



Varieties

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chrysanthemum growers in the northern part of the United States.

Hardy Early-Blooming Chrysanthemums for Irrigated Central Washington

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Hardy Early-blooming Chrysanthemums

for Irrigated Central Washington

W. J. Clore¹

Late-summer and early-fall blooming types of chrysanthemums are very valuable for their color and long flowering period. For the rural and urban dweller, the chrysanthemum responds well with only normal care, since it is attacked by few insects and diseases. The dwarf and semi-dwarf types are well adapted for bed, border, and foundation plantings. Many of these are desirable for cut flowers. For the effort expended, "mums" provide more and longer flowering than almost any other plant in this area.

Varieties

With the many varieties of hardy, early-blooming chrysanthemums now available from local and distant nurseries, it is possible to have bloom from June until October or November, depending upon when the first severe freeze occurs. A few varieties will remain attractive even when exposed to moderately severe frosts.

To encourage the use of this flower for color around the farm and city home, variety and selection testing has been continuous since 1947 at the Irrigation Experiment Station, 5 miles northeast



of Prosser. New varieties and selections of chrysanthemums are furnished cooperatively by the U. S. Department of Agriculture Horticultural Field Station at Cheyenne, Wyoming, University of Minnesota, St. Paul, Minnesota, and the Southwestern Washington Experiment Station, Vancouver, Washington. Many commercial varieties are also included to evaluate the selections on trial. None of the materials being tested is available for distribution. The Irrigation Experiment Station propagates only sufficient material to maintain adequate variety trials. All named varieties listed are available from local or well-known chrysanthemum growers in the northern part of the United States.

As a result of these cooperative trials between the USDA and the Washington Agricultural Experiment Stations, two selections were named and released in the early part of 1952 and one selection in 1956. In the long growing seasons of the Pacific Northwest they are called "summer chrysanthemums" because they bloom in summer, thereby extending the normal flowering season. In 1958, five new Washington State University chrysanthemums were released. These are described in Washington Agricultural Experiment Stations Circular 343. The border type chrysanthemums

¹W. J. Clore is a Horticulturist, Washington Agricultural Experiment Stations. He is stationed at the Irrigation Experiment Station, Prosser. Work was conducted under Project 1441.

released were: Overley, Roza, Cayuse, Redstar and Rustic. Bed, background and cut flower types released were Ocean Spray, King Midas and Cinnabar.

Tables at the back of this circular list most of the varieties that have been on trial since 1952, with some of their flower and plant characteristics. The ability of these mums to withstand some adverse weather conditions is also indicated. These varieties are divided into border and cut flower types, and are grouped into summer- and fall-blooming periods.

Culture

Although the chrysanthemum thrives under ordinary care, a number of timely cultural practices will assure the gardener of a more thrifty growth and attractive bloom.

Propagation

Chrysanthemums can be propagated by rooting cuttings made from new shoot growth. Plants can also be started in the spring by separating the new shoots that have developed roots from the old clump. The rooted shoots on the outside of the clump are the strongest and the ones to use. New varieties are obtained by selecting new plants grown from seed--usually a result of crossing plants to obtain desirable characteristics.

Planting

The best-quality mums are grown each year from new, individual shoots, especially propagated from cuttings, that have developed a strong root system. Plants can be set out any time in early spring (May or early June) when the soil is moist or water can be provided. This flower is at its best if given adequate room. Most plants should be spaced at least 18 inches apart in beds and in rows 18 inches X

36 inches. Mums do best in locations where they can receive maximum sunlight. They should not be shaded, at the most, for more than 4 hours a day. Shading the plants with a shingle for a few days after planting may be necessary if the temperatures are high.

Soil Preparation and Fertilizing

Soils for planting chrysanthemums should be prepared in the fall, if possible. Manure or well decomposed compost applied at the rate of 40 to 60 pounds per 100 square feet should be spaded in deeply. If phosphorus is to be added to the soil, apply it before spading, at the rate of 1 pound of superphosphate or 1/2 pound of treble superphosphate per 100 square feet. Side dressings of commercial nitrogen are usually necessary in sandy soils for good vigorous plant growth and bloom. Use 1/2 to 3/4 pounds of ammonium sulphate or 1/3 to 1/2 pounds of ammonium nitrate per 100 square feet once or twice during the summer. Chrysanthemums growing in soils high in organic matter will probably not need side dressing.

To avoid plant injury, take care to apply commercial fertilizers evenly on the soil around plants. Avoid getting any of this material on the foliage. This amount of fertilizer can be divided into a series of applications made during the active growing season.

