

BALL MUMS
2022-2023



Baï Seed®



Top Products, Excellent Service & More



Cindy Drumgool



Peggy Kenny

BALL MUMS offers a wide range of cutting-edge varieties, exclusive grower resources, and a network of technical support that will take your program to the next level!

After **years of extensive trialing** across North America, Ball Mums varieties have been evaluated and selected for outstanding genetics, vivid colors, flower color retention, uniformity, durability and flexibility, excellent growth habit, reliability in production and disease resistance. The result: **excellence at all stages.**

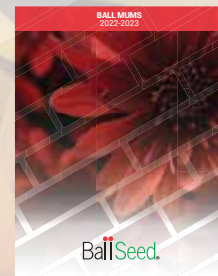
Our team delivers personalized service and customized solutions to aid in your growing success. That is why we've curated a robust assortment of **online technical and culture tools.** This includes our Growth Tracking Tool with projections to keep your crops on target, a multi-part podcast series with growing tips and tricks, disease management resources, trial results, and so much more! Visit **ballseed.com/gardenmums** to view our full offering of online support.

And, you can stay connected to your orders with **WebTrack®**, our business management solution that provides 24/7 online access to products, order shipping and tracking, scheduling, culture info, & more!

To start your most successful growing season yet, contact your Ball Seed Sales Rep today!

Table of Contents

Guide to Color Selection.....	1	Yellow & Green.....	12
Key to Symbols	1	Orange & Bronze	20
Natural Season Top Performers.....	2	Landscape	28
New Varieties 2022.....	2	Red.....	30
Mum Families.....	4	Purple	35
Mum Duos	7	Pink.....	40
Skyfall Collection.....	10	Green Netting	46



On the cover:
New Roaring Red

BallSeed.

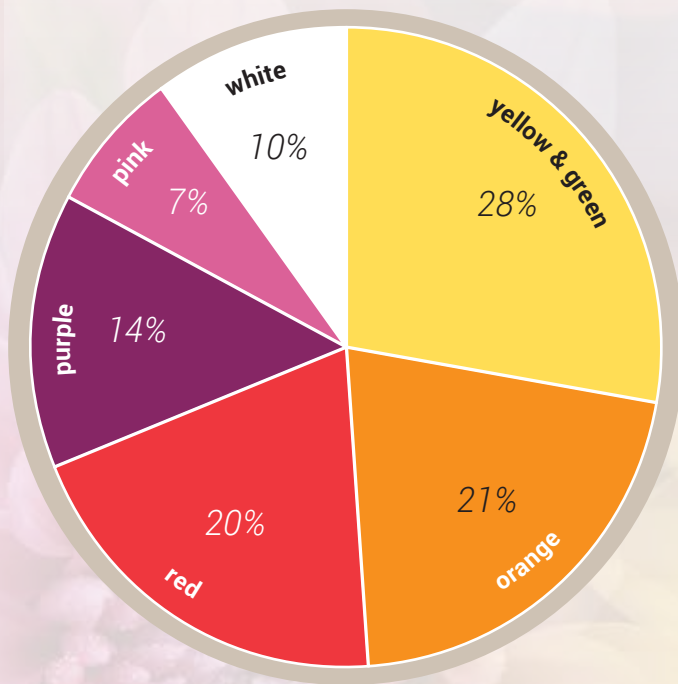
Ball Mums Guide to Color Selection

Getting your ratios right

Our customers often wonder what percentage of each color class they should grow to maximize their business. The color chart below reflects Ball's most recent sales nationwide, and we recommend you utilize that same ratio of colors for your annual growing program – to obtain the perfect balance of colors.







You'll find plenty of top-performing options to choose from within each group, along with all the information needed to select the best varieties for your particular market.

Check with your Ball Seed Sales Representative for regional recommendations.



White	47
Growing Guide	51
Natural Season Garden Mums Flowering Sequence	52
Garden Mums A-Z Quick Reference	54
Keys to Producing Quality Garden Mums	60
Black Cloth	64
Propagation of Garden Mums	66

Key to Symbols

	
European (ball-shaped) habit	Performs well in Spring flowerings
	
Performs well in black cloth flowerings	Heat-tolerant variety (FL/TX)
	
Excellent for landscapes	Top Performer

A Note on Flower Dates

Ever wonder what "Flower Date" means? The plant on the right gives you a visual of what "Flower Date" represents in this catalog. The flowers are fresh – not too open, not too tight, approximately at the 50% open stage of development. If you are a wholesale grower, you likely ship around the "Cracking Color" stage. These plants are "shippable" approximately 7 to 10 days prior to the "Flower Date."



Cracking Color
(ready for ship)



Flower Date
(ready for sell)

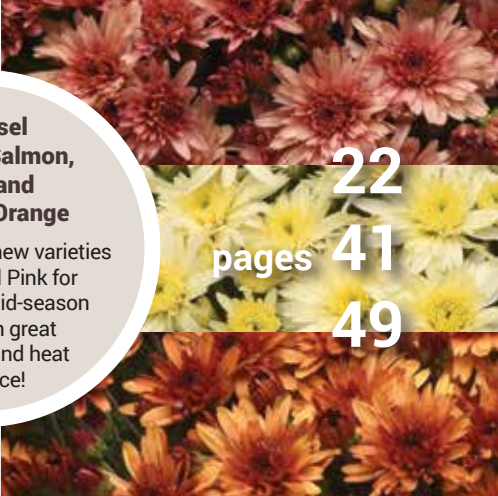
Spring-Flowering Programs	68
Rooting Stations	68
2022 Drops and Substitutions	68
Terms and Conditions of Sale	69

Natural Season Top Performers



Product	Timing
White	
Celestial White	Mid
Starburst White	Mid
Butter N' Cream White	Late
Alpine White	Very Late
Yellow/Gold	
Sunrise Yellow	Very Early
Honeyblush Yellow	Mid
Zinger Yellow	Mid
Sundance Yellow	Late
Avalon Sunny Yellow	Very Late
Gold Riot Yellow	Very Late
Sunny Day Yellow	Very Late
Yellow Tang	Very Late
Pink/Lavender	
Misty Lilac Pink	Early
Carousel Pink	Mid
Flamingo Neon Pink	Mid
Avalon Pink	Very Late
Jazzberry Pink	Very Late
Purple/Dark Pink	
Poppin Purple	Mid
Plumberry Purple	Late
Wicked Purple	Late
Avalon Purple	Very Late
Bronze	
Fireglow Bronze	Mid
Copper Coin Bronze	Late
Orange	
Zuma Orange	Mid
Mumosa Orange	Late
Sunset Orange	Late
Avalon Orange	Very Late
Blazing Orange	Very Late
Red	
Radiant Red	Mid
Red Ryder	Late
Mumma Mia Red	Very Late
Novelty	
Avalon Salmon	Very Late

NEW VARIETIES 2022



**Carousel
Blushing Salmon,
White and
Glimmer Orange**

This year, three new varieties join Carousel Pink for a four-color, mid-season family with great uniformity and heat tolerance!

22
pages 41
49



**Destiny
Yellow**

Bright yellow, starburst blooms create excellent presentations in a range of pot sizes and hanging baskets. Very good keeping quality.

page 14



**Kickin' Spicy
Orange**

Kick off the season with our earliest orange! This heat-tolerant, mounded mum produces attractive displays in medium to large pots.

page 24



**Maverick
Red**

This true red offers a nice depth of color for the late season. The long-lasting blooms are ideal for medium to large pots. Heat tolerant, too!

page 32



**Morgana
Pink**

This two-tone pink variety joins the tried and true, large-flowered Morgana family. Excellent keeping quality and landscape performance!

page 43



**Roaring
Red**

This standout red for the late season has it all – good heat tolerance, long bloom time and versatility for all pot sizes, baskets, and the landscape.

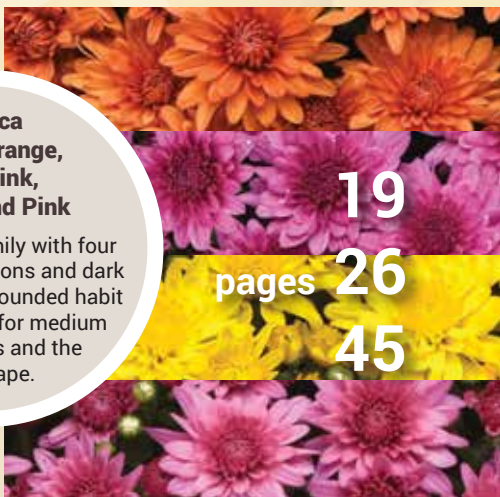
page 34



**Sizzling Fire
Yellow**

Unique, large, bicolored blooms start out yellow with an orange center and age to full yellow. A great addition to mid-season programs.

page 17



**Tribeca
Amber Orange,
Dark Pink,
Yellow and Pink**

Mid-season family with four strong color options and dark green foliage. Mounded habit makes it ideal for medium to large pots and the landscape.

19
pages 26
45

Ball Mums FAMILIES

Genetically connected for easy growing

Ball Mums families streamline production by delivering consistency, uniformity and ease of growing. These genetically related components are easy to grow due to similar culture programs, and their well-matched vigor, habit and timing ensure consistency you can rely on. Our mum families include some of the most popular varieties in a range of colors your customers will love.

Stellar

- Popular family flowers prolifically
- Almost perfect ball-shaped habit
- Performs well in both natural season and black cloth crops

Timing	Flower Date	Black Cloth Response				Habit	Vigor	
Mid	9/19-9/22	7 Weeks				European	Medium/Short	
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●	●	●	★
Black Cloth		●	●	●	●			●



Yellow
page 18



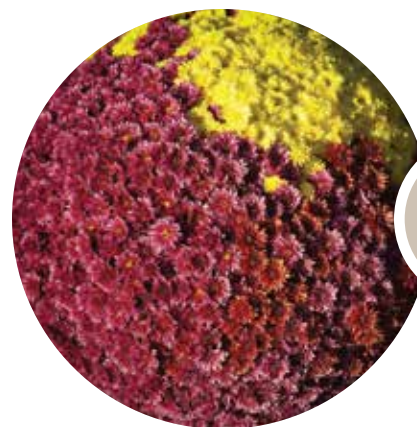
Red
page 34



Purple
page 38



Pink
page 44



Mid Season

New Tribeca

- Strong colors and dark green foliage
- Good keeping quality and heat tolerance
- Mounded habit ideal for medium to large pots and landscapes

Timing	Flower Date	Black Cloth Response				Habit	Vigor	
Mid	9/21-9/23	7 Weeks				Mounded	Medium to Medium/Tall	
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●			
Black Cloth								



New Yellow
page 19



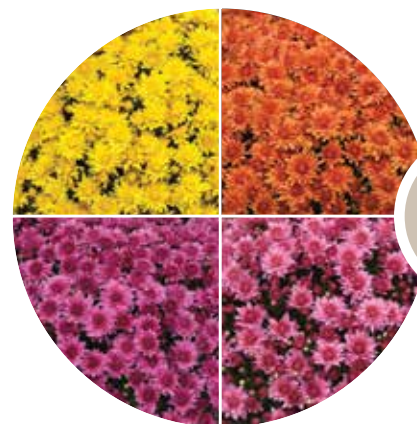
New Amber Orange
page 26



New Dark Pink
page 45



New Pink
page 45



Mid Season



Flamingo

- Earlier flowering
- Excellent growth habit
- Slightly smaller and slow-to-open flowers

Timing	Flower Date	Black Cloth Response					Habit	Vigor
Mid/Late	9/23-9/27	8 Weeks					European	Medium
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●	●	●*	●
Black Cloth								

*except Neon Pink



Cranberry Red
page 32



Neon Pink
page 42



Pineapple Pink
page 42



Pink
page 42



Mid Season

New Carousel

- Extremely prolific and uniform
- Decorative flowers on mounded habit
- Heat tolerant with good keeping quality

Timing	Flower Date	Black Cloth Response					Habit	Vigor
Mid	9/26	7 Weeks					Mounded	Medium
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●	●		
Black Cloth								



New Glimmer Orange
page 22



New Blushing Salmon
page 41



Pink
page 41



New White
page 49



Mid Season

Paradiso

- Prolific, medium-size flowers
- Branches freely with strong, yet flexible stems
- Great in black cloth and natural season

Timing	Flower Date	Black Cloth Response					Habit	Vigor
Late	9/27-9/28	7 Weeks					European	Medium/Short
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●			★
Black Cloth		●	●	●				●



Yellow
page 17



Bronze
page 25



Pink
page 43



White
page 50



Late
Season

Morgana

- Suitable for indoor and outdoor production
- Large, two-tone flowers with dark centers and lighter outside petals
- Flowers open gradually, for a long supply window

Timing	Flower Date	Black Cloth Response					Habit	Vigor
Very Late	10/7-10/9	8 Weeks					Mounded	Medium/Short to Medium
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●	●	●	★
Black Cloth		●	●	●	●	●		



Yellow
page 17



Orange
page 24



Red
page 33



Purple
page 37



New Pink
page 43



White
page 50



Very Late
Season

Avalon

- Medium to very large flowers
- Dark green foliage and strong stems
- Slow growing, surges in Fall

Timing	Flower Date	Black Cloth Response					Habit	Vigor
Very Late	10/15-10/19	8 Weeks					Mounded	Medium/Short to Medium
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●	●	●	★
Black Cloth		●	●	●	●			●



Golden Yellow
page 13



Sunny Yellow
page 13



Orange
page 21



Red
page 31



Purple
page 36



Pink
page 41



Salmon
page 41



Crème White
page 48



Very Late
Season

Ball Mums DUOS

Uniform, cost-efficient combos

Ball Mums offers duos, an assortment of two-component mixtures in complementary colors that lower your input costs by utilizing only two inputs rather than multiple. Each duo combination is selected to grow together with an even care regime, and similar habit and timing – for uniform, two-tone mum displays you can count on.

Katelli

- Outstanding color retention
- Uniform, early-flowering plants
- Best in 4 to 8-in. (10 to 20-cm) pots

Timing	Flower Date	Black Cloth Response			Habit		Vigor	
Early	9/13-9/15	6 Weeks			European		Short to Medium	
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●				★
Black Cloth		●	●	●				●



Yellow
page 16

Bronze
page 24

Moonglow

- Excellent ball-shaped habit
- Large flowers and dark foliage on strong, flexible stems
- Performs well in both natural season and black cloth crops

Timing	Flower Date	Black Cloth Response			Habit		Vigor	
Early	9/15-9/17	7 Weeks			European		Medium	
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●	●	●	●
Black Cloth		●	●	●	●			●



Yellow
page 17

White
page 50

Perfectly

- Large, two-tone flowers
- Tidy, mounded growth habit
- Best for smaller containers

Timing	Flower Date	Black Cloth Response					Habit	Vigor
Mid	9/21-9/22	7 Weeks					Mounded	Short to Medium/Short
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●			●
Black Cloth		●	●					●



Orange
page 25

Pink
page 43

Grapeberry

- Superb landscape performance
- Long-lasting color in hot black cloth flowerings
- Branches freely with strong stems

Timing	Flower Date	Black Cloth Response					Habit	Vigor
Late	10/4	7-8 Weeks					European	Medium/Short to Medium
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●	●	●*	●
Black Cloth		●	●	●				●

*except Red



Red
page 32

Neon Purple
page 36

Pop Eye

- Large, decorative, duplex flowers
- Prolific flowering
- Dark green foliage on strong, flexible stems

Timing	Flower Date	Black Cloth Response					Habit	Vigor
Very Late	10/6	8 Weeks					Mounded	Medium
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●	●		●
Black Cloth		●	●	●				



Orange
page 26

Pink
page 44

Majesty

- Extraordinary flower count
- Excellent growth habit
- Rich, saturated color

Timing	Flower Date	Black Cloth Response					Habit	Vigor
Very Late	10/9	7 Weeks					European	Medium
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●	●	●	●
Black Cloth		●	●	●	●	●		●



Red
page 32

Purple
page 37

Dove

- Prolific and uniform flowering
- Flexible stems on a spherical plant
- Slow in black cloth, but with excellent habit and production

Timing	Flower Date	Black Cloth Response					Habit	Vigor
Very Late	10/11	7-8 Weeks					European	Medium
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●			★
Black Cloth		●	●	●	●			●*

*except Yellow



Yellow
page 14

White
page 49

Alpine

- Decorative flowers in a classic European shape
- No heat delays
- Medium vigor works great in the landscape

Timing	Flower Date	Black Cloth Response					Habit	Vigor
Very Late	10/2	7-8 Weeks					European	Medium
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●				●
Black Cloth		●*	●*	●*				

*except Yellow



Yellow
page 13

White
page 48

SKYFALL® Collection

Available Colors:

Lemon Yellow, Pink, Purple,
Red, White, Yellow

Spacing: 10-20 in. (25-51 cm)

Height: 8-14 in. (20-36 cm)

Width: 20-30 in. (51-76 cm)

Skyfall is an opportunity to retail a premium product – ideal for late-season garden mum production. With a more rounded, spreading shape than traditional mums, this collection works great in 7 to 11-in. (18 to 20-cm) hanging baskets. Features a decorative flower form and great performance in black cloth flowerings. Plus, you can utilize the range of colors to create beautiful multicolor combinations!



