	Jan. 4	Nov. 30—Feb. 8	Mar. 15	11 Week
	Nov. 30	Jan. 4	Nov. 30—Feb. 15	Mar. 22	10 Week
	Nov. 30	Jan. 4	Nov. 30—Feb. 22	Mar. 29	9 Week
	Nov. 30	Jan. 4	Nov. 30—Mar. 1	no	8 Week
30-35°	Dec. 14	Jan. 11	Dec. 1—Feb. 15	Mar. 22	10 Week
	Dec. 14	Jan. 11	Dec. 1—Feb. 22	Mar. 29	9 Week
	Dec. 14	Jan. 11	Dec. 1—Mar. 1	April 5	8 Week
25-30°	Jan. 4	Jan. 25	Jan. 4—Feb. 15	Mar. 22	10 Week
	Jan. 4	Jan. 25	Jan. 4—Feb. 22	Mar. 29	9 Week
	Jan. 4	Jan. 25	Jan. 4—Mar. 1	April 5	8 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	11 Week	10 Week	9 Week	8 Week
WHITE	S Mefo	Ind. White Jean Elizabeth Crystal Queen	Queen's Lace Albatross	Silver Sheen
	P Sculpture Priscilla Paramount Highbrow	Shasta Little America	Keepsake Halo	Norona Pristine Calif. White Daisy
YELLOW	S Cream Mefo Yellow Mefo Harvester	Imp. Ind. Yellow Ind. Yellow Yellow Queen	Gold Lace Yellow Lace Good News	Blazing Gold
	P Lollipop Pippin Klondike Yel. Highbrow	Yellow Shasta	Yellow Halo Gold Coast Sunray Yel. Arcadia Mary L. Hall Starbright Golden Herald	Moondrift
BRONZE & RED	S	Ind. Bronze	Detroit News Nomago	
	P Thelma Bourbon Festival	Beaugard Dk. Br. Mast'p'ce Br. Linda Lou	Buckskin Seneca Red Seneca Buccaneer	James Stewart
PINK	S	Ind. Pink Dk. Orchid Queen Orchid Queen		
	P Brocade Grand Slam	Linda Lou Pandora Taffeta	Reward October Pin Pink Dot Rainbow	Mary McArthur

Year Around Chrysanthemum Flowering Schedule

BLOOM MAY 3

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Dec. 7	Jan. 11	Dec. 7 —Feb. 22	Mar. 22	10 Week
	Dec. 7	Jan. 11	Dec. 7 —Mar. 1	Mar. 29	9 Week
	Dec. 7	Jan. 11	Dec. 7 —Mar. 8	April 5	8 Week
35-40°	Dec. 14	Jan. 18	Dec. 14—Feb. 22	Mar. 22	10 Week
	Dec. 14	Jan. 18	Dec. 14—Mar. 1	Mar. 29	9 Week
	Dec. 14	Jan. 18	Dec. 14—Mar. 8	April 5	8 Week
30-35°	Dec. 28	Jan. 25	Dec. 24—Feb. 22	Mar. 22	10 Week
	Dec. 28	Jan. 25	Dec. 24—Mar. 1	Mar. 29	9 Week
	Dec. 28	Jan. 25	Dec. 24—Mar. 8	April 5	8 Week
25-30°	Jan. 4	Feb. 1	Jan. 4 —Feb. 22	Mar. 22	10 Week
	Jan. 4	Feb. 1	Jan. 4 —Mar. 1	Mar. 29	9 Week
	Jan. 4	Feb. 1	Jan. 4 —Mar. 8	April 5	8 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

		10 Week	9 Week	8 Week
WHITE	S	Ind. White Jean Elizabeth Crystal Queen	Queen's Lace Albatross	Silver Sheen
	P	Madonna Shasta Little America Illini Snowdrift	Wh. Popcorn Keepsake Pinocchio Halo	Norona Pristine Calif. White Daisy
YELLOW	S	Imp. Ind. Yellow Ind. Yellow Yellow Queen	Gold Lace Yellow Lace Good News	Blazing Gold
	P	Crescendo Yel. Shasta	Yellow Halo Gold Coast Sunray Yel. Arcadia Mary L. Hall Starbright Golden Herald	Moondrift
BRONZE & RED	S	Ind. Bronze	Detroit News Nomago	
	P	Beauregard Dk. Br. Mast'p'ce Br. Linda Lou	Buckskin Red Seneca Buccaneer	James Stewart
PINK	S	Ind. Pink Dk. Orchid Queen	Mary Garden	
	P	Linda Lou Pandora Taffeta	Reward Pink Dot Rainbow	Mary McArthur Eliz. Hood

Year Around Chrysanthemum Flowering Schedule

BLOOM MAY 10

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Dec. 9	Jan. 18	Dec. 9 —Mar. 1	Mar. 22	10 Week
	Dec. 9	Jan. 18	Dec. 9 —Mar. 8	Mar. 29	9 Week
	Dec. 9	Jan. 18	Dec. 9 —Mar. 15	April 5	8 Week
35-40°	Dec. 21	Jan. 25	Dec. 21—Mar. 1	Mar. 22	10 Week
	Dec. 21	Jan. 25	Dec. 21—Mar. 8	Mar. 29	9 Week
	Dec. 21	Jan. 25	Dec. 21—Mar. 15	April 5	8 Week
30-35°	Jan. 5	Feb. 2	Jan. 5 —Mar. 1	Mar. 22	10 Week
	Jan. 5	Feb. 2	Jan. 5 —Mar. 8	Mar. 29	9 Week
	Jan. 5	Feb. 2	Jan. 5 —Mar. 15	April 5	8 Week
25-30°	Jan. 12	Feb. 9	Jan. 12—Feb. 25	Mar. 22	10 Week
	Jan. 12	Feb. 9	Jan. 12—Mar. 3	Mar. 29	9 Week
	Jan. 12	Feb. 9	Jan. 12—Mar. 10	April 5	8 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

		10 Week	9 Week	8 Week
WHITE	S	Ind. White Jean Elizabeth Crystal Queen	Queen's Lace Albatross	Silver Sheen
	P	Madonna Shasta Little America Illini Snowdrift	Wh. Popcorn Keepsake Pinocchio Halo	Norona Pristine Calif. White Daisy
YELLOW	S	Ind. Yellow Yellow Queen	Gold Lace Yellow Lace Good News	Blazing Gold
	P	Crescendo Yel. Shasta	Yellow Halo Gold Coast Sunray Yel. Arcadia Mary L. Hall Starbright Golden Herald	Moondrift
BRONZE & RED	S	Ind. Bronze	Detroit News Nomago	
	P	Beauregard Dk. Br. Mast'p'ce Br. Linda Lou	Buckskin Red Seneca Buccaneer	James Stewart
PINK	S	Ind. Pink Dk. Orchid Queen	Mary Garden	
	P	Linda Lou Pandora Taffeta	Reward Pink Dot Rainbow	Mary McArthur Eliz. Hood

Gloeckner

CHRYSANTHEMUM CUTTINGS

Year Around Chrysanthemum Flowering Schedule

BLOOM MAY 17

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Dec. 28	Feb. 1	Dec. 28—Mar. 8	Mar. 22	10 Week
	Dec. 28	Feb. 1	Dec. 28—Mar. 15	Mar. 29	9 Week
	Dec. 28	Feb. 1	Dec. 28—Mar. 22	April 5	8 Week
35-40°	Jan. 4	Feb. 8	Jan. 4 —Mar. 8	Mar. 22	10 Week
	Jan. 4	Feb. 8	Jan. 4 —Mar. 15	Mar. 29	9 Week
	Jan. 4	Feb. 8	Jan. 4 —Mar. 22	April 5	8 Week
25-35°	Jan. 25	Feb. 15	Jan. 25—Mar. 8	Mar. 22	10 Week
	Jan. 25	Feb. 15	Jan. 25—Mar. 15	Mar. 29	9 Week
	Jan. 25	Feb. 15	Jan. 25—Mar. 22	April 5	8 Week

BLOOM MAY 24

40-45°	Jan. 5	Feb. 9	Jan. 5 —Mar. 16	Mar. 23	10 Week
	Jan. 5	Feb. 9	Jan. 5 —Mar. 23	Mar. 30	9 Week
	Jan. 5	Feb. 9	Jan. 5 —Mar. 30	April 6	8 Week
35-40°	Jan. 12	Feb. 16	Jan. 12—Mar. 16	Mar. 23	10 Week
	Jan. 12	Feb. 16	Jan. 12—Mar. 23	Mar. 30	9 Week
	Jan. 12	Feb. 16	Jan. 12—Mar. 30	April 6	8 Week
25-35°	Feb. 2	Feb. 23	Feb. 2 —Mar. 16	Mar. 23	10 Week
	Feb. 2	Feb. 23	Feb. 2 —Mar. 23	Mar. 30	9 Week
	Feb. 2	Feb. 23	Feb. 2 —Mar. 30	April 6	8 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

		10 Week	9 Week	8 Week
WHITE	S	Ind. White Jean Elizabeth Crystal Queen	Queen's Lace Albatross	Silver Sheen
	P	Madonna Shasta Little America Illini Snowdrift	Wh. Popcorn Keepsake Pinocchio Halo	Norona Pristine Calif. White Daisy
YELLOW	S	Imp. Ind. Yellow Ind. Yellow Yellow Queen	Gold Lace Yellow Lace Good News	Blazing Gold
	P	Crescendo Yel. Shasta	Gold Coast Sunup Yel. Arcadia Mary L. Hall Starbright Yellow Halo Sunray Golden Herald	Moondrift
BRONZE & RED	S	Ind. Bronze	Detroit News Nomago	
	P	Beauregard Dk. Br. Mast'p'ce Br. Linda Lou	Buckskin Red Seneca Buccaneer	James Stewart
PINK	S	Ind. Pink Dk. Orchid Queen	Mary Garden	
	P	Linda Lou Pandora Taffeta	Reward Pink Dot Rainbow	Mary McArthur Eliz. Hood

Year Around Chrysanthemum Flowering Schedule

BLOOM JUNE 1

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Jan. 19	Feb. 23	Jan. 19—Mar. 23	Mar. 23	10 Week
	Jan. 19	Feb. 23	Jan. 19—Mar. 30	Mar. 30	9 Week
	Jan. 19	Feb. 23	Jan. 19—April 6	April 6	8 Week
	Jan. 19	Feb. 23	Jan. 19—April 13	April 13	7 Week
25-40°	Feb. 9	Mar. 2	Feb. 9 —Mar. 23	Mar. 23	10 Week
	Feb. 9	Mar. 2	Feb. 9 —Mar. 30	Mar. 30	9 Week
	Feb. 9	Mar. 2	Feb. 9 —April 6	April 6	8 Week
	Feb. 9	Mar. 2	Feb. 9 —April 13	April 13	7 Week

BLOOM JUNE 8

40-45°	Jan. 26	Mar. 2	Jan. 26—Mar. 30	Mar. 30	10 Week
	Jan. 26	Mar. 2	Jan. 26—April 6	April 6	9 Week
	Jan. 26	Mar. 2	Jan. 26—April 13	April 13	8 Week
	Jan. 26	Mar. 2	Jan. 26—April 20	April 20	7 Week
25-40°	Feb. 16	Mar. 9	Feb. 16—Mar. 30	Mar. 30	10 Week
	Feb. 16	Mar. 9	Feb. 16—April 6	April 6	9 Week
	Feb. 16	Mar. 9	Feb. 16—April 13	April 13	8 Week
	Feb. 16	Mar. 9	Feb. 16—April 20	April 20	7 Week

BLOOM JUNE 15

25-45°	Feb. 16	Mar. 16	Feb. 16—April 6	April 6	10 Week
	Feb. 16	Mar. 16	Feb. 16—April 13	April 13	9 Week
	Feb. 16	Mar. 16	Feb. 16—April 20	April 20	8 Week
	Feb. 16	Mar. 16	Feb. 16—April 27	April 27	7 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	10 Week	9 Week	8 Week	7 Week
WHITE	S Ind. White Jean Elizabeth Crystal Queen	Queen's Lace Albatross	Silver Sheen	
	P Madonna Shasta Little America Illini Snowdrift	Wh. Popcorn Keepsake Pinocchio Halo Sea Gull	Norona Pristine Calif. Wh. Daisy	Classic Horizon
YELLOW	S Imp. Ind. Yellow Ind. Yellow Yellow Queen	Gold Lace Yellow Lace Good News	Blazing Gold	
	P Crescendo Yel. Shasta	Gold Coast Sunup Yel. Arcadia Mary L. Hall Starbright Sunray Yellow Halo Golden Herald	Moondrift	Polaris Bright Forecast Gold Rush
BRONZE & RED	S Ind. Bronze	Detroit News Nomago		
	P Beauregard Dk. Br. Mast'p'ce Paragon Br. Linda Lou	Buckskin Red Seneca Buccaneer	James Stewart	
PINK	S Ind. Pink Dk. Orchid Queen	Mary Garden		
	P Linda Lou Pandora Taffeta Dk. Linda Lou	Reward Pink Dot Rainbow	Mary McArthur Eliz. Hood	Spellbound Lassie Joybringer

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CHRYSANTHEMUM CUTTINGS

Year Around Chrysanthemum Flowering Schedule

BLOOM JUNE 22

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
25-45°	Feb. 23	Mar. 23	Feb. 23—April 13	April 13	10 Week
	Feb. 23	Mar. 23	Feb. 23—April 20	April 20	9 Week
	Feb. 23	Mar. 23	Feb. 23—April 27	April 27	8 Week
	Feb. 23	Mar. 23	Feb. 23—May 4	May 4	7 Week

BLOOM JUNE 29

25-45°	Mar. 2	Mar. 30	Mar. 2—April 20	April 20	10 Week
	Mar. 2	Mar. 30	Mar. 2—April 27	April 27	9 Week
	Mar. 2	Mar. 30	Mar. 2—May 4	May 4	8 Week
	Mar. 2	Mar. 30	Mar. 2—May 11	May 11	7 Week

BLOOM JULY 6

25-45°	Mar. 9	April 6	Mar. 9—April 27	April 27	10 Week
	Mar. 9	April 6	Mar. 9—May 4	May 4	9 Week
	Mar. 9	April 6	Mar. 9—May 11	May 11	8 Week
	Mar. 9	April 6	Mar. 9—May 18	May 18	7 Week

BLOOM JULY 13

25-45°	Mar. 16	April 13	Mar. 16—May 4	May 4	10 Week
	Mar. 16	April 13	Mar. 16—May 11	May 11	9 Week
	Mar. 16	April 13	Mar. 16—May 18	May 18	8 Week
	Mar. 16	April 13	Mar. 16—May 25	May 25	7 Week

BLOOM JULY 20

25-45°	Mar. 23	April 20	Mar. 23—May 4	May 11	10 Week
	Mar. 23	April 20	Mar. 23—May 11	May 18	9 Week
	Mar. 23	April 20	Mar. 23—May 18	May 25	8 Week
	Mar. 23	April 20	Mar. 23—May 25	June 1	7 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	10 Week	9 Week	8 Week	7 Week
WHITE	S Crystal Queen Jean Elizabeth Betsy Ross Giant Betsy Ross	Queen's Lace Albatross	Silver Sheen	
	P Shasta Little America Illini Snowdrift	Wh. Popcorn Keepsake Pinocchio Songster Halo (Ghs.)	Norona Pristine Calif. Wh. Daisy	Classic Horizon
YELLOW	S Yellow Queen	Gold Lace Yellow Lace Good News	Blazing Gold	
	P Crescendo Yel. Shasta	Sunray Gold Coast Sunup Yel. Arcadia Starbright Yellow Halo	Moondrift	Bright Forecast Gold Rush Polaris
BRONZE	P Beauregard Paragon	Buckskin	James Stewart	
PINK	P Dk. Linda Lou	Reward Pink Dot		Joybringer

Year Around Chrysanthemum Flowering Schedule

BLOOM JULY 27

Latitude	Plant	Pinch	Lighting Period	Start Shade	Response Group
25-45°	Mar. 30	April 27	Mar. 30—May 4	May 18	10 Week
	Mar. 30	April 27	Mar. 30—May 11	May 25	9 Week
	Mar. 30	April 27	Mar. 30—May 18	June 1	8 Week
	Mar. 30	April 27	Mar. 30—May 25	June 8	7 Week

BLOOM AUGUST 3

25-45°	April 6	May 4	April 6 —May 4	May 25	10 Week
	April 6	May 4	April 6 —May 11	June 1	9 Week
	April 6	May 4	April 6 —May 18	June 8	8 Week
	April 6	May 4	April 6 —May 25	June 15	7 Week

BLOOM AUGUST 10

25-45°	April 13	May 11	April 13—May 4	June 1	10 Week
	April 13	May 11	April 13—May 11	June 8	9 Week
	April 13	May 11	April 13—May 18	June 15	8 Week
	April 13	May 11	April 13—May 25	June 22	7 Week

BLOOM AUGUST 17

25-45°	April 20	May 18	April 20—May 4	June 8	10 Week
	April 20	May 18	April 20—May 11	June 15	9 Week
	April 20	May 18	April 20—May 18	June 22	8 Week
	April 20	May 18	April 20—May 25	June 29	7 Week

BLOOM AUGUST 24

25-45°	April 27	May 25	April 27—May 4	June 15	10 Week
	April 27	May 25	April 27—May 11	June 22	9 Week
	April 27	May 25	April 27—May 18	June 29	8 Week
	April 27	May 25	April 27—May 25	July 6	7 Week

BLOOM AUGUST 31

25-45°	May 4	June 1	No Light Necessary	June 22	10 Week
	May 4	June 1	No Light Necessary	June 29	9 Week
	May 4	June 1	No Light Necessary	July 6	8 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	10 Week	9 Week	8 Week	7 Week
WHITE	S Crystal Queen Jean Elizabeth Betsy Ross Giant Betsy Ross	Queen's Lace	Silver Sheen	
	P Shasta Little America Illini Snowdrift	Popcorn Keepsake Pinocchio Songster Halo (Ghs.)	Norona Pristine Calif. Wh. Daisy	Classic Horizon
YELLOW	S Yellow Queen	Gold Lace Yellow Lace Good News	Blazing Gold	
	P Crescendo Yel. Shasta	Sunray Gold Coast Sunup Yel. Arcadia Starbright Yellow Halo	Moondrift	Bright Forecast Gold Rush Polaris
BRONZE	P Beauregard Br. Linda Lou	Buckskin	James Stewart	
PINK	P Dk. Linda Lou	Reward Pink Dot		Joybringer

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CHRYSANTHEMUM CUTTINGS

Year Around Chrysanthemum Flowering Schedule

Latitude	Plant	Pinch	Start Shade	Response Group
BLOOM SEPTEMBER 7				
25-45°	May 18	June 8	June 29	10 Week
	May 18	June 8	July 6	9 Week
	May 18	June 8	July 13	8 Week
BLOOM SEPTEMBER 14				
25-45°	May 25	June 15	July 6	10 Week
	May 25	June 15	July 13	9 Week
	May 25	June 15	July 20	8 Week
BLOOM SEPTEMBER 21				
40-45°	May 25	June 15	July 13	10 Week
	May 25	June 15	July 20	9 Week
	May 25	June 15	July 27	8 Week
25-40°	June 1	June 22	July 13	10 Week
	June 1	June 22	July 20	9 Week
	June 1	June 22	July 27	8 Week
BLOOM SEPTEMBER 28				
40-45°	June 1	June 22	July 20	10 Week
	June 1	June 22	July 27	9 Week
	June 1	June 22	August 3	8 Week
25-40°	June 8	June 29	July 20	10 Week
	June 8	June 29	July 27	9 Week
	June 8	June 29	August 3	8 Week

VARIETIES IN RESPONSE GROUPS

	10 Week	9 Week	8 Week
WHITE	S Crystal Queen Ind. White Jean Elizabeth Betsy Ross Giant Betsy Ross	Queen's Lace	Silver Sheen
	P Shasta Little America Encore Illini Snowdrift	Wh. Popcorn Keepsake Pinocchio Songster Halo (Ghs.) Sea Gull	Pristine
YELLOW	S Yellow Queen Ind. Yellow	Gold Lace Yellow Lace Good News	Blazing Gold
	P Brigadoon Crescendo Pixie Yellow Shasta Constellation	Gold Coast Yellow Dot Sunup Mary L. Hall Sch. Yel. Daisy Sunray Yellow Halo	Moondrift
BRONZE & RED	S Ind. Bronze Nomago Mrs. Roy	Detroit News	
	P Beauregard Samover Red Rust Rubicon Bittersweet Paragon Illini Redhead	Buckskin Red Seneca Br. Dot Buccaneer Navaho Red Daisy Imp. Br. Daisy	Rajah James Stewart
PINK	S Ind. Pink Dk. Orchid Queen	Mary Garden	
	P Dreamboat Dk. Bulkeley Pandora Dk. Linda Lou Memorial Taffeta	Reward Pink Dot Jessie Ballerina Rainbow Arbutus	Carolyn Yosick Mary McArthur

Year Around Chrysanthemum Flowering Schedule

BLOOM OCTOBER 5

Latitude	Plant	Pinch	Start Shade	Response Group
40-45°	June 8	June 29	July 20	11 Week
	June 8	June 29	July 27	10 Week
	June 8	June 29	August 3	9 Week
25-40°	June 15	July 6	July 20	11 Week
	June 15	July 6	July 27	10 Week
	June 15	July 6	August 3	9 Week

BLOOM OCTOBER 12

40-45°	June 15	July 6	July 27	11 Week
	June 15	July 6	August 3	10 Week
	June 15	July 6	August 10	9 Week
25-40°	June 22	July 13	July 27	11 Week
	June 22	July 13	August 3	10 Week
	June 22	July 13	August 10	9 Week

BLOOM OCTOBER 19

40-45°	June 15	July 6	August 3	11 Week
	June 15	July 6	August 10	10 Week
	June 15	July 6	August 17	9 Week
25-40°	June 22	July 13	August 3	11 Week
	June 22	July 13	August 10	10 Week
	June 22	July 13	August 17	9 Week

VARIETIES IN RESPONSE GROUPS

	11 Week	10 Week	9 Week
WHITE	S Mefo	Crystal Queen Ind. White Betsy Ross Jean Elizabeth Giant Betsy Ross	Queen's Lace
	P Sculpture Priscilla Paramount	Madonna Shasta Moonglow Little America Encore Illini Snowdrift	Wh. Popcorn Keepsake Songster Halo (Ghs.) Sea Gull
YELLOW	S Yellow Mefo Cream Mefo	Imp. Ind. Yellow Ind. Yellow Yellow Queen	Gold Lace Yellow Lace Good News
	P Lollipop Pippin Klondike Bojangles Forty-Niner Yel. Highbrow Golden Chord	Brigadoon Crescendo Pixie Yellow Shasta Constellation	Gold Coast Mary L. Hall Sch. Yel. Daisy Sunray Yellow Halo
BRONZE & RED	S	Ind. Bronze Nomago Mrs. Roy	Detroit News
	P Thelma Rusticon Festival Br. Minuet	Beauregard Chevron Red Rust Rubicon Bittersweet Magician Paragon Illini Redhead	Buckskin Red Seneca Firefly Buccaneer Navaho Red Daisy Br. Dot
PINK	S Thanks. Pink	Ind. Pink Dk. Orchid Queen Orchid Queen	Mary Garden
	P Brocade Grand Slam Minuet Almega Evening Star	Dreamboat Dk. Bulkeley Pandora Dk. Linda Lou Memorial Taffeta	Reward Pink Dot Jessie Ballerina Rainbow Arbutus

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CHRYSANTHEMUM CUTTINGS

Year Around Chrysanthemum Flowering Schedule

BLOOM OCTOBER 26

Latitude	Plant	Pinch	Start Shade	Response Group
40-45°	June 22	July 13	August 3	12 Week
	June 22	July 13	August 10	11 Week
	June 22	July 13	August 17	10 Week
	June 22	July 13	August 24	9 Week
25-40°	June 29	July 20	August 3	12 Week
	June 29	July 20	August 10	11 Week
	June 29	July 20	August 17	10 Week
	June 29	July 20	August 24	9 Week

BLOOM NOVEMBER 2

40-45°	June 29	July 20	August 10	12 Week
	June 29	July 20	August 17	11 Week
	June 29	July 20	August 24	10 Week
25-40°	July 6	July 27	August 10	12 Week
	July 6	July 27	August 17	11 Week
	July 6	July 27	August 24	10 Week

VARIETIES IN RESPONSE GROUPS

	12 Week	11 Week	10 Week	9 Week
WHITE	S Chattanooga	Mefo	Giant Betsy Ross Betsy Ross Ind. White Jean Elizabeth Crystal Queen	Queen's Lace
	P Belray Fortune Monarch Wh. Valencia	Sculpture Highbrow Priscilla Paramount Snowflurry	Madonna Shasta Moonglow Little America Matchless Encore Illini Snowdrift	Wh. Popcorn Keepsake Songster Halo (Ghs.) Sea Gull
YELLOW	S Golden Pearson Yel. Chattanooga	Yellow Mefo Harvester	Imp. Ind. Yellow Ind. Yellow Yellow Queen	Gold Lace Yellow Lace Good News
	P Goldenrod Highlander Omega Goldsmith Yel. Galaxy Yel. Valencia	Tacoma Lollipop Pippin Klondike Yel. Highbrow Forty-Niner	Brigadoon Pixie Yellow Shasta Constellation	Gold Coast Mary L. Hall Sch. Yel. Daisy Sunray Yellow Halo
BRONZE & RED	S Oak Leaf		Ind. Bronze Nomago Mrs. Roy	Detroit News
	P Indian Head Amberina Galaxy Br. Goldsmith Apr. Valencia	Thelma Bourbon Rusticon Carousel Festival Br. Minuet	Beauregard Samovar Red Rust Rubicon Bittersweet Magician Paragon Chevron Ill. Redhead	Buckskin Red Seneca Buccaneer Navaho Red Daisy Br. Dot
PINK	S	Thanks. Pink	Ind. Pink Dk. Orchid Queen Orchid Queen	
	P Hasegawa Pink Valencia Dk. Valencia	Brocade Grand Slam Minuet Almega Evening Star	Dreamboat Dk. Bulkeley Pandora Dk. Linda Lou Memorial Taffeta	Reward Pink Dot Ballerina Rainbow Arbutus

Year Around Chrysanthemum Flowering Schedule

BLOOM NOVEMBER 9

Latitude	Plant	Pinch	Start Shade	Response Group
40-45°	July 6	July 27	August 17	12 Week
	July 6	July 27	August 24	11 Week
	July 6	July 27	No	10 Week
30-40°	July 13	August 4	August 17	12 Week
	July 13	August 4	August 24	11 Week
	July 13	August 4	No	10 Week
25-30°	July 20	August 11	August 17	12 Week
	July 20	August 11	August 24	11 Week
	July 20	August 11	No	10 Week

VARIETIES IN RESPONSE GROUPS

	12 Week	11 Week	10 Week
WHITE	S Chattanooga	Mefo	Giant Betsy Ross Betsy Ross Ind. White Jean Elizabeth Crystal Queen
	P Belray Fortune Monarch Wh. Valencia	Sculpture Eskimo Priscilla Paramount Crystal Beauty Highbrow Snowflurry	Madonna Shasta Dynamo Little America Matchless Encore
YELLOW	S Golden Pearson Yel. Chattanooga	Yellow Mefo Harvester	Ind. Yellow Yellow Queen
	P Goldenrod Highlander Omega Goldsmith Yel. Galaxy Yel. Valencia	Tacoma Thorobred Lollipop Pippin Klondike Yel. Highbrow	Brigadoon Crescendo Pixie Yellow Shasta Constellation
BRONZE & RED	S Oak Leaf		Ind. Bronze Nomago Anaconda Mrs. Roy
	P Indian Head Amberina Galaxy Br. Goldsmith Apr. Valencia	Thelma Bourbon Rusticon Carousel Festival Br. Minuet	Beauregard Cassandra Red Rust Rubicon Bittersweet Magician Dk. Br. Mast'piece Paragon Ill. Redhead Samovar Chevron
PINK	S	Thanks. Pink	Ind. Pink Dk. Orchid Queen Orchid Queen
	P Hasegawa Pink Valencia Dk. Valencia	Brocade Grand Slam Minuet Almega Evening Star	Dreamboat Dk. Bulkeley Pandora Dk. Linda Lou Memorial Taffeta

Year Around Chrysanthemum Flowering Schedule

BLOOM NOVEMBER 16

Latitude	Plant	Pinch	Lighting Period	Start Shade	Response Group
40-45°	July 13	Aug. 3	None	Aug. 24	12 Week
	July 13	Aug. 3	None	No	11 Week
	July 13	Aug. 3	Aug. 11—Sept. 7	No	10 Week
30-40°	July 20	Aug. 10	None	Aug. 24	12 Week
	July 20	Aug. 10	None	No	11 Week
	July 20	Aug. 10	Aug. 11—Sept. 7	No	10 Week
25-30°	July 27	Aug. 17	None	Aug. 24	12 Week
	July 27	Aug. 17	None	No	11 Week
	July 27	Aug. 17	Aug. 11—Sept. 7	No	10 Week

VARIETIES IN RESPONSE GROUPS

		12 Week	11 Week	10 Week
WHITE	S	Chattanooga	Mefo	Ind. White Crystal Queen
	P	Belray Fortune Monarch Wh. Valencia	Sculpture Eskimo Priscilla Paramount Crystal Beauty Highbrow Snowflurry	
YELLOW	S	Golden Pearson Yel. Chattanooga	Yellow Mefo Harvester	Ind. Yellow Yellow Queen
	P	Goldenrod Highlander Omega Goldsmith Yel. Galaxy Yel. Valencia	Tacoma Thorobred Lollipop Pippin Klondike Yel. Highbrow	
BRONZE & RED	S	Oak Leaf		Ind. Bronze Br. Orchid Queen
	P	Indian Head Amberina Galaxy Br. Goldsmith Apr. Valencia	Thelma Bourbon Rusticon Carosel Festival Br. Minuet	
PINK	S		Thanks. Pink	Ind. Pink Orchid Queen Dk. Orchid Queen
	P	Hasegawa Pink Valencia Dk. Valencia	Brocade Grand Slam Minuet Almega Evening Star	

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CHRYSANTHEMUM CUTTINGS

Year Around Chrysanthemum Flowering Schedule

BLOOM NOVEMBER 23

Latitude	Plant	Pinch	Lighting Period	Start Shade	Response Group
40-45°	July 20	Aug. 10	None	Aug. 24	13 Week
	July 20	Aug. 10	None	No	12 Week
	July 20	Aug. 10	Aug. 17—Sept. 7	No	11 Week
	July 20	Aug. 10	Aug. 10—Sept. 14	No	10 Week
25-40°	July 27	Aug. 17	None	Aug. 24	13 Week
	July 27	Aug. 17	None	No	12 Week
	July 27	Aug. 17	Aug. 17—Sept. 7	No	11 Week
	July 27	Aug. 17	Aug. 10—Sept. 14	No	10 Week