Watering

Irrigate often enough so that the plants have moisture available at all times. Heavy foliage plants may develop mildew if irrigated by sprinkler, and if they are partially shaded. If possible, irrigate in furrows 18" to 36" apart at 1 to 3 week intervals, depending upon weather conditions. Because mums are somewhat shallow rooted they require more frequent irrigation than deeply rooted plants. Mulching helps conserve moisture lost from the soil surface.

Pinching or Shearing

To prevent tall plants of sparse appearance, the tops should be pinched off. Begin when the plants are small (6 inches tall). Repeat later (approximately 10 inches tall) to induce bushy growth and maximum bloom.

In this operation, remove about 1/2 inch of the growing tips of the main shoots. Removing flowers in the bud stage delays blossoming and increases flower size of certain varieties. Varieties that are listed as early should be pinched or sheared a maximum of two or three times to encourage branching to shape the plant and to discourage blooming until cooler weather in late August and September. Grass or hedge shears are very handy to use for the shearing operation. The last pinching operation should be made not later than August 1. For very early varieties, discontinue pinching after July 15.

Spindly Plants

The following contribute to spindly growth: weak plants, failure to divide plants annually, shading, too close spacing, low fertility, and competition of adjacent plants or weeds.

Winter Care

Chrysanthemums will winter best if they have made a good vigorous growth and are thoroughly irrigated late in the season. After the ground freezes, plants can be protected by lawn clippings, straw, or leaves to prevent alternate thawing and freezing.

Diseases and Insects

Ask your County Agent for publications on the control of diseases and insects of chrysanthemums.

Where and What to Grow

Those interested in using chrysanthemums for colorful displays around the home usually do not have enough desirable space to accommodate more than five varieties for mass plantings. Single plants of different varieties do not make an effective show of color. If different kinds of chrysanthemums are desired for cut flowers, one or two plants of each variety can best be grown in the garden area for this purpose.

Difficulty is often encountered in growing well developed chrysanthemum plants around the foundation of the home because of shade and plant competition. To be assured of attractive plants for this purpose, you can grow the variety or varieties in the garden and transplant to the desired location when the plant begins to bloom. Transplant by cutting around the plant with a shovel, retaining a block of soil approximately 10 inches square and 6 inches deep and carefully planting in the new location.

Hundreds of summer and fall blooming chrysanthemums can be grown. Table 1 lists, by flower color, well adapted summer and fall blooming varieties of chrysanthemums for border planting and for a combination of border and cut flower use.

TABLE 1. SUGGESTED OUTDOOR CHRYSANTHEMUM VARIETIES FOR HOME PLANTING.

Flower Color					
Red	Bronze	Yellow	White	Pink	Lavender
<u>Summer blooming border types</u>					
Hidatsa	Buffalo	Gold Cushion	Paper White	Minnipink	Pink Cushion
Vulcan	Tints-of-Fall	September Gold	Dainty	Princess	Bridger
Red Cushion	Harvest Bronze	Aztec Gold	Waku	Orchid Helen	Carnation Rose
<u>Summer blooming border and cut flower types</u>					
Brilliance	Early Bronze	Kinkazan	Princess Kay	Minnehaha	Wenonah
Ann Miller	Early Kathleen	John Milbrath	Mt. Hood	Prairie Sunset	Reflection
Emu	Burning Bronze	Tonka	Shalimar	Chorale	Cecil Beed
<u>Fall blooming border types</u>					
Early Harvest	Apricot Glow	Happy	White Bouquet	Defiance	Cocheco
Redstar	Rustic	Chiquita	Niobrara	Doc	Masquerade
Ruby King	Copeland Copper	Goldilocks	Winterset	Forward	Chippewa
<u>Fall blooming border and cut flower types</u>					
Cinnabar	Bronze Cactus	King Midas	Chris Columbus	Fascination	Alert
Indian Red	Meditation	Butterscotch	Madonna	Ashes of Roses	Purple Waters
Early Harvest	Dean Ladd	Judith Anderson	Ocean Spray	Hinomaru	Malinda Brown

See Tables 2, 3, 4, 5, 6 and 7 for variety details.

TABLE 2. SUMMER-BLOOMING CHRYSANTHEMUMS (up to Sept. 15)

Border types that resist frost; withstand some wind and rain damage.