Lemon Yellow



Pink



White





Purple



Red



Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
Very Late	10/15 - 10/23	9 Weeks	Mounded, Compact	Short

Growing Protocol*

Region	Culture Type	HB Size	Stick Week	Prop. Period in Weeks	Transplant Week (3 PPP / HB)	Start Short Day Period	Finish Week
North	Black-out	10"	19-26	3	22-29	29-36	35-43
		11"	18-25	3	21-28	29-36	36-43
	Natural	10"	25-26	3	28-29		43
		11"	24-25	3	27-28		43
South-West	Black-out	10"	19-26	3	22-29	29-36	35-43
		11"	18-25	3	21-28	29-36	36-43
	Natural	10"	25-26	2	27-28		40-41
		11"	26	2	28		40-41
South-East	Black-out	10"	19-26	3	22-29	29-36	35-43
		11"	18-25	3	21-28	29-36	36-43
	Natural	10"	23-27	3	26-31		45
		11"	22-26	3	25-29		45

* Recommendations according to experiences with growers in the mentioned regions in 2016.

Ball Mums YELLOW & GREEN



Alpine Yellow

Avalon Golden Yellow

Avalon Sunny Yellow

Buttercup Yellow

Cracklin Golden Yellow

New Destiny Yellow

Dove Yellow

Gold Cup Yellow

Gold Riot Yellow

Gold Rush Yellow

Goldcrest Yellow

Goldmine Yellow

Honeyblush Yellow

Katelli Yellow

Key Lime

Kizzmet Golden Yellow

Moonglow Yellow

Morgana Yellow

Paradiso Yellow

New Sizzling Fire Yellow

Stellar Yellow

Sundance Yellow

Sunny Day Yellow

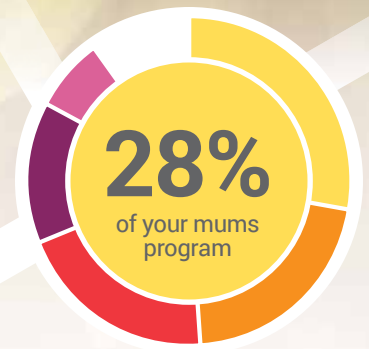
Sunrise Yellow

Sweet Honey Yellow

New Tribeca Yellow

Yellow Tang

Zinger Yellow





Alpine Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/12	8 WEEKS	EUROPEAN	MEDIUM

A late-flowering yellow sport of Alpine White with the same timing and classic European shape. Alpine Yellow does not delay in the heat and has good keeping quality. Its medium vigor works great in the landscape. For more information on the Alpine duo, see page 9.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●				●
BLACK CLOTH							



Avalon Golden Yellow (PP24,020)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/15	8 WEEKS	MOUNDED	MEDIUM/SHORT

Good-sized, mounded plants with large, dark yellow, decorative flowers can be used in almost any size container. Part of the end-of-season Avalon family, Avalon Golden Yellow grows slowly until early September, then pushes out into full size. For more information on the Avalon family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●			●



Avalon Sunny Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/19	8 WEEKS	MOUNDED	MEDIUM

Takes Avalon Yellow to the next level with a tighter habit and better flower form. Medium-to-large flowers with a bright, clear yellow color grow up to 2 in. (5 cm) on dark green foliage. Sunny Yellow branches freely, with very strong stems. For more information on the Avalon family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●			●

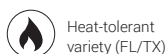
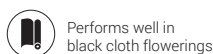
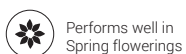


Buttercup Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/13	7 WEEKS	EUROPEAN	MEDIUM

Top-notch choice for early-Fall flowering! Features a great European habit combined with prolific, uniform flowering and good keeping qualities. Buttercup Yellow is easy to grow and adapts to all container sizes. Earlier, stronger and more uniform than Goldcrest Yellow.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH							





new



Cracklin Golden Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/24	7 WEEKS	MOUNDED	MEDIUM/SHORT

Cracklin Golden Yellow features a fiery yellow color with red highlights that fades to golden yellow as it ages – for great consumer appeal! This heat-tolerant variety has little to no heat delay; red overtones are more visible in cooler areas. Its mounded growth habit works well in the landscape.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●				
BLACK CLOTH	●	●					

New Destiny Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	10/1	7 WEEKS	MOUNDED	MEDIUM

Strong, bright yellow color on unique duplex flower form lures in the end consumer with striking starburst blooms. This variety offers an excellent flower display, long bloom time, good heat tolerance and very good keeping quality. Plus, the mounded habit is suitable for a wide range of pot sizes and hanging baskets.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		●
BLACK CLOTH	●	●	●	●			



Dove Yellow (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/11	7 WEEKS	EUROPEAN	MEDIUM

An excellent European habit with prolific and uniform flowering, as well as flexible stems. Flowers a week after Starburst White in the Fall to maintain a high-quality sequence of varieties through early October. Slow in black cloth, but with excellent habit and production. A sport of Dove White. For more information on the Dove duo, see page 9.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●			★
BLACK CLOTH	●	●	●	●			



Gold Cup Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/26	7 WEEKS	EUROPEAN	SHORT

Golden yellow decorative in the color range of Yellow Tang or Goldmine. Well-petalled flowers grow up to 2 in. (5 cm). Develops into a fine spherical plant with excellent flower count. Solid performance in deep South/Texas natural season crops. Vigor is similar to Yellow Tang and should not require growth regulators.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●				●
BLACK CLOTH	●	●	●				●



Gold Riot Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/9	8 WEEKS	EUROPEAN	MEDIUM

Prolific flowering like Yellow Tang, with a rich, golden yellow flower color. Medium-to-large, 2-in. (5-cm) flowers create a bright contrast to dark green foliage on an outstanding European growth habit. Freely branching with strong, yet flexible stems. Easier to size up than Yellow Tang. *Excellent keeping quality.*

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●			●



Gold Rush Yellow (PP20,462)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	10/1	7 WEEKS	EUROPEAN	MEDIUM

Great plant with nice color for late September and into October. Golden yellow flowers framed by very dark foliage. Gold Rush is well-suited for 8-in. (20-cm) and larger containers. Takes high temperatures well. Note: Use PGRs in black cloth to minimize peduncle stretch.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●	●	
BLACK CLOTH		●	●	●	●	●	



Goldcrest Yellow (PP11,606)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/14	7 WEEKS	MOUNDED	MEDIUM

This time-tested variety has an excellent habit, rich yellow flower color and exceptional foliage. Goldcrest Yellow is well-suited for use in any size container in black cloth and natural season crops. Slow 7-week response in black cloth flowering.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●	●	●

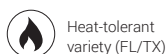
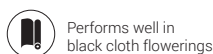


Goldmine Yellow (PP22,618)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY EARLY	9/9	6 WEEKS	EUROPEAN	MEDIUM/TALL

One of the earliest-flowering garden mums in Fall crops. Provides rich, golden yellow color, prolific flower count and dark, glossy foliage. Fast 6-week response in black cloth programs. Vigor must be controlled in small containers and hanging baskets. *Excellent keeping quality.*

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●	●	●
BLACK CLOTH		●	●	●	●	●	●



best seller



Honeyblush Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/23	7 WEEKS	EUROPEAN	MEDIUM

Virtually peerless among natural season crops! An outstanding performer in the peak September sales season, Honeyblush Yellow delivers fantastic bloom color, superb growth habit and striking dark green foliage. Can upgrade all yellow varieties in its flowering range.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH							



Katelli Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/13	6 WEEKS	EUROPEAN	MEDIUM

A bright yellow sport of Katelli Bronze with similar growth habit and uniformity. Katelli Yellow flowers a couple of days faster in both black cloth and natural season crops. This compact grower performs best in 4 to 8-in. (10 to 20-cm) pots. For more information on the Katelli duo, see page 7.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●				★
BLACK CLOTH	●	●	●				●



Key Lime

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/27	7 WEEKS	EUROPEAN	MEDIUM/TALL

A unique color in garden mums! Key Lime displays chartreuse/green, small to medium-sized flowers. It develops into a freely branching plant with tremendous flower count. The perfect "decorator" choice for Fall displays.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●			●
BLACK CLOTH	●	●	●				●



Kizzmet Golden Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/13	8 WEEKS	EUROPEAN	MEDIUM

Warm, golden yellow color is deeper than others of this type, and perfect for Fall. Features a European habit, prolific flowering and good keeping quality. Mounded growth habit is good for landscapes; showed no heat delay during trials.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●		●



Moonglow Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/17	7 WEEKS	EUROPEAN	MEDIUM

Fresh, lemon-yellow decorative sport from popular Moonglow White. Flower color is in the range of Buttercup. Comparable to Moonglow White in growth habit and flowering response. Performs well in both natural season and black cloth crops. For more information on the Moonglow duo, see page 7.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●			●



Morgana Yellow (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/8	8 WEEKS	MOUNDED	MEDIUM/SHORT

Yellow variety within this large-flowered family – suitable for indoor and outdoor production. Medium-vigor series features two-tone flowers with dark centers surrounded by lighter outside petals. Flowers open gradually, for a long supply window. Excellent keeping quality. For more information on the Morgana family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●	●		



Paradiso Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/27	7 WEEKS	EUROPEAN	MEDIUM/SHORT

A cheery, prolific-flowering yellow. Like others in the Paradiso family, this is an excellent choice for color combos in black cloth and natural season crops. It's freely branching, with strong yet flexible stems and medium-size flowers. For more information on the Paradiso family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●			★
BLACK CLOTH	●	●	●				●

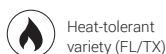
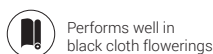


New Sizzling Fire Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/25	7 WEEKS	MOUNDED	MEDIUM

Unique, large, bicolor blooms – starting out yellow with an orange center and aging to yellow. A great addition to mid-season programs, adding a novel, complementary color to other yellows. Offers very good keeping quality, a long bloom time and good heat tolerance.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		●
BLACK CLOTH	●	●	●				





Stellar Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/22	7 WEEKS	EUROPEAN	MEDIUM

Medium-yellow decorative is comparable in color to Grandeur Yellow, with superior uniformity. Grows into an almost-perfect ball shape and flowers prolifically. Performs well throughout North America in both natural season and black cloth crops. For more information on the Stellar family, see page 4.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●			●



Sundance Yellow (PP21,163)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/30	8 WEEKS	EUROPEAN	MEDIUM

Classic European look and outstanding color in late-September natural season programs. Prolific, uniform, ball-shaped plants can be used in most size pots. Performs well in black cloth crops. *Excellent keeping quality.*

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●			●



Sunny Day Yellow (PP24,670)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/16	7 WEEKS	EUROPEAN	MEDIUM

Maybe the finest yellow decorative to end the Fall season! European growth habit covered with exceptionally bright flowers that exhibit very good keeping qualities. Excellent for mid to late-October sales; outstanding in black cloth crops!

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●			●



Sunrise Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY EARLY	9/7	7 WEEKS	MOUNDED	MEDIUM

Might be the brightest yellow decorative flowers in the marketplace! Excellent mounded growth habit. Earlier and less vigorous than Goldmine Yellow in black cloth and natural season crops. Loaded with flowers in the Fall. Earlier, more uniform and more prolific than Goldcrest Yellow.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●				●



Sweet Honey Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/28	8 WEEKS	EUROPEAN	MEDIUM

This bright golden yellow mum is an excellent choice for late season programs – offering good keeping quality and a nice ball-shaped habit. Upgrades Gold Cup for bigger vigor and size. Sweet Honey Yellow has a European growth habit and works well in the landscape.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		
BLACK CLOTH	●	●	●	●	●	●	



New Tribeca Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/21	7 WEEKS	MOUNDED	MEDIUM

Yellow variety within this mid-season, four-color family with strong colors and dark green foliage. Features very good keeping quality and heat tolerance. The nice, mounded habit works well in medium to large pot sizes and the landscape. For more information on the Tribeca family, see page 4.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		
BLACK CLOTH							



Yellow Tang (PP23,615)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/9	7 WEEKS	EUROPEAN	MEDIUM

"Best in class" variety is strong, on time, uniform and prolific in black cloth. Showy and full of blooms, with a European habit in both Fall natural season crops and black cloth programs. Displays reliable performance for growers. Excellent keeping quality.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●	●		●



Zinger Yellow (PPAF)

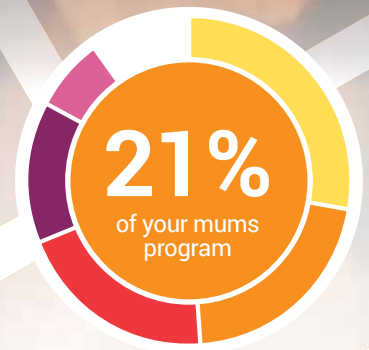
TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/24	8 WEEKS	MOUNDED	MEDIUM

Bright, clean yellow blooms and dark green foliage on strong, flexible stems. Very good decorative flower form. Classic, 1.75-in. (4-cm) flowers are extremely prolific. Spherical growth habit and branches freely. Grower friendly variety! Upgrades Yellowstone.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		
BLACK CLOTH		●	●	●			

Ball Mums ORANGE & BRONZE

- | | | |
|------------------------------------|---------------------------------|---------------------------------|
| Autumn Envy Bronze | Harvest Bronze | Perfectly Orange |
| Autumn Glow Bronze | Hot Spot Bronze | Petit Orange |
| Avalon Orange | Hot Sugar Gold Bronze | Pop Eye Orange |
| Blazing Orange | Katelli Bronze | Pumpkin Pie Orange |
| Butternut Golden Bronze | New Kickin' Spicy Orange | Sunset Orange |
| New Carousel Glimmer Orange | Morgana Orange | New Tribeca Amber Orange |
| Copper Coin Bronze | Mumosa Orange | Trickster Golden Bronze |
| Fire Halo Orange | Orange Zest | Twilight Bronze |
| Fireglow Bronze | Paradiso Bronze | Zuma Orange |





Autumn Envy Bronze (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY EARLY	9/8	6 WEEKS	MOUNDED	SHORT

The best early, two-tone bronze decorative mum. Large-flowered variety features fully petalled, 2-in. (5-cm), showy blooms for great Fall color! Earlier to flower than Katelli Bronze.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●				
BLACK CLOTH		●	●	●			



Autumn Glow Bronze (PP24,645)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	10/2	7 WEEKS	MOUNDED	MEDIUM

Chocolate-centered petals with golden bronze outer rays create a showy Fall display. Spreading, mounded plants work well in most pot sizes. Easy to grow and size up. Follows Sunset Orange by about a week for lots of fresh, lively color in peak season.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●		●



Avalon Orange (PP24,026)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/16	8 WEEKS	MOUNDED	MEDIUM/SHORT

Terrific two-tone color, large flowers and an excellent mounded habit. Grows slowly until early September, when it surges for a beautiful finish – a great wrap up to the Fall season. Handles heavy Fall rains and light frost. Try it in black cloth crops. For more information on the Avalon family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●			●



Blazing Orange (PP22,336)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/12	7 WEEKS	MOUNDED	MEDIUM

Outstanding performer for growers across North America! Large-flowered Blazing Orange displays great color in the North as well as in hot southern areas. Use in all container sizes for Spring, Summer and Fall flowerings. Great in landscapes. *Excellent keeping quality.*

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●		●

new



Butternut Golden Bronze

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/26	7 WEEKS	EUROPEAN	MEDIUM/TALL

Butternut Golden Bronze features beautiful, bicolor yellow-bronze color that fades to golden bronze – with little-to-no heat delay. Upgrades Harvest Bronze for better size and a nicer fade. This mid-season variety is suitable for almost any pot size and performs well in both natural season and black cloth crops; good keeping quality.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		
BLACK CLOTH		●	●	●	●	●	



New Carousel Glimmer Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/26	7 WEEKS	MOUNDED	MEDIUM

Bright-shining, orange variety within this mid-season family. Decorative, fully petalled, medium-sized, 1.5-in. (4-cm) flowers. Extremely prolific and very uniform. Good mounded growth habit, with strong, flexible stems. Heat-tolerant family has very good keeping quality. For more information on the Carousel family, see page 5.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		
BLACK CLOTH	●	●	●	●			

best seller



Copper Coin Bronze (PP29,449)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/30	7 WEEKS	EUROPEAN	MEDIUM