BLOOM NOVEMBER 30

40-45°	July 20	Aug. 10	None	Sept. 1	13 Week
	July 20	Aug. 10	None	No	12 Week
	July 20	Aug. 10	Aug. 17—Sept. 14	No	11 Week
	July 20	Aug. 10	Aug. 10—Sept. 21	No	10 Week
30-40°	July 27	Aug. 17	None	Sept. 1	13 Week
	July 27	Aug. 17	None	No	12 Week
	July 27	Aug. 17	Aug. 17—Sept. 14	No	11 Week
	July 27	Aug. 17	Aug. 10—Sept. 21	No	10 Week
25-30°	Aug. 4	Aug. 25	None	Sept. 1	13 Week
	Aug. 4	Aug. 25	None	No	12 Week
	Aug. 4	Aug. 25	Aug. 17—Sept. 14	No	11 Week
	Aug. 4	Aug. 25	Aug. 10—Sept. 21	No	10 Week

VARIETIES IN RESPONSE GROUPS

	13 Week	12 Week	11 Week	10 Week
WHITE	S	Chattanooga Margaret Moeller	Mefo	Ind. White Crystal Queen
	P	Cameo Acclaim Cotillion Snowdrop	Belray Fortune Monarch White Valencia	Crystal Beauty Paramount
YELLOW	S	Golden Pearson Yel. Chattanooga Golden Ross	Yellow Mefo Harvester	Ind. Yellow Imp. Ind. Yellow Yellow Queen
	P	Gold. Harvest Brandywine Yel. Cameo Goldtone Corsair	Goldenrod Highlander Sunnyside Omega Yel. Galaxy Yel. Valencia	
BRONZE & RED	S	Gladys Pearson Oak Leaf		Ind. Bronze Br. Orchid Queen
	P	Holiday Mah. Viking Xmas. Star Br. Minstrel	Indian Head Amberina Galaxy Apr. Valencia	
PINK	S		Thanks. Pink	Ind. Pink Orchid Queen
	P	Debutante Minstrel Lt. Pk. Minstrel	Hasegawa Pink Valencia Dk. Valencia	

Year Around Chrysanthemum Flowering Schedule

BLOOM DECEMBER 7

Latitude	Plant	Pinch	Lighting Period	Start Shade	Response Group
40-45°	July 27	Aug. 17	None	Sept. 1	14 Week
	July 27	Aug. 17	None	No	13 Week
	July 27	Aug. 17	Aug. 24—Sept. 14	No	12 Week
	July 27	Aug. 17	Aug. 17—Sept. 21	No	11 Week
	July 27	Aug. 17	Aug. 10—Sept. 28	No	10 Week
30-40°	Aug. 3	Aug. 24	None	Sept. 1	14 Week
	Aug. 3	Aug. 24	None	No	13 Week
	Aug. 3	Aug. 24	Aug. 24—Sept. 14	No	12 Week
	Aug. 3	Aug. 24	Aug. 17—Sept. 21	No	11 Week
	Aug. 3	Aug. 24	Aug. 10—Sept. 28	No	10 Week
25-30°	Aug. 10	Aug. 31	None	No	13 Week
	Aug. 10	Aug. 31	Aug. 24—Sept. 14	No	12 Week
	Aug. 10	Aug. 31	Aug. 17—Sept. 21	No	11 Week
	Aug. 10	Aug. 31	Aug. 10—Sept. 28	No	10 Week

VARIETIES IN RESPONSE GROUPS

	14 Week	13 Week	12 Week	11 Week	10 Week
WHITE	S	Dec. White	Chattanooga	Mefo	Ind. White Crystal Queen
	P	Snowcrest Silversmith Snowcap Satellite	Cameo Snowdrop Snow Queen Yukon		
YELLOW	S	Chalice Tobin's Yellow Meteore	Gold. Pearson Yel. Chattan'ga	Yellow Mefo Harvester	Ind. Yellow Imp. Ind. Yellow Yellow Queen
	P	Cr. Snowcrest Yel. Snowcrest Vibrant	Challenge Corsair		
BRONZE & RED	S		Oak Leaf		Ind. Bronze Br. Or. Queen
	P	Br. Riviera Topaz Xmas. Greeting Merrymaker Poinsettia	Harlequin Holiday Xmas. Star Br. Minstrel		
PINK	S			Thanks. Pink	Ind. Pink Orchid Queen
	P	Serrated Riviera Riviera Rosalind	Debutante Minstrel Lt. Pk. Minstrel		

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CHRYSANTHEMUM CUTTINGS

Year Around Chrysanthemum Flowering Schedule

BLOOM DECEMBER 14

Latitude	Plant	Pinch	Lighting Period	Start Shade	Response Group
40-45°	July 27	Aug. 17	None	No	14 Week
	July 27	Aug. 17	Aug. 24—Sept. 21	No	12 Week
	July 27	Aug. 17	Aug. 17—Sept. 28	No	11 Week
	July 27	Aug. 17	Aug. 10—Oct. 5	No	10 Week
35-40°	Aug. 3	Aug. 24	None	No	14 Week
	Aug. 3	Aug. 24	Aug. 24—Sept. 21	No	12 Week
	Aug. 3	Aug. 24	Aug. 17—Sept. 28	No	11 Week
	Aug. 3	Aug. 24	Aug. 10—Oct. 5	No	10 Week
30-35°	Aug. 10	Aug. 31	None	No	14 Week
	Aug. 10	Aug. 31	Aug. 24—Sept. 21	No	12 Week
	Aug. 10	Aug. 31	Aug. 17—Sept. 28	No	11 Week
	Aug. 10	Aug. 31	Aug. 10—Oct. 5	No	10 Week
25-30°	Aug. 17	Sept. 7	Aug. 24—Sept. 21	No	12 Week
	Aug. 17	Sept. 7	Aug. 17—Sept. 28	No	11 Week
	Aug. 17	Sept. 7	Aug. 17—Oct. 5	No	10 Week

VARIETIES IN RESPONSE GROUPS

	14 Week	12 Week	11 Week	10 Week
WHITE	S	Chattanooga	Mefo	Ind. White Crystal Queen
	P Snowcrest Silversmith Garza Satellite	Belray Monarch	Sculpture Priscilla Paramount Highbrow	Shasta Little America Matchless Encore
YELLOW	S	Golden Pearson Yel. Chattanooga	Yellow Mefo Harvester	Ind. Yellow Imp. Ind. Yellow Yellow Queen
	P Cream Snowcrest Yel. Snowcrest Yel. Garza Dec. Gold Vibrant Revelry Sunrise	Goldenrod Highlander Omega Yel. Galaxy	Lollipop Pippin Klondike Yel. Highbrow	Yellow Shasta
BRONZE & RED	S	Oak Leaf		Ind. Bronze Br. Orchid Queen
	P Br. Riviera Topaz Xmas. Greeting Merrymaker Poinsettia	Indian Head Amberina Galaxy	Thelma Festival	Beauregard Rubicon
PINK	S		Thanks. Pink	Ind. Pink Orchid Queen
	P Serrated Riviera Riviera Rosalind Defiance Medallion	Hasegawa Pink	Brocade Grand Slam	Linda Lou Pandora Taffeta

Gloeckner

CHRYSANTHEMUM CUTTINGS

Year Around Chrysanthemum Flowering Schedule

BLOOM DECEMBER 21

Latitude	Plant	Pinch	Lighting Period	Start Shade	Response Group
40-45°	Aug. 3	Aug. 24	None	No	14 Week
	Aug. 3	Aug. 24	Aug. 24—Sept. 28	No	12 Week
	Aug. 3	Aug. 24	Aug. 17—Oct. 5	No	11 Week
	Aug. 3	Aug. 24	Aug. 10—Oct. 12	No	10 Week
35-40°	Aug. 10	Aug. 31	None	No	14 Week
	Aug. 10	Aug. 31	Aug. 24—Sept. 28	No	12 Week
	Aug. 10	Aug. 31	Aug. 17—Oct. 5	No	11 Week
	Aug. 10	Aug. 31	Aug. 10—Oct. 12	No	10 Week
30-35°	Aug. 17	Sept. 7	None	No	14 Week
	Aug. 17	Sept. 7	Aug. 24—Sept. 28	No	12 Week
	Aug. 17	Sept. 7	Aug. 17—Oct. 5	No	11 Week
	Aug. 17	Sept. 7	Aug. 10—Oct. 12	No	10 Week
25-30°	Aug. 24	Sept. 14	Aug. 24—Sept. 28	No	12 Week
	Aug. 24	Sept. 14	Aug. 24—Oct. 5	No	11 Week
	Aug. 24	Sept. 14	Aug. 24—Oct. 12	No	10 Week

VARIETIES IN RESPONSE GROUPS

	14 Week	12 Week	11 Week	10 Week
WHITE	S		Chattanooga	Mefo
	P	Revelation Snow Ill. Snowbound	Belray Monarch	Sculpture Priscilla Paramount Highbrow
YELLOW	S		Golden Pearson Yel. Chattanooga	Yellow Mefo Harvester
	P	Siren Yuleflame Yellow Snow Ill. Yel. Snowb'nd	Goldenrod Highlander Omega Yel. Galaxy	Lollipop Pippin Klondike Yel. Highbrow
BRONZE & RED	S		Oak Leaf	
	P		Indian Head Amberina Galaxy	Thelma Festival
PINK	S			Thanks. Pink
	P		Hasegawa Pink	Brocade Grand Slam
				Ind. White Crystal White
				Shasta Little America Matchless Encore
				Ind. Yellow Imp. Ind. Yellow Yellow Queen
				Yellow Shasta Brigadoon
				Ind. Bronze
				Beauregard Rubicon
				Ind. Pink Orchid Queen
				Linda Lou Pandora Taffeta

Year Around Chrysanthemum Flowering Schedule

BLOOM DECEMBER 28

Latitude	Plant	Pinch*	Lighting Period	Start Shade	Response Group
40-45°	Aug. 3	Aug. 24	Sept. 7 —Sept. 21	No	14 Week
	Aug. 3	Aug. 24	Aug. 31—Sept. 28	No	13 Week
	Aug. 3	Aug. 24	Aug. 24—Oct. 5	No	12 Week
	Aug. 3	Aug. 24	Aug. 17—Oct. 12	No	11 Week
	Aug. 3	Aug. 24	Aug. 10—Oct. 19	No	10 Week
35-40°	Aug. 10	Aug. 31	Sept. 7 —Sept. 21	No	14 Week
	Aug. 10	Aug. 31	Aug. 31—Sept. 28	No	13 Week
	Aug. 10	Aug. 31	Aug. 24—Oct. 5	No	12 Week
	Aug. 10	Aug. 31	Aug. 17—Oct. 12	No	11 Week
	Aug. 10	Aug. 31	Aug. 10—Oct. 19	No	10 Week
30-35°	Aug. 17	Sept. 7	Sept. 7 —Sept. 21	No	14 Week
	Aug. 17	Sept. 7	Aug. 31—Sept. 28	No	13 Week
	Aug. 17	Sept. 7	Aug. 24—Oct. 5	No	12 Week
	Aug. 17	Sept. 7	Aug. 17—Oct. 12	No	11 Week
	Aug. 17	Sept. 7	Aug. 17—Oct. 19	No	10 Week
25-30°	Aug. 24	Sept. 14	Aug. 24—Oct. 5	No	12 Week
	Aug. 24	Sept. 14	Aug. 24—Oct. 12	No	11 Week
	Aug. 24	Sept. 14	Aug. 24—Oct. 19	No	10 Week

*For No Pinch Method: Plant and Light on Pinch Date

VARIETIES IN RESPONSE GROUPS

	14 Week	13 Week	12 Week	11 Week	10 Week
WHITE	S		Chattanooga	Mefo	Ind. White Crystal Queen
	P	Snowcrest Silversmith Snowcap Satellite	Cameo Acclaim Cotillion Snowdrop	Belray Monarch	Sculpture Priscilla Paramount Highbrow
YELLOW	S		Gold. Pearson Yel. Chaf'n'ga	Yellow Mefo Harvester	Yellow Queen Ind. Yellow Imp. Ind. Yellow
	P	Yel. Snowcrest Shamrock Vibrant Siren Cr. Snowcrest	Brandywine Yel. Cameo Goldfone Corsair	Goldenrod Highlander Omega Yel. Galaxy	Lollipop Pippin Klondike Bojangles Yel. Highbrow
BRONZE & RED	S		Oak Leaf		Ind. Brone
	P	Br. Riviera Topaz Xmas. Greeting Merrymaker Poinsettia	Harlequin Holiday Christ. Star Br. Minstrel	Indian Head Amberina Galaxy	Thelma Bourbon Festival
PINK	S			Thanks. Pink	Ind. Pink. Dk. Or. Queen Orchid Queen
	P	Riviera Rosalind Serrated Riviera	Debutante Minstrel Li. Pk. Minstrel	Princess (Fla.) Hasegawa Pink	Brocade Grand Slam

Chrysanthemum Pot Plant Culture

The general rules pertaining to the use of lighted cuttings, lighting and shading and temperature apply to chrysanthemums grown as pot plants as stated for cut flowers. However, the pinching date and the varieties used are much different. To keep the plants low, compact, and shapely, they must be pinched soon after they are potted.

Soil

A good fibrous silt loam directly from the field to which one-quarter by volume of well-rotted manure has been added, plus an application of super phosphate will give excellent results. Steam sterilization will eliminate all weed seeds and increase the granulation of the soil. Wait seven days before planting rooted cuttings into steam sterilized soil.

Temperature

Always grow in a 60-65° house as lower temperature will cause blindness and poor growth. After color shows, finish in a cooler temperature if possible, this would be advisable for Easter or Mother's Day crop.

Planting and Pinching

No Pinch Method. Plant 7 to 9 cuttings in a 6-inch pot and give short day treatment the same day. It is a very rapid way to grow potted plants the year around. The blooms will be very large and the stems will be very strong.

Single Pinch Method. Plant 5 cuttings in a 6-inch pot. Pinch the plants 5 days after planting and give short day treatment the day you pinch.

We suggest that those plants that are planted between October 15 and January 1 be given 5 to 12 days of additional light before they are pinched and given short day treatment. This additional light will stretch the plants and make a more desirable height potted plant when in bloom.

Two Pinch Method. Most common method of growing early shaded pot plants today. Plant three or four cuttings in a 6-inch pot. Pinch the plants the first time 14 days after planting and wait 21 days and pinch the second time. Short day treatment should start at the time of the second pinch.

Modified Three Pinch Method. Plant three or four cuttings to a 6-inch pot. Pinch the following day after planting. Pinch second time 14 to 21 days later, and the third pinch should be 21 days after the second pinching. The modified method can be carried out as fast as the regular two pinch method, the only difference is a larger plant with more blooms.

Last pinch has generally been given the day black cloth treatment is to start. If you are troubled with plants that are too tall, it is suggested that you "last pinch" 5 or maybe 10 days after the shading program was started. Varieties such as Yellow Lace, Queen's Lace should always be pinched for the last time 10 days after starting the black cloth treatment.



Bonnaffon Deluxe — Two Pinch Method

Chrysanthemum Pot Plant Culture

Watering and Humidity

After planting, water thoroughly to set the soil around the roots. Repeat this type of watering when the soil gets on the dry side. Organic matter in the soil will facilitate watering and will tend to avoid extreme fluctuations in moisture supply. Overwatering will rot the roots and cause a yellowing of the foliage. For best results grow all potted chrysanthemums under glass. Keep humidity in house by wetting down benches and walks with an occasional syringing over the plants.

Fertilizing

The foliage should retain a bright green luster throughout the life of the plant, and the lower leaves should never be allowed to lose their color and turn to a light green due to low fertility. A strong well grown pot plant is a well fed plant. Pot plants should be fed more often than those grown in a bench as constant leaching will lower the nutrient level in pots faster than under bench culture. Several light feedings should be made with a complete fertilizer such as Electra. This can safely be used at the rate of 1 teaspoonful per 6" pot. Liquid fertilizers are also very effective. It has been found that more frequent feedings of a weak nutrient solution is better than fewer heavy feedings. Last feeding should be made when the buds are forming.

Diseases and Insects

A regular spraying or fumigation with **Parathion** will control red spider, thrip, aphid and leaf tyer, the most troublesome insects affecting pot plants. If by chance plants are grown out of doors, weekly spraying with **Parzate** will prevent leaf spot.

Shading and Disbudding

Some procedure as for cut flower crop. Black cloth treatment should continue until the buds are taken. The last pinch is usually made at the same date short day treatment is started. However, if you are troubled with tall potted plants, delay the last pinch until 5 or even 10 days after starting the shading program. Disbud each shoot to one bud when buds are large enough to handle.

Garden Mum Pot Plants for Mother's Day

Garden mum plants in full bloom make ideal potted plants for Mother's Day. This should be a valuable addition to the list of spring pot plants. For best results 5 cuttings should be planted into a 6" pot or 2 cuttings into a 4" pot. After these pot plants are through flowering they should be cut back within three inches of the soil level and planted into the garden. These same plants will bloom again in the fall. There is a long list of varieties to choose from and to facilitate selection we are offering a 500 cutting collection suitable for this culture. This collection has the better varieties which have been tried and proven.

Single Pinch Method

1. Plant 5 rooted cuttings from lighted stock, March 4 in a 6" pot.
2. Pinch plants March 9.
3. Grow in 65° house.
4. Apply black cloth April 13, if necessary.

Two Pinch Method

1. Plant 5 rooted cuttings from lighted stock, February 11, and pinch same day.
2. Apply 4 hours of additional light each night from Feb. 11 to March 9.
3. Pinch second time March 9, give short day treatment April 13, if necessary.
4. Grow in 65° house.



CHRIS. COLUMBUS

ALLEGRO

MRS. DUPONT

Garden Pot Mums for Mother's Day

Year Around Pot Plant Schedule

ONE PINCH METHOD

Varieties	Plant 5 cuttings in 6" pot	Lighting Period	Pinch	Shade	Flower
Christina	Oct. 7	Oct. 7 - Oct. 19	Oct. 19	no	} DECEMBER 14
Blazing Gold					
Granite State					
Wilson's White					
Golden Glory	Oct. 7	Oct. 7 - Oct. 12	Oct. 12	no	
Glitters					
Royal Bronze					
Little America					
Copperhead	Sept. 30	Sept. 23 - Oct. 5	Oct. 5	no	
Gypsy					
Queen of Pinks					
Bonnaffon Deluxe	Sept. 23	Sept. 23 - Sept. 28	Sept. 28	no	
Christina	Oct. 14	Oct. 14 - Oct. 26	Oct. 26	no	} DECEMBER 21
Blazing Gold					
Granite State					
Wilson's White					
Golden Glory	Oct. 14	Oct. 14 - Oct. 19	Oct. 19	no	
Glitters					
Royal Bronze					
Little America					
Copperhead	Oct. 7	Oct. 7 - Oct. 12	Oct. 12	no	
Gypsy					
Queen of Pinks					
Bonnaffon Deluxe	Sept. 30	Sept. 30 - Oct. 5	Oct. 5	no	
Christina	Oct. 21	Oct. 21 - Nov. 2	Nov. 2	no	} DECEMBER 28
Blazing Gold					
Granite State					
Wilson's White					
Golden Glory	Oct. 21	Oct. 21 - Oct. 26	Oct. 26	no	
Glitters					
Royal Bronze					
Little America					
Copperhead	Oct. 14	Oct. 14 - Oct. 19	Oct. 19	no	
Gypsy					
Queen of Pinks					
Bonnaffon Deluxe	Oct. 7	Oct. 7 - Oct. 12	Oct. 12	no	
Blazing Gold	Oct. 28	Oct. 28 - Nov. 9	Nov. 9	no	} JANUARY 4
Wilson's White					
Queen's Lace	Oct. 28	Oct. 28 - Nov. 2	Nov. 2	no	
Yellow Lace					
Indianapolis White					
Little America					
Dk. Indianapolis Yellow					
Copperhead	Oct. 21	Oct. 21 - Oct. 26	Oct. 26	no	
Indianapolis Pink					
Queen of Pinks					
Bonnaffon Deluxe	Oct. 14	Oct. 14 - Oct. 19	Oct. 19	no	
Blazing Gold	Nov. 7	Nov. 4 - Nov. 16	Nov. 16	no	} JANUARY 11
Wilson's White					
Queen's Lace	Oct. 28	Oct. 28 - Nov. 9	Nov. 9	no	
Yellow Lace					
Indianapolis White					
Little America					
Dk. Indianapolis Yellow					
Copperhead	Oct. 28	Oct. 28 - Nov. 2	Nov. 2	no	
Indianapolis Pink					
Queen of Pinks					
Bonnaffon Deluxe	Oct. 21	Oct. 21 - Oct. 26	Oct. 26	no	

Gloeckner

CHRYSANTHEMUM CUTTINGS

Year Around Pot Plant Schedule

ONE PINCH METHOD

Varieties	Plant 5 cuttings in 6" pot	Lighting Period	Pinch	Shade	Flower
Blazing Gold	Nov. 11	Nov. 11 - Nov. 23	Nov. 23	no	} JANUARY 18
Wilson's White	Nov. 4	Nov. 4 - Nov. 16	Nov. 16	no	
Queen's Lace					
Yellow Lace					
Indianapolis White	Oct. 28	Oct. 28 - Nov. 9	Nov. 9	no	
Little America					
Dk. Indianapolis Yellow					
Copperhead					
Indianapolis Pink					
Queen of Pinks					
Bonnaffon Deluxe	Oct. 28	Oct. 28 - Nov. 2	Nov. 2	no	
Blazing Gold	Nov. 18	Nov. 18 - Nov. 30	Nov. 30	no	} JANUARY 25
Wilson's White	Nov. 11	Nov. 11 - Nov. 23	Nov. 23	no	
Queen's Lace					
Yellow Lace					
Indianapolis White	Nov. 4	Nov. 4 - Nov. 16	Nov. 16	no	
Little America					
Dk. Indianapolis Yellow					
Copperhead					
Indianapolis Pink					
Queen of Pinks					
Bonnaffon Deluxe	Oct. 28	Oct. 28 - Nov. 9	Nov. 9	no	
Blazing Gold	Nov. 25	Nov. 25 - Dec. 7	Dec. 7	no	} FEBRUARY 1
Wilson's White	Nov. 18	Nov. 18 - Nov. 30	Nov. 30	no	
Queen's Lace					
Yellow Lace					
Indianapolis White	Nov. 11	Nov. 11 - Nov. 23	Nov. 23	no	
Little America					
Dk. Indianapolis Yellow					
Copperhead					
Indianapolis Pink					
Queen of Pinks					
Bonnaffon Deluxe	Nov. 4	Nov. 4 - Nov. 16	Nov. 16	no	
Blazing Gold	Dec. 2	Dec. 2 - Dec. 14	Dec. 14	no	} FEBRUARY 8
Wilson's White	Nov. 25	Nov. 25 - Dec. 7	Dec. 7	no	
Queen's Lace					
Yellow Lace					
Indianapolis White	Nov. 18	Nov. 18 - Nov. 30	Nov. 30	no	
Little America					
Dk. Indianapolis Yellow					
Copperhead					
Indianapolis Pink					
Queen of Pinks					
Bonnaffon Deluxe	Nov. 11	Nov. 11 - Nov. 23	Nov. 23	no	

Year Around Pot Plant Schedule

ONE PINCH METHOD

Varieties	Plant 5 cuttings in 6" pot	Lighting Period	Pinch	Shade	Flower
Blazing Gold	Dec. 9	Dec. 9 - Dec. 21	Dec. 21	no	} FEBRUARY 15
Wilson's White	Dec. 2	Dec. 2 - Dec. 14	Dec. 14	no	
Queen's Lace					
Yellow Lace					
Indianapolis White	Nov. 25	Nov. 25 - Dec. 7	Dec. 7	no	
Little America					
Dk. Indianapolis Yellow					
Copperhead					
Indianapolis Pink					
Queen of Pinks					
Bonnaffon Deluxe	Nov. 18	Nov. 18 - Nov. 30	Nov. 30	no	
Blazing Gold	Dec. 16	Dec. 16 - Dec. 28	Dec. 28	no	} FEBRUARY 22
Wilson's White	Dec. 9	Dec. 9 - Dec. 21	Dec. 21	no	
Queen's Lace					
Yellow Lace					
Indianapolis White	Dec. 2	Dec. 2 - Dec. 14	Dec. 14	no	
Little America					
Dk. Indianapolis Yellow					
Copperhead					
Indianapolis Pink					
Queen of Pinks					
Bonnaffon Deluxe	Nov. 25	Nov. 25 - Dec. 7	Dec. 7	no	
Blazing Gold	Dec. 30	Dec. 30 - Jan. 14	Jan. 14	no	} MARCH 1
Wilson's White	Dec. 23	Dec. 23 - Dec. 28	Dec. 28	no	
Queen's Lace					
Yellow Lace					
Indianapolis White	Dec. 16	Dec. 16 - Dec. 21	Dec. 21	no	
Little America					
Dk. Indianapolis Yellow					
Copperhead					
Indianapolis Pink					
Queen of Pinks					
Bonnaffon Deluxe	Dec. 9	Dec. 9 - Dec. 14	Dec. 14	no	
Blazing Gold	Jan. 6	Jan. 6 - Jan. 11	Jan. 11	no	} MARCH 8
Wilson's White	Dec. 30	Dec. 30 - Jan. 4	Jan. 4	no	
Queen's Lace					
Yellow Lace					
Indianapolis White	Dec. 23	Dec. 23 - Dec. 28	Dec. 28	no	
Little America					
Dk. Indianapolis Yellow					
Copperhead					
Indianapolis Pink					
Queen of Pinks					
Bonnaffon Deluxe	Dec. 16	Dec. 16 - Dec. 21	Dec. 21	no	

Year Around Pot Plant Schedule

ONE PINCH METHOD

Varieties	Plant 5 cuttings in 6" pot	Pinch	Shade	Flower
Blazing Gold	Jan. 14	Jan. 19	no	} MARCH 16
Granite State				
Wilson's White	Jan. 7	Jan. 12	no	
Queen's Lace				
Yellow Lace				
Indianapolis White				
Little America				
Dk. Indianapolis Yellow	Dec. 31	Jan. 5	no	
Copperhead				
Indianapolis Pink				
Queen of Pinks				
Bonnaffon Deluxe	Dec. 24	Dec. 29	no	
Blazing Gold	Jan. 21	Jan. 26	no	} MARCH 23
Granite State				
Wilson's White	Jan. 14	Jan. 19	no	
Queen's Lace				
Yellow Lace				
Indianapolis White				
Little America				
Dk. Indianapolis Yellow	Jan. 7	Jan. 12	no	
Copperhead				
Indianapolis Pink				
Queen of Pinks				
Bonnaffon Deluxe	Dec. 31	Jan. 5	no	
Blazing Gold	Jan. 28	Feb. 2	no	} MARCH 30
Granite State				
Wilson's White	Jan. 21	Jan. 26	no	
Queen's Lace				
Yellow Lace				
Indianapolis White				
Little America				
Dk. Indianapolis Yellow	Jan. 14	Jan. 19	no	
Copperhead				
Indianapolis Pink				
Queen of Pinks				
Bonnaffon Deluxe	Jan. 7	Jan. 12	no	
Blazing Gold	Feb. 4	Feb. 9	no	} APRIL 6
Granite State				
Wilson's White	Jan. 28	Feb. 2	no	
Queen's Lace				
Yellow Lace				
Indianapolis White				
Little America				
Dk. Indianapolis Yellow	Jan. 21	Jan. 26	no	
Copperhead				
Indianapolis Pink				
Queen of Pinks				
Bonnaffon Deluxe	Jan. 14	Jan. 19	no	

Year Around Pot Plant Schedule

ONE PINCH METHOD

Varieties	Plant 5 cuttings in 6" pot	Pinch	Shade	Flower
Blazing Gold	Feb. 11	Feb. 16	no	} APRIL 13
Granite State				
Wilson's White	Feb. 4	Feb. 9	no	
Queen's Lace				
Yellow Lace				
Indianapolis White				
Little America				
Dk. Indianapolis Yellow	Jan. 28	Feb. 2	no	
Copperhead				
Indianapolis Pink				
Queen of Pinks				
Bonnaffon Deluxe	Jan. 21	Jan. 26	no	
Blazing Gold	Feb. 18	Feb. 23	no	} APRIL 20
Granite State				
Wilson's White	Feb. 11	Feb. 16	no	
Queen's Lace				
Yellow Lace				
Indianapolis White				
Little America				
Dk. Indianapolis Yellow	Feb. 4	Feb. 9	no	
Copperhead				
Indianapolis Pink				
Queen of Pinks				
Bonnaffon Deluxe	Jan. 28	Feb. 2	no	
Blazing Gold	Feb. 25	Mar. 2	Apr. 6	} APRIL 27
Granite State				
Wilson's White	Feb. 18	Feb. 23	Mar. 30	
*Queen's Lace				
*Yellow Lace				
Indianapolis White				
Little America				
Dk. Indianapolis Yellow	Feb. 11	Feb. 16	Mar. 23	
Copperhead				
Indianapolis Pink				
Queen of Pinks				
Bonnaffon Deluxe	Feb. 4	Feb. 9	Mar. 16	
Blazing Gold	Mar. 4	Mar. 9	Apr. 6	} MAY 4
Granite State				
Wilson's White	Feb. 25	Mar. 2	Mar. 30	
*Queen's Lace				
*Yellow Lace				
Little America				
Copperhead	Feb. 18	Feb. 23	Mar. 23	
Queen of Pinks				
Bonnaffon Deluxe	Feb. 11	Feb. 16	Mar. 16	

*Pinch 10 days after shading is started.