Varieties	Color	Flower Type	Plant Ht. (inches)	Date First Bloom
Amelia	pale-lavender	D	14	8-25
Ann Miller	red	D	20	8-27
Apricot Cushion	lt. apricot	D	12	8-27
Apricot Glow	dk. apricot	D	10	8-25
Arikara	red bronze	D	20	8-7
Aztec Gold	yellow	D	20	9-9
Bronze Cushion	yellow bronze	D	15	9-15
Bronze Precose	lt. bronze	D	18	9-8
Buffalo	reddish orange	BP	15	9-10
Butterball	lt. yellow	D	18	9-2
Carnation Rose	rose	D	14	9-8
Cecil Beed	lavender	D	22	9-2
Chorale	lt. pink	D	20	7-31
Cody	lavender	SD	8	7-30
Dahlia Flower Cushion	lt. purple	D	16	8-25
Dainty	lt. lav. to white	D	12	9-10
Emu	lt. red	SD	16	9-2
Flicka	old rose	D	10	8-27
Gold Cushion	golden yellow	D	18	8-14
Lemon Drop	yellow	BP	16	9-15
Little Bob	lavender	D	12	8-7
Minnipink	rose lavender	D	12	9-10
Nanook	white	D	14	9-8
Orchid Helen	lt. pink	D	14	8-7
Overley	yellow-bronze	D	14	8-27
Paper White	white	D	8	9-6
Pink Cushion	pink	D	14	8-20
Pomponette	yellow	D	20	8-7
Prairie Sunset	rose	D	20	8-28
Princess	strg. yel. pink	SD	15	9-10
Queen Cushion	lt. pink	D	12	8-25
Redbreast	dk. red	D	12	9-8
Red Cushion	dk. red	D	20	8-7
Roza	dk. lavender	SD	18	9-2
Ruthann Lehman	bright-yellow	D	14	9-10
Sept. Cloud	white	BP	14	8-4
September Cheer	bronze red	D	18	9-13
September Gold	yellow	BP	12	8-27
Shooting Star	lt. purple	D	18	9-8
Summer Sunset	apricot	D	6	8-22
Tints-of-Fall	dk. bronze	D	16	9-8
Vulcan	strong red	D	15	9-14
Wenonah	lt. lavender	D	20	8-25
White Gull	white	D	12	9-8
Yellow Bouquet	yellow	BP	16	9-8
Yellow Cushion	yellow	D	18	9-8
Yellow Gold	yellow	D	12	9-15

Key: S = single D - double
 SD = semi-double BP - button pompon

TABLE 3. SUMMER-BLOOMING CHRYSANTHEMUMS (up to Sept. 15)

Cut flower types showing some resistance to frost; withstand some wind and rain damage and require little support.

Varieties	Color	Flower Type	Plant Ht. (inches)	Date First Bloom
Brilliance	dk. red	D	20	7-25
Candlelight	white	D	20	7-29
D. D. Ahrens	white	D	14	7-29
Dr. L. E. Longley	pink	D	20	9-6
Early Bronze	dk. bronze	BP	16	9-8
Early Kathleen	bronze	D	28	9-14
Eugene A. Wander	yellow	D	20	8-11
Fascination	pale lavender	D	18	9-14
Harbor Lights	yellow cream	D	22	9-8
John Milbrath	deep yellow	D	16	10-3
Kinkazan	golden yellow	D	22	9-14
Madame Chiang Kai-Shek	yellow	D	24	8-14
Mary Harrison	dp. purple	S	28	8-14
Minnehaha	dp. pink	D	17	9-14
Mt. Hood	cream to white	D	20	9-14
New Paper White	white	D	16	9-14
Prairie Moon	pale yellowish white	D	16	9-14
Princess Kay	white	D	16	9-14
Shalimar	white	D	24	8-27
Tonka	soft yellow	D	15	9-10

Key: S = single
 D = double
 BP = button pompon

TABLE 4. SUMMER-BLOOMING CHRYSANTHEMUMS (up to Sept. 15)

Cut flower types requiring support.

Varieties	Color	Flower Type	Plant Ht. (inches)	Date First Bloom
Alert	purple	D	24	8-7
Alpine	white	D	38	9-10
Calcite	chalk white	D	18	9-10
Chris. Columbus	ivory white	D	30	9-12
Defiance	yellow	D	24	8-20
Ermine	cream white	D	32	8-22
Golden Hours	chrome yellow	D	24	9-5
Goldilocks	canary yellow	LP	24	9-2
Harbinger	light bronze	D	24	9-8
Heatherbloom	pink	D	20	9-13
Inspiration	orange red	D	24	8-25
Judith Anderson	bright yellow	BP	30	9-9
Lt. Beckner	bronze	D	26	7-26
Magnificent	plum red	D	28	8-25
Ming	Chinese yellow	D	36	9-15
Mrs. Jack Pearson	gold bronze	D	26	9-15
Precose Supreme	purple	D	16	9-6
Primrose	cream yellow	inc.	28	8-25
Rose Precose	rose	D	22	9-10
Vanguard	crimson gold	D	30	9-15
Violet	rich purple	D	14	8-4
White Avalanche	white	D	20	8-4
White Tower	cream white	LP	28	8-21
Yellow Avalanche	light yellow	D	20	9-10