Rich orange flowers with bronze/chocolate center petals stand out at the peak of Fall! High flower count and great uniformity. Large flowers, 2 in. (5 cm) in diameter. Performed well in both Summer black cloth flowering trials and outdoor natural season trials.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		★
BLACK CLOTH	●	●	●				●



Fire Halo Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/24	7 WEEKS	MOUNDED	MEDIUM/TALL

Bright, mid-season, orange bicolor is a great addition to novelty programs! Fire Halo Orange is a decorative mum that features a mounded growth habit and heat tolerance. Alternative to Aubrey Orange, and is slightly later than Perfectly Orange.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON			●	●	●	●	
BLACK CLOTH							



Fireglow Bronze

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/23	8 WEEKS	EUROPEAN	MEDIUM

Beautiful, traditional Fall color and a perfect decorative flower form. Fireglow Bronze features outstanding flower size – 2.25 in. (6 cm) – and prolific flowering on a freely branching, mounded plant. Dark foliage complements classic light orange blooms.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH							



Harvest Bronze (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	10/1	7 WEEKS	EUROPEAN	SHORT

Prolific, uniform flowering with ball-shaped habit. In cool environments, color is a stunning blend of golden yellow and honey-bronzes. In hot environments, it takes on a rich yellow color. Black cloth crops also have a golden yellow color. Extremely flexible stems and dark foliage.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●				●
BLACK CLOTH	●	●	●				●



Hot Spot Bronze

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/18	7 WEEKS	MOUNDED	MEDIUM

Large, decorative flowers highlighted with orange-red center petals and butterscotch surrounding petals. Plants develop into large, full mounds with strong stems, dark foliage and good flexibility. In high temperatures, the flower color is more yellow than two-toned.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●	●	
BLACK CLOTH	●	●	●	●			

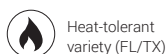
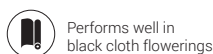
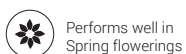


Hot Sugar Gold Bronze

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/30	8 WEEKS	MOUNDED	MEDIUM

Golden bronze to orange-yellow – color is more orange in cooler temps. Late flowering with good keeping quality. Mounded growth habit is good for landscapes.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH							





Katelli Bronze (PP16,674)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/15	6 WEEKS	EUROPEAN	SHORT

Katelli Bronze is known for its outstanding color retention. Sharp two-tone flowers with dark bronze centers are carried on uniform, early-flowering plants. Reliable but not vigorous, this variety is best grown in 8-in. (20-cm) and smaller pots. Takes the heat! *Excellent keeping quality.* For more information on the Katelli duo, see page 7.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●				★
BLACK CLOTH	●	●	●				●



New Kickin' Spicy Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/15	7 WEEKS	MOUNDED	MEDIUM/TALL

Our earliest orange is a great color addition to early-season mum programs. Kickin' Spicy Orange features a flexible, mounded habit that creates an attractive flowering display. Good heat tolerance and very good keeping quality. Suitable for medium to large pots.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		
BLACK CLOTH		●	●	●	●		



Morgana Orange (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/8	8 WEEKS	MOUNDED	MEDIUM

Orange variety within this large-flowered family – suitable for indoor and outdoor production. Medium-vigor series features two-tone flowers with dark centers surrounded by lighter outside petals. Flowers open gradually, for a long supply window. *Excellent keeping quality.* For more information on the Morgana family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●	●		



Mumosa Orange (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/28	7 WEEKS	EUROPEAN	MEDIUM

A rich, fluorescent, two-tone orange-coral flower color. Offers medium-sized, 1.5-in. (4-cm), fully petalled blooms on strong, flexible stems. Mounded growth habit and branches freely. Upgrades the uniformity of Orange Zest, and offers better flower color and flower form than Petit Orange.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		
BLACK CLOTH		●	●	●	●		



Orange Zest

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/25	8 WEEKS	MOUNDED	MEDIUM

Outstanding flower color and color retention! Prolific flowering, excellent rain tolerance and long-lasting blooms for great landscape potential. Flowers close to Sunset Orange in what may be the biggest sales week in the Fall natural season. Fantastic color, even in Texas. *Excellent keeping quality.*

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH							



Paradiso Bronze

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/28	7 WEEKS	EUROPEAN	MEDIUM/SHORT

Classic bronze color on a nicely spherical growth habit. Paradiso Bronze has medium-size, decorative flowers, medium green foliage, free branching and strong, flexible stems. A slightly mounded plant. For more information on the Paradiso family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●			★
BLACK CLOTH	●	●	●				●



Perfectly Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/21	7 WEEKS	MOUNDED	SHORT

Large flowers and great orange color. This color sport of Perfectly Pink has comparable vigor, habit and uniformity, but flowers a couple of days earlier. Note: Avoid large containers due to low vigor. Avoid Spring flowerings due to poor uniformity. For more information on the Perfectly duo, see page 8.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●			●
BLACK CLOTH	●	●					●

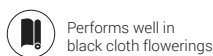


Petit Orange (PP20,318)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/25	7 WEEKS	EUROPEAN	MEDIUM

Grower-friendly variety has perfect growth habit, excellent uniformity and extreme flower count! Use in all container sizes for Spring, Summer and natural season Fall crops. Looks like a decorative early, then opens to a duplex.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●	●	●





Pop Eye Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/6	8 WEEKS	MOUNDED	MEDIUM

Large, duplex flowers have a light green disc, dark bronze center and warm-orange distal petals. Plants have strong, flexible stems and dark foliage. Durable even in heavy rains. A color sport of Pop Eye Pink with similar mounded habit. For more information on the Pop Eye duo, see page 8.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		●
BLACK CLOTH	●	●	●				



Pumpkin Pie Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/9	7 WEEKS	EUROPEAN	MEDIUM

Striking color mimics Fall foliage and pumpkins – excellent for Fall decorations! Easy to size up; prolific and uniform. Good flower color in the South; butterscotch color in hot black cloth flowerings. Note: Plant it late to take advantage of its natural vigor. *Excellent keeping quality in northern states.*

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		●
BLACK CLOTH	●	●	●	●	●		



Sunset Orange (PP20,475)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/27	7 WEEKS	EUROPEAN	MEDIUM

An all-around grower favorite! Easy to grow and size up, with good stem length and excellent flexibility. Prolific, medium-size, decorative flowers have sharp, two-tone color and good keeping quality. Good for all pot sizes and flowering seasons.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●	●	●



New Tribeca Amber Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/21	7 WEEKS	MOUNDED	MEDIUM

Orange variety within this mid-season, four-color family with strong colors and dark green foliage. Features very good keeping quality and heat tolerance. The nice, mounded habit works well in medium to large pot sizes and the landscape. For more information on the Tribeca family, see page 4.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		
BLACK CLOTH							



Trickster Golden Bronze

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/23	8 WEEKS	MOUNDED	MEDIUM

Mid-season, golden yellow to orange-bronze blooms. More golden in high heat and changes from one color to the other, depending on temperature, but doesn't change as it ages – hence the Trickster name. Large, mounded habit is fantastic in landscapes.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH							



Twilight Bronze (PP20,933)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/10	7 WEEKS	EUROPEAN	MEDIUM

Attractive and unique color! Honey-bronze outer petals surround red-bronze center petals. Prolific and uniform in flowering. Twilight Bronze often benefits from an extra week or two of growing time, especially in larger containers.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●			●
BLACK CLOTH	●	●					



Zuma Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/22	8 WEEKS	EUROPEAN	MEDIUM

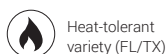
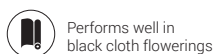
Striking, early-flowering, orange blooms with a darker, deep warm center. Very good keeping quality with limited fading; did not show heat delay. Mounded growth habit. Performed well in black cloth trials.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH		●	●	●			

FAST, CONVENIENT ONLINE ACCESS 24/7

Order top-quality Ball Mums on the spot, track your shipments, organize documents, download cultural and marketing materials and so much more with **Ball Seed's WebTrack®** system – for round-the-clock service and support you can rely on.

BallSeed®



Landscape

Here are our choices for the best of the best in landscape mums, organized by color.



Yellow & Green	Orange & Bronze	Red
Alpine Yellow	Autumn Envy Bronze	Cranbury Red
Avalon Golden Yellow	Avalon Orange	Eternal Red
Avalon Sunny Yellow	Blazing Orange	Five Alarm Red
Cracklin Golden Yellow	New Carousel Glimmer Orange	Flamingo Cranberry Red
Gold Riot Yellow	Copper Coin Bronze	Grapeberry Red
Gold Rush Yellow	Hot Sugar Gold Bronze	Majesty Red
Goldcrest Yellow	Katelli Bronze	Morgana Red
Goldmine Yellow	Morgana Orange	Mumma Mia Red
Honeyblush Yellow	Orange Zest	Radiant Red
Kizzmet Golden Yellow	Petit Orange	Red Hots
Morgana Yellow	Pumpkin Pie Orange	Red Ryder
Sundance Yellow	New Tribeca Amber Orange	New Roaring Red
Sunny Day Yellow	Trickster Golden Bronze	
Sunrise Yellow		
New Tribeca Yellow		
Yellow Tang		
Zinger Yellow		

Purple	Pink	White
Avalon Purple	Avalon Pink	Alpine White
Grapeberry Neon Purple	Avalon Salmon	Avalon Crème White
Grapeberry Purple	New Carousel Blushing Salmon	Butter N' Cream White
Majesty Purple	Carousel Pink	New Carousel White
Morgana Purple	Flamingo Neon Pink	Celestial White
Plumberry Purple	Flamingo Pineapple Pink	Morgana White
Poppin Purple	Flamingo Pink	Starburst White
Venus Purple	Jazzberry Pink	
	New Morgana Pink	
	Pink Frenzy	
	Skye Pink	
	New Tribeca Dark Pink	
	New Tribeca Pink	



Keeping quality you can count on

Ball Mums offers a full assortment of mum varieties that have been trialed and proven for their excellence in the landscape. These mums offer vibrant color all season long, as well as superior heat, rain and frost tolerance. They are chosen for their “keeping quality,” which guarantees they will last longer and later in the landscape, creating exceptional value for your customers!



Ball Mums RED



Avalon Red
Cranbury Red
Eternal Red
Five Alarm Red
Flamingo Cranberry Red
Grapeberry Red

Majesty Red
New Maverick Red
Morgana Red
Mumma Mia Red
Radiant Red
Red Hots

Red Rover
Red Ryder
New Roaring Red
Stellar Red





© Royal Van Zanten

Avalon Red (PP24,021)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/15	8 WEEKS	MOUNDED	MEDIUM/SHORT

The red decorative of the Avalon family. Large flowers offer special appeal and good color retention, except in warm finishing areas. Adaptable to all pot sizes, it grows slowly until early September when it really takes off! For more information on the Avalon family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●			●



Cranbury Red (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/17	7 WEEKS	MOUNDED	MEDIUM

Solid bright red flower color – may have the best color retention of all available early, red varieties. Flowers after Five Alarm Red. Features fully petalled, large, 2-in. (5-cm) flowers. Good spherical, mounded growth habit. Very dark green foliage. *Excellent keeping quality.*

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		
BLACK CLOTH		●	●	●	●		



Eternal Red

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/14	8 WEEKS	MOUNDED	MEDIUM/SHORT

Deep red flower color and dark green foliage present a classic look. Eternal Red is a strong, sturdy plant with excellent color retention. It tolerates frost and takes heavy Fall rains with no problems. Slow in black cloth flowerings.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●				●
BLACK CLOTH	●	●					



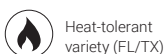
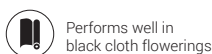
best seller

Five Alarm Red (PP19,791)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/11	6 WEEKS	MOUNDED	MEDIUM

Our earliest-to-flower red decorative for Fall has superb color and good color retention. Flowering uniformity is average. Some early crown buds help with early sales. Best in 6-in. (15-cm) and larger pots for Spring, Summer or Fall flowerings. Early Florel applications improve uniformity.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●	●	





Flamingo Cranberry Red (PP23,367)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/27	8 WEEKS	EUROPEAN	MEDIUM

Color sport of Flamingo Pink with the same excellent growth habit, nice flower size and slow-to-open flowers. The flower color is truly unique in garden mums: red tinged with gold and a wisp of pink. Try it – your customers will love it! Best color with cool finish. For more information on the Flamingo family, see page 5.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH							



Grapeberry Red (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	10/4	8 WEEKS	EUROPEAN	MEDIUM

Sangria-red color with large, 2-in. (5-cm) flowers. A sport of Grapeberry Purple that flowers just after Red Ryder and close to Red Rover. Strong, mounded growth habit and branches freely with strong stems. Offers better-sized plants than Red Rover. For more information on the Grapeberry duo, see page 8.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		●
BLACK CLOTH	●	●	●				●



Majesty Red

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/9	7 WEEKS	EUROPEAN	MEDIUM

Excellent performance into the early part of peak October sales. Red Majesty should outperform every red variety within its natural season, with far more uniform flowering and flowers per plant, and a more perfect European growth habit. A color sport of Majesty Purple. For more information on the Majesty duo, see page 9.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●		●



New Maverick Red

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	10/4	7 WEEKS	MOUNDED	MEDIUM/TALL

This late-season, bright and rich, true red offers a nice depth of color. Maverick Red features a decorative flower form with a long bloom time and good keeping quality. Flowers 5 days later than new Roaring Red. Heat tolerant and suitable for medium to large pots.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●	●	
BLACK CLOTH							



Morgana Red

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/8	8 WEEKS	MOUNDED	MEDIUM

Red variety within this large-flowered family – suitable for indoor and outdoor production. Medium-vigor series features two-tone flowers with dark centers surrounded by lighter outside petals. Flowers open gradually, for a long supply window. *Excellent keeping quality.* For more information on the Morgana family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●		



Mumma Mia Red

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/5	8 WEEKS	EUROPEAN	MEDIUM/TALL

A medium-tall, mounded habit and striking red color – good for landscapes. Demonstrates a fantastic European habit, excellent landscape performance with heat tolerance and no heat delay. Grow this one with confidence!

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●	●	
BLACK CLOTH		●	●	●			



Radiant Red (PP25,013)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/25	7 WEEKS	EUROPEAN	MEDIUM/TALL

A "must-have" variety for mid-September sales! Dark red, decorative flowers have superb color retention and rain/frost tolerance. Spherical plants have strong yet flexible stems with dark foliage. Best used in 8-in. (20-cm) and larger containers. Use PGR in black cloth crops. *Excellent keeping quality.*

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●	●	
BLACK CLOTH		●	●	●	●	●	

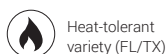
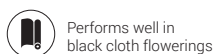


Red Hots

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/19	7 WEEKS	MOUNDED	MEDIUM

Bright red flowers on full and productive plants with excellent color retention. Takes the heat, even in the deep South, with no significant fading. Upgrades Stellar Red for flower size and color retention. Good in black cloth and Spring flowering programs.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●			●





Red Rover (PP23,016)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/6	7 WEEKS	EUROPEAN	MEDIUM

Bright red decorative follows Red Ryder for strong early-October sales. Red Rover delivers solid performance in black cloth crops. Can be compact in the largest containers.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●				●



Red Ryder

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/28	8 WEEKS	EUROPEAN	MEDIUM

Profuse, dark red, decorative flowers with fantastic keeping quality! Plants size up readily with strong, flexible stems. Continues the flow of quality red decoratives into October. Slow in black cloth flowerings, but has excellent color and habit. Not for Spring flowering.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH		●	●	●			●



New Roaring Red

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/29	8 WEEKS	MOUNDED	MEDIUM

This two-toned, vibrant, deep red is a standout variety. Its excellent habit and color make it a strong selection for late season programs. Offers good heat tolerance, long bloom time and very good keeping quality. Suitable for all pot sizes and hanging baskets.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		●
BLACK CLOTH	●	●	●	●	●		●



Stellar Red

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/19	7 WEEKS	EUROPEAN	SHORT

A prolific, medium-red sport of Stellar Purple. Similar in uniformity and growth habit to Stellar Purple, with about 10% less vigor. Flower color may fade in high temperatures. Benefits from early Florel applications to minimize early budding. For more information on the Stellar family, see page 4.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●			●

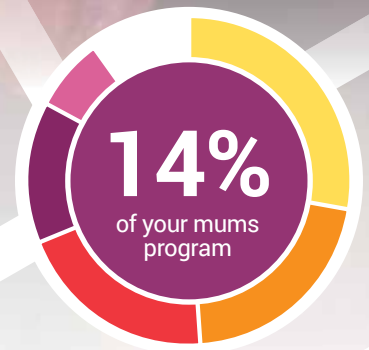
Ball Mums PURPLE



Amphion Lavender Purple
Avalon Purple
Grapeberry Neon Purple
Grapeberry Purple
Gypsy Rose Purple