Year Around Pot Plant Schedule

ONE PINCH METHOD

Varieties	Plant 5 cuttings in 6" pot	Pinch	Shade	Flower
Blazing Gold	Mar. 11	Mar. 16	Apr. 6	} MAY 11
Granite State	Mar. 4	Mar. 9	Mar. 30	
Wilson's White				
* Queen's Lace				
* Yellow Lace				
Indianapolis White	Feb. 25	Mar. 2	Mar. 23	
Little America				
Indianapolis Yellow				
Copperhead				
Indianapolis Pink				
Queen of Pinks				
Bonnaffon Deluxe	Feb. 18	Feb. 23	Mar. 16	
Blazing Gold	Mar. 18	Mar. 23	Apr. 6	} MAY 18
Granite State	Mar. 11	Mar. 16	Mar. 30	
Wilson's White				
* Queen's Lace				
* Yellow Lace				
Indianapolis White	Mar. 4	Mar. 9	Mar. 23	
Little America				
Dk. Indianapolis Yellow				
Copperhead				
Indianapolis Pink				
Queen of Pinks				
Bonnaffon Deluxe	Feb. 25	Mar. 2	Mar. 16	
Blazing Gold	Mar. 25	Mar. 30	Apr. 6	} MAY 25
Granite State	Mar. 18	Mar. 23	Mar. 30	
Wilson's White				
* Queen's Lace				
* Yellow Lace				
Indianapolis White	Mar. 11	Mar. 16	Mar. 23	
Little America				
Dk. Indianapolis Yellow				
Copperhead				
Indianapolis Pink				
Queen of Pinks				
Bonnaffon Deluxe	Mar. 4	Mar. 9	Mar. 16	
Blazing Gold	Apr. 1	Apr. 6	Apr. 6	} JUNE 1
Granite State	Mar. 25	Mar. 30	Mar. 30	
Wilson's White				
* Queen's Lace				
* Yellow Lace				
Indianapolis White	Mar. 18	Mar. 23	Mar. 23	
Little America				
Dk. Indianapolis Yellow				
Copperhead				
Indianapolis Pink				
Queen of Pinks				
Bonnaffon Deluxe	Mar. 11	Mar. 16	Mar. 16	

*Pinch 10 days after shading is started.

Year Around Pot Plant Schedule

ONE PINCH METHOD

Varieties	Plant 5 cuttings in 6" pot	Pinch	Shade	Flower	
Blazing Gold	Apr. 8	Apr. 13	Apr. 13	} JUNE 8	
Granite State	Apr. 1	Apr. 6	Apr. 6		
Wilson's White					
* Queen's Lace					
* Yellow Lace					
Little America	Mar. 25	Mar. 30	Mar. 30		
Copperhead					
Queen of Pinks					
Bonnaffon Deluxe	Mar. 18	Mar. 23	Mar. 23		
Blazing Gold	Apr. 15	Apr. 20	Apr. 20		} JUNE 15
Granite State	Apr. 8	Apr. 13	Apr. 13		
Wilson's White					
* Queen's Lace					
* Yellow Lace					
Little America	Apr. 1	Apr. 6	Apr. 6		
Copperhead					
Queen of Pinks					
Bonnaffon Deluxe	Mar. 25	Mar. 30	Mar. 30		
Blazing Gold	Apr. 22	Apr. 27	Apr. 27	} JUNE 22	
Granite State	Apr. 15	Apr. 20	Apr. 20		
Wilson's White					
* Queen's Lace					
* Yellow Lace					
Little America	Apr. 8	Apr. 13	Apr. 13		
Queen of Pinks					
Bonnaffon Deluxe	Apr. 1	Apr. 6	Apr. 6		
Blazing Gold	Apr. 29	May 4	May 4		} JUNE 29
Granite State	Apr. 22	Apr. 27	Apr. 27		
Wilson's White					
* Queen's Lace					
* Yellow Lace					
Little America	Apr. 15	Apr. 20	Apr. 20		
Queen of Pinks					
Bonnaffon Deluxe	Apr. 8	Apr. 13	Apr. 13		
Blazing Gold	May 6	May 11	May 11	} JULY 6	
Granite State	Apr. 29	May 4	May 4		
Wilson's White					
* Queen's Lace					
* Yellow Lace					
Golden Glory					
Bonnaffon Deluxe	Apr. 15	Apr. 20	Apr. 20		

*Pinch 10 days after shading is started.

Year Around Pot Plant Schedule

ONE PINCH METHOD

Varieties	Plant 5 cuttings in 6" pot	Pinch	Shade	Flower
Blazing Gold	May 13	May 18	May 18	} JULY 13
Granite State				
Wilson's White				
* Queen's Lace	May 6	May 11	May 11	
* Yellow Lace				
Golden Glory				
Bonnaffon Deluxe	Apr. 22	Apr. 27	Apr. 27	
Blazing Gold	May 20	May 25	May 25	} JULY 20
Granite State				
Wilson's White				
* Queen's Lace	May 13	May 18	May 18	
* Yellow Lace				
Golden Glory				
Bonnaffon Deluxe	Apr. 29	May 4	May 4	
Blazing Gold	May 27	June 1	June 1	} JULY 27
Granite State				
Wilson's White				
* Queen's Lace	May 20	May 25	May 25	
* Yellow Lace				
Golden Glory				
Bonnaffon Deluxe	May 6	May 11	May 11	
Blazing Gold	June 3	June 8	June 8	} AUGUST 3
Granite State				
Wilson's White				
* Queen's Lace	May 27	June 1	June 1	
* Yellow Lace				
Golden Glory				
Bonnaffon Deluxe	May 13	May 18	May 18	
Blazing Gold	June 10	June 15	June 15	} AUGUST 10
Granite State				
Wilson's White	June 3	June 8	June 8	
* Queen's Lace				
* Yellow Lace	June 3	June 8	June 8	
Golden Glory				
Bonnaffon Deluxe	May 20	May 25	May 25	
Blazing Gold	June 17	June 22	June 22	} AUGUST 17
* Queen's Lace				
Granite State				
Wilson's White	June 10	June 15	June 15	
Golden Glory				
* Yellow Lace				
Copperhead	June 3	June 8	June 8	
Queen of Pinks				
Bonnaffon Deluxe	May 27	June 1	June 1	

*Pinch 10 days after shading is started.

Year Around Pot Plant Schedule

ONE PINCH METHOD

Varieties	Plant 5 cuttings in 6" pot	Pinch	Shade	Flower
Christina	June 24	June 29	June 29	} AUGUST 24
Blazing Gold				
*Queen's Lace	June 17	June 22	June 22	
Granite State				
Wilson's White				
Golden Glory				
*Yellow Lace				
Little America	June 10	June 15	June 15	
Copperhead				
Queen of Pinks				
Gypsy				
Bonnaffon Deluxe	June 3	June 8	June 8	
Christina	July 1	July 6	July 6	} AUGUST 31
Blazing Gold				
*Queen's Lace	June 24	June 29	June 29	
Granite State				
Wilson's White				
Golden Glory				
*Yellow Lace				
Little America	June 17	June 22	June 22	
Copperhead				
Gypsy				
Queen of Pinks				
Bonnaffon Deluxe	June 10	June 15	June 15	
Christina	July 8	July 13	July 13	} SEPTEMBER 7
Blazing Gold				
*Queen's Lace	July 1	July 6	July 6	
Granite State				
Wilson's White				
Golden Glory				
Glitters				
*Yellow Lace	June 24	June 29	June 29	
Royal Bronze				
Little America	June 17	June 22	June 22	
Copperhead				
Gypsy				
Queen of Pinks				
Bonnaffon Deluxe	June 17	June 22	June 22	
Christina	July 15	July 20	July 20	} SEPTEMBER 14
Blazing Gold				
*Queen's Lace	July 8	July 13	July 13	
Granite State				
Wilson's White				
Golden Glory				
*Yellow Lace				
Royal Bronze	July 1	July 6	July 6	
Little America				
Copperhead				
Queen of Pinks				
Bonnaffon Deluxe	June 24	June 29	June 29	

*Pinch 10 days after shading is started.

Gloeckner

CHRYSANTHEMUM CUTTINGS

Year Around Pot Plant Schedule

ONE PINCH METHOD

Varieties	Plant 5 cuttings in 6" pot	Pinch	Shade	Flower
Christina	July 22	July 25	July 25	} SEPTEMBER 21
Blazing Gold				
*Queen's Lace	July 15	July 20	July 20	
Granite State				
Wilson's White				
Golden Glory				
Glitters				
*Yellow Lace				
Royal Bronze				
Little America	July 8	July 13	July 13	
Copperhead				
Gypsy				
Queen of Pinks				
Bonnaffon Deluxe	July 1	July 6	July 6	
Christina	July 29	Aug. 3	Aug. 3	} SEPTEMBER 28
Blazing Gold				
*Queen's Lace	July 22	July 25	July 25	
Granite State				
Wilson's White				
Golden Glory				
Glitters				
*Yellow Lace				
Royal Bronze				
Little America	July 15	July 20	July 20	
Copperhead				
Gypsy				
Queen of Pinks				
Bonnaffon Deluxe	July 8	July 13	July 13	
Christina	Aug. 5	Aug. 10	Aug. 10	} OCTOBER 5
Blazing Gold				
*Queen's Lace	July 29	Aug. 3	Aug. 3	
Granite State				
Wilson's White				
Golden Glory				
Glitters				
*Yellow Lace				
Royal Bronze				
Little America	July 22	July 25	July 25	
Copperhead				
Gypsy				
Queen of Pinks				
Bonnaffon Deluxe	July 15	July 20	July 20	
Christina	Aug. 12	Aug. 17	Aug. 17	} OCTOBER 12
Blazing Gold				
Granite State	Aug. 5	Aug. 10	Aug. 10	
Wilson's White				
Golden Glory				
Glitters				
Royal Bronze				
Little America				
Copperhead				
Gypsy				
Queen of Pinks				
Bonnaffon Deluxe	July 22	July 25	July 25	

*Pinch 10 days after shading is started.

Year Around Pot Plant Schedule

ONE PINCH METHOD

Varieties	Plant 5 cuttings in 6" pot	Pinch	Shade	Flower
Christina	Aug. 19	Aug. 24	Aug. 24	} OCTOBER 19
Blazing Gold				
Granite State	Aug. 12	Aug. 17	Aug. 17	
Wilson's White				
Golden Glory				
Glitters				
Royal Bronze				
Little America	Aug. 5	Aug. 10	Aug. 10	
Copperhead				
Gypsy				
Queen of Pinks				
Bonnaffon Deluxe	July 29	Aug. 3	Aug. 3	
Christina	Aug. 26	Aug. 31	Aug. 31	} OCTOBER 26
Blazing Gold				
Granite State	Aug. 19	Aug. 24	Aug. 24	
Wilson's White				
Golden Glory				
Royal Bronze				
Little America				
Copperhead	Aug. 12	Aug. 17	Aug. 17	
Queen of Pinks				
Bonnaffon Deluxe				
Christina	Sept. 2	Sept. 7	no	
Blazing Gold				
Granite State	Aug. 26	Aug. 31	Aug. 31	
Wilson's White				
Golden Glory				
Royal Bronze				
Little America				
Copperhead	Aug. 19	Aug. 24	Aug. 24	
Queen of Pinks				
Gypsy				
Bonnaffon Deluxe	Aug. 12	Aug. 17	Aug. 17	
Christina	Sept. 9	Sept. 14	no	} NOVEMBER 2
Blazing Gold				
Granite State	Sept. 2	Sept. 7	Sept. 7	
Wilson's White				
Golden Glory				
Royal Bronze				
Little America				
Copperhead	Aug. 26	Aug. 31	Aug. 31	
Gypsy				
Queen of Pinks				
Bonnaffon Deluxe				
Christina	Aug. 19	Aug. 24	Aug. 24	
Blazing Gold				
Granite State	Sept. 2	Sept. 7	Sept. 7	
Wilson's White				
Golden Glory				
Royal Bronze				
Little America				
Copperhead	Aug. 26	Aug. 31	Aug. 31	
Gypsy				
Queen of Pinks				
Bonnaffon Deluxe				

Year Around Pot Plant Schedule

ONE PINCH METHOD

Varieties	Plant 5 cuttings in 6" pot	Pinch	Shade	Flower
Christina				} NOVEMBER 16
Blazing Gold	Sept. 16	Sept. 21	no	
Granite State				
Wilson's White				
Golden Glory	Sept. 9	Sept. 14	no	
Glitters				
Royal Bronze				
Little America				
Copperhead	Sept. 2	Sept. 7	Sept. 7	
Gypsy				
Queen of Pinks				
Bonnaffon Deluxe	Aug. 26	Aug. 31	Aug. 31	
Christina				} NOVEMBER 23
Blazing Gold	Sept. 23	Sept. 28	no	
Granite State				
Wilson's White				
Golden Glory	Sept. 16	Sept. 21	no	
Glitters				
Royal Bronze				
Little America				
Copperhead	Sept. 9	Sept. 14	Sept. 14	
Gypsy				
Queen of Pinks				
Bonnaffon Deluxe	Sept. 2	Sept. 7	Sept. 7	
Christina				} NOVEMBER 30
Blazing Gold	Sept. 30	Oct. 5	no	
Granite State				
Wilson's White				
Golden Glory	Sept. 23	Sept. 28	no	
Glitters				
Royal Bronze				
Little America				
Copperhead	Sept. 16	Sept. 21	no	
Gypsy				
Queen of Pinks				
Bonnaffon Deluxe	Sept. 9	Sept. 14	Sept. 14	
Christina				} DECEMBER 7
Blazing Gold	Oct. 7	Oct. 12	no	
Granite State				
Golden Glory				
Wilson's White	Sept. 30	Oct. 5	no	
Royal Bronze				
Little America				
Copperhead	Sept. 23	Sept. 28	no	
Gypsy				
Queen of Pinks				
Bonnaffon Deluxe	Sept. 16	Sept. 21	no	

Year Around Pot Plant Schedule

TWO PINCH METHOD

Varieties	Plant	First Pinch	Shade and Last Pinch	Flower
Gold Lode	Apr. 1	Apr. 13	May 4	} JUNE 29
Blazing Gold				
Gold Lode	Apr. 15	Apr. 27	May 18	} JULY 13
Blazing Gold				
Granite State	Apr. 8	Apr. 20	May 11	
* Queen's Lace				
Wilson's White				
Golden Glory				
* Yellow Lace				
Blazing Gold	Apr. 29	May 11	June 1	} JULY 27
Granite State	Apr. 22	May 4	May 25	
* Queen's Lace				
Wilson's White				
Golden Glory				
* Yellow Lace				
Blazing Gold	May 13	May 25	June 15	} AUGUST 10
Granite State	May 6	May 18	June 8	
Wilson's White				
Golden Glory				
Little America	Apr. 29	May 11	June 1	
Copperhead				
Queen of Pinks				
Bonnaffon Deluxe	Apr. 22	May 4	May 25	} AUGUST 24
Christina	May 27	June 8	June 29	
Blazing Gold				
Granite State	May 20	June 1	June 22	
Wilson's White				
Golden Glory				
Little America	May 13	May 25	June 15	
Copperhead				
Queen of Pinks				
Gypsy				
Bonnaffon Deluxe	May 6	May 18	June 8	

*Pinch last time 10 days after shading is started.

Gloeckner

CHRYSANTHEMUM CUTTINGS

Year Around Pot Plant Schedule

TWO PINCH METHOD

Varieties	Plant	First Pinch	Shade and Last Pinch	Flower		
Christina..... Blazing Gold.....	June 10	June 22	July 13	} SEPTEMBER 7		
Granite State..... Wilson's White..... Golden Glory..... Royal Bronze.....	June 3	June 15	July 6			
Little America..... Copperhead..... Gypsy..... Queen of Pinks.....	May 27	June 8	June 29			
Bonnaffon Deluxe.....	May 20	June 1	June 22			
Christina..... Blazing Gold.....	June 24	July 6	July 27		} SEPTEMBER 21	
Granite State..... Wilson's White..... Golden Glory..... Glitters..... Royal Bronze.....	June 17	June 29	July 20			
Little America..... Copperhead..... Gypsy..... Queen of Pinks.....	June 10	June 22	July 13			
Bonnaffon Deluxe.....	June 3	June 15	July 6			
Christina..... Blazing Gold.....	July 8	July 20	Aug. 10			} OCTOBER 5
Granite State..... Wilson's White..... Golden Glory..... Glitters..... Royal Bronze.....	July 1	July 13	Aug. 3			
Little America..... Copperhead..... Gypsy..... Queen of Pinks.....	June 24	July 6	July 27			
Bonnaffon Deluxe.....	June 17	June 29	July 20			
Christina..... Blazing Gold.....	July 22	Aug. 3	Aug. 24	} OCTOBER 19		
Granite State..... Wilson's White..... Golden Glory..... Glitters..... Royal Bronze.....	July 15	July 27	Aug. 17			
Little America..... Copperhead..... Gypsy..... Queen of Pinks.....	July 8	July 20	Aug. 10			
Bonnaffon Deluxe.....	July 1	July 13	July 27			

Year Around Pot Plant Schedule

TWO PINCH METHOD

Varieties	Plant	First Pinch	Lighting Period	Last Pinch	Shade	Flower
Wilson's White Granite State Golden Glory Royal Bronze	July 29	Aug. 10	Aug. 3 - Aug. 31	Aug. 31	no	} NOVEMBER 2
Little America Gypsy Queen of Pinks	July 22	Aug. 3	no	Aug. 24	Aug. 24	
Bonnaffon Deluxe	July 15	July 27	no	Aug. 17	Aug. 17	
Wilson's White Granite State Royal Bronze	Aug. 5	Aug. 17	Aug. 5 - Sept. 7	Sept. 7	no	} NOVEMBER 9
Little America Gypsy Queen of Pinks	July 29	Aug. 10	no	Aug. 31	no	
Bonnaffon Deluxe	July 22	Aug. 3	no	Aug. 24	Aug. 24	
Wilson's White Royal Bronze	Aug. 12	Aug. 24	Aug. 12 - Sept. 14	Sept. 14	no	} NOVEMBER 16
Little America Gypsy Queen of Pinks	Aug. 5	Aug. 17	Aug. 11 - Sept. 7	Sept. 7	no	
Bonnaffon Deluxe	July 29	Aug. 10	no	Sept. 5	no	
Wilson's White Royal Bronze	Aug. 19	Aug. 31	Aug. 19 - Sept. 21	Sept. 21	no	} NOVEMBER 23
Little America Gypsy Queen of Pinks	Aug. 12	Aug. 24	Aug. 12 - Sept. 14	Sept. 14	no	
Bonnaffon Deluxe	Aug. 5	Aug. 17	Aug. 17 - Sept. 7	Sept. 7	no	
Wilson's White Royal Bronze	Aug. 26	Sept. 7	Aug. 26 - Sept. 28	Sept. 28	no	} NOVEMBER 30
Little America Gypsy Queen of Pinks	Aug. 19	Aug. 31	Aug. 19 - Sept. 21	Sept. 21	no	
Bonnaffon Deluxe	Aug. 12	Aug. 24	Aug. 12 - Sept. 14	Sept. 14	no	
Wilson's White Royal Bronze	Sept. 2	Sept. 14	Sept. 2 - Oct 5	Oct. 5	no	} DECEMBER 7
Little America Queen of Pinks Gypsy	Aug. 26	Sept. 7	Aug. 26 - Sept. 28	Sept. 28	no	
Bonnaffon Deluxe	Aug. 19	Aug. 31	Aug. 19 - Sept. 21	Sept. 21	no	

*Better Chrysanthemums***CUTTINGS**

To grow good chrysanthemums the first requisite is starting with Verticillium Wilt and Stunt free cuttings. Wilt free cuttings are easily secured. Now with the extreme care in selecting stunt free stock and the careful handling we are very optimistic in stating that stunt should be practically nil in the stock for the coming season.

Handling Cuttings

The cuttings you receive have been propagated in a material containing some organic Material which naturally has some plant food, consequently these cuttings can be planted directly into the final location. Ordinarily they will not require shading, but if they have been several days in transit and have softened up some, or if they are planted during warm, bright weather shading with aster cloth or paper is advisable. Under no circumstances leave the covering on the plants during dull weather or at night. It is well to syringe the plants frequently until they stand up and are showing signs of growth. Some evidence shows that watering with a starter solution (weak nutrient solution) within 48 hours after planting will speed up the growth.

Deliveries

With the advent of the time pinch and the precision method of culture it is necessary to have your cuttings arrive at a definite date. To insure proper delivery you must plan your cutting requirements months in advance of the date wanted. We would appreciate it if you could let us know your requirements so that our propagator could plan his growing of stock plants and cuttings more systematically.

To facilitate deliveries, cuttings will be shipped on Mondays and Tuesdays of each week.

Delays

With the reduced delivery schedule of the Railway Express Agency there may be delays in delivering your shipments. Chrysanthemum cuttings will be injured from cold as well as being too long in transit. If the cuttings are slightly wilted, they can be immersed in water for a short period and then planted. They will react perfectly to such treatment. If the cuttings have been slightly frozen, placing them in a cool room and thawing them out gradually, or placing them in a pail of cool water to take the frost out will bring them through so that they will do just as well as cuttings that have had nothing happen to them. Of course, if stock is badly frozen, or if long delays have occurred so that the cuttings are heated, yellow or rotted, a claim should be filed at once with the express company.

Air Freight

We have been very well satisfied with the use of Air Freight to deliver rooted cuttings this past season. Customers who are close to an airport are naturally served better than those who have to have their shipment reconsigned via Railway Express. If you are planning on using air freight it is well to have your telephone number appear on all shipping labels.

Premature Budding

Bud initiation can occur anytime during the spring months, whenever your temperatures in the greenhouses are consistently 60 degrees Fahrenheit or above, and the days are short enough to initiate bud setting. These conditions can occur anytime up until May 1st depending upon the variety and the locality in which they are being grown. Some varieties such as the garden varieties and early shading varieties require very little short day treatment, coupled with high temperatures to initiate buds. This same tendency to set bud readily is what makes these varieties desirable for early shading and garden work. In order to prevent this premature setting of buds, these same varieties should be placed where they can be given additional light during the early spring months. Use 60 watt bulbs spaced 4 feet apart and 24 inches above the plants. Use the lights for a period of two hours each night after dark up until May 1st, then discontinue lighting.



Healthy Well-Rooted Cuttings



Taking Cuttings From Stock Plants

Cultural Pointers

SOILS

Chrysanthemums will grow in a wide range of soil types but a fibrous silt loam is preferred. Blue grass sod to which rotted manure has been added plus an application of super phosphate will give excellent results. Porosity to permit penetration of water and a uniform supply of fertilizer are the reasons for the great care in soil preparation. If water remains on the surface of your soil for more than a few moments after watering your soil is not of good structure.

Acidity

Evidence shows that the soil reaction should be slightly acid pH 6.5, although in many instances a neutral medium does very well. If your soil tests slightly alkaline apply $\frac{1}{2}$ to one pound of agricultural sulfur per 100 square feet of area. However, if your soil is acid apply 3 to 5 pounds of agricultural ground limestone per 100 square feet of area.

Steam Sterilization

Steam sterilization is the only practical means known to destroy the verticillium wilt organisms present in many soils. The cuttings you purchase are free from wilt but if planted in soil that is not steam sterilized many will contract the trouble.

Old soil when properly managed will give comparable results with fresh soil. Add a quarter of the volume of humus in the form of manure or peat moss. Steam sterilize to destroy the verticillium wilt fungus as well as improve the structure of the soil. Steam sterilization may be done with the use of three inch tile or down spouting with $\frac{1}{8}$ holes drilled every six inches on each side of the pipe. Use two lines in a three and one-half foot bench. Ridge the soil to the center of the bench directly over the lines, covering with tarpaulin, canvas or sisalkraft. The Thomas method is very similar with the exception that the pipe is laid on top of the rototilled soil and then covered so as to make it airtight. The Thomas method is not recommended where purlin posts are in the bench.

By introducing the steam in the center of a 100 foot bench and sending the steam both directions a more thorough sterilization is accomplished than if the steam were to be forced in at the end of the 100 foot bench. Cover the sides of the benches so that the entire bench and contents are heated to 180°F. Remove the covering one hour after the steam has been cut. This allows the excess moisture to pass from the soil as vapor. Leach heavily immediately after sterilizing to reduce excess fertility.

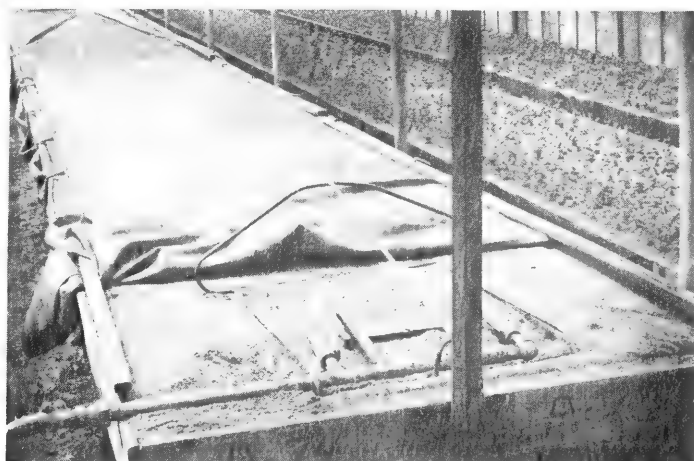
Chemical Sterilization

A chemical which has proven its worth is Larvacide. This material must be used when the greenhouses are empty to avoid injury to adjoining crops. This gas is applied in liquid form with a special applicator so that 2 or 3 c. c. are applied at 10 inch centers. The soil should be moist before applying. A good suitable covering should be placed over the treated soil to keep the gas in the soil for at least 48 hours although a water seal applied 2 to 3 times every 24 hours will suffice. The soil temperature should be at least 60 degrees or higher. When used properly you can expect favorable control of insects, diseases and weed seeds.

Dowfume MC 2 has been tried and found to control nematodes, weed seeds, and some damping off organisms. Best results are obtained when the soil temperature is above 60°F. About the same procedure should be followed in its application as that described for Larvacide.



Supporting Standards with the String Method



Thomas Method of Steam Sterilization

Cultural Pointers

SOILS

Aeration

Proper drainage and proper aeration of the soil are very vital to good growth. Many times improper drainage of the bench or bed is the reason for a poor crop. No wet spots should ever be present. Soil drainage may be improved by the addition of various materials. Any coarse organic material such as manure, alfalfa hay or clover hay applied at the rate of not to exceed one-fourth the volume will separate the soil particles sufficiently to increase pore space.

Adding several bushel of peat per 100 square feet of bench area after leaching and worked into the top inch of the soil will help keep the surface open and porous. Heavy applications of sand to a soil have not always proven of value to a chrysanthemum crop. Aeration may also be increased by proper cultivation of the soil.

Soil Management

Soils vary a great deal over the country and yet many good crops of chrysanthemums are grown on all types of soil. Soil itself is not the most important but soil management is of extreme importance. In considering the management of soil the following pointers are suggested:

1. Apply a quarter of the volume of manure or other organic substitute once a year, usually just before steam sterilization, rototill organic matter into the soil. When growing on ground beds watch the tilling so that no impervious layer is formed which will later cause poor drainage.
2. Steam sterilize the soil to a temperature of 180°F, once a year.
3. After sterilization leach with 7 gallons of water per square foot. The amount will vary with the type of soil.
4. Apply 5 pounds of gypsum (Calcium sulfate) per 100 square feet. Apply gypsum just before planting.
5. Test soil for acidity and make correction before planting.
6. Apply 5 pounds of super phosphate per 100 square feet of area once a year. Excess phosphates tie up organic toxins.
7. Wait seven days from time of sterilization to planting.
8. Maintain the following nutrient levels:

Nitrate Nitrogen	5 — 10	p.p.m.
Phosphorus	5 — 10	p.p.m.
Potassium	20 — 40	p.p.m.
Calcium	200 — 250	p.p.m.
Solubridge reading	40 or lower	
9. Water, thoroughly at every watering.
10. Apply a complete fertilizer at time of bud initiation. Heavy watering and light on the fertilizer will make chrysanthemums grow.



**Terminal Spray Formation Resulting
From Time Pinching**

Cultural Pointers

FERTILIZERS

Soil structure is the key to soil fertility. The response of chrysanthemums to fertilization depends upon a favorable soil structure. It is known that plants require nutrients, water and air for growth. Good soil structure will provide proper air and water relationships. Therefore, it behooves us to give proper attention to the soil before starting the crop. Good open soil is a necessity.

Feeding

Chrysanthemums do much better right from the start if the soil is not too rich. Very often this crop will start off faster in new soil as compared with old soil that has been sterilized just because of the lower nutrient level in new soil. When using new soil, apply 5 lbs. of super phosphate per 100 sq. ft. of area, plus a liberal application of manure before planting. Phosphorus moves slowly within the soil mixture. It should always be added before the crop is benched so that it may be mixed thoroughly into the soil. One to two applications of a complete fertilizer, such as Electra, made after the plants become established and until color shows will be adequate. Electra applied at the rate of 2 pounds per 100 sq. ft. of bed is sufficient. Never apply fertilizers to a dry soil. Water lightly first, then apply the proper quantity of fertilizer, then water heavily. Liquid feeding with water soluble fertilizers is fast becoming the latest method of applying fertilizer. **Remember that the plant is the best guide as to fertilizer requirements and that more mums are ruined by overfeeding than by nutrient deficiencies.**

Levels of Nutrition

When using sterilized soil the best recommendations to follow would be to analyze your soil from time to time. We have found that when the following nutrient levels are kept, good crops are the result. **Nitrate nitrogen should be 5 - 10 parts per million; phosphorus 5 - 10 parts per million; potassium 20 - 40 p.p.m. and calcium near 200 p.p.m.** To increase the nitrate level feed one pound of ammonium sulfate per 100 sq. ft. of area, and to bring up the potassium apply muriate of potash not to exceed 1 lb. per 100 sq. ft. If phosphorus is needed apply mono-calcium phosphate at the rate of 1 pound per 100 sq. ft.

Liberal application of calcium sulfate (gypsum) 5 pounds per 100 square feet after steam sterilization will prevent injury to young roots. High phosphorus also reduces toxicity after sterilization.

In the cooler weather and shorter days of September omit the nitrogen if the plants are growing freely. The mum assimilates more phosphorus and potassium during the time of bud initiation. Therefore, it is desirable to apply a complete fertilizer shortly after the buds are visible.

Soluble Salts

Soluble salts are chemical compounds consisting of an acid part or ion and a basic part or ion. For example, common table salt, sodium chloride, consists of one ion of chloride and one of sodium. Chloride is an acid forming ion and sodium a basic or alkali forming ion. The two combine in chemically equivalent quantities to form a neutral salt. Other common acidic ions are sulfate, nitrate, bicarbonate, and phosphate. Other common basic ions are calcium, magnesium, potassium and ammonium. Any basic ion may combine with any acidic ion giving rise to a great variety of salts.