Key: S = single
SD = semi-double
D = double
P = pompon
BP = baby pompon
LP = large pompon
inc. = incurved

TABLE 5. FALL-BLOOMING CHRYSANTHEMUMS (Sept. 16 to Oct. 15)

Border types that resist frost and withstand some wind and rain damage.

Varieties	Color	Flower Type	Plant Ht. (inches)	Date First Bloom
Allegro	light pink	D	26	10-6
Bashful	yellow bronze	D	10	9-30
Blush White	white	Sp	22	9-29
Brighter Days	light yellow	SD	12	9-28
Cecilia	purple	D	22	9-25
Chestnut Burr	brown	D	16	10-10
Chippewa	purple	SD	18	9-25
Cochecho ^a	violet	D	18	10-1
Defiant	light purple	D	16	10-2
Doc	pink	D	10	10-10
Early Harvest	red	D	20	9-30
Echoes	light copper	SD	16	9-17
Edgar A. Guest	red	D	22	9-30
Forward ^a	light pink	D	18	10-1
Generalissimo	purple	D	12	10-4
Happy	bright yellow	D	12	9-30
Hidatsa ^a	dark red	SD	14	9-30
Joan Helen	purple	S	12	9-18
Masquerade	lavender	BP	14	10-4
Niobrara	white	SD	8	9-18
Pheasant	pale pink	A	14	10-4
Purple Queen	light purple	D	22	10-6
Ramona	old rose	A	20	10-10
Red Cloud	red	D	14	9-30
Redstar	reddish bronze	D	16	9-22
Rembrandt	pink	BP	24	9-30
Rose Mound	rose	SD	28	10-12
Rouge Cushion	bronze	D	18	9-18
Ruby King	ruby red	D	12	9-18
Ruby Pompon ^a	dark crimson	BP	8	10-2
Rustic	golden bronze	P	18	9-19
Sonny Boy	gold	BP	18	9-17
South Wind	light red	D	16	9-17
Togwotee	strg. reddish orange	D	14	9-28
White Bouquet	white	BP	18	9-24
Yellow Supreme	yellow	D	12	9-30
Zantha	yellow	D	10	9-18

^aOnly light frost damage

Key: S = single
 SD = semi-double
 D = double
 BP = baby pompon
 A = anemone
 Sp = spoon

TABLE 6. FALL-BLOOMING CHRYSANTHEMUMS (Sept. 16 to Oct. 15)

Cut flower types that show moderate frost resistance, withstand some wind and rain damage and require little support.

Varieties	Color	Flower Type	Plant Ht. (inches)	Date First Bloom
Adorable	rose pink	D	24	9-18
Apache	bright dark red	D	26	9-17
Ashes of Roses	rose	D	20	9-23
Autumn Beauty	red bronze	D	14	9-18
Autumn Song	wine	D	20	9-24
Blanche Litwiller	cream white	D	20	9-21
Butterscotch	dp. golden-yellow	D	28	9-28
Copeland Copper	bronze	D	14	9-18
Daigyokuden	butter yellow	D	20	9-20
Dean Ladd ^a	yellow bronze	D	30	10-10
Early Crimson	deep red	D	20	9-19
Emperor	buff yellow	D	19	10-1
Evelyn Devaney	shell-pink	D	24	9-28
Fuku-un	pinkish to dk. red	D	20	10-12
Golden Fantasy	deep yellow	D	16	10-3
Hinomaru	lav. pink	D	20	9-21
Indian Red	yellow red	D	18	9-23
King Midas	golden yellow	D	18	9-17
Malinda Brown	lavender	D	22	9-30
Meditation	red yellow	D	36	10-2
Muriel Rice	lavender cream	D	28	9-28
Nancy	yellow	BP	20	9-28
Ocean Spray	white yel. centers	Sp	26	10-4
Olive Longland	apricot pink	D	14	9-30
Purple Spoon	deep purple	Sp	18	9-22
Purple Waters	deep purple	D	18	9-21
Queen Spoon	pale lavender	Sp	20	9-30
Red Glow	deep red	D	20	9-18
San Saba	vivid yellow	SD	15	9-18
Simba	light bronze	D	22	9-19
Waku	white	D	20	9-24
White Cloud	white	D	16	9-18

^aOnly light frost damage

Key: S = single
 SD = semi-double
 D = double
 BP = button pompon
 Sp = spoon

TABLE 7. FALL-BLOOMING CHRYSANTHEMUMS (Sept. 16 to Oct. 15)

Cut flowers that show only moderate frost damage but require support.