Majesty Purple
Morgana Purple
Paintbox Purple
Plumberry Purple
Poppin Purple

Prism Purple
Stellar Purple
Venus Purple
Wicked Purple





Amphion Lavender Purple (PP13,271)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/27	6 WEEKS	EUROPEAN	MEDIUM

One of the nicest daisies available in garden mums! Dark pink flowers (almost purple in cool finishes) virtually engulf the plant, making it a great impulse item at retail. Easy to grow in any size pot. Amphion Lavender Purple features dark foliage, flexible stems and a spherical European habit.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●		●



© Royal Van Zanten

Avalon Purple (PP24,024)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/16	8 WEEKS	MOUNDED	MEDIUM/SHORT

A superb Fall season-ending display! Avalon Purple features large, regal purple, decorative flowers with excellent color retention on classically mounded plants. Well-matched to all the other Avalons. For more information on the Avalon family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●			●



Grapeberry Neon Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	10/4	7 WEEKS	EUROPEAN	MEDIUM

Late-flowering Grapeberry Neon Purple displays good keeping quality. It features a European growth habit, works well in landscapes and demonstrates heat tolerance with no heat delay. This variety is an upgrade over Grapeberry Purple for improved flowering and habit. For more information on the Grapeberry duo, see page 8.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●				●



Grapeberry Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	10/4	7 WEEKS	EUROPEAN	MEDIUM/SHORT

Brilliant purple may be best-in-class for natural-season flowering! Upgrades all of the purples and bright pinks in the marketplace. Superb color, classic growth habit and extremely prolific flowering. Great color in hot black cloth flowerings. *Excellent keeping quality.*

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●				●



Gypsy Rose Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/24	8 WEEKS	EUROPEAN	MEDIUM

This mid-season purple displayed superior performance during trials, with a perfect ball-shaped habit. Gypsy Rose Purple has a vibrant magenta-purple color with good color retention. Plus, its European growth habit and heat tolerance work well in the landscape. This variety is suited for all pot sizes in both black cloth and natural season crops.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●	●	●



Majesty Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/9	7 WEEKS	EUROPEAN	MEDIUM

Exceptionally rich and saturated flower color! Excellent growth habit, fantastic flower count and great uniformity provide a quality product in any size container. Flowers after Venus and before the Avalons. Could become the best of all purples in the early October market. For more information on the Majesty duo, see page 9.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●	●	●



Morgana Purple (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/9	8 WEEKS	MOUNDED	MEDIUM/SHORT

Purple variety within this large-flowered family – suitable for indoor and outdoor production. Medium-vigor series features two-tone flowers with dark centers surrounded by lighter outside petals. Flowers open gradually, for a long supply window. *Excellent keeping quality.* For more information on the Morgana family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●	●	●	●

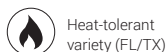
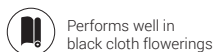


Paintbox Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	10/2	7 WEEKS	MOUNDED	MEDIUM/SHORT

A "wow" color – lively, bright, saturated deep pink with very good color retention! Large, 2-in. (5-cm), very well-petaled flowers are uniform and prolific. Excellent spherical habit in Fall natural season crops. Performed well in our black cloth trials.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●	●	●	●



best seller



Plumberry Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/30	7 WEEKS	MOUNDED	MEDIUM

Well-placed, deep regal purple flowers engulf the canopy. Plumberry's large, 2.5-in. (6-cm) blooms really stand out among its competitors. It has a superb mounded growth habit, dark green foliage, decorative flower form, free branching and strong, flexible stems. *Excellent keeping quality.*

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●		



Poppin Purple (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/24	7 WEEKS	EUROPEAN	MEDIUM

Large, 2-in. (5-cm), dark purple, duplex flowers with very dark green foliage on strong, flexible stems. Offers deeper purple color and larger flowers than Stellar Purple; easier to size up. Excellent spherical growth habit and good to very good keeping quality.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		
BLACK CLOTH		●	●	●	●		

best seller



Prism Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/28	8 WEEKS	EUROPEAN	MEDIUM

Late-season, vibrant dark purple features an excellent European growth habit – great for landscapes. Upgrades Pizzazz Purple; flower timing is later than Poppin Purple but earlier than Wicked Purple. Prism Purple is well suited for all pot sizes in both black cloth and natural season crops. *Excellent keeping quality.*

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●	●	●



Stellar Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/20	7 WEEKS	EUROPEAN	MEDIUM

One of our top-selling purples, with phenomenal flower counts, great color and excellent uniformity. Can be used in black cloth and natural season flowerings. Cuttings can bud prematurely, but benefit from early Florel applications and proper fertilizer levels. For more information on the Stellar family, see page 4.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●	●		●

best seller



Venus Purple (PP14,378)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	10/4	7 WEEKS	EUROPEAN	MEDIUM

One of our most popular varieties, year after year. Large, dark purple, decorative flowers top round, ball-shaped plants with strong, flexible stems and dark foliage. Use Venus Purple in all size pots for Spring, Summer or Fall crops.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●	●	●



Wicked Purple (PPAF)

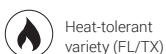
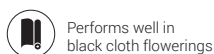
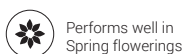
TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/30	7 WEEKS	MOUNDED	MEDIUM

Intense, rich flower color with fully petalled, 1.5-in. (4-cm), decorative flowers. Prolific on a nice spherically mounded growth habit. Very dark green foliage and branches freely. Presents larger flowers than Pizzazz Purple. Very grower friendly.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		
BLACK CLOTH		●	●	●	●		



Mixed container with Majesty Purple Garden Mum



Ball Mums PINK



Avalon Pink

Avalon Salmon

New Carousel Blushing Salmon

Carousel Pink

Flamingo Neon Pink

Flamingo Pineapple Pink

Flamingo Pink

Jazzberry Pink

Misty Lilac Pink

New Morgana Pink

Paradiso Pink

Perfectly Pink

Pink Frenzy

Pop Eye Pink

Skye Pink

Stellar Pink

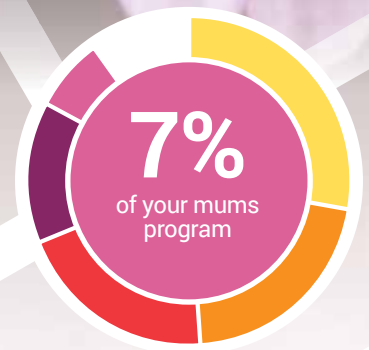
Temptation Pink

New Tribeca Dark Pink

New Tribeca Pink

Whispered Lavender Pink

Wild Child Pink





Avalon Pink (PP22,659)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/16	8 WEEKS	MOUNDED	MEDIUM/SHORT

The "mother" of the Avalon family offers very large flowers with fine keeping qualities and sturdy, mounded plants. Grows slowly through the Summer, then pushes through September for an outstanding end to the natural Fall season. For more information on the Avalon family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●			●



Avalon Salmon

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/16	8 WEEKS	MOUNDED	MEDIUM/SHORT

Vibrant, two-tone coral flower color. Comparable to all other Avalons in growth habit, vigor, flowering response and large flower size. Avalon Salmon has very good color retention and overall keeping quality. For more information on the Avalon family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●			●



New Carousel Blushing Salmon

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/26	7 WEEKS	MOUNDED	MEDIUM

Salmon-pink variety within this mid-season family. Decorative, fully petalled, medium-sized, 1.5-in. (4-cm) flowers. Extremely prolific and very uniform. Good mounded growth habit, with strong, flexible stems. Heat-tolerant family has very good keeping quality. For more information on the Carousel family, see page 5.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		
BLACK CLOTH	●	●	●	●			

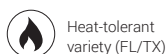
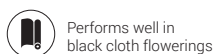


Carousel Pink (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/26	7 WEEKS	MOUNDED	MEDIUM

Bright and cheerful, two-tone pink variety within this mid-season family. Decorative, fully petalled, medium sized, 1.5-in. (4-cm) flowers. Extremely prolific and very uniform. Good mounded growth habit, with strong, flexible stems. Heat-tolerant family has very good keeping quality. For more information on the Carousel family, see page 5.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		
BLACK CLOTH	●	●	●	●			





Flamingo Neon Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/26	8 WEEKS	EUROPEAN	MEDIUM

Earlier flowering and brighter color than Flamingo Pink, but with slightly smaller flowers and less vigor. Flamingo Neon Pink is best for 8-in. (20-cm) and smaller containers. Slow, with marginal uniformity in black cloth. For more information on the Flamingo family, see page 5.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		●
BLACK CLOTH							



Flamingo Pineapple Pink (PP23,484)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/23	8 WEEKS	EUROPEAN	MEDIUM

Always uniquely colored! In higher temperatures, blooms show more cream; in lower, more pink. A sport of Flamingo Pink with similar vigor and growth habit, but slightly earlier flowering. For more information on the Flamingo family, see page 5.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH							



Flamingo Pink (PP20,589)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/26	8 WEEKS	EUROPEAN	MEDIUM

A popular variety with bright coral-pink color, reliable growth habit and long-lasting flowers. Best for natural season flowering, but with the cool flower color, it is sometimes used in northern black cloth crops. For more information on the Flamingo family, see page 5.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH							



Jazzberry Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/7	7 WEEKS	EUROPEAN	MEDIUM

One of the most prolific, striking pink garden mums ever bred for North American sales! Amazing bud count! Extremely prolific and exceptionally uniform, with medium to medium-small blooms. Medium to dark green foliage and strong, flexible stems. Perfect sphere habit and complete flower coverage.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●			●
BLACK CLOTH							



Misty Lilac Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/18	6 WEEKS	MOUNDED	MEDIUM

Misty Lilac Pink is our first selection in the early pink category – with a 6-week response in black cloth flowering. This vibrant dark pink mum has a mounded growth habit, excellent heat tolerance and good keeping quality.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		
BLACK CLOTH	●	●	●	●	●		



new

New Morgana Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/9	8 WEEKS	MOUNDED	MEDIUM

Two-tone, medium pink variety within this large-flowered family – suitable for indoor and outdoor production. Medium-vigor series features two-tone flowers with dark centers surrounded by lighter outside petals. Flowers open gradually, for a long supply window. *Excellent keeping quality.* For more information on the Morgana family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●	●		



Paradiso Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/27	7 WEEKS	EUROPEAN	MEDIUM/SHORT

Another perfect pink to the Ball Mums collection. Ideal for color combinations, especially in black cloth and natural season. Its European habit, medium-size blooms and prolific flowering match the rest of the family. For more information on the Paradiso family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●			★
BLACK CLOTH	●	●	●				●

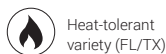
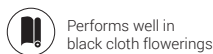


Perfectly Pink (PP23,015)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/22	7 WEEKS	MOUNDED	MEDIUM/SHORT

Large, two-tone flowers and a tidy growth habit. Perfectly Pink perfectly fills the mid-September market for pink garden mums. For more information on the Perfectly duo, see page 8.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●			●
BLACK CLOTH	●	●					●



best seller



Pink Frenzy (PP25,012)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/26	7 WEEKS	MOUNDED	MEDIUM/TALL

The boldest, brightest pink mum ever! Pink Frenzy is easy to size up and grows best in gallon and larger containers. Excellent color retention, even in Texas trials. Apply late PGR to control peduncle stretch.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●	●	●



Pop Eye Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/6	8 WEEKS	MOUNDED	MEDIUM

Unique, eye-catching color pattern comes to life! Tricolor display has a magenta-purple ring of color surrounding a bright green disc, with a lively pink on the petals. Large, decorative duplex flowers create a showy display at retail. Prolific and uniform, with dark green foliage. For more information on the Pop Eye duo, see page 8.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●	●	●



Skye Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/30	7 WEEKS	EUROPEAN	MEDIUM

Produces bright, two-tone dark pink flowers mid-season with a very uniform, mounded growth habit. Medium-vigor variety will perform great in landscapes of all sizes. Excellent keeping quality.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●	●	●	●



Stellar Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/21	7 WEEKS	EUROPEAN	MEDIUM

Medium to light pink decorative for the popular Stellar family! Light pink but pleasing color in very hot environments like Texas. Has similar vigor and response as Stellar Purple, but flowered a couple days behind in our trials. For more information on the Stellar family, see page 4.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●	●	●	●



Temptation Pink (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/22	7 WEEKS	EUROPEAN	MEDIUM

Large, 1.5-in. (4-cm), medium-pink blooms with slight duplex form when fully open. Temptation Pink has larger flowers, fuller plants and better color retention than Stellar Pink. Well-placed flowers engulf the canopy. Branches freely and is very grower friendly. Excellent spherical growth habit.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		
BLACK CLOTH		●	●	●	●	●	



new

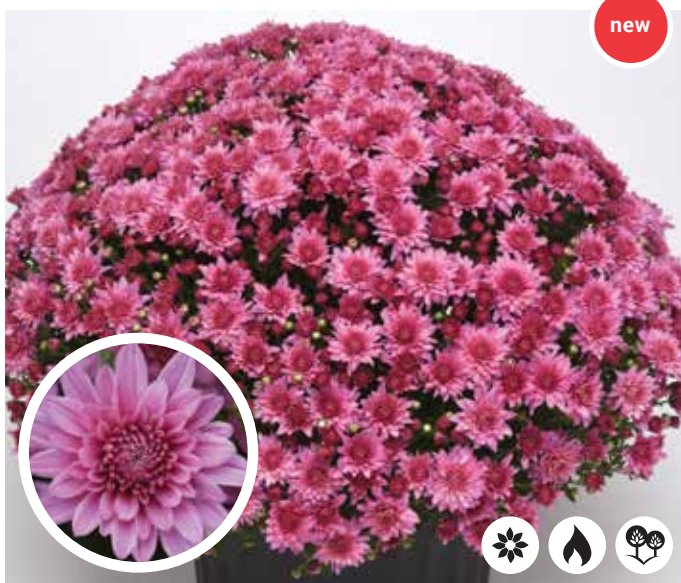


New Tribeca Dark Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/23	7 WEEKS	MOUNDED	MEDIUM

Dark pink variety within this mid-season, four-color family with strong colors and dark green foliage. Features very good keeping quality and heat tolerance. The nice, mounded habit works well in medium to large pot sizes and the landscape. For more information on the Tribeca family, see page 4.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		
BLACK CLOTH							



new



New Tribeca Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/21	7 WEEKS	MOUNDED	MEDIUM/TALL

Pink variety within this mid-season, four-color family with strong colors and dark green foliage. Features very good keeping quality and heat tolerance. The nice, mounded habit works well in medium to large pot sizes and the landscape. For more information on the Tribeca family, see page 4.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		
BLACK CLOTH							

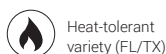
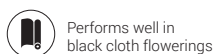
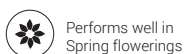


Whispered Lavender Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/24	7 WEEKS	MOUNDED	MEDIUM

Stunning decorative, duplex, dark lavender-pink flowers cover this mounded, vigorous mum. Mid-season variety has a uniform habit. No noticeable heat delay. Excellent keeping quality.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON		●	●	●	●		●
BLACK CLOTH							





Wild Child Pink (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/23	7 WEEKS	MOUNDED	MEDIUM

Beautiful, eye-catching, two-tone pink, decorative flowers and dark green foliage on strong, flexible stems. Large, 1.8-in. (5-cm), uniform blooms feature a full, mounded growth habit. Grower friendly and sizes up easily, with good to very good keeping quality. Upgrades Perfectly Pink and Stellar Pink.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●			
BLACK CLOTH	●	●	●	●			



Field of mums at Rocket Farms in Salinas, CA

GREEN NETTING

by Live Oak Technologies

Save money and reduce shrink!

Mum netting is an easy and inexpensive way to keep plants retail-ready longer. Netted mums also ship and sell better and last longer in the landscape.

Designed with large, 3"x3" holes that allow branches to grow through the netting without raising to the top of the canopy; netting remains in the middle and blends well with green foliage.

Apply netting at the first visible flower bud, usually when the plant reaches 60 to 70% of its final size, so the netting will be positioned 4 to 5 in. (10 to 13 cm) below the top canopy at the time of cracking color.

Two sizes of netting are offered. The 17" x 3,280' size is for use on 10-in. (25-cm) and smaller sizes, with each roll yielding approx. 2,200 pieces. The 23" x 3,280' size is for use on 12-in. (30-cm) and larger sizes, yielding approx. 1,700 pieces per roll.



For more information, contact your Ball Seed Sales Rep, or order at ballseed.com/webtrack or 800 879-BALL.