All plant nutrients which are absorbed by plants from the soil or from culture solutions are absorbed in the form of salts or their constituent ions. All organic materials become "Mineralized" through decay processes and the nutrients in them are converted into salts before being absorbed by plants. Some salts contain plant nutrients and are beneficial in the small quantities required for plant growth. Others contain no nutrients. All salts are harmful beyond the small quantity required for plant growth. A little is bad, more is worse, up to the point where plants will be killed. Salts are found in most water and are applied as fertilizer. Improper watering may permit a concentration into the harmful range. Instruments called Wheatstone's bridges are available which measure total soluble salts in terms of electrical conductivity or conductance. Many laboratories of the Agricultural Extension Service are equipped with Solubridge instruments for use in assisting with soluble salt problems.

It has been found that **when planting rooted cuttings, the Solubridge readings should not be higher than 40** while established plants do not withstand readings of 100 without showing some harmful effects. To remedy excess soluble salts apply two to three gallons of water per square foot and leach out this high salt content.



Laboratory Procedure Used in Developing Disease Free Cuttings

Cultural Pointers

PLANTING

Chrysanthemums grow equally as well on a raised bench or on a ground bed. The care is slightly different in that raised benches dry out more frequently during the summer and early fall months. It must be remembered that a good circulation of air is desirable, yet a direct draft is not advisable.

Planting Date

The proper date of planting will naturally vary according to when the crop is to bloom. For natural blooming we prefer to plant three or four weeks before the last pinching date. When flowering from August to October we suggest you plant 3 weeks before the pinching date. In the continuous flowering schedule where no pinch is followed we have given the advised planting dates in that schedule.

Planting Rooted Cuttings

Many florists are planting rooted cuttings directly into permanent locations. This not only reduces several handlings and production costs, but also produces a better quality bloom. We fully realize that it is often an impossibility for all to treat their chrysanthemums this way. However, we have found that young, soft plants are superior to hard woody plants. Never plant cuttings any deeper than what they were in the propagating media; too deep will cause stem rot. Water heavily after planting. If new white roots are not formed within the first 12 hours, something is not quite right.

Single Stem Method

Cuttings are planted and allowed to grow without pinching. It is an essential practice if three crops a year are to be realized in the continuous flowering schedule. Where crops are planted from September 15 to February 1, no pinch method produces a superior crop, whereas a pinched crop is weaker and of poorer quality.

Light Intensity

When planting rooted cuttings into their permanent position it is necessary to shade the glass or to put aster cloth directly over the young plants until they are established. When shading the glass be sure that the material is applied lightly.

When growing quality chrysanthemums, the higher the light intensity or the least amount of shade over the plants during the growing season, the better the quality of bloom. In cloth houses the amber saran is superior to the green because of more light under the amber covering. Naturally the plants require more water when growing under high light intensities.

It is recommended to shade the plants when flowers are about one-half open to prevent them from sunburning. When growing standards a good practice would be to stretch muslin directly over the open blooms, this not only prevents sunburning but also keeps the blooms free from dirt.

Distance of Planting

For good quality pompons we prefer to plant 7x8 inches or 8x8 inches pinched once, and thin the shoots to three per plant. The outside rows will support one more stem than the center rows in the bed. Nothing is gained by planting at a closer distance. Light intensity should be high at the base of the plant for quality blooms and if planted too close we have lost the factor which promotes quality. Large flowered varieties are generally planted 8x8 inches or 8x9 inches, this also applies to disbud anemone and single varieties.

**PLANTING DISTANCE
FOR NO-PINCH METHOD**

Flowering Date	Pompons Standards	
May 15—September 15	4 x 6	6 x 5
September 15—November 15	4 x 7	6 x 6
November 15—March 15	4 x 8	6 x 7
March 15—May 15	4 x 7	6 x 6



Applying Additional Light to an Entire House

PINCHING *Cultural Pointers*

For a good number of years the reason for pinching was to regulate the number of stems on the plant. In recent years we have learned that in case of pompons or singles the pinching determines the type of spray formation. With standards, pinching will determine the type of bud formation, whether it be a crown or terminal bud.

Time Pinching

The precision culture of chrysanthemums is all set up around the "Last Pinch." To grow a quality pompon you should receive the rooted cuttings sometime in June, July or August and then plant into the permanent location approximately three weeks before the date listed in our list of varieties under "Last Pinch."

Under the heading "Chrysanthemum Flowering Schedule" you will find the exact pinching dates for all planting dates. The table below will indicate the time to pinch after planting according to various planting dates:

When planting **Nov. 15 to Feb. 14** allow **5 weeks** plant to pinch.

When planting **Feb. 15 to May 14** allow **4 weeks** plant to pinch.

When planting **May 15 to Aug. 14** allow **3 weeks** plant to pinch.

When planting **Aug. 15 to Nov. 14** allow **4 weeks** plant to pinch.

Time pinching standards will eliminate the formation of the crown bud and produce terminal buds which will in turn produce a much straighter flowering stem.

Pruning

Another important factor is to remove all shoots but 3 or 4 per plant, in a few instances only 2 shoots are allowed to mature. Allow more shoots to develop on the outside rows than on the center rows of a bed. When fewer breaks are selected the planting distance should be closer. If you prefer to have a number of smaller sprays, with fewer blooms open at one time, follow the double pinching procedure.

Standards are usually pinched once to induce breaks so that they may be grown two per plant. The strongest breaks are selected and all others removed. It is well to pinch on the date suggested in the general list. Careful observation has shown us that neckiness with some varieties is eliminated by pinching on the respective dates. Singles and anemones are usually grown 3 to 4 stems per plant.

Condition of Plant

When pinching, remove only the soft growth, never cut into the woody stems as this will not produce the type of breaks you desire. It is our experience that it is best not to pinch until the plant has become well established in its permanent location. In all cases it is better to have at least eight to ten inches of growth on the plants before pinching. (Photos below.)

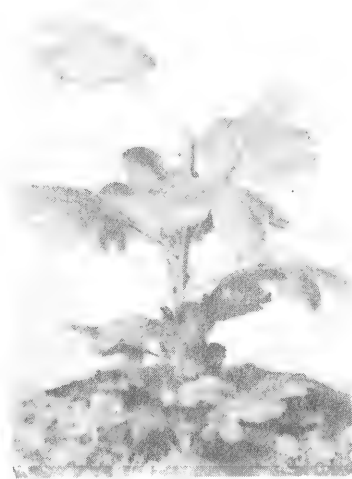
When double pinching, pinch the first time 30 days before the "Last Pinch." This allows enough time to produce a growth long enough to pinch at the proper time.

If by chance you are delayed in planting and your plants will be too tall, it is advisable to pinch early enough before benching so that the breaks will be several inches long at time of planting. Never pinch hard plants at the same time they are planted into the bench, a heavy loss may result. Better wait until plants are established, then pinch.

The last pinching dates given after each variety will help you grow that variety to excellency. Remember that pinching is just one cultural factor and will only function when all other cultural points are carried out properly.



Well Established Young Plant



Top Several Inches Removed



Strong Breaks Resulting from Single Pinch

Cultural Pointers

DISBUDDING

Large flowered varieties produce side shoots in the axils of the leaves which should be removed very close to the base at regular weekly intervals. Disbuds are handled the same as standards.

Taking Bud

Taking bud means allowing the flowering bud to remain and removing all others, applies to standards and disbuds. The chrysanthemum usually produces two distinct types of flowering buds—Crown and Terminal. The first bud produced is called the crown bud and is distinguished by being surrounded by other lateral leaf buds. The second is the terminal bud and is surrounded by several flower buds. If the plant is planted especially early, a second crown bud might appear. In appearance this second crown bud is exactly the same as the first.

The procedure of "Taking Bud" depends very largely on the variety. Usually the safest rule to follow is not to select a bud on early or midseason varieties before August 25. In our list of large flowered varieties under "Select Bud" you will find the date on which to select the proper bud. If bud is selected too early a large percentage of the flowers will be crippled. Good common sense must be used to determine the proper selection of bud.

The formation of the crown bud usually does not take place when growing according to the "Time Pinch Plan." When following "Time Pinch" select the first bud that appears. This will result in straight stems without the dogleg growth that appears when second bud is taken.

The final selection of bud should not be made when the cluster buds are too small as this will very likely cause injury to the stem near the bloom. Likewise it is not advisable to delay selecting the bud too long. Some growers like to leave an alternate bud until they are certain that nothing will happen to the one finally selected.

DISBUDDED SPRAYS

The procedure in growing disbudded sprays, is to wait until the crown bud forms, then remove all vegetative shoots but three. Later when terminal buds appear disbud each shoot similar to the normal disbudding of standards. When the blooms mature there are three flowers on each spray. In singles and anemones, the size of the blooms will be a trifle smaller than when they are grown as one flower per stem. Raise three stems per plant similar to straight disbud. Varieties such as Goldsmith, Valencia, etc., can be grown as disbudded sprays.

Good Chrysanthemums result from the careful and thorough practice of the basic principles of plant growth, plus the acknowledgment of certain differences in the nature of various varieties. Growing disbudded sprays is a modification in culture which is very much worthwhile.



Early or Crown bud surrounded by lateral buds



Late or Terminal bud surrounded by flower buds



Late or Terminal bud selected

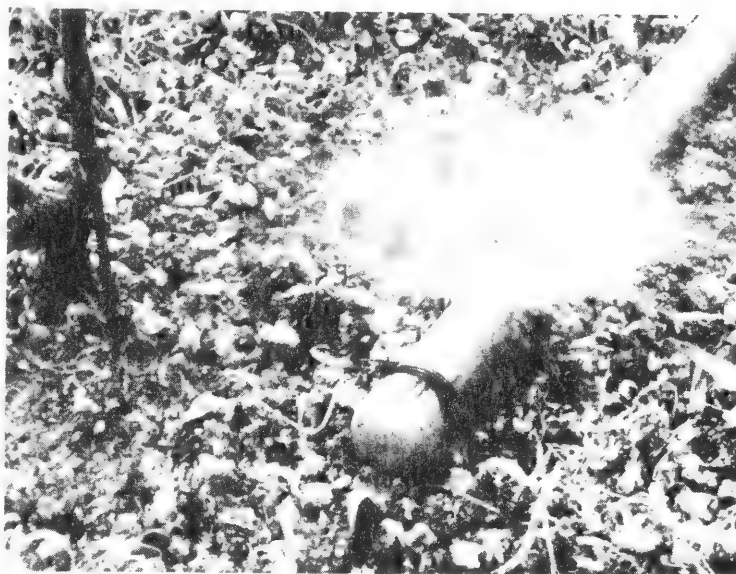
Cultural Pointers

WATERING

The knowledge of proper watering is essential to success. Chrysanthemums produce extremely heavy foliage and a great deal of water is required at the roots, and under ordinary conditions of bench culture overwatering would be difficult. When grown in beds more care should be exercised in watering. Some soils look wet on the surface but are very dry several inches below.

When planting rooted cuttings directly into their permanent locations it is essential to water thoroughly to set the soil around the plant roots. We suggest double watering again when the soil gets on the dry side. By this time the plants are established and regular watering should be followed. Keep humidity in the house by wetting down bench and walks.

Steam sterilization causes the soil to become more granular and capillary movement of water in it is much slower than in soils not steamed. Cuttings planted in it cannot obtain water readily, and for this reason should be kept more moist than in soils not sterilized.



Superior Nozzle Showing Uniformity of Pattern

Surface Watering

During the past several years many labor saving devices have been developed. Surface watering is one that will save many hours of hand watering your chrysanthemum crop.

The Skinner Superior nozzle is the final answer to the exacting requirements of surface watering. An absolutely flat uniform spray is obtained over a full circle with a constant pattern under any pressure. This nozzle throws a fine spray 5 feet in diameter at 5 pounds pressure at the nozzle, and uses 0.9 gallons per minute.

When installing surface watering, check your water supply and the capacity needed to irrigate your area. It is advisable to have an engineer figure out your requirements.

Leaching

Many greenhouse soils are excessively rich and chrysanthemums will not thrive in such a medium. If this is the case, the remedy is leaching with water. After the soil is sterilized it should be leached. Use a skinner line and allow it to run for hours if necessary. Raised benches do not require as much water to leach.

GRAFT INDEXING

Graft indexing has become standard procedure with Yoder Brothers Inc. eradicating stunt. This was made necessary by the fact that certain varieties express visual symptoms of the virus much more readily than others. There are some varieties which are seemingly tolerant to stunt and which have never been known to express clear cut symptoms of stunt virus. Others, such as Blazing Gold for example will indicate the usual symptoms very readily. In order to check those which do not express the usual symptoms readily, the technique of graft indexing was developed whereby a variety such as Blazing Gold serves as the understock and the variety to be checked for virus is grafted on to Blazing Gold. By this method, it can be told within two months, whether stunt virus is present or not. By making selections in this manner it is possible to eventually select out mother stock of all varieties, and by careful isolation practices, maintain them stunt-free. Until this is accomplished there will always be the chance that certain few varieties, although they do not show any symptoms, may be carriers of the virus and act as sources of infection for other varieties.

Several other virus expressions have made their appearance since stunt. You probably have heard of **Blanche Mosaic**, **Ivory Sea Gull**, **Aster yellows**, **Spotted wilt**, and **Nightingale mosaic**. Fortunately by the use of the above technique, these are isolated early, before any of them will have become so widespread as to cause any great difficulty.

*Cultural Pointers***TEMPERATURE AND LIGHT**

Chrysanthemums grow most rapidly under conditions of high light intensity and with a temperature above 60°F.

Temperatures much above 90°F will act like a prohibitor. When the night temperatures are in the 90's bud development is hindered, this is especially true when black clothing in the hottest part of the year. To reduce high temperatures under the black cloth it is suggested that the sides of the cloth be lifted after sundown and dropped again before the sun rises in the morning.

It has been noted that high temperatures are most serious in retarding bud development with late varieties. For this reason, it is suggested that when mums are flowered at periods when high temperatures cannot be avoided, earlier-flowering varieties should be most satisfactory.

Blindness

Blindness may be a combination of late planting, late pinching, too much moisture, too rich a soil and too low a temperature at bud initiation. It has been shown that if chrysanthemums are grown in temperatures much below 50° at the time of bud initiation the plants will remain vegetative and will not form flower buds. Blindness is usually associated with those varieties which flower the latter part of November or later. Not all varieties initiate buds at the same date. The late flowering varieties may not set bud until October.

To overcome blind growth keep a night temperature of 55 - 60° from September 15 on until the buds are visible. Likewise run the soil moisture low and do not feed during this period. After the buds are visible it is safe to reduce the temperature to 50°.

When growing chrysanthemums for "Year Around Flowering" it is very important to maintain a temperature of 60° during the period of bud formation or blindness and poor budding will result.

Lack of Color

Pink and bronze varieties will have poor color when high temperatures prevail during the development period. Some of the new varieties retain their color better than the older varieties.

Petal Burn

When blooming chrysanthemums during high temperatures and high light intensity it is advisable to cover the beds with a cheesecloth stretched about 18 inches above the top of the developing blooms. This covering will also help keep dirt off the open blooms. Sunburn sometimes is confused with flower ray blight which is caused by *Botrytis*. *Botrytis* is more abundant during periods of high humidity and low temperatures. Ray blight can be controlled by spraying with **Parzate** when the color shows and repeat every 5 days.

SHIPPING FLOWERS

Packing of cut flowers should be carefully studied. The most common error is over-crowding in the shipping boxes. Not securely fastening the blooms in the box will cause bruising of the petals. Clearing or sewing the stems to the box is essential. Cushion the blooms by placing enough padded paper on the bottom of the corrugated box and between the layers of blooms. Wrap the pompons with a loose wrapper. The wrapping paper could have the name of the grower printed on it.

Long distance shipments carry better if the cut flowers are packed dry. Reduction of temperature is accomplished by precooling the packed cut flowers.



Packing Shed with Ample Room

*Cultural Pointers***SUPPORTS**

With high labor costs, it has become necessary to eliminate some of the labor in supporting standards and disbuds. The old way of supporting with stakes or stringing each plant has given way to the box wire and cross string method of support. Turn-buckles are placed near the end of the bed and this will keep the wires much tighter. Some growers are only using one layer of wire and cross strings and are gradually raising it as the crop grows. Many still use two layers of wires and also raise the top wire as the crop grows.

Pompons are usually supported by the string and wire method similar to that described above. Two layers of wires are necessary to give the pompons good support. When growing out of doors or in cloth houses heavier wire is necessary to give proper support because moisture often collects in the open blooms accounting for the extra weight requiring very strong supports.

SOUTHERN CULTURE

It is true the material presented in this manual is primarily from experiences gathered for the northern part of the United States. Yet many of the pointers are similar for all parts of the country.

We have noted that the early flowering varieties from October 15 to November 1 flower approximately one week later in the southern states while those flowering naturally November 15 to December 1 bloom one week earlier than the dates given in this manual. Last Pinch dates will have to be governed accordingly.

When shading, it has been suggested that the black cloth be placed on the beds late in the evening 7 or 8 P.M. and left on until 8 or 9 A.M. Shading the usual time traps the excessive heat under the cloth and appears to affect foliage and flower buds. Pink and bronze varieties used for shading and early normal production fade to inferior colors.

During the months of July and August little growth may be expected, therefore fertilization should be kept to a minimum. When the nights get cooler in September, October and November, growth is more rapid and the fertilization program should be stepped up accordingly.

The young plants should be illuminated until May 1 to prevent premature flower buds.

The length of day is constantly changing. In Ohio the shortest day has 9 hours of light while the longest day length is 15 hours, in Florida it varies from 10 for the shortest and 14 for the longest. In Ohio the day length will change about 15 minutes each week.

CLOTH HOUSES

Much has been written about the construction and care of the cloth house. It seems that this subject is well taken care of, although there are a few new ideas that should be mentioned.

To grow quality stock it is necessary to use some type of covering such as aster cloth, onion bag or saran. Saran is manufactured by Dow Chemical Co. and is a plastic that will outlive copper screening. There are several colors of this material and the natural colored saran produced better quality pompons than did the green colored material. The amber colored saran allows more light to reach the plants. The plants growing under natural colored saran required twice the amount of water as did those under the green cloth. The important difference is that higher quality stock was produced under the natural colored saran.



Cloth House Made of Natural Colored Saran

Insects and Their Control

APHIDS, OR PLANT LICE

All aphids are true sucking insects that insert their beaks through the surface of the leaf or stem and extract the juices from within.

INJURY. The feeding of aphids causes the plants to become sickly and stunted. The leaves curl inward, and when the flower terminal is infested the blooms will be deformed. Certain varieties of chrysanthemums are more susceptible to attack than others.

CONTROL. **Nicofume Fumigation** is an easy method of controlling the black aphid but will do very little to control the green or straw colored aphids. **Benzene Hexachloride** or **Parathion** is much more effective on the very resistant green or straw colored aphids. **Vapotone** is also effective when used at higher concentrations.

CHRYSANTHEMUM LEAF MINER

The larva or maggot disfigures and weakens chrysanthemum plants by mining in the leaves. It may do considerable harm to the crop, but is easily held in check.

INJURY. The young maggots burrow in the leaf tissue, leaving the upper and lower surfaces intact. The tunnels are irregular and winding. White blotches are thus formed, which later turn brown, and the leaves may die.

CONTROL. As soon as it is noticed that any leaves are infested, they should be picked off. **Parathion** or **TEPP** aerosol bombs or sprays, containing **Lindane**, **Chlordane** or **Parathion**, are very effective.

CHRYSANTHEMUM MIDGE

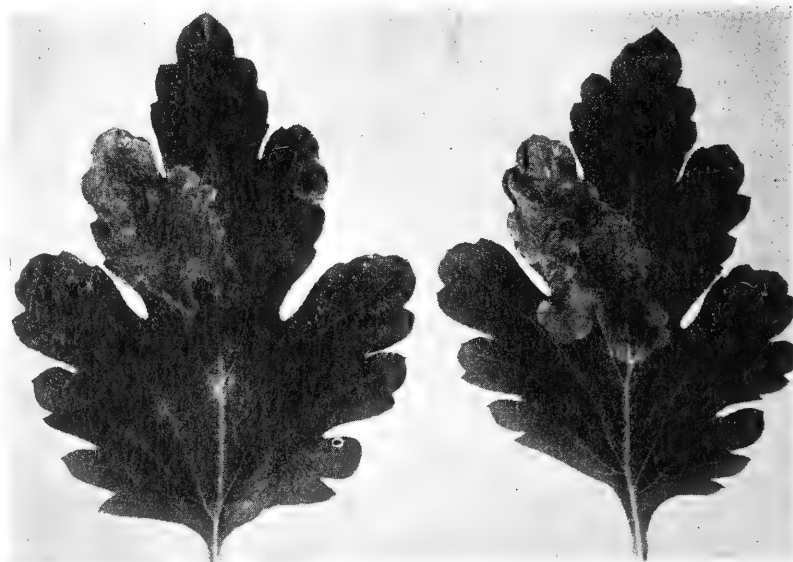
The chrysanthemum midge is one of the most serious pests with which the grower has to deal. Under optimum conditions a little over a month is required to complete the life cycle from the egg to the adult. The eggs are reddish-orange in color and are usually deposited on the tender tips of the growth. Under favorable conditions the eggs hatch in about three days. The larva wanders about over the surface of the leaf for a day or two before finally penetrating into the leaf.

INJURY. The midge attacks all parts of the plant but prefers the tender growth. If the infestation takes place when the plants are small, they fail to grow, although if the plants are well developed when the infestation starts, the buds blight or are deformed and the plant is rendered unsalable.

CONTROL. Clean stock should be used wherever possible. Severely infested plants should be pulled up and burned. Nightly fumigation with **Calcium cyanide** or **Nicofume pressure fumigators** for 28 consecutive days will give good control. **Nicotine Dust** is also useful in keeping the plants covered and is especially useful when used in combination with fumigation. **Sodium selenate** is effective when applied in liquid form $\frac{1}{4}$ gram per square foot after plants are well established. **Parathion** or **DDT** either as dust or spray is very effective.



Aphids



Leaf Miner Injury

Insects and Their Control

CORN EAR WORM

The corn ear worm is a green to brown, nearly smooth caterpillar, often mistaken for a cutworm when found within the buds or on the open flowers.

INJURY. It is very destructive to the opening buds, for it feeds on their petals and other parts, deforming if not entirely ruining the flowers.

CONTROL. If the attacked plants are blooming, spraying is out of the question, but thorough treatment with a 3 or 5% **D.D.T.** dust is recommended. After they have worked their way into the buds and are found to be feeding on the open flowers, hand-picking is the only remedy. Spraying the plants with **Deenate 50W** will control them before the color shows. **Parathion** fumigation will also keep them under control.

CUTWORMS

The larva is dull colored and from one to more than two inches in length. They are most active at night, and usually spend the day coiled up just under the surface of the soil at the base of the plant. They should not be confused with the corn ear worm which cannot be controlled by poison baits.

INJURY. Cutworms obtain their food by biting out sections of the leaf, stem or bud. Various species attack different parts of the plant. The one that is most damaging climbs to the top of the stem and eats into the flower buds.

CONTROL. Those cutworms that feed on the foliage can best be controlled with **Deenate 50W** spray using 1½ pounds to 100 gallons of water. **Parathion** has been suggested as a good control measure, more effective as a spray.

GREENHOUSE LEAF TYER

It gets its name from its habit of spinning light webs inclosing two or more leaves or tying together the parts of a single leaf. This caterpillar is very active, and when disturbed will wriggle off the leaf, often backwards, lowering itself on a silk-like strand.

INJURY. When first hatched, the larvae eat out shallow holes on the under side of the leaf. As they grow, they enlarge these holes but usually do not cut through to the upper surface. The result is that the leaves become skeletonized.

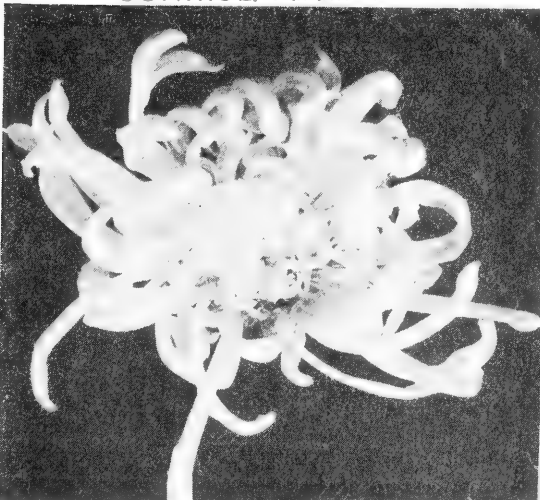
CONTROL. The best poison to control the larvae is **Deenate 50W**, either in the form of a dust or a spray. For liquid spray use 1½ pounds of **Deenate 50W** to 100 gallons of water. Regular fumigations with **Parathion** will keep the leaf tyer under control. The leaf roller is best controlled with **Parathion** or **TDE (Rhothane)** is closely related to DDT, it is used at the rate of 2 pounds of 50% wettable powder to 100 gallons of water.

MEALY BUGS

Mealy bugs are small, sluggish, whitish, soft bodied insects, measuring up to ¼ inch long, found in clusters on the undersides of the leaves or in the leaf axils.

INJURY. This pest sucks the juices from the stems and leaves, discoloring and deforming the foliage.

CONTROL. **Parathion** or **Dithion** are the most effective.



Corn Ear Worm Damage



Leaf Tyer



Mealy Bugs

Insects and Their Control

MITES

Cyclamen mite and broad mite are often found on the same plants at the same time. Broad mite could pass through a complete generation in 4 to 5 days at 70 to 80 degrees while the cyclamen mite will take 4 to 5 times longer.

INJURY. Infested leaves become deformed, curl from the outside inward, and wrinkle so that pockets and pit-like depressions are formed. When the infestation is severe, the mites collect about the buds, causing them to blight. Oftentimes white varieties will show occasional red petals.

CONTROL. **Parathion** dusts or sprays are more effective than bombs. **Vapotone** containing **HETP** has given good control. **Sodium Selenate** is effective when applied in liquid form $\frac{1}{4}$ gram per square foot after plants are well established. **P40** used at the rate of 3 pounds per hundred square feet is another way to use sodium selenate.

RED SPIDERS

There are several species of red spiders that attack the chrysanthemum. They vary in color through yellow, orange and red. The body is oval in outline and bears eight well-developed legs.

INJURY. Red spiders pierce the epidermis of the leaf and draw the liquid contents from the cells, causing the leaf to turn pale around the injured portion. They prefer to collect on the under surfaces of the leaves, which they cover with silken threads.

CONTROL. **Parathion** or **TEPP** bombs are most effective and easiest to apply. **HEPT** or **TEPP** contained in insecticides such as **Vapotone** are by far the most effective on red spider. Moisture is detrimental to the development of the red spiders and frequent syringing washes them and their eggs off the plants. **Sodium selenate** is effective when applied in liquid form $\frac{1}{4}$ gram per square foot or **P40** at 3 pounds per 100 sq. ft. after plants are well established; especially desirable for cloth house operators, will also control foliar nematodes. **Systox** emulsion used as a soil drench has also been found effective in mite and aphid control on outdoor plantings. **Dithion** is another new material which looks promising. **Plantfume 103** smoke generators and **Fulex Parathion Fumigators** are simple to use and very effective. The latest control is **ARAMITE 15-W**.

SYMPHYLIDS

Symphylids are small white creatures about $\frac{1}{8}$ to $\frac{3}{16}$ inches long. About 40-60 days are necessary for the completion of the life cycle.

INJURY. Symphylids destroy the fine root hairs and small rootlets, thus stunting the plants and often killing them outright.

CONTROL. If possible construct raised benches. Steam sterilization has given fair control. **Dowfume G** or **Dow MC2** when properly applied will give good control. **Lindane**, a purified form of benzene hexachloride, has given good control of symphylids. **Isotox** (1.5% benzene hexachloride) applied at the rate of 5 pounds to 1000 square feet of soil will control this pest. The material should be mixed with the upper two inches of soil then watered in thoroughly. **Parathion** (15% wettable powder) used at the rate of 3 ounces in 30 gallons of water and applied to 100 sq. ft. of bed area has been effective. Several applications may be necessary for a complete clean-up.

SOWBUGS

INJURY. Sowbugs often become so plentiful in the greenhouse that they eat the newly planted cuttings at the base.

CONTROL. Any of the many poison baits will give partial control but a complete spraying with **DDT** under the benches has given excellent control. **Deenate 50W** will give complete control.



Mite Injury

Red Spider Injury



Symphylid. Above, adult — below, eggs and young.

*Insects and Their Control***TARNISHED PLANT BUGS**

The tarnished plant bug or sting fly comes into the greenhouse through open doors and ventilators in late summer or early fall and does considerable harm to this crop. Chrysanthemums growing in the open are frequently affected. Varieties such as Mary L. Hall and Sea Gull are attacked to a greater extent than other varieties.

INJURY. It has sucking mouth parts and obtains its food by inserting its long, slender beak into the plant tissues and sucking up the contents of the injured cells, apparently injecting saliva, which causes the death of the tissue in the immediate vicinity. The stem is often slightly bent and the terminal growth is malformed because of this injection.

CONTROL. Early morning spraying or dusting with any of the pyrethrum materials will kill those bugs that are present but this will have to be done each day for complete eradication. **Deenate 50W** has been giving fair control but again this insecticide is best used as a contact. **Parathion** fumigation will control this insect in the greenhouse.

TERMITES

Termites are not ants, though often called white ants. The food of termites is wood or cellulose. Soil inhabiting forms are the most common in the greenhouse.

INJURY. Termites sometimes injure chrysanthemum plants by working up the center of the plant and hollowing out the stem. This injury will eventually kill the plant.

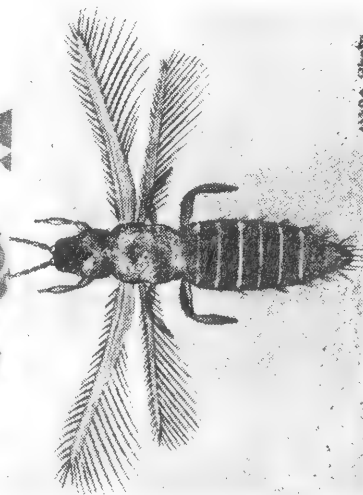
CONTROL. **Isotox** (1.5% benzene hexachloride) or the 15% wettable powder of **Parathion** has been used as follows with no apparent damage: Place 3 ounces in 30 gallons of water and apply to 100 sq. ft. of bench space.

THRIPS

The chrysanthemum is usually attacked by one or more species of thrips. These small, narrow-bodied, active insects which range in color from yellow to brown or almost black, injure both the leaves and the blossoms. Thrips are a real threat to Florida mum growers.

INJURY. Thrips have mouth parts that are fitted for piercing and scraping the leaf surface and for sucking the juices and other cell contents. The upper surface of the foliage is covered with whitish blotches while minute black specks appear on the lower surface. Unless a constant watch is kept on the plants, and control measures properly executed, thrips are capable of causing severe injury within a short time.