Varieties	Color	Flower Type	Plant Ht. (inches)	Date First Bloom
A. E. Wonder.	golden yellow	D	28	9-28
Anson	light pink	D	34	9-30
Apricot Spoon.	apricot bronze	Sp	26	10-4
August Glory	yellow bronze	inc.	22	9-25
Arnheim	amber red	D	30	9-24
Balcombe Triumph	red bronze	D	40	9-24
Beacon.	apricot orange	D	48	10-2
Betty ^a	light pink	D	36	9-17
Burma	copper orange	D	30	9-23
Bronze Cactus	light bronze	D	26	9-30
Bronze Freda.	light peach	D	32	10-5
Bronze Pyramid	light bronze	D	42	10-10
Canary.	light yellow	D	20	9-19
Cardinal Spoon	bright red	Sp	28	9-22
Carnival	burnt orange	D	34	10-4
Charles E. Morris	clear yellow	D	30	10-10
Charles Nye	buttercup yellow	D	26	9-29
Charm Spoon	rust red	Sp	22	9-28
Chiquita	bright yellow	BP	20	9-30
Cinnabar	deep red	D	20	9-28
Coppelia	Indian red	D	26	10-6
Courageous.	ruby red	D	30	9-30
Daydream	light pink	D	28	9-28
Deep Cream	light buff	S	22	9-29
Dubonette ^a	light lavender	S	30	10-12
Freda ^a	mauve pink	D	30	9-28
Garnet Spoon	deep red	D	36	10-4
Glorius.	light pink	inc.	24	9-24
Glowing Coals.	red orange	D	30	9-28
Golden Gopher	dark orange	D	26	9-27
Gold Standard.	golden yellow	inc.	34	9-28
Hero ^a	red bronze	D	26	10-5
Hillcrest Red	dark red	D	40	9-30
Holiday.	gold bronze	D	28	9-18
Huntsman	scarlet bronze	D	20	9-19
Incurved Alfreton Beauty .	bronze gold	inc.	30	10-12
Ivory Spoon.	white	Sp	30	10-4
Jewel White	white	BP	28	10-5
Kathleen Lehman	orange	D	30	10-2
Korean Symphony	coppery pink	D	38	10-10

(Continued)

^aOnly light frost damage

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TABLE 7. (Continued)

Varieties	Color	Flower Type	Plant Ht. (inches)	Date First Bloom
Lavender Lady	light lavender	D	26	10-2
Lee Powell	Chinese yellow	D	28	9-17
Litchfield Cream	rich cream	inc.	28	9-30
Loveliness Spoon	carmine pink	D	20	9-18
Madonna	white	D	28	9-24
Magenta Spoon	red purple	D	34	9-22
Major Bowles	lavender	D	30	10-10
Mandalay	light bronze	D	32	9-22
Melody	light bronze	D	26	9-19
Mrs. Pierre S. DuPont	peach	D	30	10-12
Myrtle Walgren	purple	D	24	9-17
Nina	Persian rose	D	36	9-24
Oriental Red	red	D	36	9-30
Pepita	white	BP	24	9-30
Pink Opal	light pink	D	36	10-2
Pohatcong	light pink	D	22	9-24
Primola	dark red	D	26	9-30
Red Velvet	crimson	D	26	9-24
Rosita	light lavender	BP	24	9-29
Sienna	yellow bronze	D	20	9-30
Silver Moon	white	S	22	9-24
Stella App	orange bronze	SD	24	10-12
Sundance	bright yellow	D	22	9-19
Tangerine	reddish bronze	D	20	9-29
The Moor	dark red	D	22	9-30
Tiffany Rose	light pink	SD	30	9-30
Typhoon	crimson	D	20	9-19
Valiant	scarlet	SD	28	9-27
White Bounty	white	BP	18	9-24
Winterset	white	D	16	9-27
W. P. Snyder	copper bronze	D	16	9-17
Yellow Spoon	light yellow	Sp	36	10-10

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