Ball Mums WHITE



Alpine White

Aspen White

Avalon Crème White

Bridal White

Butter N' Cream White

New Carousel White

Celestial White

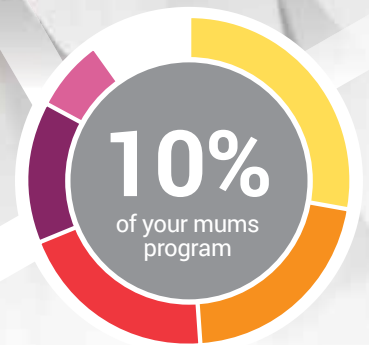
Dove White

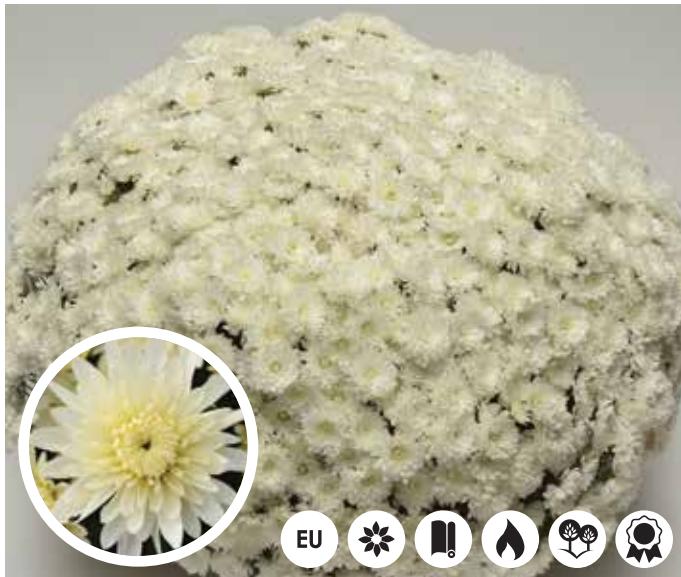
Moonglow White

Morgana White

Paradiso White

Starburst White





Alpine White (PP30,154)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/12	7 WEEKS	EUROPEAN	MEDIUM

Clean white, 3/4 to 1-in. (2 to 3-cm) decorative flowers in a classic European shape. Good uniformity with prolific flowering response in the Fall. Good performance in our black cloth trials with a high flower count. In our trials, kept its pure white color, with no signs of pinking, deep into October. For more information on the Alpine duo, see page 9.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●				●
BLACK CLOTH	●	●	●				



Aspen White (PP21,205)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/12	6 WEEKS	MOUNDED	MEDIUM

Our earliest decorative white to kick off the Fall mum season. Aspen White combines clean white flower color with good decorative flower form. Strong, productive plants have medium green foliage, good flower counts and mounded growth habit.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●			●
BLACK CLOTH	●	●	●				●



Avalon Crème White

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/19	8 WEEKS	MOUNDED	MEDIUM

Beautiful Avalon Crème White keeps its color! Dark green foliage sets off medium-large, white flowers with a touch of ivory...and no pink tinge. Growth habit is similar to Avalon White, with free branching and very strong stems. For more information on the Avalon family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●			●



Bridal White

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/15	6 WEEKS	EUROPEAN	MEDIUM/TALL

One of the purest, brightest white garden mums! Prolific, uniform and covered with blooms. Larger decorative flowers than any other white garden mum. Robust, spherical habit with dark green foliage. Performed well in trials for Spring and Summer, black cloth and natural season flowering.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	
BLACK CLOTH	●	●	●	●	●	●	



best seller



Butter N' Cream White (PP26,999)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/29	8 WEEKS	EUROPEAN	MEDIUM

Clean white decorative, with a hint of ivory in center of young flowers. Flowers after Celestial White and Starburst White; easy to grow and size up. Fine spherical growth habit. Solid performance in deep South natural season crops. *Excellent keeping quality.*

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		●
BLACK CLOTH	●	●	●	●	●		●



new



New Carousel White

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/26	7 WEEKS	MOUNDED	MEDIUM

Creamy white variety within this mid-season family. Decorative, fully petalled, medium-sized, 1.5-in. (4-cm) flowers. Extremely prolific and very uniform. Good mounded growth habit, with strong, flexible stems. Heat-tolerant family has very good keeping quality. For more information on the Carousel family, see page 5.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		
BLACK CLOTH	●	●	●	●			



best seller

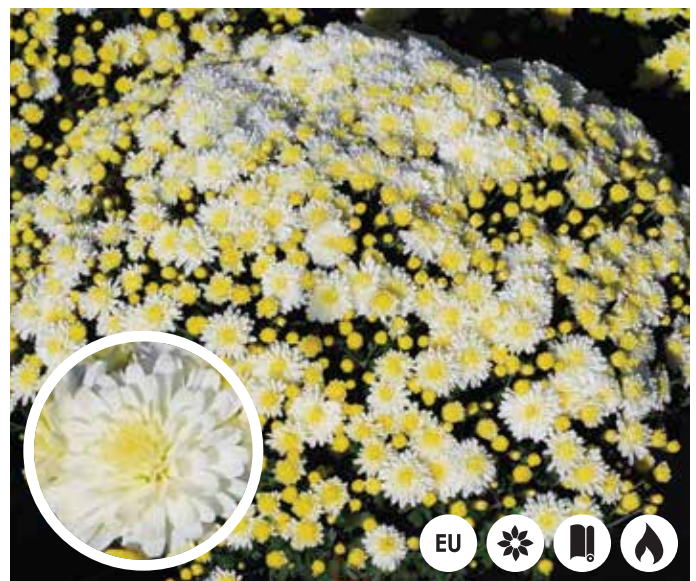


Celestial White

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/20	6 WEEKS	EUROPEAN	MEDIUM

Easy to grow, flowers prolifically and very uniformly. It performed well in all of our trials, in all areas. Flowers after Moonglow White and before Butter N' Cream White. Slight ivory center upon opening, then pure white.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●		●
BLACK CLOTH	●	●	●	●			●

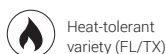
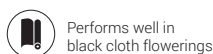


Dove White

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/11	8 WEEKS	EUROPEAN	MEDIUM

Features European traits of prolific and uniform flowering, flexible stems and spherical plant habit. One of the most outstanding growth habits and responses on the market today. Slow, but excellent habit and production in black cloth. For more information on the Dove duo, see page 9.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●			★
BLACK CLOTH	●	●	●	●			●





Moonglow White (PP22,617)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	9/15	7 WEEKS	EUROPEAN	MEDIUM

Excellent ball-shaped plants have dark foliage and strong, flexible stems. Large flowers are highlighted with ivory tones in the center. Moonglow White is dependable and productive in black cloth and natural season programs. Sister to Moonglow Yellow. For more information on the Moonglow duo, see page 7.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●	●			●



Morgana White

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	10/7	8 WEEKS	MOUNDED	MEDIUM/SHORT

White variety within this large-flowered family – suitable for indoor and outdoor production. Medium-vigor series features two-tone flowers with dark centers surrounded by lighter outside petals. Flowers open gradually, for a long supply window. *Excellent keeping quality.* For more information on the Morgana family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	★
BLACK CLOTH	●	●	●	●	●		



Paradiso White

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	9/27	7 WEEKS	EUROPEAN	MEDIUM/SHORT

Abundant, clean white blooms burst forth on medium green foliage. Like its family mates, Paradiso White flowers prolifically and branches freely, with strong, flexible stems. Ideal for black cloth and natural season growing. For more information on the Paradiso family, see page 6.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●			★
BLACK CLOTH	●	●	●				●



Starburst White (PP20,473)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	9/20	7 WEEKS	EUROPEAN	MEDIUM/SHORT

Prolific and extremely uniform in black cloth and natural season crops. An outstanding variety for most any use. Unique flower form features quilled petals, often tipped with a "spoon." Excellent spreading growth habit.

	4"	6"	8"	10"	12"	½ BUSHEL	H.B.
NATURAL SEASON	●	●	●	●	●	●	●
BLACK CLOTH	●	●	●				●



GROWING GUIDE

Natural Season Garden
Mums - Flowering
Sequence 52

Ball Garden Mums A-Z
Quick Reference 54

Keys to Producing Quality
Garden Mums 60

Black Cloth Programs 64

Propagation of Mums 66

Spring-Flowering Programs 68

Rooting Stations 68

Drops and Substitutions 68

Natural Season Garden Mums

Flowering Sequence

Top Performers in bold. 

	Very Early < Sept 9				Early Sept 10-18				Mid-Season Sept 19-26			
Color	Variety	Form	Vigor	Flower Date	Variety	Form	Vigor	Flower Date	Variety	Form	Vigor	Flower Date
White					Aspen White	Decorative	Medium	9/12	Celestial White	Decorative	Medium	9/20
					Bridal White	Decorative	Medium/Tall	9/15	Starburst White	Decorative	Medium/Short	9/20
					Moonglow White	Decorative	Medium	9/15	Carousel White	Decorative	Medium	9/26
Yellow/Gold	Sunrise Yellow	Decorative	Medium	9/7	Buttercup Yellow	Decorative	Medium	9/13	Tribeca Yellow	Decorative	Medium	9/21
	Goldmine Yellow	Decorative	Medium/Tall	9/9	Katelli Yellow	Decorative	Medium	9/13	Stellar Yellow	Decorative	Medium	9/22
					Kizzmet Golden Yellow	Decorative	Medium	9/13	Honeyblush Yellow	Decorative	Medium	9/23
					Goldcrest Yellow	Decorative	Medium	9/14	Cracklin Golden Yellow	Duplex	Medium/Short	9/24
					Moonglow Yellow	Decorative	Medium	9/17	Zinger Yellow	Decorative	Medium	9/24
									Sizzling Fire Yellow	Decorative	Medium	9/25
Green								Gold Cup Yellow	Decorative	Short	9/26	
Salmon								Carousel Blushing Salmon	Decorative	Medium	9/26	
Pink/Lavender					Misty Lilac Pink	Decorative	Medium	9/18	Stellar Pink	Decorative	Medium	9/21
									Tribeca Pink	Decorative	Medium/Tall	9/21
									Perfectly Pink	Decorative	Medium/Short	9/22
									Temptation Pink	Decorative	Medium	9/22
									Flamingo Pineapple Pink	Decorative	Medium	9/23
									Wild Child Pink	Decorative	Medium	9/23
									Whispered Lavender Pink	Duplex	Medium	9/24
									Carousel Pink	Decorative	Medium	9/26
									Flamingo Neon Pink	Decorative	Medium	9/26
									Flamingo Pink	Decorative	Medium	9/26
Purple/Dark Pink									Pink Frenzy	Decorative	Medium/Tall	9/26
									Stellar Purple	Decorative	Medium	9/20
									Tribeca Dark Pink	Decorative	Medium	9/23
									Gypsy Rose Purple	Decorative	Medium	9/24
									Poppin Purple	Duplex	Medium	9/24
Bronze	Autumn Envy Bronze	Decorative	Short	9/8	Katelli Bronze	Decorative	Short	9/15	Fireglow Bronze	Decorative	Medium	9/23
					Hot Spot Bronze	Decorative	Medium	9/18	Trickster Golden Bronze	Decorative	Medium	9/23
									Butternut Golden Bronze	Decorative	Medium/Tall	9/26
Orange					Kickin' Spicy Orange	Decorative	Medium/Tall	9/15	Perfectly Orange	Decorative	Short	9/21
									Tribeca Amber Orange	Decorative	Medium	9/21
									Zuma Orange	Decorative	Medium	9/22
									Fire Halo Orange	Decorative	Medium/Tall	9/24
									Orange Zest	Decorative	Medium	9/25
									Petit Orange	Duplex	Medium	9/25
Red									Carousel Glimmer Orange	Decorative	Medium	9/26
					Five Alarm Red	Decorative	Medium	9/11	Red Hots	Decorative	Medium	9/19
					Cranbury Red	Decorative	Medium	9/17	Stellar Red	Decorative	Short	9/19
								Radiant Red	Decorative	Medium/Tall	9/25	



Grower Ship Date (left) is approximately 7-10 days earlier than Flowering Date

Flowering Date = 30-50% open flowers

	Late Sept 27-Oct 4				Early Season Extender Oct 5-11				Late Season Extender Oct 12+			
Color	Variety	Form	Vigor	Flower Date	Variety	Form	Vigor	Flower Date	Variety	Form	Vigor	Flower Date
White	Paradiso White	Decorative	Medium/Short	9/27	Morgana White	Decorative	Medium/Short	10/7	Alpine White	Decorative	Medium	10/12
	Butter N' Cream White	Decorative	Medium	9/29	Dove White	Decorative	Medium	10/11	Skyfall White	Decorative	Short	10/17
									Avalon Crème White	Decorative	Medium	10/19
Yellow/Gold	Paradiso Yellow	Decorative	Medium/Short	9/27	Morgana Yellow	Decorative	Medium/Short	10/8	Alpine Yellow	Decorative	Medium	10/12
	Sweet Honey Yellow	Decorative	Medium	9/28	Gold Riot Yellow	Decorative	Medium	10/9	Avalon Golden Yellow	Decorative	Medium/Short	10/15
	Sundance Yellow	Decorative	Medium	9/30	Yellow Tang	Decorative	Medium	10/9	Skyfall Lemon Yellow	Decorative	Short	10/15
	Destiny Yellow	Duplex	Medium	10/1	Dove Yellow	Decorative	Medium	10/11	Skyfall Yellow	Duplex	Short	10/15
	Gold Rush Yellow	Decorative	Medium	10/1					Sunny Day Yellow	Decorative	Medium	10/16
								Avalon Sunny Yellow	Decorative	Medium	10/19	
Green	Key Lime	Decorative	Medium/Tall	9/27								
Salmon									Avalon Salmon	Decorative	Medium/Short	10/16
Pink/Lavender	Amphion Lavender Purple	Daisy	Medium	9/27	Pop Eye Pink	Duplex	Medium	10/6	Avalon Pink	Decorative	Medium/Short	10/16
	Paradiso Pink	Decorative	Medium/Short	9/27	Jazzberry Pink	Decorative	Medium	10/7	Skyfall Pink	Decorative	Short	10/19
	Skye Pink	Decorative	Medium	9/30	Morgana Pink	Decorative	Medium	10/9				
Purple/Dark Pink	Prism Purple	Decorative	Medium	9/28	Majesty Purple	Decorative	Medium	10/9	Avalon Purple	Decorative	Medium/Short	10/16
	Plumberry Purple	Decorative	Medium	9/30	Morgana Purple	Decorative	Medium/Short	10/9	Skyfall Purple	Decorative	Short	10/17
	Wicked Purple	Decorative	Medium	9/30								
	Paintbox Purple	Decorative	Medium/Short	10/2								
	Grapeberry Neon Purple	Decorative	Medium	10/4								
	Grapeberry Purple	Decorative	Medium	10/4								
	Venus Purple	Decorative	Medium	10/4								
Bronze	Paradiso Bronze	Decorative	Medium/Short	9/28	Twilight Bronze	Decorative	Medium	10/10				
	Copper Coin Bronze	Decorative	Medium	9/30								
	Hot Sugar Gold Bronze	Decorative	Medium	9/30								
	Harvest Bronze	Decorative	Short	10/1								
	Autumn Glow Bronze	Decorative	Medium	10/2								
Orange	Sunset Orange	Decorative	Medium	9/27	Pop Eye Orange	Duplex	Medium	10/6	Blazing Orange	Decorative	Medium	10/12
	Mumosa Orange	Decorative	Medium	9/28	Morgana Orange	Decorative	Medium	10/8	Avalon Orange	Decorative	Medium/Short	10/16
					Pumpkin Pie Orange	Decorative	Medium	10/9				
Red	Flamingo Cranberry Red	Decorative	Medium	9/27	Mumma Mia Red	Decorative	Medium/Tall	10/5	Eternal Red	Decorative	Medium/Short	10/14
	Red Ryder	Decorative	Medium	9/28	Red Rover	Decorative	Medium	10/6	Avalon Red	Decorative	Medium/Short	10/15
	Roaring Red	Decorative	Medium	9/29	Morgana Red	Decorative	Medium	10/8	Skyfall Red	Decorative	Short	10/23
	Grapeberry Red	Decorative	Medium	10/4	Majesty Red	Decorative	Medium	10/9				
	Maverick Red	Decorative	Medium/Tall	10/4								