CONTROL. **Deenate 50W** used at the rate of 1-1½ pounds to 100 gallons of water is a very effective control. Other insecticides containing **Benzene Hexachloride** are also recommended. **Parathion** will control the chrysanthemum and onion thrips. Regular dustings or spraying are necessary where infestation is heavy. **Chlordane** is also very effective.

*Tarnished Plant Bug**Thrip Injury**Adult Onion Thrip*

Pests and Their Control

FOLIAR NEMATODE

The spread of this pest has been very rapid in recent years owing to the increased trade in chrysanthemums, and the ease with which the nematode is transported in plants and cuttings. Too few growers have become familiar with this pest and consequently no effort has been put forth to control it.

SYMPTOMS. The leaves attacked become blotched, turn at first greenish-yellow, then brownish, later gray and finally black until the entire leaf dies and hangs down on the stem. Under conditions of high humidity, both in the open during a wet season and under glass owing to excessive watering, the spread of the pest may be extremely rapid.

CONTROL. P40 applied at the rate of 3 pounds per 100 square feet has given good control. Wait 2 to 4 weeks after benching before applying. It is better to apply P40 in 2 applications, 1 1/2 pounds each time, 7 to 10 days apart. The latest findings show that foliar nematodes can be controlled with Parathion either as an aerosol or liquid spray.

Diseases and Their Control

BACTERIAL STEM ROT

SYMPTOMS. Cuttings may appear healthy although infected, grow well up to 8-12 inches high when the stem becomes soft and off-colored. Pith is jelly-like or lacking in such stems. Tops of plants then turn black, exude drops of liquid, and the stem often splits. Develops at high temperatures (75-90°). Often shows up after the plants are pinched.

CONTROL. Remove and burn immediately all affected plants. Wash hands thoroughly after handling plants. Steam infested soil before replanting. Avoid dips for cuttings.

COLLAR ROT or STEM ROT

SYMPTOMS. The area of stem just at the soil level will show dark colorings first. The entire stem will be girdled and eventually the plant will turn yellow and die. Usually caused by the common damping off organisms such as Rhizoctonia, Fusarium or Pythium. More prevalent when temperature and humidity are high.

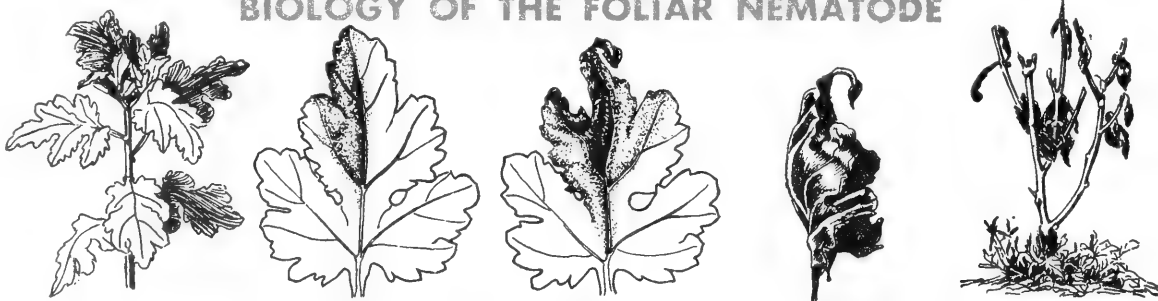
CONTROL. Do not plant cuttings that have been affected with damping off. Remove all affected plants when noticed. Do not keep the soil too moist. Run a lower humidity if possible. Plant cuttings no deeper than depth they were in propagating media as too deep planting will hasten development. Have soil well prepared as compact soils will also encourage trouble.

MILDEW

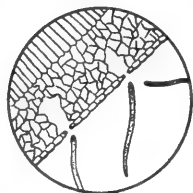
SYMPTOMS. Whitish powdery growth on upper surface of leaves.

CONTROL. Spray at regular weekly intervals with a good Wettable Sulfur, 1 1/2 lbs. per 100 gallons of water to which a good commercial spreader has been added. Spray with Iscothan 6 ozs. per 100 gallons of water plus spreader whenever disease appears.

BIOLOGY OF THE FOLIAR NEMATODE



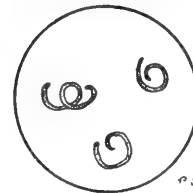
Eelworms moving from the ground up the outside of the stem and leaf-stalks into the basal leaves. (Spring)



Eelworms entering leaf through the stomata. (Spring-Summer) (Spring-Summer)



Eelworms feeding and breeding in leaves and migrating upwards from leaf to leaf. (Spring-Autumn) (Spring-Autumn)



Eelworms overwintering in soil, dead leaves and in basal buds. (Winter) in basal buds. (Winter)

*Diseases and Their Control—Cont'd.***RAY BLIGHT OR FLOWER SPOT**

SYMPTOMS. The petals first show little spots and then the entire petal begins to rot. May be caused by *Botrytis* or *Ascochyta*. *Botrytis* is spread primarily by splashed water.

CONTROL. It is controlled by lowering humidity or spraying plants with **Parzate** when they show color. Spray with **Parzate** 1 ounce to 4 gallons of water plus $\frac{1}{3}$ teaspoonful of **Du Pont Spreader Sticker** on the flower from below and above as soon as color shows and continue at 5-day intervals. **Orthocide 406** 1 ounce to 4 gallons of water plus spreader used as a spray similar to **Parzate** was found a good control.

ROOT KNOT NEMATODE

SYMPTOMS. The nematodes or eelworms bore into the roots of the plants and cause knots or galls to develop on the root systems. As a result the plants are weak, yellowish and stunted in growth.

CONTROL. **Steam sterilization** of the soil is very effective in eliminating the nematodes. **Dowfume G** is a good soil fumigation that will kill nematodes and not do any damage to the surrounding plants.

RUST

SYMPTOMS. Chocolate brown powdery pustules on lower surface of the leaves.

CONTROL. **Parzate**, 1 ounce to 4 gallons of water is most effective.

SEPTORIA LEAF SPOT OR LEAF BLIGHT

SYMPTOMS. Distinct circular spots on the leaves. These are greyish brown in color and become brittle in the center. Affected leaves may turn yellow and die. More prevalent in the open. Some varieties are more susceptible than others. Sea Gull is very susceptible.

CONTROL. When cuttings are received dunk the tops into **Fermate** (2 tablespoonfuls to a gallon). Spray the plants with **Parzate** 1 ounce to 4 gallons of water plus $\frac{1}{3}$ teaspoonful of **Du Pont Spreader Sticker** every ten to fourteen days. Cloth house mums should be kept covered until the buds can be seen.

VERTICILLIUM WILT OR SEIDEWITZ DISEASE

SYMPTOMS. Margins of leaves turn yellow and eventually wilt or dry up. This begins at base of plant and works up the stems. May affect one side of a stem or plant more than the other. No distinct spots. Varieties vary in resistance to this disease.

CONTROL. **Verticillium wilt** can be avoided by purchasing our disease free cuttings produced from **cultured stock**. It is also necessary to plant only into sterilized soil.



Dodder Growing on Mums



Septoria Leaf Spot

Pests and Their Control

VIRUSES

The word "virus" is being referred to by the medical profession as well as by the florists and a short explanation of virus should prove of interest.

Viruses of the chrysanthemum are considered to be infectious; that is they can be transmitted to a healthy plant only by contact with an infected plant. They are not carried in the soil, water or air as are other diseases caused by fungi and bacteria.

The virus particles cannot be seen by the most powerful microscopes. Most of them will pass through bacterial filters. They respond like living organisms. They are always present in the sap of diseased plants and can be transmitted to a healthy plant through wounds or by mechanical means. The chrysanthemum is known to be affected with three viruses, namely yellows, mosaic and stunt. Stunt is the only one that has caused much concern. It has been found that aphids as well as mechanical handling will cause stunt to spread.

Once a plant is infected with a virus it usually always remains affected. To define a virus the following is as good as any: A virus is a protein which requires the presence of living cells for multiplication and it causes changes in the structure and functions of living cells.

The following viruses have been found in chrysanthemums:

Stunt	Blanche Mosaic or Virus Q
Aster Yellows	Nightingale Mosaic
Spotted Wilt	Ivory Sea Gull or Crinkle

COMBINATION SPRAYS

At times it is more economical and convenient to mix two or more sprays and apply them in one operation. Before such mixtures are prepared, the grower should be sure no reaction harmful to the plants will occur, and that the efficiency of the separate ingredients is not reduced. Consult your State Entomologist or Plant Pathologist for information on combination sprays for specific crops.

A good combination spray for chrysanthemums which will control most diseases and insect pests, can be made with Parzate, DDT and Vapatone. Details on dilutions are as follows:

Material	Amount to Make		
	100 gallons	20 gallons	3 gallons
Water	100 gallons	20 gallons	3 gallons
DuPont Spreader Sticker	6 oz.	2 tablesp.	1 teasp.
Parzate	1½ lbs.	5 ounces	2 tablesp.
Deenate 50W	1 lb.	¼ lb.	1½ tablesp.
*Vapatone	½ pt.	3½ tablesp.	1½ teasp.

To prepare: (1) Measure out spreader and dilute in small amount of water. (2) Fill tank with required water and add the diluted spreader and stir. (3) Take out a small amount in jar, add the proper amount of the Parzate and shake vigorously until all the powder is thoroughly wetted. (4) Pour this mixture back into the tank, preferably through a fine screen or cheesecloth and stir. (5) Measure out Vapatone and dilute in small amount of water and add to the tank. Keep stirring or keep agitator running while adding the materials.

* Parathion, 15% wettable powder may be substituted for Vapatone and used at the same rate as Parzate, 1½ lbs. per 100 gal.; 5 ounces per 20 gal. and 2 teasp. per 3 gal.

DODDER

SYMPTOMS. Dodder is a parasitic twiner, bearing clusters of small flowers. They are leafless annuals, with very slender yellow, white or red stems, which become attached to the plant by means of root-like suckers. Dodder is occasionally found on chrysanthemums and will cause a complete loss of crop.

CONTROL. Dodder is common in low, weedy places and may be carried into the greenhouse in the soil or manure. Soil sterilization is the only prevention. After dodder is attached to the plants remove the affected plants and burn.

Stunt in Variety Harvester



Chrysanthemum Variety Descriptions

(Varieties of Recent Introduction)

WHITE POMPONS, DECORATIVES, SINGLES & ANEMONS

Lyric	Oct. 5	Pure white intermediate daisy. Short compact habit; very uniform and showy. Very durable. An excellent early pot plant or fine dwarf garden type.
Chris. Columbus	Oct. 5	Intermediate cream decorative. Short, compact, prolific. Highly recommended for garden use and Apr. 15 - Oct. 15 pot plant flowering.
Horizon	Oct. 5	Pure white intermediate pompon. Stronger plant than White Wonder. Whiter and more double than Chris. Columbus. Larger, showier than Classic. An important early cut flower or landscape variety.
White Cloud	Oct. 5	(Univ. of Neb.) Large pure white decorative. Improves Avalanche in flower quality, plant vigor, and frost tolerance. Recommended for garden culture and pot plants from Apr. 15 - Oct. 15 flowering.
Renown	Oct. 10	White daisy. Larger flower, improved form and better keeper than Serenity. For gardens and pot culture.
Classic	Oct. 10	Small white semi-formal pompon. The flower quality is outstanding for varieties in this early group. A cut flower variety.
Maestro	Oct. 10	White pompon. Dwarf, compact 18" growth. Spreads well and is excellent for borders and pot plants.
Silverplate	Oct. 12	A white decorative. Vigorous and productive outdoor cut flower variety.
Norona	Oct. 15	(DePetris) White, medium, solid pompon. Very desirable for earliest shading under black cloth. A very free and productive variety possessing good growth habit. Use in place of Irene for early shading in the cloth house.
Calif. Wh. Daisy (Kimoto's White)	Oct. 15	Intermediate white single. Strong plant and productive, improving Nagona in these respects. Adapts itself well to the early shading program — spring greenhouse or late summer and fall cloth house.
White Popcorn	Oct. 25	Cream white sport of Popcorn. No trace of pink in the flower at low temperatures. The most productive white pompon.
Keepsake	Oct. 25	Cream white pompon. About the size and form of Popcorn. Hard, durable flower. Taller and freer growth than Popcorn. For May thru July in the greenhouse and Aug. and Sept. in the cloth house. Prompt and uniform response to shade.
Shooting Star	Oct. 25	(Baur & Steinkamp) Intermediate single, clear white, productive and possesses good form. Free growth. Useful in early shading programs. Improves Nagona production and Calif. White Daisy form and substance.
Songster	Oct. 25	An intermediate white pompon. Withstands heat well. A good variety for June, July, and August flowering in the greenhouse. Like Arcadia has some tendency to petal spot during periods of high moisture in the cloth house.
Halo	Nov. 1	White daisy for May thru Sept. in the greenhouse. Satisfactory for cloth house if cut on the green side. Very productive.
Madonna	Nov. 5	Intermediate white pompon of good clean growth. Variety just precedes Encore. Its place is in the spring program in May and June where it takes high temperature well. Will show light pink tinges at low temperatures.
Illini Igloo	Nov. 10	(Univ. of Illinois) Intermediate white pompon with creamy center; exceptional substance, very productive, good for outdoor shading.
Dynamo	Nov. 10	White pompon. Very similar to Encore but greatly improves that variety in growth habit. Very high quality cloth house white pompon. Fine in May and June in the greenhouse.
Nagona (Calif. Wh. Mensa)	Nov. 10	Intermediate white single, well petalled possessing beautiful form and substance. Short, semi-vegetative habit. Well known and widely grown. Requires 1 week additional time over its recommended long day treatment to obtain adequate stem length.
Sculpture	Nov. 15	Large ivory white daisy. Excellent in May and June. Very close to a White Valencia for cloth house, responding much faster than that variety and with considerably better production.
Eskimo	Nov. 15	Clear white daisy. Fine form and excellent substance. Stands cloth house adverse conditions well. Very fine keeper and a very durable flower.
Snowflurry	Nov. 15	A small white button pompon. Larger than Pinocchio. Very productive.
Highbrow	Nov. 20	An ivory white decorative, outstanding uniform growth habit. Superb quality in the late cloth house and in the greenhouse during Oct. and Nov. An important variety also for March and April flowering.

WHITE POMPONS, DECORATIVES, SINGLES & ANEMONES—Cont'd.

Paramount	Nov. 23	Intermediate white pompon. Larger than Priscilla. Freer and sturdier growth than that of Priscilla. For October through March flowering.
White Lady	Nov. 25	(Julius Roehrs Co.) White sport of Beautiful Lady.
Belray	Nov. 30	(DePetris) Large white pompon. Tall grower. One of the best large whites for March and April flowering in the greenhouse and late Sept. and Oct. in the cloth house.
Fortune	Dec. 1	A formal white pompon. An outstanding quality flower.
Monarch	Dec. 1	Ivory white large decorative. Larger, harder flower than Cameo. Clean, vigorous growth. Responds rapidly and uniformly.
Acclaim	Dec. 5	Large formal type pompon. Clean Omega type growth, no laterals. Follows Paramount and Fortune. Lights and shades well. As fine a formal pompon as exists. A white Corsair.
Cotillion	Dec. 5	Intermediate semi-formal pompon. Very clear white. Heavily petalled, extreme substance. Short, easily controlled growth. Responds well and cuts uniformly. A late Encore with a very hard flower.
Spangles	Dec. 5	Small white pompon. Best described as a late white Sunnyside, which it resembles both in flower form and growth habit.
Snowdrop	Dec. 8	(DePetris) White button pompon with uniform growth and good production. Stems are strong and flowers possess a fairly good substance.
Carrara	Dec. 8	(DePetris) Intermediate pure white decorative. Clean growth, fine spray formation. Has promise for use in the lighting program in Dec., Jan. and Feb. Competes with Silversmith and improves it in substance and form.
Snow Queen	Dec. 10	(DePetris) Medium large formal white pompon of the purest white. Possesses very good substance. Sprays produced on good stems are well flowered. Good healthy and free growth. It is not vegetative. Not recommended for shading.
Snowcap	Dec. 15	Large formal pompon. When grown at a 60° F. minimum night temperature, this is one of the outstanding flowers available during Dec., Jan. and Feb.
Satellite	Dec. 15	Ivory white, formal, intermediate pompon. Vigorous Silversmith habit. Very high class flower, especially brilliant under artificial light. Responds slowly but uniformly.
Illini Snowbound	Jan. 5	(Univ. of Ill.) Large informal white decorative with cream center. Responds well to partial disbudding. Useful primarily for the natural crop.

YELLOW POMPONS, DECORATIVES, SINGLES & ANEMONES

Yel. Chris. Columbus	Oct. 1	Sport of Chris. Columbus. Intermediate lemon yellow decorative. Well adapted to the border and pot plant culture. A proven pot plant from Apr. 15 - Oct. 15.
Moonlight	Oct. 1	(DePetris) Intermediate yellow pompon. Short compact growth habit. Suggested for borders and pot plants from Apr. 15 - Oct. 15.
Garland	Oct. 5	Intermediate yellow daisy. Compact vigorous growth. Garland has an exceptionally durable flower. A good early pot plant well adapted to gardens.
Yellow Spoon	Oct. 5	Intermediate yellow spoon single. Well suited for garden and pot culture.
Polaris	Oct. 5	(DePetris) An early yellow daisy. A new Arctic hybrid. Fine for cutting in garden, cloth house or greenhouse.
Goldrush	Oct. 10	Yellow daisy. Vigorous 3' growth. Resistant foliage. Good cut flower production.
Bright Forecast	Oct. 10	Very formal yellow pompon. Outstanding flower quality. A variety for cutting.
Treasure	Oct. 10	Small yellow pompon. Vigorous, upright habit. Fine cut flower growth. Flower is a small version of Gold Coast and very durable.
Lemonade	Oct. 12	Ivory yellow decorative. Important in the list of early cut flower varieties. Outstanding because of its color.
Sweepstake	Oct. 12	A small formal yellow pompon. A cut flower variety with production, flower substance and durable foliage.
Moondrift	Oct. 20	Intermediate cream yellow single. Excellent growth and production. Recommended for Apr. 15 to June 15 and Sept. 15 to Oct. 20 flowering. Suggested for late cloth house.

YELLOW POMPONS, DECORATIVES, SINGLES & ANEMONES—Cont'd.

Cream Dot	Oct. 25	Sport of Pink Dot/Intermediate cream yellow pompon with pink eye.
Sunup	Oct. 28	Small deep yellow pompon. A little smaller than Gold Coast and larger than Pixie. Harder and more durable than Gold Coast. A good producer which withstands high temperatures and heavy cropping better than Gold Coast. Recommended May thru October. Sharp uniform response.
Yellow Halo	Nov. 1	Sport of Halo. Intermediate single deep lemon yellow. Recommended for Apr. 15 thru Nov. 1st greenhouse culture.
Ivory Sea Gull	Nov. 1	Sport of Sea Gull. Intermediate Ivory Pompon.
Brigadoon	Nov. 5	Bright heavily petalled Yellow Daisy. Excellent growth and production. Responds rapidly and uniformly. Wholesale shippers will welcome this type of daisy. Good May thru Oct.
Crescendo	Nov. 5	A beautiful large yellow pompon. An outstanding variety for the high temperature period from June 15 to Sept. 15. A very tall growing variety.
Yel. Nagona (Calif. Yel. Mensa)	Nov. 10	Sport of Nagona. Intermediate lemon yellow single. Short semi-vegetative habit. Well known and widely grown. Requires 1 week additional time over its recommended long day treatment to obtain adequate stem length.
Thorobred	Nov. 15	Large yellow daisy. Good growth habit, fine production. Very easily grown. Excellent form, petallage and substance.
Tacoma	Nov. 15	(DePetris) Large golden yellow pompon with very broad petals. Excellent form and growth habit. One of the best yellowish bronze pompoms for mid-November.
Pippin	Nov. 20	Intermediate yellow pompon. Follows Lollipop and precedes Sunnyside, easily making Thanksgiving. Variety produces heavily on compound sprays. Shades well and lights well. Very dependable.
Yellow Highbrow	Nov. 20	Sport of Highbrow. Intermediate golden yellow pompon, identical in habit with Highbrow. Very useful in late (Sept. 15 and on) cloth house. Recommend ghse. flowering period Oct. 15 thru Dec. 15 and Mar. 1 thru April.
Bojangles	Nov. 20	Yellow daisy. Intense color, heavy petallage. Brighter, livelier, and earlier than Champagne or Cinderella. Fine variety for late Sept. and Oct. in the cloth house and Nov. to April in the greenhouse. A heavy producer.
Illini Sunspot	Nov. 20	(Univ. of Ill.) Large deep yellow pompon. Responds well to disbudding; good production. Suggested for late cloth house.
Klondike	Nov. 20	An orange yellow pompon. Outstanding in March, April and May; also in late Sept., and Oct. in the cloth house and Nov. in the greenhouse. A slightly short but very unifrom growth habit.
Lollipop	Nov. 20	A lemon yellow pompon. Very formal, round, and hard. Has a long season of usefulness. Fast response, and good production. A very reliable 11-week variety.
Illini Sunny	Nov. 25	(Univ. of Ill.) Intermediate deep yellow pompon. Resembles Yellow Cordova with harder flower and no tendency toward blind growth. Excellent production and good growth habit.
Goldenrod	Nov. 25	(DePetris) Full round and solid yellow pompon with exceptional substance and keeping qualities. Can be kept on the plant for a long time without impairing the color, substance or form of the flower. Gives a heavy production of high quality sprays.
Highlander	Nov. 25	Intermediate formal decorative. Better production and freer growth than Goldsmith. Highly dependable for production and quality. Very close to a Yellow Highbrow.
Yellow Valencia	Nov. 28	This is a Sport of Valencia which was formerly known as Golden Jane.
Yellow Galaxy	Dec. 1	(Ahern) Sport of Galaxy. Deep lemon yellow intermediate possessing the wide flat petal so attractive in its parent. Useful from Oct. 15 thru full winter program.
Nosegay	Dec. 1	Small yellow pompon. Lively, durable; grows and produces like Omega. Can be flowered from Oct. to April.
Yellow Spangles	Dec. 5	Deep lemon yellow Sport of Spangles.
Brandywine	Dec. 5	A deep orange yellow decorative. Excellent growth habit similar to that of Yuleflame. Season Dec. through Feb.
Jack-Pot	Dec. 5	Very large golden yellow decorative. A new peak in growth and form of flower has been achieved in this variety. It responds sharply and requires no disbudding. This variety approaches perfection in yellow pompoms.

YELLOW POMPONS, DECORATIVES, SINGLES & ANEMONES—Cont'd.

Symmetry	Dec. 5	Intermediate yellow pompon. Stocky growth habit. Perfect form. Best for flowering in natural season.
Goldtone	Dec. 5	A heavy-petalled yellow single. Best described as a yellow Christmas Star. A good variety for flowering Oct. 15 to March 15. Tolerates wide temperature range.
Corsair	Dec. 12	Large yellow pompon. Outstanding for quality, vigor and production. A "best" for Oct. 15 to Mar. 15 in yellow pompoms.
Cream Snowcrest	Dec. 15	(H. R. Frank) Cream yellow Sport of Snowcrest. A soft color, very useful Dec. thru Feb.
Yellow Snowcrest	Dec. 15	A clear yellow sport of Snowcrest.
Sequin	Dec. 15	Small yellow pompon. A late Pixie. Superior to Golden Anniversary in response and growth habit. Hard, round, and durable.
Shamrock	Dec. 15	Large yellow decorative. A yellow mate for Silversmith. Heavy Yuleflame growth and production. November through Feb. flowering.
Sunkist	Dec. 20	Intermediate deep golden yellow single. Strong growth plus high quality flower with medium production. Useful Dec. 1st thru February.
Sunrise	Dec. 20	A yellow pompon best described as a late Gold Coast. Sunrise is not sensitive to low night temperatures. A better growth habit than either Yellow Snow or Golden Anniversary.
Gold Seal	Dec. 20	(DePetris) Intermediate lemon yellow single. Very heavy production. Recommended for winter flowering. More productive than either Sunkist or Cinderella.
Revelry	Dec. 20	Intermediate light yellow decorative resembling Yellow Revelation with an improved flower quality. A dependable late, low temperature productive variety.
Siren	Dec. 25	A yellow decorative. Smaller than Vibrant but very similar to it and flowers later. Tolerates low night temperatures.
Ill. Yel. Snowbound	Jan. 5	(Univ. of Ill.) A yellow sport of Illinois Snowbound.

BRONZE & RED POMPONS, DECORATIVES, SINGLES & ANEMONES

Marionette	Oct. 1	A small rust red pompon about 1½" in diameter. Very formal type. Strong plant. Grows to about 25" in height. Good cut flower variety. Holds well.
W. P. Snyder	Oct. 1	(Univ. of Neb.) Intermediate decorative. Apricot bronze. Dwarf, compact, and prolific. Color and growth adapt well to early garden and early pot plant culture.
Mogul	Oct. 1	(DePetris) Intermediate orange rust decorative. Vigorous upright growth with strong stems. Outstanding color and good form.
Firecracker	Oct. 5	Mahogany bronze decorative close to burnt orange. Tall, cut flower growth. The flower holds color well and is quite frost resistant.
Avalon	Oct. 5	(DePetris) Small light bronze pompon. Resembles Mme. Chiang KaiShek in color with an improved growth habit.
Hunisman	Oct. 5	(Bristol) Large decorative, orange bronze. Intense color plus good form and upright growth make for useful cut flowers, a striking garden variety.
Mona	Oct. 5	(DePetris) Very hard, intermediate bronze pompon. Bushy, compact grower. A variety for border and pot culture.
Panorama	Oct. 8	(DePetris) Small orange rust decorative. Very good growth and form. Suggested for use as a cut flower Sept. 1 thru Oct. 10 and again May 15 thru July 1.
Fireside	Oct. 10	Burnt orange and salmon decorative. Attains a height of 30" or more. Foliage very resistant. High producer. Fine cut flowers.
Remembrance	Oct. 10	Intermediate red decorative. Compact growth. Color improves Red Velvet. Well adapted for garden and pot plant culture.
Carmine Queen	Oct. 10	(DePetris) Brilliant carmine red pompon. Hard flower. For cut flowers in the garden or greenhouse. A beautiful red. One of the few varieties that retains full brilliance to maturity.
Calico	Oct. 10	Coral bronze daisy. Strong, tall plant. A fine flower for cutting.
Bamboo	Oct. 10	A buff bronze daisy 2½" in diameter. Vigorous 30" growth. Fine flower quality; a good keeper.
Blueblood	Oct. 10	Deep amaranth red decorative. Vigorous cut flower growth. Color strongly resembles that of the old variety Burgundy.

BRONZE & RED POMPONS, DECORATIVES, SINGLES & ANEMONES—CONT'D

Caravan	Oct. 10	Large salmon bronze decorative, garden type, compact rugged growth. Has all the good qualities of Mrs. DuPont, with a strikingly new and useful color.
Nytoda	Oct. 12	(DePetris) Intermediate Golden Apricot single. Good cut flower growth habit.
Admiral	Oct. 12	Dark crimson red decorative. Plant is more vigorous and productive than Red Velvet; color is deeper and holds well.
Mrs. DuPont	Oct. 12	Large decorative. Color is a warm bronze. Widely known and re-listed because of Mother's Day pot plant value. Also well suited to gardens.
Fashion	Oct. 12	A new salmon and rosewood semi-double decorative. An important cut flower variety.
Witchery	Oct. 12	A golden bronze decorative. Compact 2' growth. For border and cut flowers. A fine keeper.
Nocturne	Oct. 12	(DePetris) An early crimson cut flower variety for field or greenhouse. A good hard pompon.
Carmelita	Oct. 12	Orange apricot decorative. Fine cut flower variety for the garden.
Nokomis	Oct. 12	(DePetris) A large bronze decorative. Another outstanding DePetris introduction.
Red Glow	Oct. 15	Intermediate red pompon. Color improves Red Velvet. Useful in garden and pot plant culture.
James Stewart	Oct. 15	(DePetris) Apricot gold pompon. Important for early cloth house. Responds with Norona in the early shadings.
Robinhue	Oct. 15	A very double, large red decorative. A top-notch early cut flower variety.
Cocktail	Oct. 15	Salmon orange pompon — a beautiful color. Growth is slow, variety attains medium height. A new color and distinctive form. A cut flower variety.
Rajah	Oct. 15	Large scarlet red daisy. Very fine as cut flower. Holds color well in the field or early cloth house. Excels Red Daisy in color and growth habit.
Br. Mary McArthur	Oct. 23	Orange bronze sport of Mary McArthur.
Buckskin	Oct. 25	A tawny bronze daisy. Easily replaces California bronze daisy in the early cloth house program. Production is outstanding.
Imp. Bronze Daisy (Katoka Red)	Nov. 1	Intermediate bronze single. Growth habit similar to Bronze Daisy. Color is more intense and vivid than original, holding better under high temperature conditions.
Firefly	Nov. 1	(DePetris) A nipponicum seedling. Fine for cloth house. An early red pompon that holds its color exceptionally well.
Imp. Red Daisy (Adachi Red)	Nov. 1	An improved selection of Red Daisy.
Buccaneer	Nov. 1	Rich bronze daisy with very little fading even under high temperatures. Fine growth and production. Darker and richer bronze than Buckskin or Sylvanna. This variety fills a long felt need for a cloth house bronze daisy with petallage and substance.
Comanche	Nov. 2	(Baur-Steinkamp) Int. pompon, reddish bronze. Color and form improve Sparkler. Habit and production resemble Gold Coast. Recommended for any shading and flowering program that suits Gold Coast.
Beauregard	Nov. 5	A reddish orange pompon. A very versatile variety that produces good flowers every month of the year.
Magician	Nov. 5	A large bronze pompon for Sept. 15 to early November. Flower about the size of a well grown, partially disbudded Masterpiece. Color is superb under artificial light.
Chevron	Nov. 10	An intense red pompon. Holds color better than Red Rust or Seneca and is being used in flowering programs from May 15 to early November.
Chanticleer	Nov. 10	A large reddish bronze pompon for Sept., Oct. and early Nov. flowering. Another interesting bronze for the Autumn season.
Copperhead	Nov. 10	A large coppery bronze decorative. It is very satisfactory grown as disbudded sprays or disbudded to a single flower. Also excellent for pot culture. For May and June as well as Sept. thru November.
Illini Burma	Nov. 10	(Univ. of Ill.) Light bronze; large pompon. Responds well to disbudding and partial disbudding. Satisfactory as a pot plant. Stiff stems and uniform, above average production.
Br. Linda Lou	Nov. 10	An important color sport of Linda Lou.

BRONZE & RED POMPONS, DECORATIVES, SINGLES & ANEMONES—Cont'd.

Gold Braid	Nov. 12	A beautiful two-tone bronze pompon. Fine from Sept. 15 to Nov. 15.
Paragon	Nov. 12	A large red pompon. Heavy producer. A red Masterpiece with good flower substance. Very important in the cloth house and for continuous flowering in the greenhouse. Can be disbudded to a single flower.
Illini Tangier	Nov. 12	(Univ. of Ill.) Large rusty red-bronze decorative. Color holds well during summer for a bronze.
Dk. Br. Masterpiece	Nov. 12	Dark sport of Bronze Masterpiece. Excellent color when Br. Masterpiece fades.
Illini Rye	Nov. 12	(Univ. of Ill.) Straw color intermediate pompon. Exceptional substance and stem strength. Very uniform. Shades well.
Mrs. Dewey	Nov. 15	(Cummings) A heavy-petalled deep bronze single for Thanksgiving. The duplex nature of this flower together with a unique coloring make this a very desirable variety for late Sept., Oct. and November. A strong grower. Ships and handles exceptionally well.
Illini Honey	Nov. 15	(Univ. of Ill.) Small honey amber pompon. Good production, excellent spray formation.
Shalimar	Nov. 15	Lively orange bronze anemone. Short compact well suited to pot plant culture or cut flowers. Sprays well or attains good size disbudded in pots. A useful improvement over Gypsy. A valuable variety to shade or delay.
Bronze Princeton	Nov. 15	Bronze sport of Princeton. Distinct from Red Princeton.
Thelma	Nov. 20	(DePetris) Very brilliant orange scarlet pompon. Excellent Sept. 15 to Christmas. A beautiful red that never loses its brilliance. A sensation in the late cloth house.
Yolanda	Nov. 25	Intermediate tawny bronze anemone. Color and form valuable for Thanksgiving season. Very high production.
Wanakah	Nov. 25	(Sklood) Coral salmon sport of Hasegawa Pink. Good production and growth habit of the original.
Falcon	Nov. 25	Intermediate reddish bronze pompon. An improved Rusticon.
Indian Head	Nov. 28	A reddish apricot bronze single. Good wide petallage. Ranks with Apricot Valencia as an outstanding bronze daisy. It is more versatile than the Valencias — a freer growth habit. A long flowering season — Oct. thru April.
Amberina	Dec. 1	Bright orange bronze intermediate decorative. Vigorous, clean growth. A late Princeton with very high production. Responds well and grows dependably under most any temperature or light condition.
Br. Enchantress	Dec. 5	Orange bronze Sport of Enchantress.
Dazzler	Dec. 5	(Helm) Coppery bronze partial anemone type. Seedling of Yellow Valencia and Crimson Glow. Strong growing variety and a color that blends well.
Pageantry	Dec. 10	A red pompon. Best described as a Red Snow.
Harlequin	Dec. 10	Crimson red intermediate decorative. Vigorous wiry growth. Excellent low temperature variety. Fast, uniform response.
Cavalcade	Dec. 10	Intermediate pompon. Bright Mandarin red with petal showing a golden bronze reverse. Short restricted growth.
Dk. Br. Minstrel	Dec. 13	Reddish bronze sport of Bronze Minstrel.
Christmas Greeting	Dec. 15	Large red decorative. The one red pompon for Christmas with good production. It has a place in the flowering program from Nov. 15 to Feb. 15.
Claret	Dec. 15	A brilliant red daisy for Christmas. A short stocky growth. Requires minimum of 55°-60° F. night temperature for best development.
Topaz	Dec. 15	Warm, orange bronze single. Heavily petalled with good substance and vigorous, free growth. Will not go blind. Bronze, generally believed to be of slight value at this season, finds in Topaz a very brilliant color which is striking under artificial lights.
Poinsettia	Dec. 20	Scarlet red large daisy. Strong growth. Needs no disbudding. Attains the size of the Valencias on natural sprays. Responds uniformly, takes low temperature well. A most important addition to the Christmas season.

PINK POMPONS, DECORATIVES, SINGLES & ANEMONES

Sweetheart	Oct. 10	Light lavender pink daisy. Grows to height of about 3'. Fine for cut and holds well.
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PINK POMPONS, DECORATIVES, SINGLES & ANEMONES—Cont'd.

Ponca	Oct. 10	(Univ. of Neb.) Small decorative. Deep lavender pink. Compact and prolific. Useful for gardens and pot plants.
Serenade	Oct. 10	Magenta pink daisy. Strong upright 3' stems. A fine cut flower variety.
Orchid Spoon	Oct. 10	Intermediate orchid spoon single. A novel form, very useful in garden and pot plant culture.
Joybringer	Oct. 10	Salmon rose decorative. Dwarf, compact, and spreading habit. Desirable for borders and pot culture.
Brigadier	Oct. 10	(DePetris) Large carmine red decorative. Good vigorous upright growth. Recommended for cut flowers in gardens and greenhouses.
Courtier	Oct. 10	Lavender pink decorative. Garden type, compact growth. Beautiful color and form. A Spellbound that is very frost resistant. Good as an early pot plant.
Lassie	Oct. 10	Large dark pink decorative similar in size and form to Lavender Lady. A strong, upright habit well suited to cutting. Holds well on the plant.
Ronnie	Oct. 12	Small dark lavender button pompon. Vigorous and productive. Striking color and form for garden culture.
Adagio	Oct. 12	(DePetris) A brilliant raspberry coppery pompon. Useful for cut flower purposes in the garden and early cloth house. Similar in type to Mary McArthur with more brilliant color.
Lavender Lady	Oct. 12	Large light lavender decorative. An old favorite for fall gardens. Relisted because of proven value as Mother's Day Pot plants.
Salute	Oct. 12	Deep orchid daisy. A cut flower variety. Beautiful form and substance.
Enterprise	Oct. 15	(DePetris) Intermediate amaranthe pink pompon. Good growth; holds color well. Excellent substance. Improves color and is similar to Mary McArthur. Useful for July and August cloth house.
Elizabeth Hood	Oct. 15	(DePetris) Large light orchid pink pompon. Excellent substance and spray formation. Useful for both cut flowers and pots. Improves color and production of Mary McArthur.
Reward	Oct. 25	A very productive deep pink single that holds color in July and August. Easily the outstanding early pink daisy for June 15 to Sept. 15 flowering.
Rainbow	Nov. 1	Small coral pink single. New and beautiful color. Vigorous and productive. Suggested season April - June 15 and Sept. 10 - Nov. 1.
Arbutus	Nov. 1	(DePetris) Small shrimp pink pompon. Good growth and production. A pleasing pastel color and high quality flower for the shading program.
Pandora	Nov. 10	Large luminous pink decorative. Excellent size and form. Growth is vigorous and fast, with short timing giving best results. Well suited to spring and cloth house flowering.
Taffeta	Nov. 12	A two-tone pink decorative for Sept. 15 to Thanksgiving. Also good for spring flowering.
Memorial	Nov. 12	Intermediate pink anemone. Excellent spray and growth. Improves the variety Linda Lou in substance, color and growth. Recommended April thru November. Holds color well. A pink Little America flower, with a much cleaner and more vigorous growth habit.
Mermaid	Nov. 15	Intermediate pink daisy. An excellent variety to follow Reward. Fine growth and production. Holds color well. Heavy petalage and good substance.
Almega	Nov. 20	(DePetris) Large light lavender pink pompon. Form, color and substance excellent. Average production, vigorous but tall growth.
Majorette	Nov. 20	A small pink anemone. Short compact growth. Lively color and good form. An ideal pot plant. Fine for cut during March, April, and May, as well as Sept. 15 thru November.
Evening Star	Nov. 20	(Baur & Steinkamp) Small anemone very deep lavender. Productive growth. Responds to shade well. A novelty color.
Grand Slam	Nov. 20	Brilliant silvery pink daisy. Large flower, wide stiff petals. The variety responds well to shade. Growers will enthuse over its quality and production. Retailers will find in it the nearest color to a shell pink aster yet found in the Chrysanthemum.
Dk. L. I. Beauty	Nov. 20	An intensified color selection of Pink L. I. Beauty.
Vivacious Lady	Nov. 20	(Helm) Spoon type novelty. For growing in sprays as well as disbuds.
Hasegawa Pink	Nov. 25	Intermediate lavender single. Good production with low temperature tolerance.
Princess	Nov. 25	Small pink pompon. Very lively color, hard well rounded flower. Growth and production nearly identical to Snowflurry. Responds more uniformly than that variety.

PINK POMPONS, DECORATIVES, SINGLES & ANEMONS—Cont'd.

Dubonnet Valencia	Nov. 28	(Southern Floral) Dubonnet sport of Valencia. This variety improves Orchid Valencia with a brighter more intense color. Valuable for shading and delay programs.
Heritage	Dec. 1	Large formal dark pink pompon. Free, vigorous growth, good production. Improves the production of Minuet and responds more uniformly than Riviera or Minstrel.
Imp. Dk. Supreme	Dec. 10	Improved sport of Dk. Pk. Supreme. This selection possesses a larger, flatter flower plus color intensification. All Supremes are best grown cool.
Debutante	Dec. 10	Large pink single with color similar to that of Valencia. Produces better than Rosalind. Best at lower temperatures; therefore easier to grow than the Valencias. Good thru Nov., Dec., Jan., and Feb.
Lt. Pk. Minstrel	Dec. 13	Shell pink sport of Minstrel.
Serrated Riviera	Dec. 15	(Mikkelson) Saw-tooth petalled sport of Riviera, somewhat resembling a carnation in form.
Medallion	Dec. 20	Intermediate pink pompon. Similar to Riviera with a superior growth habit. A good pink for flowering Nov. thru Feb.
Rose Medallion	Dec. 20	Rose pink sport of Medallion.

WHITE STANDARDS

Wilson's White	Nov. 1	(Ian Wilson) Intermediate incurved. Outstanding white standard for pots.
Giant Betsy Ross	Nov. 5	Large flowered sport of Betsy Ross.
Crystal Queen	Nov. 10	A sport from Orchid Queen that improves Jean Elizabeth in clarity of color and compactness of flower.
Indiana Market	Nov. 20	(Baur-Steinkamp) White standard incurve. Similar in habit to December White.
Snowline	Dec. 10	A large showy white flower. Form of flower resembles that of the Pockets and Helen Frick.

YELLOW STANDARDS

Moribana	Oct. 25	(DePetris) Yellow spider. Good growth and high quality flower. Recommended for June flowering but tall and will require 12 wk. short day response treatment.
Gold Lace	Nov. 1	Golden yellow sport of Yellow Lace. Tubes are straight.
Yellow Lace	Nov. 1	Yellow sport of Queen's Lace.
Hooked Lace	Nov. 1	Sport of Yel. Lace. The tube ends open and incurve presenting an attractive hooked appearance. For pot plants this characteristic adds an attractive feature.
Imp. Ind. Yellow	Nov. 5	Improved slightly deeper yellow selection of Ind. Yellow.
Dk. Ind. Yel. (Pots)	Nov. 5	For pot plant use only. Somewhat shorter in growth habit than Ind. Yellow.
Yellow Rayonnante	Nov. 5	Yellow sport of Rayonnante.
Yel. Marketeer	Nov. 18	(Johannes) Yellow sport selected from Marketeer.
Cream Mefo	Nov. 20	Cream yellow selection from Mefo. Primarily of value in the Dec. thru May flowering program when the softer colors have most demand.
Mrs. Calkins	Nov. 25	Large deep yellow standard, partial incurve. An old variety relisted by popular demand.
Yellow Moeller	Dec. 3	Sport of Margaret Moeller.

BRONZE & RED STANDARDS

Dalwin	Oct. 25	(DePetris) Large light bronze spider. The quills are completely arranged with small barbs. Shades well in the cloth house.
Red Glitters	Oct. 28	Red sport of Glitters.
Royal Bronze	Nov. 1	Large orange bronze disbud. Short compact growth habit. A Dutch import which adds a striking color to the pot plant group of varieties.
Nomago	Nov. 5	(DePetris) Bronze spider; — the best of the bronze spider varieties.
Dk. Ind. Bronze	Nov. 5	(Calvert) Dk. reddish bronze sport of Ind. Bronze.
Br. Orchid Queen	Nov. 10	Apricot buff sport of Orchid Queen.

PINK STANDARDS

Mary Garden	Nov. 1	(DePetris) A pink spider. An interesting new addition to this increasingly popular class of novelties. A much stronger stem than that of Rayonnante.
Lavender Queen	Nov. 10	Lavender sport of Orchid Queen. Flower more compact and color more intense than that of Dk. Orchid Queen.

WHITE POMPONS, DECORATIVES, SINGLES AND ANEMONES

Variety	Last Pinch	Flowering Date	Description	Price Classification
7-WEEK VARIETIES				
White Wonder	June 25	Oct. 1	Int. Pompon	S-2
Chris. Columbus (G)	June 28	Oct. 5	Int. Decorative	B
Avalanche (G)	June 28	Oct. 5	Snow White Decorative	S-1
White Cloud (G)	June 28	Oct. 5	Large Decorative	B
Horizon	June 28	Oct. 5	Pure White; Int. Pompon	P-2
Maestro (G)	June 30	Oct. 10	Int. Pompon	P-3
Renown (G)	June 30	Oct. 10	Small Single	P-3
Classic	June 30	Oct. 10	Small Semi-Formal Pompon	P-3
Silverplate	June 30	Oct. 12	Int. Decorative	P-3
8-WEEK VARIETIES				
Calif. White Daisy (Kimoto's White)	July 4	Oct. 15	Int. Single	B
Irene	July 4	Oct. 15	Small Pompon	S-2
Norona	July 4	Oct. 15	Small Pompon	P-2
Pristine	July 8	Oct. 20	Pure White; Int. Pompon	B
Minong	July 8	Oct. 20	Small Pompon	S-3
9-WEEK VARIETIES				
Popcorn	July 10	Oct. 25	Int. Pompon	B
White Popcorn	July 10	Oct. 25	Cream White Sport of Popcorn	P-2
Keepsake	July 10	Oct. 25	Cream White; Int. Pompon	P-2
Pinocchio	July 10	Oct. 25	Small Pompon	S-2
Songster	July 10	Oct. 25	Int. Pompon	P-3
Cottontop	July 10	Oct. 25	Small Pompon	S-2
Shooting Star	July 10	Oct. 25	Int. Single	P-2
Arcadia	July 12	Oct. 28	Int. Pompon	S-2
Halo	July 16	Nov. 1	Ivory White; Int. Single	P-3
Sea Gull	July 16	Nov. 1	Ivory White; Int. Pompon	S-2
*White Doty	July 16	Nov. 1	Large Pompon	S-2
10-WEEK VARIETIES				
Madonna	July 20	Nov. 5	Int. Pompon	P-2
Kolowa	July 20	Nov. 5	Int. Single	P-3
Encore	July 20	Nov. 5	Pure White; Int. Pompon	B
*White Anemone	July 20	Nov. 5	Large Anemone	S-1
White Mensa	July 20	Nov. 5	Large Single	S-2
Rev. Bushell	July 22	Nov. 8	Int. Formal Pompon	S-1
Moonglow	July 22	Nov. 8	Int. Pompon	B
Ill. Igloo	July 24	Nov. 10	Int. Pompon	P-1
*Shasta	July 24	Nov. 10	Int. Anemone	S-2
Dynamo	July 24	Nov. 10	Int. Pompon	P-2
Vesper	July 24	Nov. 10	Int. Pompon	S-2
Nagona (Calif. White Mensa)	July 24	Nov. 10	Int. Single	B
*Little America	July 24	Nov. 10	Pure White; Int. Anemone	S-3
Illini Snowdrift	July 26	Nov. 12	Novelty — Int. Decorative	B
Matchless	July 26	Nov. 12	Int. Pompon	S-2
11-WEEK VARIETIES				
Sculpture	July 29	Nov. 15	Ivory White — L. Single	P-2
*White Norma	July 29	Nov. 15	Sport of Norma	S-1
Eskimo	July 29	Nov. 15	Int. Single	P-2
Lakme	July 29	Nov. 15	Green Eye; Small Pompon	B
Snowflurry	July 29	Nov. 15	Small Pompon	P-3
Seafoam	July 31	Nov. 20	Int. Pompon	S-2

* Responds to Disbudding.

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MINIMUM ORDER 50 CUTTINGS OF A VARIETY. SEE LIST ON PAGE 90 FOR QUANTITY PRICES.

WHITE POMPONS, DECORATIVES, SINGLES AND ANEMONES

Variety	Last Pinch	Flowering Date	Description	Price Classification
11-WEEK VARIETIES—Cont'd.				
*L. I. Beauty.....	July 31	Nov. 20	Yellow Cushion; L. Anemone	S-3
Highbrow.....	July 31	Nov. 20	Ivory White; Int. Dec.	P-3
Nevada.....	July 31	Nov. 20	Green Cushion; Int. Anemone	S-2
Priscilla.....	July 31	Nov. 20	Int. Pompon	S-2
Illini Bountiful.....	Aug. 3	Nov. 23	Int. Decorative	B
Crystal Beauty.....	Aug. 3	Nov. 23	Int. Pompon	B
Paramount.....	Aug. 3	Nov. 23	Int. Pompon	P-3

12-WEEK VARIETIES

*White Lady.....	Aug. 5	Nov. 25	Sport of Beautiful Lady	P-1
*White Valencia.....	Aug. 8	Nov. 28	Sport of Valencia	B
Cordova.....	Aug. 10	Nov. 30	Cream White; Int. Dec.	S-2
Belray.....	Aug. 10	Nov. 30	Large Pompon	P-3
Fortune.....	Aug. 11	Dec. 1	Int. Formal Pompon	P-3
Monarch.....	Aug. 11	Dec. 1	Ivory White; L. Decorative	P-2

13-WEEK VARIETIES

Cameo.....	Aug. 11	Dec. 5	Ivory White; Int. Dec.	S-2
Acclaim.....	Aug. 11	Dec. 5	Large Formal Pompon	P-2
*Swan.....	Aug. 11	Dec. 5	Large Anemone	B
Spangles.....	Aug. 11	Dec. 5	Int. Pompon	P-3
Cotillion.....	Aug. 11	Dec. 5	Int. Semi-Formal Pompon	P-2
Snowdrop.....	Aug. 12	Dec. 8	Small Pompon	P-2
Carrara.....	Aug. 12	Dec. 8	Int. Decorative	P-1
*White Supreme.....	Aug. 13	Dec. 10	Large Anemone	S-1
Snow Queen.....	Aug. 13	Dec. 10	Int. Formal Pompon	P-2
Yukon.....	Aug. 13	Dec. 10	Int. Single	S-2

14-WEEK VARIETIES

Snowcrest.....	Aug. 18	Dec. 15	Green Eye; Small Pompon	B
Silversmith.....	Aug. 18	Dec. 15	Int. Decorative	B
Snowcap.....	Aug. 18	Dec. 15	Large Formal Pompon	B
Garza.....	Aug. 18	Dec. 15	Int. Anemone	S-2
Safellite.....	Aug. 18	Dec. 15	Ivory White; Int. Formal Pompon	P-2
Heirloom.....	Aug. 20	Dec. 20	Int. Decorative	P-3
Revelation.....	Aug. 25	Dec. 25	Int. Decorative	S-3
Snow.....	Aug. 25	Dec. 25	Int. Pompon	S-2
Illini Snowbound.....	Aug. 25	Jan. 5	Int. Decorative	P-1

YELLOW POMPONS, DECORATIVES, SINGLES AND ANEMONES

7-WEEK VARIETIES

Yel. Chris. Columbus (G)	June 25	Oct. 1	Sport of Chris. Columbus	B
Moonlight (G).....	June 25	Oct. 1	Int. Decorative	P-1
Honeycomb (G).....	June 25	Oct. 1	Small Pompon	S-2
Polaris.....	June 28	Oct. 5	Int. Single	P-3
Chas. Nye.....	June 28	Oct. 5	Int. Decorative	S-1
Garland (G).....	June 28	Oct. 5	Int. Single	P-2
Yellow Spoon (G).....	June 28	Oct. 5	Int. Spoon	B
Goldrush.....	June 30	Oct. 10	Small Single	P-3
Treasure.....	June 30	Oct. 10	Small Pompon	P-2
Bright Forecast.....	June 30	Oct. 10	Small Formal Pompon	P-3
Lemonade.....	June 30	Oct. 12	Ivory Yellow; Int. Dec.	P-3
Sweepstake.....	June 30	Oct. 12	Small Pompon	P-3

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YELLOW POMPONS, DECORATIVES, SINGLES AND ANEMONES

Variety	Last Pinch	Flowering Date	Description	Price Classification
8-WEEK VARIETIES				
Moondrift	July 8	Oct. 20	Int. Ivory Yel. Single	P-1
9-WEEK VARIETIES				
*Golden Herald	July 10	Oct. 25	Golden Yellow; L. Dec.	S-2
Gold Coast	July 10	Oct. 25	Int. Pompon	S-3
Yellow Dot	July 10	Oct. 25	Int. Pompon	S-2
Cream Dot	July 10	Oct. 25	Int. Pompon	S-2
Sunup	July 12	Oct. 28	Small Pompon	P-2
Yellow Arcadia	July 12	Oct. 28	Sport of Arcadia	S-2
Mary L. Hall	July 16	Nov. 1	Deep Yellow; Int. Pompon	S-3
Yel. Halo	July 16	Nov. 1	Sport of Halo	P-1
Sch. Yel. Daisy	July 16	Nov. 1	Int. Single	B
*Yellow Doty	July 16	Nov. 1	Buff Yellow; Large Pompon	S-2
Starbright	July 16	Nov. 1	Deep Yellow; L. Single	B
Yel. Daisy	July 16	Nov. 1	Int. Single	S-2
Ivory Sea Gull	July 16	Nov. 1	Sport of Sea Gull	S-2
Yel. Sea Gull	July 16	Nov. 1	Light Yel. Sport of Sea Gull	S-2
Yellow Cassandra	July 16	Nov. 1	Sport of Cassandra	B
Sunray	July 18	Nov. 3	Int. Single; S. Anemone Center	S-3
10-WEEK VARIETIES				
Barcarole	July 20	Nov. 5	Int. Pompon	S-2
Brigadoon	July 20	Nov. 5	Int. Single	P-2
Crescendo	July 20	Nov. 5	Large Pompon	P-3
Constellation	July 20	Nov. 5	Int. Decorative	S-2
Pixie	July 20	Nov. 5	Small Pompon	S-1
Nuggets	July 20	Nov. 5	Small Pompon	S-3
Golden Mensa	July 20	Nov. 5	Sport of White Mensa	S-2
*Yel. Shasta	July 24	Nov. 10	Sport of Shasta	S-2
Mason's Yellow	July 24	Nov. 10	Large Single	S-1
Yel. Nagona	July 24	Nov. 10	Int. Single	B
(Calif. Yellow Mensa)				
11-WEEK VARIETIES				
Princeton	July 29	Nov. 15	Int. Decorative	S-1
Thorobred	July 29	Nov. 15	Large Single	P-2
Golden Chord	July 29	Nov. 15	Golden Yellow; Int. Pompon	B
Forty-Niner	July 29	Nov. 15	Int. Formal Pompon	B
Yellow Fellow	July 29	Nov. 15	Int. Decorative	S-2
*Susanne Miller	July 29	Nov. 15	Large Anemone	S-1
Tacoma	July 29	Nov. 15	Large Pompon	P-1
Illini Brave	July 30	Nov. 16	Small Pompon	B
*Yel. L. I. Beauty	July 31	Nov. 20	Sport of L. I. Beauty	B
Yel. Highbrow	July 31	Nov. 20	Sport of Highbrow	P-1
Lollipop	July 31	Nov. 20	Int. Pompon	P-3
Pippin	July 31	Nov. 20	Int. Pompon	P-2
Klondike	July 31	Nov. 20	Orange Yel.; Int. Pompon	P-3
Bojangles	July 31	Nov. 20	Int. Single	P-3
Yellow Nevada	July 31	Nov. 20	Sport of Nevada	S-2
Ill. Sunspot	July 31	Nov. 20	Large Pompon	P-1
12-WEEK VARIETIES				
Goldenrod	Aug. 5	Nov. 25	Int. Pompon	P-2
Illini Gold	Aug. 5	Nov. 25	Deep Golden Yel. Int. Pompon	S-1
*Goldsmith	Aug. 5	Nov. 25	Large Decorative	S-1
Highlander	Aug. 5	Nov. 25	Int. Formal Decorative	P-2

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YELLOW POMPONS, DECORATIVES, SINGLES AND ANEMONES

Variety	Last Pinch	Flowering Date	Description	Price Classification
12-WEEK VARIETIES—Cont'd.				
Sunnyside	Aug. 5	Nov. 25	Int. Pompon	S-2
Ill. Sunny	Aug. 5	Nov. 25	Int. Pompon	P-1
Champagne	Aug. 5	Nov. 25	Int. Single	B
* Yellow Valencia	Aug. 8	Nov. 28	Sport of Valencia	S-2
Yellow Cordova	Aug. 10	Nov. 30	Sport of Cordova	S-2
Omega	Aug. 11	Dec. 1	Int. Pompon	S-2
Nosegay	Aug. 11	Dec. 1	Small Pompon	P-2
Yel. Galaxy	Aug. 11	Dec. 1	Sport of Galaxy	P-1
13-WEEK VARIETIES				
Golden Harvest	Aug. 11	Dec. 5	Deep Gold; Small Pompon	B
Brandywine	Aug. 11	Dec. 5	Orange Yellow; Int. Dec.	P-2
Jack-Pot	Aug. 11	Dec. 5	Golden Yellow; L. Dec.	P-2
Symmetry	Aug. 11	Dec. 5	Int. Pompon	P-2
* Yellow Swan	Aug. 11	Dec. 5	Sport of Swan	B
Yellow Cameo	Aug. 11	Dec. 5	Sport of Cameo	S-2
Yel. Spangles	Aug. 11	Dec. 5	Sport of Spangles	P-1
Cinderella	Aug. 11	Dec. 5	Int. Single	B
Goldtone	Aug. 11	Dec. 5	Int. Single	P-3
* Yellow Supreme	Aug. 13	Dec. 10	Large Anemone	S-1
Challenge	Aug. 15	Dec. 10	Int. Single	P-3
Corsair	Aug. 15	Dec. 10	Large Semi-Formal Pompon	P-2
14-WEEK VARIETIES				
Yellow Riviera	Aug. 18	Dec. 15	Golden Yel.; Sport of Riviera	B
Cream Snowcrest	Aug. 18	Dec. 15	Sport of Snowcrest	P-1
Yellow Snowcrest	Aug. 18	Dec. 15	Sport of Snowcrest	P-2
Yellow Garza	Aug. 18	Dec. 15	Sport of Garza	S-2
Sequin	Aug. 18	Dec. 15	Small Pompon	P-3
Shamrock	Aug. 18	Dec. 15	Large Decorative	P-3
December Gold	Aug. 18	Dec. 15	Golden Yel.; Int. Decorative	S-2
Sunkist	Aug. 20	Dec. 20	Int. Single	B
Vibrant	Aug. 20	Dec. 20	Int. Decorative	S-2
Revelry	Aug. 20	Dec. 20	Int. Decorative	P-2
Gold Seal	Aug. 20	Dec. 20	Int. Single	P-1
Sunrise	Aug. 20	Dec. 20	Int. Pompon	P-2
Golden Anniversary	Aug. 25	Dec. 25	Small Pompon	B
Siren	Aug. 25	Dec. 25	Int. Decorative	P-3
Yuleflame	Aug. 25	Dec. 25	Large Decorative	B
Yellow Snow	Aug. 25	Dec. 25	Sport of Snow	S-2
Ill. Yel. Snowbound	Aug. 25	Jan. 5	Sport of Ill. Snowbound	P-1

BRONZE AND RED POMPONS, DECORATIVES, SINGLES AND ANEMONES

7-WEEK VARIETIES				
W. P. Snyder (G)	June 25	Oct. 1	Coral Bronze; Int. Decorative	B
Marionette	June 25	Oct. 1	Rust Red; Small Pompon	P-3
Mogul	June 25	Oct. 1	Raspberry Bronze; Small Dec.	P-1
Bonfire	June 25	Oct. 1	Red Pompon	B
Avalon (G)	June 28	Oct. 5	Light Bronze; Small Pompon	P-1
Mona (G)	June 28	Oct. 5	Small Pompon	P-3
Huntsman	June 28	Oct. 5	Reddish Bronze; Large Dec.	B
Firecracker	June 28	Oct. 5	Mahogany Bronze; Int. Dec.	P-2
Panorama	June 29	Oct. 8	Orange Bronze; Small Pompon	P-1
Red Velvet (G)	June 30	Oct. 10	Velvety Crimson; Int. Dec.	S-1

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BRONZE AND RED POMPONS, DECORATIVES, SINGLES AND ANEMONES

Variety	Last Pinch	Flowering Date	Description	Price Classification
7-WEEK VARIETIES—Cont'd.				
Remembrance (G)	June 30	Oct. 10	Crimson Red; Int. Decorative	B
Bamboo	June 30	Oct. 10	Buff Bronze; Small Single	P-3
Blueblood	June 30	Oct. 10	Deep Amaranthe; Int. Dec.	P-2
Calico	June 30	Oct. 10	Coral Bronze; Small Single	P-3
Caravan (G)	June 30	Oct. 10	Salmon Bronze; Int. Dec.	P-2
Carmine Queen	June 30	Oct. 10	Carmine Red; Small Pompon	P-3
Carnival	June 30	Oct. 10	Burnt-Orange; Small Pompon	B
Fireside	June 30	Oct. 10	Burnt-Orange; Salmon; Int. Dec.	P-3
Fashion	June 30	Oct. 12	Salmon & Rosewood; Int. Dec.	P-3
Nokomis (G)	June 30	Oct. 12	Bronze; Int. Dec.	P-3
Nocturne	June 30	Oct. 12	Crimson; Small Pompon	P-3
Nyfoda	June 30	Oct. 12	Apricot Buff; Int. Single	P-1
Carmelita	June 30	Oct. 12	Orange Apricot; Int. Dec.	P-3
Witchery	June 30	Oct. 12	Golden Bronze; Ine. Dec.	P-3
Mrs. Du Pont (G)	June 30	Oct. 12	Coral Buff; Large Decorative	B
Admiral (G)	June 30	Oct. 12	Crimson; Int. Decorative	P-2