Ball Garden Mums A-Z Quick Reference

Variety	Page	Color	Flowering Form	Growth Habit	Vigor	Timing	Flower Date	Top Performer	Heat Tolerance TX/FL	Pacific NW	Coastal CA
Alpine White	48	White	Decorative	European	Medium	Very Late	10/12	●	●		●
Alpine Yellow	13	Yellow	Decorative	European	Medium	Very Late	10/12		●	●	●
Amphion Lavender Purple	36	Purple	Daisy	European	Medium	Late	9/27		●	●	●
Aspen White	48	White	Decorative	Mounded	Medium	Early	9/12		●	●	●
Autumn Envy Bronze	21	Bronze	Decorative	Mounded	Short	Very Early	9/8		●		
Autumn Glow Bronze	21	Bronze	Decorative	Mounded	Medium	Late	10/2		★	★	★
Avalon Crème White	48	White	Decorative	Mounded	Medium	Very Late	10/19		●	●	●
Avalon Golden Yellow	13	Yellow	Decorative	Mounded	Medium/Short	Very Late	10/15		●	●	●
Avalon Orange	21	Orange	Decorative	Mounded	Medium/Short	Very Late	10/16	●	●	●	●
Avalon Pink	41	Pink	Decorative	Mounded	Medium/Short	Very Late	10/16	●	●	●	●
Avalon Purple	36	Purple	Decorative	Mounded	Medium/Short	Very Late	10/16	●	●	●	●
Avalon Red	31	Red	Decorative	Mounded	Medium/Short	Very Late	10/15			●	●
Avalon Salmon	41	Coral/Salmon	Decorative	Mounded	Medium/Short	Very Late	10/16	●	●	●	●
Avalon Sunny Yellow	13	Yellow	Decorative	Mounded	Medium	Very Late	10/19	●	●	●	●
Blazing Orange	21	Orange	Decorative	Mounded	Medium	Very Late	10/12	●	★	●	●
Bridal White	48	White	Decorative	European	Medium/Tall	Early	9/15		★	★	●
Butter N' Cream White	49	White	Decorative	European	Medium	Late	9/29	●	★	●	★
Buttercup Yellow	13	Yellow	Decorative	European	Medium	Early	9/13			★	
Butternut Golden Bronze	22	Bronze	Decorative	European	Medium/Tall	Mid	9/26		●		
New Carousel Blushing Salmon	41	Coral/Salmon	Decorative	Mounded	Medium	Mid	9/26		●	●	
New Carousel Glimmer Orange	22	Orange	Decorative	Mounded	Medium	Mid	9/26		●	●	
Carousel Pink	41	Pink	Decorative	Mounded	Medium	Mid	9/26	●	●	●	
New Carousel White	49	White	Decorative	Mounded	Medium	Mid	9/26		●	●	
Celestial White	49	White	Decorative	European	Medium	Mid	9/20	●		●	★
Copper Coin Bronze	22	Bronze	Decorative	European	Medium	Late	9/30	●	★	★	★
Cracklin Golden Yellow	14	Yellow	Duplex	Mounded	Medium/Short	Mid	9/24		●	●	●
Cranbury Red	31	Red	Decorative	Mounded	Medium	Early	9/17		●		
New Destiny Yellow	14	Yellow	Duplex	Mounded	Medium	Late	10/1		●	●	
Dove White	49	White	Decorative	European	Medium	Very Late	10/11		●	★	●
Dove Yellow	14	Yellow	Decorative	European	Medium	Very Late	10/11		●	●	●
Eternal Red	31	Red	Decorative	Mounded	Medium/Short	Very Late	10/14		●		●
Fire Halo Orange	22	Orange	Decorative	Mounded	Medium/Tall	Mid	9/24		●	●	●
Fireglow Bronze	23	Bronze	Decorative	European	Medium	Mid	9/23	●	★	★	●
Five Alarm Red	31	Red	Decorative	Mounded	Medium	Early	9/11		★	●	●
Flamingo Cranberry Red	32	Red	Decorative	European	Medium	Late	9/27			●	●
Flamingo Neon Pink	42	Pink	Decorative	European	Medium	Mid	9/26	●	●	●	●
Flamingo Pineapple Pink	42	Pink	Decorative	European	Medium	Mid	9/23			★	●
Flamingo Pink	42	Pink	Decorative	European	Medium	Mid	9/26		●	★	●
Gold Cup Yellow	14	Yellow	Decorative	European	Short	Mid	9/26		●		●
Gold Riot Yellow	15	Yellow	Decorative	European	Medium	Very Late	10/9	●	★		★

● - suggested ★ - highly recommended

Landscape	Mixed Combos	4"	6"	8"	10"	12"	1/2 Bushel	Hanging Baskets	Spring Flowering	Black Cloth								
										Response (Wks)	Recommend	4"	6"	8"	10"	12"	1/2 Bushel	Hanging Baskets
★		●	●	●				●	●	7 Wk	●	●	●					
●		●	●	●				●	●	8 Wk	NO							
		●	●	●	●	●	●	●		6 Wk	●	●	●	●	●	●		●
		●	●	●	●			●		6 Wk	●	●	●	●				●
★			●	●	●				●	6 Wk	●		●	●	●			
		●	●	●	●	●	●	●		7 Wk	●	●	●	●	●	●		●
★	★	●	●	●	●	●	●	★		8 Wk	●	●	●	●	●			●
●	★	●	●	●	●	●	●	★		8 Wk	●	●	●	●	●			●
★	★	●	●	●	●	●	●	★		8 Wk	●	●	●	●	●			●
★	★	●	●	●	●	●	●	★		8 Wk	●	●	●	●	●			●
★	★	●	●	●	●	●	●	★		8 Wk	●	●	●	●	●			●
●	★	●	●	●	●	●	●	★		8 Wk	●	●	●	●	●			●
★	★	●	●	●	●	●	●	★		8 Wk	●	●	●	●	●			●
★		●	●	●	●	●	●	●		7 Wk	●	●	●	●	●	●		●
			●	●	●	●	●		●	6 Wk	●	●	●	●	●	●	●	
★		●	●	●	●	●		●		8 Wk	★	●	●	●	●	●		●
		●	●	●	●	●	●	●		7 Wk	NO							
			●	●	●	●	●			7 Wk	●		●	●	●	●	●	
●	●	●	●	●	●	●			●	7 Wk	●	●	●	●	●			
●	●	●	●	●	●	●			●	7 Wk	●	●	●	●	●			
●	●	●	●	●	●	●			●	7 Wk	●	●	●	●	●			
●	●	●	●	●	●	●			●	7 Wk	●	●	●	●	●			
★		●	●	●	●	●		●		6 Wk	●	●	●	●	●			●
★			●	●	●	●		★		7 Wk	★	●	●	●				●
●		●	●	●					●	7 Wk	●	●	●					
★			●	●	●	●			●	7 Wk	●		●	●	●	●		
		●	●	●	●	●		●		7 Wk	●	●	●	●	●			
		●	●	●	●			★	●	8 Wk	●	●	●	●	●			●
		●	●	●	●			★	●	7 Wk	●	●	●	●	●			
●		●	●	●				●		8 Wk	●	●	●					
				●	●	●	●			7 Wk	NO							
		●	●	●	●	●	●	★		8 Wk	NO							
●		●	●	●	●	●	●	●		6 Wk	●	●	●	●	●	●	●	
★	●	●	●	●	●	●	●	●		8 Wk	NO							
★	●	●	●	●	●	●	●	●		8 Wk	NO							
★	●	●	●	●	●	●	●	●		8 Wk	NO							
★	●	●	●	●	●	●	●	●		8 Wk	NO							
		●	●	●				●		7 Wk	●	●	●	●				●
●		●	●	●	●	●	●	★	●	8 Wk	★	●	●	●	●			●

Ball Garden Mums A-Z Quick Reference *cont.*

Variety	Page	Color	Flowering Form	Growth Habit	Vigor	Timing	Flower Date	Top Performer	Heat Tolerance TX/FL	Pacific NW	Coastal CA
Gold Rush Yellow	15	Yellow	Decorative	European	Medium	Late	10/1		●	●	●
Goldcrest Yellow	15	Yellow	Decorative	Mounded	Medium	Early	9/14		●		●
Goldmine Yellow	15	Yellow	Decorative	European	Medium/Tall	Very Early	9/9		★	★	●
Grapeberry Neon Purple	36	Purple	Decorative	European	Medium	Late	10/4		●	●	●
Grapeberry Purple	36	Purple	Decorative	European	Medium	Late	10/4		●	●	●
Grapeberry Red	32	Red	Decorative	European	Medium	Late	10/4		●	●	●
Gypsy Rose Purple	37	Purple	Decorative	European	Medium	Mid	9/24			●	●
Harvest Bronze	23	Bronze	Decorative	European	Short	Late	10/1		●	●	●
Honeyblush Yellow	16	Yellow	Decorative	European	Medium	Mid	9/23	●	★	●	★
Hot Spot Bronze	23	Bronze	Decorative	Mounded	Medium	Early	9/18				
Hot Sugar Gold Bronze	23	Bronze	Decorative	Mounded	Medium	Late	9/30				
Jazzberry Pink	42	Pink	Decorative	European	Medium	Very Late	10/7	●	★		●
Katelli Bronze	24	Bronze	Decorative	European	Short	Early	9/15		★	●	●
Katelli Yellow	16	Yellow	Decorative	European	Medium	Early	9/13		●	●	
Key Lime	16	Green	Decorative	European	Medium/Tall	Late	9/27		●	●	
New Kickin' Spicy Orange	24	Orange	Decorative	Mounded	Medium/Tall	Early	9/15		●	●	
Kizzmet Golden Yellow	16	Yellow	Decorative	European	Medium	Early	9/13				
Majesty Purple	37	Purple	Decorative	European	Medium	Very Late	10/9		●	●	★
Majesty Red	32	Red	Decorative	European	Medium	Very Late	10/9		●	●	★
New Maverick Red	32	Red	Decorative	Mounded	Medium/Tall	Late	10/4		●	●	
Misty Lilac Pink	43	Pink	Decorative	Mounded	Medium	Early	9/18	●	●	●	●
Moonglow White	50	White	Decorative	European	Medium	Early	9/15		★	●	●
Moonglow Yellow	17	Yellow	Decorative	European	Medium	Early	9/17		●	●	●
Morgana Orange	24	Orange	Decorative	Mounded	Medium	Very Late	10/8		●		●
New Morgana Pink	43	Pink	Decorative	Mounded	Medium	Very Late	10/9		●	●	●
Morgana Purple	37	Purple	Decorative	Mounded	Medium/Short	Very Late	10/9		●		●
Morgana Red	33	Red	Decorative	Mounded	Medium	Very Late	10/8		●		●
Morgana White	50	White	Decorative	Mounded	Medium/Short	Very Late	10/7		●		●
Morgana Yellow	17	Yellow	Decorative	Mounded	Medium/Short	Very Late	10/8		●		●
Mumma Mia Red	33	Red	Decorative	European	Medium/Tall	Very Late	10/5	●	●		
Mumosa Orange	24	Orange	Decorative	European	Medium	Late	9/28	●	●		
Orange Zest	25	Orange	Decorative	Mounded	Medium	Mid	9/25		★		●
Paintbox Purple	37	Purple	Decorative	Mounded	Medium/Short	Late	10/2		★		★
Paradiso Bronze	25	Bronze	Decorative	European	Medium/Short	Late	9/28			●	●
Paradiso Pink	43	Pink	Decorative	European	Medium/Short	Late	9/27			●	●
Paradiso White	50	White	Decorative	European	Medium/Short	Late	9/27		●	●	●
Paradiso Yellow	17	Yellow	Decorative	European	Medium/Short	Late	9/27			●	●
Perfectly Orange	25	Orange	Decorative	Mounded	Short	Mid	9/21		●	●	●
Perfectly Pink	43	Pink	Decorative	Mounded	Medium/Short	Mid	9/22		●	●	●

● - suggested ★ - highly recommended

Landscape	Mixed Combos	4"	6"	8"	10"	12"	1/2 Bushel	Hanging Baskets	Spring Flowering	Black Cloth								
										Response (Wks)	Recommend	4"	6"	8"	10"	12"	1/2 Bushel	Hanging Baskets
★			●	●	●	●	●			7 Wk	●		●	●	●	●	●	
●		●	●	●	●	●	●	●		7 Wk	●	●	●	●	●	●	●	●
●			●	●	●	●	●	●		6 Wk	●		●	●	●	●	●	●
●		●	●	●	●	●	●	●	●	7 Wk	●	●	●	●				●
★		●	●	●	●	●	●	●	●	7 Wk	●	●	●	●				●
★		●	●	●	●	●		●	●	8 Wk	●	●	●	●				●
		●	●	●	●	●	●	●	●	8 Wk	●	●	●	●	●	●	●	●
		●	●	●	●			●		7 Wk	●	●	●	●				●
★		●	●	●	●	●	●		★	7 Wk	NO							
			●	●	●	●	●			7 Wk	●	●	●	●	●			
●		●	●	●	●	●	●	●		8 Wk	NO							
★		●	●	●	●			●		7 Wk	NO							
●		●	●	●				★	●	6 Wk	★	●	●	●				●
		●	●	●				★	●	6 Wk	●	●	●	●				●
		●	●	●	●			●		7 Wk	●	●	●	●				●
			●	●	●	●				7 Wk	●		●	●	●	●		
●		●	●	●	●	●	●	●		8 Wk	●	●	●	●	●	●		●
★	★	●	●	●	●	●	●	●	●	7 Wk	★	●	●	●	●	●		●
★	★	●	●	●	●	●	●	●	●	7 Wk	●	●	●	●	●	●		●
			●	●	●	●	●		●	7 Wk	NO							
		●	●	●	●	●				6 Wk	●	●	●	●	●	●		
		●	●	●	●	●	●	●		7 Wk	●	●	●	●	●			●
		●	●	●	●	●	●	●		7 Wk	★	●	●	●	●			●
●	●	●	●	●	●	●	●	★	●	8 Wk	●	●	●	●	●	●		
●		●	●	●	●	●	●	★	●	8 Wk	●	●	●	●	●	●		
●	●	●	●	●	●	●	●	★	●	8 Wk	●	●	●	●	●	●		
●	●	●	●	●	●	●	●	★	●	8 Wk	●	●	●	●	●	●		
●	●	●	●	●	●	●	●	★	●	8 Wk	●	●	●	●	●	●		
●			●	●	●	●	●			8 Wk	●		●	●	●			
			●	●	●	●			●	7 Wk	●		●	●	●	●		
★		●	●	●	●	●	●	●		8 Wk	NO							
		●	●	●	●	●		★		7 Wk	●	●	●	●	●			
	★	●	●	●	●			★	●	7 Wk	★	●	●	●				●
	★	●	●	●	●			★	●	7 Wk	★	●	●	●				●
	★	●	●	●	●			★	●	7 Wk	★	●	●	●				●
	★	●	●	●	●			★	●	7 Wk	★	●	●	●				●
		●	●	●	●			●		7 Wk	●	●	●					●
		●	●	●	●			●		7 Wk	●	●	●					●