8-WEEK VARIETIES

Robinhue	July 4	Oct. 15	Red; Int. Decorative	P-3
Red Glow	July 4	Oct. 15	Crimson Red; Int. Decorative	B
Cocktail	July 4	Oct. 15	Salmon Orange; Int. Pompon	P-2
Rajah	July 4	Oct. 15	Scarlet Red; Int. Single	P-2
Detroit	July 4	Oct. 15	Reddish Bronze; Small Pompon	B
James Stewart	July 4	Oct. 15	Apricot Gold; Small Pompon	P-3
Br. Mary McArthur	July 9	Oct. 23	Sport of Mary McArthur	B

9-WEEK VARIETIES

Firebird	July 10	Oct. 25	Reddish Bronze; Int. Dec.	S-2
Bronze Dot	July 10	Oct. 25	Sport of Pink Dot	S-2
Buckskin	July 10	Oct. 25	Tawny Bronze; Small Single	P-3
Seneca	July 16	Nov. 1	Orange Red; Int. Dec.	S-1
Firefly	July 16	Nov. 1	Orange Red; Int. Pompon	P-3
Bronze Daisy	July 16	Nov. 1	Light Bronze Sport of Yel. Daisy	S-2
Imp. Br. Daisy (Katoka Red)	July 16	Nov. 1	Sport of Br. Daisy	B
Buccaneer	July 16	Nov. 1	Orange Apricot; Int. Single	P-2
Red Seneca	July 16	Nov. 1	Red Sport of Seneca	B
Br. Buckingham	July 16	Nov. 1	Sport of Pk. Calif. Daisy	B
Navaho	July 16	Nov. 1	Red; Int. Pompon	S-2
Red Daisy	July 16	Nov. 1	Red; Int. Single	S-1
Imp. Red Daisy (Adachi Red)	July 16	Nov. 1	Sport of Red Daisy	B

10-WEEK VARIETIES

Comanche	July 18	Nov. 2	Orange Bronze; Int. Pompon	B
Beauregard	July 20	Nov. 5	Reddish Orange; Int. Pompon	P-3
Butterscotch	July 20	Nov. 5	Golden Bronze; Int. Pompon	B
Cassandra	July 20	Nov. 5	Orange Bronze; Int. Pompon	S-2
Red Rust	July 20	Nov. 5	Reddish Bronze; Int. Dec.	S-2
Rubicon	July 20	Nov. 5	Bronze Red; Int. Dec.	B
Magician	July 20	Nov. 5	Bronze; L. Pompon	P-3
Bittersweet	July 20	Nov. 5	Bittersweet Red; Int. Single	S-2
Samovar	July 24	Nov. 10	Reddish Bronze; Int. Pompon	B
Sylvanna	July 24	Nov. 10	Reddish Orange; Int. Single	S-2
Chanticleer	July 24	Nov. 10	Reddish Bronze; L. Pompon	P-3

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BRONZE AND RED POMPONS, DECORATIVES, SINGLES AND ANEMONES

Variety	Last Pinch	Flowering Date	Description	Price Classification
10-WEEK VARIETIES (Cont'd.)				
*Mason's Bronze.....	July 24	Nov. 10	Burnt Orange; Large Single	S-1
*Mason's Red.....	July 24	Nov. 10	Scarlet; L. Single	S-1
Chevron.....	July 24	Nov. 10	Red Orange; Int. Dec.	P-3
*The Titan.....	July 24	Nov. 10	Red; Large Anemone	S-1
*Bronze Thyra.....	July 24	Nov. 10	Sport of Thyra	B
Illini Burma.....	July 24	Nov. 10	Light Bronze; L. Pompon	P-2
*Europa.....	July 24	Nov. 10	Cardinal Red; L. Single	B
*Copperhead.....	July 24	Nov. 10	Coppery Bronze; L. Dec.	P-3
Br. Linda Lou.....	July 24	Nov. 10	Sport of Linda Lou	B
*Br. Tuxedo.....	July 24	Nov. 10	L. Anemone; Sport of Tuxedo	S-1
Gold Braid.....	July 26	Nov. 12	Yel. Bronze-Red Center; Int. Pom.	P-2
Illini Rye.....	July 26	Nov. 12	Straw Color; Int. Pompon	P-2
*Br. Masterpiece.....	July 26	Nov. 12	Sport of Masterpiece	S-2
*Dk. Br. Masterpiece.....	July 26	Nov. 12	Sport of Br. Masterpiece	B
*Paragon.....	July 26	Nov. 12	Red; L. Pompon	P-3
Ill. Tangier.....	July 26	Nov. 12	Reddish Bronze, L. Decorative	P-1

11-WEEK VARIETIES

Mrs. Dewey.....	July 29	Nov. 15	Deep Bronze; L. Single	P-3
Shalimar.....	July 29	Nov. 15	Orange Bronze; Int. Anemone	P-2
Red Princeton.....	July 29	Nov. 15	Brazil Red; Sport of Princeton	S-1
Bronze Princeton.....	July 29	Nov. 15	Bronze Sport of Princeton	S-1
Illini Honey.....	July 29	Nov. 15	Honey Amber, Small Pompon	B
Illini Redhead.....	July 30	Nov. 17	Deep Red; Small Pompon	B
Illini Warrior.....	July 31	Nov. 20	Bronzy Orange; Small Pompon	B
Legal Tender.....	July 31	Nov. 20	Bronze & Gold — Int. Dec.	S-3
Rusticon.....	July 31	Nov. 20	Rust Red; Int. Pompon	S-2
Thelma.....	July 31	Nov. 20	Orange Scarlet; Int. Pompon	P-2
Bourbon.....	July 31	Nov. 20	Rust Bronze; Int. Single	B
Carousel.....	Aug. 3	Nov. 23	Coral Bronze; Int. Single	P-3
Festival.....	Aug. 3	Nov. 23	Apricot Red; Small Single	B
Br. Minuet.....	Aug. 3	Nov. 23	Sport of Minuet	B
*Red Rolinda.....	Aug. 3	Nov. 23	Red; Int. Anemone	S-2

12-WEEK VARIETIES

*Br. Goldsmith.....	Aug. 5	Nov. 25	Mars Orange; Int. Dec.	S-1
Wanakah.....	Aug. 5	Nov. 25	Sport of Hasegawa Pink	P-1
Falcon.....	Aug. 5	Nov. 25	Reddish Bronze; Int. Pompon	P-3
Yolanda.....	Aug. 5	Nov. 25	Dk. Orange Bronze; Int. Anemone	B
Indian Head.....	Aug. 8	Nov. 28	Reddish Apricot; Int. Single	P-3
*Apricot Valencia.....	Aug. 8	Nov. 28	Sport of Valencia	S-2
*Crimson Valencia.....	Aug. 8	Nov. 28	Sport of Valencia	B
Amberina.....	Aug. 11	Dec. 1	Orange Bronze; Int. Dec.	P-2
Galaxy.....	Aug. 11	Dec. 1	Orange Scarlet; Int. Single	B

13-WEEK VARIETIES

Dazzler.....	Aug. 11	Dec. 5	Coppery Bronze; Partial Anemone	P-2
*Br. Enchantress.....	Aug. 11	Dec. 5	Sport of Enchantress	S-1
Debonair.....	Aug. 11	Dec. 5	Crimson Red; L. Pompon	S-2
Mahogany Viking.....	Aug. 11	Dec. 5	Mahogany Bronze; Int. Single	B
*Red Supreme.....	Aug. 13	Dec. 10	Sport of Dk. Pk. Supreme	B
Harlequin.....	Aug. 13	Dec. 10	Crimson Red; Int. Decorative	P-2
Holiday.....	Aug. 13	Dec. 10	Crimson Red; Int. Single	B
Cavalcade.....	Aug. 13	Dec. 10	Mandarin Red, Int. Pompon	B
Pageantry.....	Aug. 13	Dec. 10	Red; Int. Pompon	P-3
Christmas Star.....	Aug. 15	Dec. 12	Scarlet Red; Int. Single	B

* Responds to Disbudding.

MINIMUM ORDER 50 CUTTINGS OF A VARIETY. SEE LIST ON PAGE 90 FOR QUANTITY PRICES.

BRONZE AND RED POMPONS, DECORATIVES, SINGLES AND ANEMONES

Variety	Last Pinch	Flowering Date	Description	Price Classification
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13-WEEK VARIETIES—Cont'd.

*Br. Minstrel.....	Aug. 16	Dec. 13	Coral Sport of Minstrel	B
*Dk. Br. Minstrel.....	Aug. 16	Dec. 13	Reddish Bronze Sport of Minstrel	P-1

14-WEEK VARIETIES

Bronze Riviera.....	Aug. 18	Dec. 15	Sport of Riviera	B
Claret.....	Aug. 18	Dec. 15	Brilliant Red; Int. Single	P-2
Topaz.....	Aug. 18	Dec. 15	Orange Bronze; Int. Single	P-2
*Christmas Greeting.....	Aug. 18	Dec. 15	Crimson Scarlet; Int. Dec.	P-3
Sarong.....	Aug. 18	Dec. 15	Crimson; Int. Single	S-1
Merrymaker.....	Aug. 20	Dec. 20	Scarlet Red; Int. Single	B
Poinsettia.....	Aug. 20	Dec. 20	Scarlet Red; L. Single	P-2

PINK POMPONS, DECORATIVES, SINGLES AND ANEMONES

7-WEEK VARIETIES

Early Wonder.....	June 25	Oct. 1	Lavender, Int. Pompon	S-2
Spelbound (G).....	June 25	Oct. 1	Int. Decorative	S-1
Courtier (G).....	June 30	Oct. 10	Lavender Pink Decorative	P-2
Dream Girl.....	June 30	Oct. 10	Int. Pompon	B
Ponca (G).....	June 30	Oct. 10	Dk. Lavender, Small Decorative	B
Argonne.....	June 30	Oct. 10	Amaranthe Pompon	B
Lassie.....	June 30	Oct. 10	Dk. Pk.; Int. Decorative	P-2
Serenade.....	June 30	Oct. 10	Magenta Pink; Int. Single	P-3
Orchid Spoon (G).....	June 30	Oct. 10	Int. Spoon	B
Joybringer (G).....	June 30	Oct. 10	Salmon Rose; Int. Pompon	P-3
Brigadier.....	June 30	Oct. 10	Salmon Rose; Int. Decorative	P-1
Sweetheart.....	June 30	Oct. 10	Light Lavender; Int. Single	P-3
Allegro (G).....	June 30	Oct. 12	Small Decorative	S-1
Masquerade (G).....	June 30	Oct. 12	Small Pompon	B
Ronnie (G).....	June 30	Oct. 12	Dk. Lavender, Small Pompon	B
Salute.....	June 30	Oct. 12	Deep Pink; Small Single	P-3
Adagio.....	June 30	Oct. 12	Coppery Rose Pompon	P-3
Lavender Lady (G).....	June 30	Oct. 12	Light Lavender; Large Decorative	B

8-WEEK VARIETIES

Enterprise.....	July 4	Oct. 15	Amaranthe, Int. Pompon	P-1
Eliz. Hood.....	July 4	Oct. 15	Lavender; Large Pompon	P-1
Jewell.....	July 4	Oct. 15	Lavender; Small Pompon	S-2
Carolyn Yosick.....	July 8	Oct. 20	Lavender; Small Decorative	S-2
Pink Sprite.....	July 9	Oct. 23	Small Pompon	B
Mary McArthur.....	July 9	Oct. 23	Small Pompon	B

9-WEEK VARIETIES

Edith Roberts.....	July 10	Oct. 25	Light Orchid Pink; Small Pompon	B
Reward.....	July 10	Oct. 25	Int. Single	P-3
Pink Dot.....	July 10	Oct. 25	Int. Pompon	S-2
Jessie.....	July 10	Oct. 25	Lavender; Int. Pompon	S-2
Betty Rose.....	July 10	Oct. 25	Lavender; L. Anemone	S-1
Oct. Pink.....	July 10	Oct. 25	Int. Single	S-1
Pk. Calif. Daisy (W. H. Buckingham)	July 16	Nov. 1	Int. Single	B
Rainbow.....	July 16	Nov. 1	Coral Pink; Int. Single	P-1
Ballerina.....	July 16	Nov. 1	Int. Single	B
*Lillian Doty.....	July 16	Nov. 1	Rose Pink; L. Pompon	S-2
Arbutus.....	July 16	Nov. 1	Shrimp Pink; Int. Pompon	P-1

* Responds to Disbudding.

(G) Recommended for Garden Culture.

MINIMUM ORDER 50 CUTTINGS OF A VARIETY. SEE LIST ON PAGE 90 FOR QUANTITY PRICES.

PINK POMPONS, DECORATIVES, SINGLES AND ANEMONES

Variety	Last Pinch	Flowering Date	Description	Price Classification
10-WEEK VARIETIES				
Dreamboat	July 20	Nov. 5	Lavender Pink; Int. Pompon	S-2
Dark Bulkeley	July 22	Nov. 8	Int. Formal Pompon	S-1
Pandora	July 24	Nov. 10	Luminous Pink; L. Dec.	P-2
* Thyra	July 24	Nov. 10	Int. Formal Pompon	S-2
Soprano	July 24	Nov. 10	Large Single	B
Linda Lou	July 24	Nov. 10	Yellow Cushion; Int. Anemone	S-2
Dark Linda Lou	July 24	Nov. 10	Sport of Linda Lou	S-2
* Tuxedo	July 24	Nov. 10	Large Anemone	S-1
* Masterpiece	July 26	Nov. 12	Int. Pompon	S-2
* Rose Masterpiece	July 26	Nov. 12	Rose Pk. Sport of Masterpiece	B
* Salmon Masterpiece	July 26	Nov. 12	Salmon Pk. Sport of Masterpiece	B
Memorial	July 26	Nov. 12	Int. Anemone	P-2
Taffeta	July 26	Nov. 12	Int. Decorative	P-3
11-WEEK VARIETIES				
* Dark Norma	July 29	Nov. 15	Deep Lavender; L. Anemone	S-1
Orchid Beauty	July 29	Nov. 15	Golden Cushion; Int. Anemone	S-2
Brocade	July 29	Nov. 15	Shell Pink; Int. Single	S-2
Grand Slam	July 31	Nov. 20	Silvery Shell Pk; L. Single	P-2
Almega	July 31	Nov. 20	Lavender Pink; Large Pompon	P-1
* Vivacious Lady	July 31	Nov. 20	Spoon Type Novelty	P-2
Evening Star	July 31	Nov. 20	Dk. Lavender; Int. Anemone	P-2
* Pink L. I. Beauty	July 31	Nov. 20	Lt. Pk. Sport of L. I. Beauty	B
Pinky	July 31	Nov. 20	Int. Decorative	P-3
* Dk. L. I. Beauty	July 31	Nov. 20	Imp. Pink L. I. Beauty	P-1
Majorette	July 31	Nov. 20	Int. Anemone	P-3
Minuet	Aug. 3	Nov. 23	Int. Pompon	S-2
12-WEEK VARIETIES				
Princess	Aug. 5	Nov. 25	Small Pompon	P-2
Hasegawa Pink	Aug. 5	Nov. 25	Lavender; Int. Single	B
* Beautiful Lady	Aug. 5	Nov. 25	Lavender; L. Anemone	S-2
* Valencia	Aug. 8	Nov. 28	Orchid Pk.; Large Single	S-2
* Dark Valencia	Aug. 8	Nov. 28	Sport of Valencia	S-2
* Dubonnet Valencia	Aug. 8	Nov. 28	Deep Orchid Sport of Valencia	P-1
* Orchid Valencia	Aug. 8	Nov. 28	Orchid Sport of Valencia	P-2
* Salmon Valencia	Aug. 8	Nov. 28	Salmon Pink Sport of Valencia	P-2
Heritage	Aug. 11	Dec. 1	Dark Pink; L. Formal Pompon	P-2
13-WEEK VARIETIES				
* Enchantress	Aug. 11	Dec. 5	Large Anemone	S-1
* Dark Enchantress	Aug. 11	Dec. 5	Deep Pk. Sport of Enchantress	B
Debutante	Aug. 13	Dec. 10	Large Single	P-3
* Dk. Pk. Supreme	Aug. 13	Dec. 10	Lavender; L. Anemone	S-1
* Imp. Dk. Supreme	Aug. 13	Dec. 10	Sport of Dk. Pk. Supreme	B
* Minstrel	Aug. 16	Dec. 13	Int. Formal Pompon	B
* Lt. Pk. Minstrel	Aug. 16	Dec. 13	Sport of Minstrel	P-1
14-WEEK VARIETIES				
Riviera	Aug. 18	Dec. 15	Luminous Pink; Int. Dec.	S-2
Serrated Riviera	Aug. 18	Dec. 15	Sport of Riviera	P-1
Coronet	Aug. 18	Dec. 15	Dark Pink; Int. Single	P-3
Rosalind	Aug. 20	Dec. 20	Int. Single	S-2
Defiance	Aug. 20	Dec. 20	Int. Decorative	B
Medallion	Aug. 20	Dec. 20	Int. Pompon	P-3
Rose Medallion	Aug. 20	Dec. 20	Sport of Medallion	P-1

* Responds to Disbudding.

MINIMUM ORDER 50 CUTTINGS OF A VARIETY. SEE LIST ON PAGE 90 FOR QUANTITY PRICES.

WHITE STANDARDS

Variety	Last Pinch	Select Bud	Flowering Date	Description	Price Classification
8-WEEK VARIETIES					
Silver Sheen	July 8	Aug. 30	Oct. 20	Int. Incurred	S-2
White Chief	July 8	Aug. 30	Oct. 20	int. Incurred	B
9-WEEK VARIETIES					
Ambassador	July 10	Aug. 30	Oct. 25	Cream White; Int. Semi-Incurred	S-2
Albatross	July 16	Sept. 5	Nov. 1	Pure White; Int. Incurred	S-2
10-WEEK VARIETIES					
Betsy Ross	July 20	Sept. 5	Nov. 5	Ivory White; L. Incurred	S-2
Giant Betsy Ross	July 20	Sept. 5	Nov. 5	Sport of Betsy Ross	B
Indianapolis White	July 20	Sept. 5	Nov. 5	Int. Incurred	S-2
Jean Elizabeth	July 24	Sept. 8	Nov. 10	L. Semi-Incurred	S-1
Crystal Queen	July 24	Sept. 8	Nov. 10	Imp. Jean Elizabeth	P-1
White Pockett	July 24	Sept. 8	Nov. 10	Large Incurred	S-1
Monument	July 24	Sept. 8	Nov. 10	Ivory White; Int. Incurred	S-2
11-WEEK VARIETIES					
Sterling	July 29	Sept. 10	Nov. 15	Large Incurred	B
Marketeer	July 30	Sept. 15	Nov. 18	Int. Semi-Incurred	S-2
Mefo	July 31	Sept. 20	Nov. 20	Ivory White; L. Incurred	S-2
White Frick	July 31	Sept. 20	Nov. 20	Int. Incurred	S-2
Indiana Market	July 31	Sept. 20	Nov. 20	Int. Incurred	B
12-WEEK VARIETIES					
Chattanooga	Aug. 5	Sept. 30	Nov. 25	Large Incurred	S-2
December Glory	Aug. 11	Oct. 1	Dec. 1	Ivory White; Int. Incurred	S-2
Margaret Moeller	Aug. 11	Oct. 1	Dec. 3	Int. Incurred	S-2
13-WEEK VARIETIES					
December White	Aug. 11	Oct. 5	Dec. 5	Int. Incurred	S-1
White Mistletoe	Aug. 11	Oct. 5	Dec. 5	Int. Incurred	S-1
Snowline	Aug. 13	Oct. 8	Dec. 10	Large Incurred	P-3
Smith's White	Aug. 16	Oct. 8	Dec. 13	Int. Semi-Incurred	S-1

YELLOW STANDARDS

8-WEEK VARIETIES					
Gold Lode	July 4	Aug. 25	Oct. 15	Int. Reflexed	S-2
Celestra	July 4	Aug. 25	Oct. 15	Small Semi-Incurred	S-2
Mrs. Kidder	July 8	Aug. 30	Oct. 20	Int. Incurred	S-3
Butterball	July 8	Aug. 30	Oct. 20	Int. Incurred	B
Blazing Gold	July 10	Aug. 30	Oct. 23	Golden Yellow; Int. Semi-Incurred	S-2
9-WEEK VARIETIES					
Smith Superlative	July 10	Aug. 30	Oct. 25	Golden Yellow; Int. Semi-Incurred	S-1
Yellow Ambassador	July 10	Aug. 30	Oct. 25	Sport of Ambassador	S-2
Yellow Bergen	July 10	Aug. 30	Oct. 25	Sport of Hilda Bergen	S-1
Sunglow	July 10	Aug. 30	Oct. 25	Golden Yellow; Int. Incurred	S-3
Golden Glory	July 16	Sept. 5	Nov. 1	Golden Yellow; Int. Incurred	S-1
Good News	July 16	Sept. 5	Nov. 1	Int. Incurred	S-1
10-WEEK VARIETIES					
Imp. Ind. Yellow	July 20	Sept. 5	Nov. 5	Sport of Ind. Yellow	P-1
Ind. Yellow	July 20	Sept. 5	Nov. 5	Int. Incurred	S-2
Yellow Queen	July 24	Sept. 8	Nov. 10	Sport of Orchid Queen	S-1
Jamboree	July 24	Sept. 8	Nov. 10	Golden Yellow; Int. Incurred	P-3
Yellow Pockett	July 24	Sept. 8	Nov. 10	Large Incurred	S-1
Yellow Monument	July 24	Sept. 8	Nov. 10	Sport of Monument	S-2
Honey Dew	July 26	Sept. 8	Nov. 12	Int. Incurred	S-1
11-WEEK VARIETIES					
Yellow Marketeer	July 30	Sept. 15	Nov. 18	Sport of Marketeer	P-1
Bonnaffon Deluxe	July 31	Sept. 20	Nov. 20	Small Incurred	S-3
Friendly Rival	July 31	Sept. 20	Nov. 20	Int. Incurred	S-2
Yellow Mefo	July 31	Sept. 20	Nov. 20	Sport of Mefo	S-2
Cream Mefo	July 31	Sept. 20	Nov. 20	Sport of Mefo	B
Purdue	July 31	Sept. 25	Nov. 20	Int. Incurred	B-2
Harvester	Aug. 3	Sept. 20	Nov. 23	Int. Incurred	S-2
Marie DePetris	Aug. 3	Sept. 25	Nov. 23	Golden Yellow; Int. Incurred	S-2
12-WEEK VARIETIES					
Yellow Chattanooga	Aug. 5	Sept. 30	Nov. 25	Sport of Chattanooga	S-2
Golden Pearson	Aug. 5	Sept. 30	Nov. 25	Int. Incurred	S-2
Sungold	Aug. 5	Sept. 30	Nov. 25	Int. Incurred	S-2
Mrs. Calkins	Aug. 5	Sept. 30	Nov. 25	Golden-Yel. Semi Inc.	B
Golden Mrs. Ross	Aug. 11	Oct. 1	Dec. 3	Golden Yellow; L. Incurred	S-2
Yellow Moeller	Aug. 11	Oct. 1	Dec. 3	Sport of Margaret Moeller	B
13-WEEK VARIETIES					
Golden Mistletoe	Aug. 11	Oct. 5	Dec. 5	Int. Incurred	S-1
Chalice	Aug. 11	Oct. 5	Dec. 5	Int. Incurred	P-2
Tobin's Yellow	Aug. 16	Oct. 8	Dec. 13	Int. Semi-Incurred	S-1
Mefoore	Aug. 16	Oct. 8	Dec. 13	Int. Semi-Incurred	S-1
Dauntless	Aug. 16	Oct. 8	Dec. 13	Golden Yellow; Semi-Incurred	B

MINIMUM ORDER 50 CUTTINGS OF A VARIETY. SEE LIST ON PAGE 90 FOR QUANTITY PRICES.

BRONZE and RED STANDARDS

Variety	Last Pinch	Select Bud	Flowering Date	Description	Price Classification
9-WEEK VARIETIES					
Hilda Bergen	July 10	Aug. 30	Oct. 25	Int. Incurred	S-1
Glitters	July 12	Sept. 1	Oct. 28	Reddish Orange; Int. Reflexed	S-1
Red Glitters	July 12	Sept. 1	Oct. 28	Sport of Glitters	B
Ivanhoe	July 16	Sept. 5	Nov. 1	Reddish Bronze; Small Incurred	S-1
Apricot Queen	July 16	Sept. 5	Nov. 1	Orange Bronze; Int. Incurred	S-1
Detroit News	July 16	Sept. 5	Nov. 1	Reddish Bronze; Int. Incurred	S-1
10-WEEK VARIETIES					
Indianapolis Bronze	July 20	Sept. 5	Nov. 5	Int. Incurred	S-2
Dark Ind. Bronze	July 20	Sept. 5	Nov. 5	Sport of Ind. Bronze	P-1
Anaconda	July 22	Sept. 7	Nov. 8	Coppery Red; Large Incurred	S-2
Oakdale	July 24	Sept. 8	Nov. 10	Buff Bronze; Int. Incurred	P-3
Mrs. Stahelin	July 24	Sept. 8	Nov. 10	Reddish Bronze; Int. Incurred	B
Br. Orchid Queen	July 22	Sept. 8	Nov. 10	Sport of Orchid Queen	S-1
Mrs. Roy	July 26	Sept. 10	Nov. 13	Red; Int. Incurred	S-1
Garnet King	July 26	Sept. 10	Nov. 13	Deep Red; Int. Reflexed	S-1
11-WEEK VARIETY					
Bronze Frick	July 31	Sept. 20	Nov. 20	Sport of Helen Frick	B
12-WEEK VARIETIES					
Gladys Pearson	Aug. 5	Sept. 30	Nov. 25	Buff Bronze; Int. Incurred	S-2
Oak Leaf	Aug. 5	Sept. 30	Nov. 25	Deep Bronze; Int. Incurred	S-2
Muto's Crimson	Aug. 11	Oct. 1	Dec. 1	Red; Int. Semi-Incurred	B
13-WEEK VARIETY					
Bronze Mistletoe	Aug. 11	Oct. 5	Dec. 5	Int. Incurred	S-1

PINK STANDARDS

8-WEEK VARIETY					
Pink Chief	July 5	Aug. 25	Oct. 15	Lavender; Int. Incurred	S-2
9-WEEK VARIETY					
Sugarplum	July 16	Sept. 5	Nov. 1	Int. Incurred	P-3
10-WEEK VARIETIES					
J. W. Prince	July 19	Sept. 5	Nov. 5	Lav; Int. Incurred	S-1
Indianapolis Pink	July 19	Sept. 5	Nov. 5	Int. Incurred	S-2
Orchid Queen	July 22	Sept. 8	Nov. 10	Orchid Pink; Semi-Incurred	S-1
Lavender Queen	July 22	Sept. 8	Nov. 10	Sport of Orchid Queen	B
Dark Orchid Queen	July 22	Sept. 8	Nov. 10	Deep Pink Sport of Orch. Queen	S-1
Pink Pockett	July 22	Sept. 8	Nov. 10	Large Incurred	S-1
11-WEEK VARIETIES					
Helen Frick	July 31	Sept. 20	Nov. 20	Rose Pink; Int. Incurred	S-2
Thanksgiving Pink	Aug. 3	Sept. 25	Nov. 23	Deep Pink; Int. Reflexed	S-2
Ed. Seidewitz	Aug. 3	Sept. 25	Nov. 23	Lavender; Int. incurred	S-2
13-WEEK VARIETY					
Pink Mistletoe	Aug. 11	Oct. 5	Dec. 5	Int. Incurred	S-1

Odd Flowered Spider Types

Variety	Last Pinch	Select Bud	Flowering Date	Description	Price Classification
9-WEEK VARIETIES					
Moribana	July 10	Sept. 3	Oct. 25	Yellow	P-1
Dalwin	July 10	Sept. 3	Oct. 25	Light Bronze	P-1
Queen's Lace	July 16	Sept. 5	Nov. 1	White	B
Kay Tashima	July 16	Sept. 5	Nov. 1	White	B
Yellow Lace	July 16	Sept. 5	Nov. 1	Yellow	B
Gold Lace	July 16	Sept. 5	Nov. 1	Imp. Yellow Lace	P-1
Hooked Yellow Lace	July 16	Sept. 5	Nov. 1	Sport of Yel. Lace	P-1
Mrs. Walker	July 16	Sept. 5	Nov. 1	Deep Lavender	B
Mary Garden	July 16	Sept. 5	Nov. 1	Pink	P-3
10-WEEK VARIETIES					
White Rayonnante	July 20	Sept. 5	Nov. 5	White	S-1
Yellow Rayonnante	July 20	Sept. 5	Nov. 5	Yellow	B
Waikiki	July 20	Sept. 5	Nov. 5	Apricot Bronze	B
Gena Harwood	July 20	Sept. 5	Nov. 5	Buff Bronze	B
(Br. Rayonnante)					
Nomago	July 20	Sept. 5	Nov. 5	Bronze	P-2
Mamaru	July 20	Sept. 5	Nov. 5	Buff Bronze	S-2
Rayonnante	July 20	Sept. 5	Nov. 5	Pink	S-1
Peggy Ann Hoover	July 20	Sept. 5	Nov. 5	Pink	B
11-WEEK VARIETY					
Lorraine	July 29	Sept. 10	Nov. 15	Yellow	B

MINIMUM ORDER 50 CUTTINGS OF A VARIETY. SEE LIST ON PAGE 90 FOR QUANTITY PRICES.