Ball Garden Mums A-Z Quick Reference *cont.*

Variety	Page	Color	Flowering Form	Growth Habit	Vigor	Timing	Flower Date	Top Performer	Heat Tolerance TX/FL	Pacific NW	Coastal CA
Petit Orange	25	Orange	Duplex	European	Medium	Mid	9/25		●	●	●
Pink Frenzy	44	Pink	Decorative	Mounded	Medium/Tall	Mid	9/26		★		★
Plumberry Purple	38	Purple	Decorative	Mounded	Medium	Late	9/30	●	●	●	●
Pop Eye Orange	26	Orange	Duplex	Mounded	Medium	Very Late	10/6		●		●
Pop Eye Pink	44	Pink	Duplex	Mounded	Medium	Very Late	10/6		●		●
Poppin Purple	38	Purple	Duplex	European	Medium	Mid	9/24	●	●		
Prism Purple	38	Purple	Decorative	European	Medium	Late	9/28			●	●
Pumpkin Pie Orange	26	Orange	Decorative	European	Medium	Very Late	10/9		●	●	★
Radiant Red	33	Red	Decorative	European	Medium/Tall	Mid	9/25	●	★		●
Red Hots	33	Red	Decorative	Mounded	Medium	Mid	9/19		★	★	●
Red Rover	34	Red	Decorative	European	Medium	Very Late	10/6		●	●	●
Red Ryder	34	Red	Decorative	European	Medium	Late	9/28	●	★	★	★
New Roaring Red	34	Red	Decorative	Mounded	Medium	Late	9/29		●	●	
New Sizzling Fire Yellow	17	Yellow	Decorative	Mounded	Medium	Mid	9/25		●	●	
Skye Pink	44	Pink	Decorative	European	Medium	Late	9/30				
Starburst White	50	White	Decorative	European	Medium/Short	Mid	9/20	●	★		●
Stellar Pink	44	Pink	Decorative	European	Medium	Mid	9/21		★	●	●
Stellar Purple	38	Purple	Decorative	European	Medium	Mid	9/20		★	★	●
Stellar Red	34	Red	Decorative	European	Short	Mid	9/19		●	●	●
Stellar Yellow	18	Yellow	Decorative	European	Medium	Mid	9/22		●	●	●
Sundance Yellow	18	Yellow	Decorative	European	Medium	Late	9/30	●	★	★	●
Sunny Day Yellow	18	Yellow	Decorative	European	Medium	Very Late	10/16	●	●	●	★
Sunrise Yellow	18	Yellow	Decorative	Mounded	Medium	Very Early	9/7	●	★		★
Sunset Orange	26	Orange	Decorative	European	Medium	Late	9/27	●	●	★	●
Sweet Honey Yellow	19	Yellow	Decorative	European	Medium	Late	9/28				
Temptation Pink	45	Pink	Decorative	European	Medium	Mid	9/22		●		
New Tribeca Amber Orange	26	Orange	Decorative	Mounded	Medium	Mid	9/21		●	●	
New Tribeca Dark Pink	45	Pink	Decorative	Mounded	Medium	Mid	9/23		●	●	
New Tribeca Pink	45	Pink	Decorative	Mounded	Medium/Tall	Mid	9/21		●	●	
New Tribeca Yellow	19	Yellow	Decorative	Mounded	Medium	Mid	9/21		●	●	
Trickster Golden Bronze	27	Bronze	Decorative	Mounded	Medium	Mid	9/23		●		
Twilight Bronze	27	Bronze	Decorative	European	Medium	Very Late	10/10		●		●
Venus Purple	39	Purple	Decorative	European	Medium	Late	10/4		●	●	●
Whispered Lavender Pink	45	Pink	Duplex	Mounded	Medium	Mid	9/24				
Wicked Purple	39	Purple	Decorative	Mounded	Medium	Late	9/30	●			
Wild Child Pink	46	Pink	Decorative	Mounded	Medium	Mid	9/23		●		
Yellow Tang	19	Yellow	Decorative	European	Medium	Very Late	10/9	●	★	★	★
Zinger Yellow	19	Yellow	Decorative	Mounded	Medium	Mid	9/24	●	●		
Zuma Orange	27	Orange	Decorative	European	Medium	Mid	9/22	●	●		

● - suggested ★ - highly recommended

Landscape	Mixed Combos	4"	6"	8"	10"	12"	1/2 Bushel	Hanging Baskets	Spring Flowering	Black Cloth								
										Response (Wks)	Recommend	4"	6"	8"	10"	12"	1/2 Bushel	Hanging Baskets
★		●	●	●	●	●	●	●	●	7 Wk	★	●	●	●	●	●	●	●
●			●	●	●	●	●			7 Wk	●		●	●	●	●	●	●
★		●	●	●	●	●	●	●		7 Wk	★	●	●	●	●	●		
	★	●	●	●	●	●		●	●	8 Wk	●	●	●	●				
	★	●	●	●	●	●		●	●	8 Wk	●	●	●	●				
★			●	●	●	●			●	7 Wk	●		●	●	●	●		
		●	●	●	●	●	●	●	●	8 Wk	●	●	●	●	●	●	●	●
●			●	●	●	●	●		●	7 Wk	●	●	●	●	●	●		
★			●	●	●	●	●			7 Wk	●		●	●	●	●	●	
★		●	●	●	●	●	●	●	●	7 Wk	●	●	●	●	●			●
		●	●	●	●	●	●	★	●	7 Wk	●	●	●	●				●
★		●	●	●	●	●	●	★		8 Wk	★		●	●	●			●
●		●	●	●	●	●		●	●	8 Wk	●	●	●	●	●	●		●
		●	●	●	●	●		●	●	7 Wk	NO							
●		●	●	●	●	●	●	●	●	7 Wk	NO							
●		●	●	●	●	●	●	●		7 Wk	★	●	●	●				●
	★	●	●	●	●	●	●	●	★	7 Wk	★	●	●	●	●			●
	★	●	●	●	●	●	●	●	★	7 Wk	★	●	●	●	●			●
	★	●	●	●	●	●	●	●	★	7 Wk	★	●	●	●	●			●
★		●	●	●	●	●	●	●	●	8 Wk	●	●	●	●	●			●
●		●	●	●	●	●	●	●	●	7 Wk	●	●	●	●	●			●
●		●	●	●	●	●	●	★		7 Wk	★	●	●	●				●
		●	●	●	●	●	●	●	●	7 Wk	★	●	●	●	●	●	●	●
		●	●	●	●	●				8 Wk	●	●	●	●	●	●	●	●
			●	●	●	●			●	7 Wk	●		●	●	●	●	●	●
●	●		●	●	●	●			●	7 Wk	NO							
●	●		●	●	●	●			●	7 Wk	NO							
●	●		●	●	●	●			●	7 Wk	NO							
●	●		●	●	●	●			●	7 Wk	NO							
●			●	●	●	●	●	●		8 Wk	NO							
		●	●	●	●			●		7 Wk	★	●	●					
●		●	●	●	●	●	●	●	●	7 Wk	●	●	●	●	●	●	●	●
		●	●	●	●			●		7 Wk	NO							
			●	●	●	●				7 Wk	●		●	●	●	●		
			●	●	●	●				7 Wk	●		●	●	●	●		
			●	●	●	●				7 Wk	●		●	●	●	●		
★		●	●	●	●	●	●	★	●	7 Wk	★	●	●	●	●	●		●
★			●	●	●	●				8 Wk	●		●	●	●			
		●	●	●	●	●	●	●		8 Wk	●		●	●	●			

Keys to Producing Quality Garden Mums

Upon Arrival

Ball Garden Mum cuttings are available as both unrooted and rooted liners. All cuttings should be stuck or planted as soon as possible.

Rooted cuttings trays should be placed in the greenhouse with a minimum temperature of 60 to 62°F (16 to 17°C).

Do not let the plants wilt, and try to hold for no more than 2 to 3 days. Unrooted cuttings – please refer to “Propagation of Garden Mums,” page 66.



Planting & Media

Planting is the most critical period in the production of a quality Garden Mum crop. Plant liners directly into final container whenever possible. A lighter, well-drained media is preferred. A heavier media may delay rooting, reducing the quality of the finished crop. Avoid mixes that are too light and may dry out too rapidly.

Have containers filled and moist prior to planting. Media starting pH in a soilless mix should be 5.8 to 6.4; a soil-based mix should be 6.0 to 6.5. Thoroughly water liners prior to planting, with 300 to 400 ppm N from 20-10-20, to ensure that the liner is well fed, encouraging rapid establishment.

Water immediately after planting with fertilizer, such as 20-10-20 at 300 to 400 ppm N, to charge the soil – so when roots emerge, strong growth will occur. It may be necessary to mist or syringe the newly planted cuttings for the first few days to prevent wilting.

If outdoor temperatures are cool, 50 to 59°F (10 to 15°C), it is recommended that plants be started in a greenhouse with night temperatures maintained between 60 to 69°F (16 to 21°C), with 65°F (18°C) being ideal. This allows better take-off and initial growth, which is especially important when growing early-flowering varieties. Low night temperatures at planting can promote premature flower initiation.

Garden Mums should be grown in full sun; shaded areas can produce taller, weaker plants.

Pinching

Modern varieties do not require pinching in natural-season Fall crops. Pinching is suggested for black cloth, but many growers produce black cloth crops without pinching.



Spacing

Refer to the chart on page 62 for specific spacing requirements. A key to excellent quality is to space the plants once they start touching. Spacing plants too tightly promotes weak, stretched, poor-quality plants that are more likely to experience disease problems.

Irrigation & Fertilization

A drip irrigation system is often the best choice when growing Garden Mums. It keeps the foliage dry to prevent spotting of the leaves, and also reduces the chance of developing foliar disease problems. When irrigating, apply enough water to thoroughly wet the soil mass, allowing water to drip from the container. Never let the plant wilt during the early stages of production, as wilting can limit growth and reduce the overall plant size.

Mums are heavy feeders and require large amounts of nutrients during early weeks of the plant development. The majority of nutrients in the plant at flowering are in the plant at visible bud. Therefore, feeding early is critical for strong growth. A program of regular soil testing is the best guide to determine the optimum fertilization regimen. High fertilization rates and low soil EC levels indicate that plants are taking up the nutrition. High EC levels indicate plants are not taking up the fertilizer – so fertilizer rates will need to be reduced.

Fertilizing immediately after planting is very important:

- Feed $\text{NH}_4 + \text{P}$ (20-10-20, 20-20-20) during the early crop development (weeks 1-4). A rate of 250 to 350 ppm N will usually work well.
- After loading the plant early, you will want to avoid too much $\text{NH}_4 + \text{P}$, or stretched plants and soft growth will result. Use NO_3 and reduced P (17-5-17, 15-4-15, 14-0-14, etc.) to tone the crop and reduce stretch.
- Once plants are at visible bud, slow the fertilizer uptake and monitor the EC to prevent salt damage to the roots.



Slow-release fertilizers, such as Osmocote, in combination with liquid feeds may also be used. Avoid excess applications of slow-release fertilizers, since they can release rapidly under high temperatures and cause the EC to spike, which damages roots. Mums can benefit from a magnesium sulfate (Epsom salt) supplement. Once plants mature, fertilizer levels should be reduced to maintenance levels.

Premature Budding & Crown Bud Formation

Night temperatures above 68°F (20°C) will delay flower initiation. As night temperatures exceed 75°F (24°C), flowering is inhibited. Several days or more of cool nights, less than 60°F (16°C), in late Spring and early Summer may trigger premature bud formation. This is not desirable and may cause the plants to finish too small.

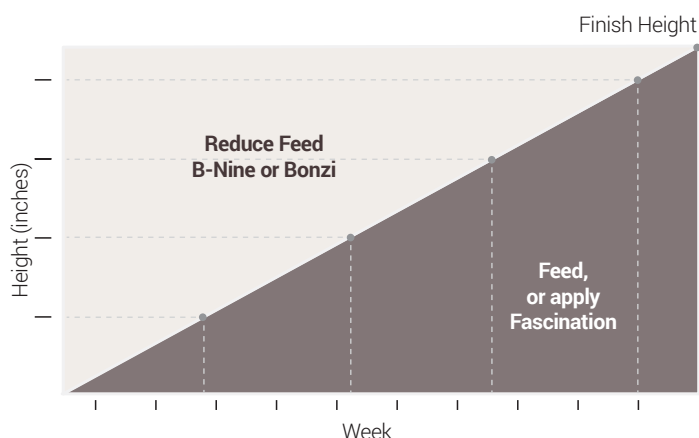
If small buds are visible in the early stages of production, plants will most often still develop normally. Early budding can be minimized by limiting stress, applying adequate fertilizer amounts (fertility levels should be high) and not allowing plants to wilt. Early applications of 500 ppm Florel 1 week after planting can help minimize premature bud set by helping to promote vegetative growth; this will not abort the existing buds.

Success with Florel

- Use low-alkalinity (<60 ppm) water or increase Florel rate.
- Reduce spray solution to pH <4 before adding Florel.
- Don't pour Florel into the tank – use a funnel or put Florel in a bag and empty into the tank.
- Sprench to cover the plants.
- Spray early or late day, as slow drying time maximizes uptake and response.

Tracking Your Crop

Mums are an easy crop to track, and it is important to determine if the crop is on schedule. To do so, simply graph a straight line between initial plant height and desired height at finish. Every week, measure 5 plants in the primary block to see if they are on track. Feed if they are below the line, or use Fascination. If they are above the line, use a PGR to slow them down.



Height Control & Growth Regulators

NOTE: We recommend an initial small-scale trial with all growth regulators.

B-Nine foliar spray applications control height and also produce darker, greener leaves and strong stems. Apply 2,500 to 5,000 ppm when breaks are 1 to 2 in. (3 to 5 cm)

long to tone the plant and reduce stretch. A second application can be made 2 weeks later. Remember that B-Nine application after visible bud will delay flowering. Weekly applications of B-Nine up to the time of breaking color will delay the flowering by 1 week. Once flower color is evident, B-Nine delay is minimal, but application will enhance foliage. In greenhouse-forced Summer crops, an application of B-Nine at 5,000 ppm can be applied 14 to 21 days after pinching to control the more vigorous varieties.

Bonzi drenches of 1 to 4 ppm can provide very effective growth control, but be sure to apply the correct volume to avoid stunting. Early-crop applications require fewer ppm than when applied later in the crop to get the same level of control. Bonzi can also be sprayed with rates ranging from 30 to 50 ppm. Florel can be used to promote branching, prevent premature budding and delay flowering. Best applied early in the crop cycle at a rate of 300 to 500 ppm. Effectiveness varies by variety.

Spacing Requirements for Garden Mums		
Approximate Container Size	Plants per Pot (ppp)	Final Spacing (on center)
Cell pack	1	Pack to pack
4-in. (10-cm) pot	1	4 to 6 in. (10 to 15 cm)
4.5-in. (11-cm) pot	1	5 to 7 in. (13 to 18 cm)
5-in. (13-cm) pot	1 to 3	5 to 8 in. (13 to 20 cm)
6-in. (15-cm) pot	1 to 3	6 to 12 in. (15 to 30 cm)
6.5-in. (17-cm) pot	1 to 3	6.5 to 12 in. (17 to 30 cm)
8-in. (20-cm) pot	1 to 3	16 to 20 in. (41 to 51 cm)
10-in. (25-cm) pot	1 to 3	18 to 24 in. (46 to 61 cm)
12-in. (30-cm) pot	3 to 4	22 to 26 in. (56 to 66 cm)
14-in. (36-cm) pot	4 to 5	26 to 30 in. (66 to 76 cm)
1/2 bu. basket	4 to 5	28 to 34 in. (71 to 86 cm)
1 gallon	1 to 3	9 to 16 in. (23 to 41 cm)
2 gallon	1 to 3	18 to 24 in. (46 to 61 cm)
3 gallon	2 to 3	20 to 30 in. (51 to 76 cm)
5-in. (13-cm) pan	1 to 3	6 to 8 in. (15 to 20 cm)
8 x 5-in. (20 x 13-cm) mum pan	1 to 3	16 to 20 in. (41 to 51 cm)
12-in. (30-cm) color bowl	3 to 5	14 to 20 in. (36 to 51 cm)
14-in. (36-cm) color bowl	3 to 5	28 to 30 in. (71 to 76 cm)
6-in. (15-cm) hanging basket	1 to 3	14 to 16 in. (36 to 41 cm)
10-in. (25-cm) hanging basket	1 to 3	18 to 24 in. (46 to 61 cm)
12-in. (30-cm) hanging basket	2 to 4	26 to 28 in. (66 to 71 cm)

Heat Delay

The average daily temperature dictates the rate of development of a crop. High night temperatures may cause heat delay, with some varieties being more sensitive than others. Heat delay can affect the bloom date by up to 3 weeks.

Night temperatures in the July 20 to August 5 period are the most critical for natural-season mums.

Suggestions to avoid heat delay for black cloth crops:

- Start cooling very early in the morning.
- Cool at night with a pad and fan system that pulls air under the black cloth.
- When covering directly on or slightly above the plants, use black/white (Panda) film so the white side reflects the sunlight – reducing the plant temperature.
- Close the black cloth late in the day at 8:00 p.m. to avoid heat buildup and leave the cloth closed until 8:00 a.m.
- For enhanced cooling, a computerized black cloth system may be programmed to open after the sun has set and close before the sun comes up in the morning.
- Cover before sunrise instead of in the evening.

Root Rot

The loss of roots early in the crop will significantly limit nutrient loading and plant size later in the crop cycle. Saturated soil, extreme wet-dry cycles and high salt levels will damage the roots and make them more susceptible to disease infection.

Preventative treatment for Pythium and other root diseases is recommended every 4 weeks. Failure to control root rot can result in stunted plants.

Pests & Diseases

An IPM (Integrated Pest Management) program is the best defense against the various insects and related pests that can attack a mum crop. Constant monitoring and weekly scouting will enable the grower to detect pests before they become a problem, and take appropriate action to control them. Growers should also scout for foliar diseases, including Bacterial leaf spot and Botrytis.

Chrysanthemum white rust (CWR) is a serious disease, and preventative treatments should be applied. Review the CWR control document available on BallSeed.com.

Natural-Season Fall Mums

Chrysanthemums are short-day plants and will naturally initiate flowering in mid-July. Ball Garden Mums are classified into Very Early, Early, Mid, Late and Very Late flowering varieties. Refer to the A-Z Quick Reference Guide to determine the approximate flowering date for each variety.