Pot Plant Varieties

Variety	Last Pinch	Date Flowering		Price Classification
YELLOW				
8-WEEK VARIETIES				
Gold Lode.....	Aug. 24	Disbud	Oct. 15	L.F. Dec. S-2
Mrs. H. E. Kidder.....	Aug. 29	Disbud	Oct. 20	L.F. Inc. S-3
Blazing Gold.....	Aug. 29	Disbud	Oct. 23	L.F. Inc. S-2
9-WEEK VARIETIES				
Smith's Superlative.....	Aug. 29	Disbud	Oct. 25	L.F. Inc. S-1
Yellow Bergen.....	Aug. 29	Disbud	Oct. 25	L.F. Inc. S-1
Sunglow.....	Aug. 29	Disbud	Oct. 25	L.F. Inc. S-3
Golden Glory.....	Sept. 1	Disbud	Nov. 1	L.F. Inc. S-1
Yellow Lace.....	Sept. 10	Disbud	Nov. 1	Spider B
Gold Lace.....	Sept. 10	Disbud	Nov. 1	Spider P-1
Hooked Yellow Lace.....	Sept. 10	Disbud	Nov. 1	Spider P-1
10-WEEK VARIETIES				
Dark Indianapolis Yellow....	Sept. 1	Disbud	Nov. 5	L.F. Inc. B
Indianapolis Yellow.....	Sept. 1	Disbud	Nov. 5	L.F. Inc. S-2
Yellow Beauty.....	Sept. 1	Disbud	Nov. 10	L.F. Inc. S-1
Honey Dew.....	Sept. 5	Disbud	Nov. 12	L.F. Inc. S-1
11-WEEK VARIETIES				
Yellow Marketeer.....	Sept. 5	Disbud	Nov. 18	L.F. Inc. P-1
Bonnaffon Deluxe.....	Sept. 5	Disbud	Nov. 20	L.F. Inc. S-3
Friendly Rival.....	Sept. 5	Disbud	Nov. 20	L.F. Inc. S-2
Purdue.....	Sept. 5	Disbud	Nov. 20	L.F. Inc. B
Marie DePetris.....	Sept. 5	Disbud	Nov. 23	L.F. Inc. S-2
12-WEEK VARIETIES				
Sungold.....	Sept. 10	Disbud	Nov. 25	L.F. Inc. S-2
Yellow Moeller.....	Sept. 15	Disbud	Dec. 3	L.F. Inc. B
13-WEEK VARIETY				
Dauntless.....	Sept. 25	Disbud	Dec. 13	L.F. Inc. B
WHITE				
8-WEEK VARIETY				
Christina.....	Aug. 29	Disbud	Oct. 23	L.F. Inc. B
9-WEEK VARIETIES				
Granite State.....	Aug. 24	Disbud	Oct. 25	L.F. Inc. S-2
Queen's Lace.....	Sept. 10	Disbud	Nov. 1	Spider B
Wilson's White.....	Sept. 1	Disbud	Nov. 1	L.F. Inc. P-2
10-WEEK VARIETIES				
Indianapolis White.....	Sept. 1	Disbud	Nov. 5	L.F. Inc. S-2
Richard Mandel.....	Sept. 1	Disbud	Nov. 5	L.F. Inc. S-2
Little America.....	Sept. 1	Disbud	Nov. 10	Int. Anem. S-3
11-WEEK VARIETIES				
Marketeer.....	Sept. 5	Disbud	Nov. 18	L.F. Inc. S-2
Long Island Beauty.....	Sept. 5	Disbud	Nov. 20	L. Anem. S-3
White Frick.....	Sept. 5	Disbud	Nov. 20	L.F. Inc. S-2
12-WEEK VARIETIES				
Margaret Moeller.....	Sept. 15	Disbud	Dec. 3	L.F. Inc. S-2
White Lady.....	Sept. 5	Disbud	Nov. 25	L. Anem. P-1
BRONZE and RED				
9-WEEK VARIETIES				
Hilda Bergen.....	Aug. 29	Disbud	Oct. 25	L.F. Inc. S-1
Glitters.....	Sept. 1	Disbud	Oct. 28	L.F. Dec. S-1
Red Glitters.....	Sept. 1	Disbud	Oct. 28	L.F. Dec. B
Apricot Queen.....	Sept. 1	Disbud	Nov. 1	L.F. Inc. S-1
Royal Bronze.....	Sept. 1	Disbud	Nov. 1	L.F. Inc. P-1
10-WEEK VARIETIES				
Indianapolis Bronze.....	Sept. 1	Disbud	Nov. 5	L.F. Inc. S-2
Indianapolis Gold. Bronze...	Sept. 1	Disbud	Nov. 5	Quilled P-2
Dark Indianapolis Bronze...	Sept. 1	Disbud	Nov. 5	L.F. Inc. P-1
Gypsy.....	Sept. 1	Spray	Nov. 8	Int. Anem. S-2
Copperhead.....	Sept. 1	Disbud	Nov. 10	L. Pom. P-3
Dark Bronze Masterpiece....	Sept. 1	Disbud	Nov. 12	L. Pom. B
11-WEEK VARIETY				
Red Rolinda.....	Sept. 10	Disbud	Nov. 23	Int. Anem. S-2
12-WEEK VARIETY				
Muto's Crimson.....	Sept. 15	Disbud	Dec. 1	L.F. Inc. B
PINK				
10-WEEK VARIETIES				
Indianapolis Pink.....	Sept. 1	Disbud	Nov. 5	L.F. Inc. S-2
Thyra.....	Sept. 1	Disbud	Nov. 10	Int. Pom. S-2
Queen of Pinks.....	Sept. 1	Disbud	Nov. 10	L. Pom. S-2
Masterpiece.....	Sept. 1	Disbud	Nov. 12	L. Pom. S-2
11-WEEK VARIETIES				
Helen Frick.....	Sept. 5	Disbud	Nov. 20	L.F. Inc. S-2
Majorette.....	Sept. 5	Spray	Nov. 20	Int. Anem. P-3
12-WEEK VARIETY				
Beautiful Lady.....	Sept. 5	Disbud	Nov. 25	L. Anem. S-2

MINIMUM ORDER 50 CUTTINGS OF A VARIETY. SEE LIST ON PAGE 90 FOR QUANTITY PRICES.

Gloeckner

CHRYSANTHEMUM CUTTINGS



Growing Large Mums Using Wire and String Supports.

Collections

Rooted Cuttings of a given number of varieties in any one general group may be ordered as a collection when varieties are not specified. Such collections are priced as follows:

- A. 250 r. c. **\$14.25**
50 each of 5 varieties
- B. 500 r. c. **25.50**
50 each of 10 varieties
or
100 each of 5 varieties
- C. 1000 r. c. **48.00**
50 each of 20 varieties
100 each of 10 varieties
or
200 each of 5 varieties
- D. 2500 r. c. **112.50**
50 each of 50 varieties
100 each of 25 varieties
250 each of 10 varieties
500 each of 5 varieties

PRICES FOR 50 OR MULTIPLES OF 50 OF A VARIETY PER SHIPMENT ARE INDICATED IN THIS TABLE.

Price Classification	PER 50	PER 100				
	50	100-250	300-450	500-950	1000-2450	2500 Up—
—	7.50	14.50	14.00	13.50	13.00	12.50
—	6.25	12.00	11.50	11.00	10.50	10.50
P-1	5.00	9.50	9.00	8.50	8.00	7.50
P-2	4.50	8.55	8.10	7.65	7.20	6.75
P-3	4.00	7.60	7.20	6.80	6.40	6.00
B	3.50	6.65	6.30	5.95	5.60	5.25
S-1	3.25	6.15	5.85	5.50	5.20	4.85
S-2	3.00	5.70	5.40	5.10	4.80	4.50
S-3	2.75	5.20	4.95	4.65	4.40	4.10

New Introductions—Garden Varieties

YELLOW

GENISTA

Very early solid yellow pompon of good size. Dwarf bushy habit. Blooms from the end of August but in full bloom by September 12th.

DWIGHT DOUGLAS

Dazzling golden yellow large decorative. Medium tall and very free and excellent for cutting. Blooms October 5th to 8th.

BRONZE AND RED

ORLOMA

Luminous apricot bronze full decorative type. Bushy cushion habit of growth and very free and durable. Early blooming September 15th.

MADAME CADILLAC

Mulberry wine red solid large pompon type of great substance. Strong bushy and compact habit. Blooms by September 20th and lasts well into late October.

ORSONA

Reddish bronze full decorative type. Very good bushy growth. Very desirable and showy. Blooms September 20th to 25th.

MIGUEL

Radiant raspberry red decorative type with good keeping qualities. Good growth and stem. Makes an excellent cut flower. Blooms October 8 to 10th.

ORPHEUS

Brilliant Roman red large pompon with perfect full form and very hard substance. Excellent strong and long stems with perfect spray formation. Very vigorous clean upright growth. Matures October 10th to 12th. This variety is equal if not superior to any cloth house red now in existence. Blooming nicely for early October and can be shaded to bloom in late August and early September without fading.

COMBINATION OFFERS

For growers who are not familiar with Garden Varieties, but who want a well-balanced assortment, we offer the following collections which include the better varieties.

SPECIAL No. 1
Routed Cuttings
Our selection
Ten taller varieties
for cutting.

SPECIAL No. 2
Routed Cuttings
Our selection for pots
or bedding.

SPECIAL No. 3
Routed Cuttings
Our selection
Half for cutting
Half for bedding.

SPECIAL No. 4
Routed Cuttings
Our selection for
Mothers' Day blooming.

PLEASE SPECIFY NUMBER OF VARIETIES.

250 r. c. \$ 14.25
50 each of 5 varieties

1000 r. c. \$ 48.00
50 each of 20 varieties
100 each of 10 varieties
or
200 each of 5 varieties

500 r. c. \$ 25.50
50 each of 10 varieties
or
100 each of 5 varieties

2500 r. c. \$112.50
50 each of 50 varieties or
100 each of 25 varieties or
250 each of 10 varieties or
500 each of 5 varieties

PINCHING SCHEDULE FOR GARDEN CHRYSANTHEMUMS

Natural Flowering Date	Pinching Date for Cut Flowers	Pinching Date for Border Plants
Sept. 1	June 7	July 4
Sept. 15	June 14	July 11
Sept. 30	June 24	July 18
Oct. 10	June 30	July 25
Oct. 15	July 4	Aug. 1

Garden Varieties

SYMBOLS — (L) Large — (D) Decorative — (P) Pompon — (C) Cushion — (S) Single — (B) Button

*Recommended for Mother's Day pot plants — pinched and short day treatment same day.

**Recommended for Mother's Day — but should be pinched seven (7) days after starting short day treatment.

D Varieties recommended as better when disbudded.

Variety	Size and Type	Color	Height	Matures	Price 50 Only
WHITE					
Candlelight	(D)	Ivory	Med.	Sept. 5	\$3.00
D.D. Ahrens	(D)	White	Tall	Sept. 10	3.00
Paper White	(D)	White	Med.	Sept. 10	4.00
* Chris. Columbus	(LD)	Cream	Tall	Sept. 15	3.50
White Cushion	(C)	White	Short	Sept. 15	3.00
* Calcite	(D)	Cream	Med.	Sept. 15	3.00
Drifted Snow	(D)	Cream	Med.	Sept. 15	3.00
Polar Ice	(LD)	White	Med.	Sept. 15	3.50
* White Bounty	(B)	White	Tall	Sept. 15	3.50
** D White Tower	(LP)	Cream	Tall	Sept. 15	3.50
White Wonder	(LP)	Ivory	Med.	Sept. 25	3.00
* Shalimar (H)	(LP)	Cream	Tall	Sept. 25	4.50
White Cloud	(D)	White	Tall	Sept. 25	3.50
* Pepita	(B)	White	Med.	Sept. 28	3.50
Snow Fall	(D)	White	Med.	Oct. 1	3.50
Ermine	(D)	Ivory	Med.	Oct. 1	4.00
Spin Drift	(LD)	White	Med.	Oct. 1	6.25
Winterset (H)	(LD)	White	Med.	Oct. 1	3.25
Lyric	(S)	White	Short	Oct. 5	4.50
Avalanche	(LD)	Cream	Tall	Oct. 5	3.25
Fragrant	(D)	White	Tall	Oct. 5	3.25
Horizon	(P)	White	Med.	Oct. 5	4.50
Youdath's White	(LD)	White	Med.	Oct. 5	3.00
* Monogram	(S)	White	Short	Oct. 5	4.00
* Classic	(B)	White	Tall	Oct. 10	4.00
Maestro	(P)	White	Short	Oct. 10	4.00
* Renown	(S)	White	Med.	Oct. 10	4.00
White Spoon	(Spoon)	White	Med.	Oct. 10	3.00
* D Silverplate	(D)	White	Med.	Oct. 12	4.00
Silver Ball	(P)	White	Tall	Oct. 15	2.75
Irene	(B)	White	Med.	Oct. 15	3.00
Norona	(SP)	White	Med.	Oct. 15	4.50

YELLOW

Butterball (H)	(P)	Golden	Short	Sept. 1	3.00
* Early Gold	(P)	Golden	Short	Sept. 5	3.50
** Golden Hours	(P)	Chrome Yel.	Med.	Sept. 8	3.25
Ruthann Lehman	(LP)	Canary	Med.	Sept. 12	4.50
Genisia (New)	(B)	Canary	Med.	Sept. 12	7.50
Yellow Supreme (H)	(C)	Bright Lemon	Short	Sept. 15	3.00
* Pomponette	(P)	Golden	Short	Sept. 15	3.00
Yellow Cushion	(C)	Light Yellow	Short	Sept. 15	3.00
Sunapee	(P)	Deep Lemon	Tall	Sept. 15	3.25
* Yellow Chris. Columbus	(LD)	Bright Lemon	Med.	Sept. 15	3.50
Yellow Avalanche	(LD)	Lt. Lemon	Tall	Sept. 15	3.25
* Early Yellow	(B)	Dp. Lemon	Short	Sept. 15	3.00
Defiance (H)	(D)	Golden	Tall	Sept. 15	3.50
Golden Carpet	(P)	Golden	Short	Sept. 15	4.50
Ming	(P)	Orange Yel.	Med.	Sept. 18	5.00
* Sept. Sunshine	(S)	Bright Lemon	Med.	Sept. 20	3.25
Wychwood	(LP)	Canary	Med.	Sept. 20	3.25
Canary Wonder	(P)	Canary	Med.	Sept. 25	5.00
Charles Nye	(LP)	Deep Lemon	Tall	Sept. 25	3.25
Honeycomb	(P)	Golden	Med.	Sept. 25	3.00
** Moonlight (DePetris)	(D)	Bright Yel.	Med.	Sept. 25	5.00
* D Lee Powell	(LD)	Chinese Yel.	Tall	Sept. 25	5.00
Tangerine	(LD)	Dp. Orange	Med.	Sept. 25	3.25

Garden Varieties

Variety	Size and Type	Color	Height	Matures	Price 50 Only
YELLOW (Cont.)					
Flaxen Beauty	(LD)	Light Lemon	Med.	Oct. 1	5.00
King Midas	(LD)	Lemon	Med.	Oct. 1	3.00
*Chiquita	(B)	Deep Lemon	Med.	Oct. 1	3.25
James Eadie	(LP)	Deep Chrome	Tall	Oct. 5	3.25
Garland	(S)	Lemon	Short	Oct. 5	4.50
Polaris	(S)	Golden Buff	Med.	Oct. 5	4.00
Vanguard	(LP)	Golden	Med.	Oct. 5	5.00
*D Mrs. Rotan	(LD)	Deep Chrome	Med.	Oct. 5	3.25
Dwight Wouglas (New)	(LD)	Golden Yel.	Med.	Oct. 5	7.50
*Yellow Spoon	(Spoon)	Light Yellow	Med.	Oct. 10	3.50
Treasure	(P)	Golden	Tall	Oct. 10	4.50
Golden Spoon	(Spoon)	Golden	Med.	Oct. 10	3.00
*Yellow Blanket	(B)	Bright Lemon	Med.	Oct. 10	3.25
Bright Forecast	(P)	Bright Lemon	Med.	Oct. 10	4.00
*Goldrush	(S)	Lemon	Med.	Oct. 10	4.00
Sweepstake	(P)	Lemon	Med.	Oct. 12	4.00
*Lemonade	(P)	Ivory Yel.	Med.	Oct. 12	4.00
Judith Anderson	(P)	Golden	Med.	Oct. 15	3.00
Rodell Imp	(B)	Light Lemon	Med.	Oct. 15	2.75
Yellow Irene	(B)	Light Lemon	Med.	Oct. 15	3.00
Old Gold	(B)	Golden	Med.	Oct. 15	3.25
BRONZE and RED					
Early Harvest	(C)	Mah. Orange	Short	Sept. 8	3.25
Harbinger	(D)	Golden Br.	Short	Sept. 8	3.25
*Early Bronze	(B)	Orange Br.	Short	Sept. 8	3.00
*W. P. Snyder	(LP)	Apr. Orange	Med.	Sept. 10	3.50
Autumn Song	(D)	Wine Rose	Med.	Sept. 10	3.25
Red Gold	(B)	Red & Gold	Med.	Sept. 15	3.25
Orloma (New)	(D)	Apr. Bronze	Med.	Sept. 15	7.50
Sept. Bronze	(B)	Golden Br.	Med.	Sept. 20	3.00
Goblin	(P)	Golden Br.	Tall	Sept. 20	3.00
Red Glow	(P)	Dark Red	Med.	Sept. 20	3.50
Orsona (New)	(D)	Red & Bronze	Med.	Sept. 20	7.50
Scarlet Crimson	(D)	Bright Red	Med.	Sept. 20	3.25
Mme. Cadillac (New)	(P)	Raspberry Wine	Short	Sept. 20	7.50
Rouge Cushion	(C)	Bright Red	Short	Sept. 25	5.00
Champ. Cushion	(C)	Dp. Bronze	Short	Sept. 25	3.00
Comd. Cushion	(C)	Red	Short	Sept. 25	3.00
Mahogany Cushion	(C)	Jasper Red	Short	Sept. 25	3.50
Marionette	(P)	Rust Red	Med.	Sept. 25	4.00
Holiday (H)	(P)	Golden Br.	Med.	Sept. 25	5.00
*Remembrance	(LD)	Dp. Carmine	Med.	Sept. 28	3.50
**D Kath. Lehman	(LD)	Orange Br.	Med.	Sept. 28	4.50
Jubilee (H)	(P)	Crimson	Med.	Oct. 1	6.25
Mogul	(P)	Orange Rust	Med.	Oct. 1	5.00
Fiesta	(P)	Orange Rust	Med.	Oct. 1	3.50
Magnificent	(LD)	Plum Red	Tall	Oct. 1	3.50
Red Riding Hood	(D)	Bright Red	Med.	Oct. 1	3.25
Sam Williston	(C)	Deep Red	Short	Oct. 1	3.00
Bonfire	(D)	Bright Red	Med.	Oct. 1	3.50
Brigadier	(LP)	Plum Red	Med.	Oct. 1	5.00
Cardinal Spoon	(Spoon)	Red Bronze	Med.	Oct. 1	3.50
Firecracker	(D)	Mahogany	Tall	Oct. 5	4.50
Cydonia	(LD)	Mahogany	Tall	Oct. 5	3.00
Meditation	(LP)	Jasper Red	Tall	Oct. 5	3.25
September Cheer	(S)	Cherry Red	Med.	Oct. 5	3.00
Burgundy	(LD)	Wine Red	Tall	Oct. 5	3.00
Ruby Pompon	(P)	Ruby Crimson	Med.	Oct. 5	3.00
Red Velvet	(LD)	Dk. Crimson	Med.	Oct. 5	3.25
*Mona	(P)	Rust Bronze	Med.	Oct. 5	4.00
Avalon	(P)	Orange Bronze	Tall	Oct. 5	5.00
Courageous	(LD)	Dark Ruby	Med.	Oct. 5	3.25

Garden Varieties

Variety	Size and Type	Color	Height	Matures	Price 50 Only
BRONZE and RED (Cont.)					
*Mrs. DuPont.....	(LD)	Coral Buff	Tall	Oct. 5	3.50
Beacon.....	(LD)	Coral Apr.	Tall	Oct. 8	4.00
Panorama.....	(D)	Orange Rust	Tall	Oct. 8	5.00
Aviator.....	(P)	Copper	Med.	Oct. 8	3.25
Amber Glow.....	(LD)	Rosey Br.	Tall	Oct. 8	3.25
Miguel (New).....	(D)	Raspberry Red	Tall	Oct. 8	7.50
Mayford's Triumph.....	(L-Inc.)	Scarlet Br.	Tall	Oct. 10	3.50
The Chief.....	(D)	Scarlet & Gold	Med.	Oct. 10	3.00
*D Huntsman.....	(LD)	Scarlet & Orange	Tall	Oct. 10	3.50
Bokhara.....	(D)	Crimson	Med.	Oct. 10	3.50
*D Carnival.....	(LP)	Burnt Orange	Med.	Oct. 10	3.50
*James Stewart.....	(P)	Apr. Gold	Tall	Oct. 10	4.00
Caravan.....	(LD)			Oct. 10	4.50
Blueblood.....	(D)	Amaranth Red	Tall	Oct. 10	4.50
Orpheus (New).....	(LP)	Roman Red	Tall	Oct. 10	7.50
Carmine Queen.....	(LP)	Carmine	Tall	Oct. 10	4.00
*Bamboo.....	(S)	Buff Orange	Tall	Oct. 10	4.00
*Calico.....	(S)	Coral Bronze	Tall	Oct. 10	4.00
Fireside.....	(D)	Burnt Orange	Tall	Oct. 10	4.00
Nytoda.....	(S)	Golden Apr.	Med.	Oct. 12	5.00
Admiral.....	(D)	Dark Red	Med.	Oct. 12	4.50
Fashion.....	(D)	Rosewood	Med.	Oct. 12	4.00
Witchery.....	(D)	Golden Br.	Med.	Oct. 12	4.00
Nokomis.....	(LD)	Red Bronze	Med.	Oct. 12	4.00
Nocturne.....	(P)	Crimson	Med.	Oct. 12	4.00
Robinhue.....	(LD)	Dark Red	Tall	Oct. 15	4.00
Br. Pyramid.....	(LD)	Orange Br.	Tall	Oct. 15	3.25
Detroit.....	(P)	Red Bronze	Tall	Oct. 15	3.50
*Carmelita.....	(LD)	Apr. Bronze	Tall	Oct. 15	4.00
Cocktail.....	(P)	Salmon Br.	Med.	Oct. 15	4.50
Rajah.....	(S)	Scarlet	Tall	Oct. 15	4.50

PINK and LAVENDER

Gladness.....	(D)	China Rose	Short	Aug. 28	3.50
Cecil Beed.....	(D)	Deep Lav.	Med.	Sept. 1	5.00
Dr. Longley.....	(D)	Rose Pink	Med.	Sept. 1	4.00
Sal. Precose.....	(LD)	Salmon Pink	Short	Sept. 1	3.50
*Welcome.....	(S)	Mellow Purple	Med.	Sept. 1	3.00
Purple Star.....	(P)	Purple	Med.	Sept. 5	3.00
Barbara Small.....	(P)	Lavender	Tall	Sept. 10	3.25
*D Nye's Favorite.....	(D)	Lavender	Med.	Sept. 10	3.50
*Orchid Helen.....	(D)	Orchid Lav.	Med.	Sept. 10	4.50
Royal Robe.....	(D)	Purple	Med.	Sept. 15	6.25
Chippewa.....	(LD)	Burt. Purple	Med.	Sept. 15	3.25
Violet.....	(P)	Amaranth Pk.	Med.	Sept. 15	3.25
Fairbow.....	(P)	Lavender Pk.	Med.	Sept. 20	3.50
Tapestry.....	(LD)	Bright Pink	Med.	Sept. 20	4.50
Heather Bloom.....	(D)	Heather Pink	Med.	Sept. 20	3.00
*Alert.....	(LD)	Dark Purple	Med.	Sept. 20	3.50
Olive Longland.....	(LD)	Apr. Salmon	Med.	Sept. 25	2.75
Imp. Early Wonder.....	(P)	Lavender	Med.	Sept. 25	3.00
*Spellbound.....	(D)	Lavender	Med.	Sept. 25	3.25
Capt. J. Smith.....	(C)	Lavender Pink	Short	Sept. 25	3.00
*Maj. Cushion.....	(C)	Lavender	Short	Sept. 25	3.00
Pink Beauty.....	(D)	Salmon Pink	Med.	Sept. 25	3.00
September Dawn.....	(D)	Rose Pink	Med.	Sept. 25	3.00
Pink Opal.....	(P)	Persian Rose	Med.	Sept. 28	5.00
Rosita.....	(B)	Lavender Rose	Med.	Sept. 28	3.25
Malinda Brown.....	(P)	Lavender Rose	Med.	Sept. 28	6.25
Betty.....	(LD)	Pk. Rose Ctr.	Tall	Sept. 28	3.25
Misty Maid.....	(D)	Light Pink	Med.	Sept. 28	3.50
**D Pat. Lehman.....	(D)	Peach Pink	Tall	Sept. 28	4.50
Fascination.....	(LD)	Lavender Pink	Med.	Oct. 1	6.25

Garden Varieties

Variety	Size and Type	Color	Height	Matures	Price	
					50	Only
PINK and LAVENDER (Cont.)						
*D Myrtle Walgreen.....	(LP)	Amar. Purple	Med.	Oct. 1		3.50
*Tiffany Rose.....	(S)	Deep Rose	Med.	Oct. 1		3.00
Alex Cummings.....	(LD)	Deep Rose	Tall	Oct. 3		6.25
Enterprise.....	(P)	Amaranth	Tall	Oct. 5		5.00
*Pink Surprise.....	(D)	Lavender	Tall	Oct. 5		3.50
*Lavender Lady.....	(D)	Lavender Pink	Tall	Oct. 5		3.50
Dream Girl.....	(P)	Lt. Lavender	Med.	Oct. 10		3.50
Argonne.....	(P)	Dark Lavender	Med.	Oct. 10		3.50
Courtier.....	(D)	Lavender Pink	Med.	Oct. 10		4.50
Orchid Spoon.....	(Spoon)	Orchid Lav.	Med.	Oct. 10		3.50
Rose Spoon.....	(Spoon)	Lavender Rose	Med.	Oct. 10		3.00
Lassie.....	(LD)	Dark Pink	Med.	Oct. 10		4.50
*Masquerade.....	(P)	Lavender Rose	Med.	Oct. 10		3.50
*Joybringer.....	(D)	Salmon Rose	Short	Oct. 10		4.00
Winsome.....	(L-Ref.)	Lav. Purple	Tall	Oct. 10		3.50
Sweetheart.....	(S)	Lt. Lavender	Tall	Oct. 10		4.00
*Serenade.....	(S)	Magenta	Tall	Oct. 10		4.00
Elizabeth Hood.....	(LD)	Lav. Pink	Med.	Oct. 12		5.00
Salute.....	(S)	Deep Orchid	Tall	Oct. 12		4.00
Allegro.....	(P)	Shrimp Pink	Med.	Oct. 12		3.25
Adagio.....	(P)	Raspberry Rose	Tall	Oct. 12		4.00
Dawn Rose.....	(LD)	Grenadine Pink	Med.	Oct. 15		3.50
Symphony.....	(D)	Mauve & Lav.	Tall	Oct. 15		3.00
*Jewell.....	(P)	Lavender Pink	Med.	Oct. 15		3.00
Dark Jewell.....	(P)	Dark Lavender	Med.	Oct. 15		3.00

Large flowering mums which are normally grown in the greenhouse, but also are good outside, should be disbudded to one bloom per stem.

WHITE

Silver Sheen.....	(M-Inc.)	White	Tall	Oct. 20		3.00
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YELLOW

Harvest Golden.....	(M-Inc.)	Deep Golden	Tall	Oct. 10		3.50
*D Gold Lode.....	(M-Ref.)	Lemon	Tall	Oct. 15		3.00
Celestra.....	(M-Inc.)	Lemon	Tall	Oct. 15		3.00
Mrs. Kidder.....	(L-Inc.)	Deep Lemon	Tall	Oct. 15		2.75

BRONZE and RED

Mayford's Triumph.....	(M-Inc.)	Scarlet Orange	Tall	Oct. 10		3.50
**D Amber Bright.....	(M-Inc.)	Amber Bronze	Med.	Oct. 15		3.50

PINK and LAVENDER

Winsome.....	(L-Ref.)	Lav. Purple	Tall	Oct. 10		3.50
Pink Chief.....	(L-Inc.)	Lavender	Tall	Oct. 15		3.00
Maj. Bowes.....	(L-Inc.)	Deep Lavender	Tall	Oct. 15		3.00

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St. Valentine's Day • Easter • Mothers' Day • Memorial Day • Thanksgiving • Christmas

1954							1953						
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Gloeckner

CHRYSANTHEMUM CUTTINGS

Notes

LET US QUOTE YOU ON

SHADING CLOTH

PRICES
AVAILABLE
UPON
REQUEST

*Gloeckner***CHRYSANTHEMUM CUTTINGS***Insecticides, Fungicides and Fumigants*

Aramite 15 W	4 lb. bag	3.20		
Calcium Cyanide G. Fumigant	5 lbs.	3.75	25 lbs.	12.50
Chlordane (<i>Synklor</i>) 50% Wettable	5 lb. drum	5.65	10 lb. drum	10.80
Deenate 75-W (DDT)	4 lbs.	2.25	48 lb. Case (12-4 lb. bags)	21.60
Detex	gal.	11.00	5 gals.	50.00
Fermate	3 lbs.	2.45	Case (36 lbs.)	25.80
	<u>Size of unit</u>			<u>carton of 24 units</u>
Fulex Parathion Fumigator	1,000 cu. ft.			9.00
	2,000 cu. ft.			9.00
	5,000 cu. ft.			12.00
	10,000 cu. ft.			15.00
	20,000 cu. ft.			24.00
Isotox 1.5 (supplied in 50 lb. bags only)	50 lb. drum			20.00
			50 lb. bags only	
Lethalaire G-52 Bombs ("TEPP")	4 lb. cylinder			6.50
Lethalaire G-54 Bombs (PARATHION)	4 lb. cylinder			8.00
Lethalaire G-56 Bombs ("HETP")	4 lb. cylinder			6.50
Lindane (<i>Jamtox</i>) 1½% Dust	25 lbs. (min.)			11.70
25% Wettable Powder	4 lbs.			11.00
Nicofume Liquid	gallon (8 lbs.)			11.95
Nicofume Pressure Fumigators	½ lb. cans (12 cans)			4.60
	1 lb. cans (12 cans)			7.95
NNOR	gal.	10.00		
Optox (10% DDT)	gal.	12.00		
Orthocide 406	5 lbs.	7.50		
	20 lb. drum	22.00		
	40 lb. drum	42.00		
Plant Fume 103	5,000 cu. ft. carton—36			10.50
	20,000 cu. ft. carton—12			12.00
Parathion Dust 2%	25 lbs.	3.75	50 lbs.	7.50
Parathion Spray 15% Wettable	4 lb. bag	2.88	25 lbs.	16.75
			50 lbs.	32.50
Parzate				
(Powder)	3 lb. bags	2.85	Case (36 lbs.)	31.20
(Liquid)	5 gal. cans	9.50		
P-40	25 lbs.	7.25	50 lbs.	13.75
	100 lbs.	26.00	1000 lbs.	245.00
Rhothane (<i>DDD</i>) 50% Wettable Powder	4 lb. carton	2.00		
	50 lbs.	23.00		
Sodium Selenate	lb.	7.00		
Systox (Emulsion)	1 lb.	5.00		
	1 gal. can (9 lbs.)			42.75
Vapotone	gal.	11.90		
Zerlate	3 lbs.	2.45	case (36 lbs.)	25.80

For your other needs refer to your

*Gloeckner Chrysanthemum Manual and
Seed Catalog*



Gloeckner