Natural-Season Flowering	Average Natural-Flower Date
Very Early	Before Sept. 9
Early	Sept. 10 to 18
Mid	Sept. 19 to 26
Late	Sept. 27 to Oct. 4
Very Late	Oct. 5+

To produce a uniform crop, these flowering classes should be planted over a 2 to 3-week period. Plant the Very Early and Early varieties the first week of the planting period, then over the following weeks plant the Mid varieties, followed by the Late and Very Late varieties.

If all varieties were to be planted in the same week, then the crop time may be too long for the Mid and especially later varieties, which could then outgrow their spacing and produce poor-quality plants.

It is important to keep good records from year to year. This helps to adjust production schedules to produce consistent plant sizes, all flowering at the desired time. One cutting per pot is generally used for up to 9-in. (23-cm) pots, and 3 plants per pot for 12-in. (30-cm) pots.

The traditional Fall planting dates for natural-season crops planted from rooted cuttings:

- 4-in. (10-cm) pots in mid-July.
- 6-in. (15-cm) pots in early July.
- 8-in. (20-cm) or larger pots between the first and fourth weeks of June.

If pinching, pinch once the plant is established.

Refer to the Spacing Requirements chart for spacing required by pot size.

Fast-Crop Fall Mums

A “fast-crop” program can enable growers to produce a quality crop, even when starting later than a normal natural-season program.

The key to a fast crop is to not inhibit the growth by stressing the plant in any way. Do not pinch. Flowering will generally occur 4 to 7 days later than a June-planted crop.

A 4-in. (10-cm) crop with 1 cutting per pot can be planted from the last week of July until August 12 for flowering from late September to mid-October.

A 6 to 6.5-in. (15 to 17-cm) crop with 1 cutting per pot can be planted mid-July to late July.

Larger containers, such as 8-in. (20-cm) pans or 2-gal. pots, can be planted July 10 to 20, but use 2 cuttings per container.

Black Cloth



These outdoor-produced black cloth Garden Mums are being forced to flower for August sales at Adam Henning Greenhouses in DeMotte, IN.

Controlled Flowering of Summer-Fall Garden Mums

- Growing Garden Mums using black cloth to shorten the daylength is not difficult, and it enables the grower to flower Garden Mums over a longer season and have the crop ready when desired.
- After transplanting, plants should be grown under long days with night temps of 65 to 68°F (18 to 20°C) to encourage vigorous vegetative growth before beginning shade.
 - The number of weeks to achieve desired plant size depends upon pot size (2 to 4 weeks for 6"; 4+ weeks for 8" – see below chart).
 - Plants can be pinched about 7 days after planting once they have approximately 1 in. (3 cm) of new growth.
 - Many growers use a no-pinch option to produce their crops.
- The number of weeks of shade time needed depends upon the response time of the mum.
 - If it has a 7-week response, plants will flower 7 weeks after shading and will be ready for sale.
 - Black cloth, or 4 to 6 ml of reflective plastic, can be used to shade the crop. Place shade cloth 2+ feet above plants to avoid heat delay.
 - Continue to pull black cloth until the buds are well formed and show color.
 - To reduce heat build-up over 78°F (26°C), which can delay flowering, use reflective shade cloth and pull shade from 7:00 p.m. to 7:00 a.m.

These are suggestions, production should be adjusted for local growing conditions and treatments.

Schedule With Pinch, Medium Vigor			Plant	Long Days	Short Days		
Pot Size	PPP	For Sales (Crop Time)	Rooted Liner	Pinch	Start Shade	Response Group	Sell Date
6-6.5"	1	Weeks 24-36 (9 Weeks)	Weeks 15-27	7 Days After Planting	14 Days From Pinch Date	6 Week	6 Weeks From Shade Date
6-6.5"	1	Weeks 25-37 (10 Weeks)	Weeks 15-27	7 Days After Planting	14 Days From Pinch Date	7 Week	7 Weeks From Shade Date
6-6.5"	1	Weeks 26-38 (11 Weeks)	Weeks 15-27	7 Days After Planting	14 Days From Pinch Date	8 Week	8 Weeks From Shade Date

For 4-in. pot/1-PPP programs, adjust the plant and pinch date by 1 week.

For 8-in. pot/2-PPP programs, adjust the plant and pinch date by 1-2 weeks earlier.

Schedule With No Pinch, 7-Week Response, Medium Vigor			Plant	Long Day Weeks	Short Days	Approximate Finished Plant Size	
Pot Size	PPP	Crop Time - Weeks*	URC or Liner	After Potting	Start Shade	Width	Height
4"	1	9	Plant Liner	2	2 Weeks After Planting	6 in. (15 cm)	5 in. (13 cm)
4" Direct Stick	1	10	Direct Stick in Pots	3	3 Weeks After Sticking	6 in. (15 cm)	5 in. (13 cm)
6"	1	10	Plant Liner	3	3 Weeks After Planting	11-12 in. (28-30 cm)	6-7 in. (15-18 cm)
6" Direct Stick	1	13	Direct Stick in Pots	6	6 Weeks After Sticking	11-12 in. (28-30 cm)	6-7 in. (15-18 cm)
8"	1	12	Plant Liner	5	5 Weeks After Planting	13-14 in. (33-36 cm)	8-9 in. (20-23 cm)
10"	3	13	Plant Liner	6	6 Weeks After Planting	18-19 in. (46-48 cm)	11-12 in. (28-30 cm)
10"	1	16	Plant Liner	9	9 Weeks After Planting	18-19 in. (46-48 cm)	11-12 in. (28-30 cm)
12"	3	16	Plant Liner	9	9 Weeks After Planting	19-23 in. (48-58 cm)	13-14 in. (33-36 cm)

Add 1 week to crop time for 8-week response varieties; reduce by 1 week for 6-week response varieties.

2022 Black Cloth Programs Selection Grid

Color	6-Week Response	Vigor	Pot Size	HB*	7-Week Response	Vigor	Pot Size	HB*	8-Week Response	Vigor	Pot Size	HB*	9-Week Response	Vigor	Pot Size	HB*	
Bronze	Autumn Envy Bronze	Short	6-10"		Autumn Glow Bronze	Medium	4-12"	●									
					Butternut Golden Bronze	Medium/Tall	6-12"										
	Katelli Bronze	Short	4-8"	●	Copper Coin Bronze	Medium	4-8"	●									
					Harvest Bronze	Short	4-8"	●									
					Hot Spot Bronze	Medium	4-10"										
					Paradiso Bronze	Medium/Short	4-8"	●									
					Twilight Bronze	Medium	4-6"										
Orange					Blazing Orange	Medium	4-12"	●	Avalon Orange	Medium/Short	4-10"	●					
					Carousel Glimmer Orange	Medium	4-10"		Morgana Orange	Medium	4-12"						
					Kickin' Spicy Orange	Medium/Tall	6-12"		Pop Eye Orange	Medium	4-8"						
					Mumosa Orange	Medium	6-12"		Zuma Orange	Medium	6-10"						
					Perfectly Orange	Short	4-6"	●									
					Petit Orange	Medium	4-12"	●									
					Pumpkin Pie Orange	Medium	4-12"										
					Sunset Orange	Medium	4-12"	●									
Yellow	Goldmine Yellow	Medium/Tall	6-12"	●	Cracklin Golden Yellow	Medium/Short	4-6"		Avalon Golden Yellow	Medium/Short	4-10"	●	Skyfall Lemon Yellow	Short	4-12"	●	
					Katelli Yellow	Medium	4-8"	●	Destiny Yellow	Medium	4-10"		Avalon Sunny Yellow	Medium	4-10"	●	Skyfall Yellow
					Dove Yellow	Medium	4-10"		Gold Riot Yellow	Medium	4-10"	●					
					Gold Cup Yellow	Short	4-8"	●	Kizzmet Golden Yellow	Medium	4-12"	●					
					Gold Rush Yellow	Medium	6-12"		Morgana Yellow	Medium/Short	4-12"						
					Goldcrest Yellow	Medium	4-12"	●	Sundance Yellow	Medium	4-10"	●					
					Moonglow Yellow	Medium	4-10"	●	Sweet Honey Yellow	Medium	4-12"						
					Paradiso Yellow	Medium/Short	4-8"	●	Zinger Yellow	Medium	6-10"						
					Stellar Yellow	Medium	4-10"	●									
					Sunny Day Yellow	Medium	4-10"	●									
					Sunrise Yellow	Medium	4-8"	●									
					Yellow Tang	Medium	4-12"	●									
	Green					Key Lime	Medium/Tall	4-8"	●								
Red	Five Alarm Red	Medium	4-12"		Cranbury Red	Medium	6-12"		Avalon Red	Medium/Short	4-10"	●	Skyfall Red	Short	4-12"	●	
					Majesty Red	Medium	4-12"	●	Eternal Red	Medium/Short	4-6"						
					Radiant Red	Medium/Tall	6-12"		Grapeberry Red	Medium	4-8"	●					
					Red Hots	Medium	4-10"	●	Morgana Red	Medium	4-12"						
					Red Rover	Medium	4-8"	●	Mumma Mia Red	Medium/Tall	6-10"						
					Stellar Red	Short	4-10"	●	Red Ryder	Medium	6-10"	●					
Purple	Amphion Lavender Purple	Medium	4-12"	●	Grapeberry Neon Purple	Medium	4-8"	●	Avalon Purple	Medium/Short	4-10"	●	Skyfall Purple	Short	4-12"	●	
					Grapeberry Purple	Medium	4-8"	●	Gypsy Rose Purple	Medium	4-12"	●					
					Majesty Purple	Medium	4-12"	●	Morgana Purple	Medium/Short	4-12"						
					Paintbox Purple	Medium/Short	4-10"		Prism Purple	Medium	4-12"	●					
					Plumberry Purple	Medium	4-12"										
					Poppin Purple	Medium	6-12"										
					Stellar Purple	Medium	4-10"	●									
					Venus Purple	Medium	4-12"	●									
Wicked Purple	Medium	6-12"															
Pink	Misty Lilac Pink	Medium	4-12"		Carousel Pink	Medium	4-10"		Avalon Pink	Medium/Short	4-10"	●	Skyfall Pink	Short	4-12"	●	
					Paradiso Pink	Medium/Short	4-8"	●	Morgana Pink	Medium	4-12"						
					Perfectly Pink	Medium/Short	4-6"	●	Pop Eye Pink	Medium	4-8"						
					Pink Frenzy	Medium/Tall	6-12"										
					Stellar Pink	Medium	4-10"	●									
					Temptation Pink	Medium	6-12"										
Wild Child Pink	Medium	6-12"															
White	Aspen White	Medium	4-8"	●	Alpine White	Medium	4-8"		Avalon Crème White	Medium	4-10"	●	Skyfall White	Short	4-12"	●	
					Bridal White	Medium/Tall	4-12"		Butter N' Cream White	Medium	4-12"	●					
	Celestial White	Medium	4-10"	●	Moonglow White	Medium	4-10"	●	Dove White	Medium	4-10"	●					
					Paradiso White	Medium/Short	4-8"	●	Morgana White	Medium/Short	4-12"						
					Starburst White	Medium/Short	4-8"	●									
Carousel Blushing Salmon	Medium	4-10"		Avalon Salmon	Medium/Short	4-10"	●										

*Hanging Baskets ● - suggested

Propagation of Garden Mums

Upon Arrival

Stick immediately upon receipt for best results.

If necessary to hold cuttings, open the boxes and inspect.

Cuttings can be held at 34 to 38°F (1 to 3°C) for no more than 2 to 3 days. Leave the cuttings in the plastic wrap to prevent dehydration. If cuttings are wilted, increase the humidity in the cooler to <85%.

Media

Use soilless media that is well-drained with good aeration and moisture retention.

Maintain soil pH of 5.8 to 6.2 with an EC of less than 1.0 (mmhos/cm, SME).

Stick into moist media (4 on a 1-5 scale) and water-in so the soil is in contact with the stem.

Maintain media temperature between 70 to 74°F (21 to 23°C) using bottom heat.

50 to 100-count trays are most common.

Rooting Hormone

If desired, spray 100 to 200 ppm KIBA on cuttings the morning after stick, or do a pre-stick basal dip of 1,000 to 1,500 ppm IBA.

When spraying with KIBA, it is important to apply enough volume to run down the stem. Treat in both directions to ensure uniform application on all sides of the cutting.

Recommended for slow or harder-to-root varieties.

Misting

During the first 24 hours after sticking, it is critical to apply enough mist to rehydrate the cuttings, so the leaves are no longer limp.

After the first 24 hours, use the minimum mist that will prevent wilting. Start reducing mist once callus starts to form.

Apply only enough mist to wet the foliage and slightly increase soil moisture. Saturated soil will slow rooting due to excess callus formation.

Misting schedules should be adjusted to respond to current conditions, including light, temperature, humidity and degree of rooting. Reduce mist as soon as possible, beginning with a reduction during the night and pre-dawn period. By Day 4, night mist should not be needed to maintain turgid cuttings. Discontinue mist after 10 to 14 days, when roots reach the edge to bottom of container.

- If using a mist timer, adjust the frequency and duration to apply the minimum amount without wilting: Days 1 to 4, use 5 seconds of mist every 10 to 15 minutes.
- Days 5 to 8, use 5 seconds of mist every 15 to 20 minutes.
- Days 9 to 14, use 5 seconds of mist every 25 to 30 minutes.
- If using a VPD system, use a low value for the first day to rehydrate the cutting. Then increase gradually for the next 6 days, with a rapidly increasing value for the next 7 days. The pivot to the rapid increase is when the root initials begin to form ("root-horns").

Air Temperature

70 to 80°F (21 to 27°C) is important to prevent flower initiation during rooting, and it enhances rooting.

Light Levels

Reduce the light intensity to 1,500 to 2,500 foot-candles during the first 2 days, to help rehydrate the cuttings during hot, high-light periods.

Maintain 3,500 to 4,000 foot-candles once roots begin to form. High-light intensity will produce high-quality liners.



Photoperiod Control

Night-interruption lighting is recommended year-round at 10 foot-candles (100 lux), 10:00 p.m. to 2:00 a.m., to keep the cuttings vegetative and reduce premature budding.

Fertilizer

During rooting, feed 2 to 3 times a week, 1 to 3 days after stick (at 200 to 250 ppm N) or use a constant liquid feed of 100 ppm N.

Monitor the pH and EC to maintain in the appropriate range for good growth.

Plant Growth Regulators

B-Nine can be applied at 1,000 to 2,500 ppm. Apply first application on Day 7 after stick to reduce stretch; an additional application may be made on Day 14.

Florel can be applied at 350 to 500 ppm during propagation at Day 10 and 17. Results vary and may help prevent premature budding.

Bonzi is not recommended during propagation.

After the Cutting Is Rooted

Rooting liners can be transitioned to the finished growing-on environment.

Maintain warm night temperatures (>68°F/20°C) and long days up until April 15, when days are naturally long. Avoid low temperatures (<55°F/13°C), as this can trigger premature flowering.

Any stress at this time will reduce quality and may cause premature budding. Do not let liners wilt or soil remain saturated, as this can increase disease infection. Do not allow the liners to become rootbound and transplant as soon as appropriate. If left in the trays too long, the liners can become hard and may not take off uniformly when planted.

Fertilize the liners prior to planting with 300 to 400 ppm from 20-10-20 to ensure strong growth after transplant.

Water-in immediately after transplanting with fertilizer at 300 to 400 ppm N.

Disease Management

Refer to online pesticide recommendations for appropriate chemicals for use in your location.

Chrysanthemum white rust (CWR) is a major disease that you should treat proactively to prevent infection. Refer to the CWR Grower Facts on **BallSeed.com** for detailed information.

Botrytis is a serious problem when excess humidity is present. Application of Pageant fungicide within 3 days of sticking provides excellent disease control and promotes more uniform rooting.

Application of a pre-transplant soil drench to the liners to manage Pythium and other soil-borne diseases will enhance rapid establishment in the final container.

Insect Management

Refer to online pesticide recommendations for appropriate chemicals for use in your location.

Mites have become a significant pest in the last several years. Monitor the plants in the propagation area, as this may be a source for mites to move onto the mum liners.

Leafminers are a common pest of mums. Begin your monitoring and spray program for adults and larvae as soon as misting stops.

Fungus gnats and Shore fly larvae can cause significant root damage if populations are allowed to become established. Start with clean floors and apply bio-controls after sticking to keep populations under control.

Aphids can become a spontaneous problem in the Summer months, when large populations suddenly appear on the crop. Regular monitoring is critical to stop infestations from spreading.

Whitefly and thrips can become problems late in the crop, but seldom are serious pests during propagation.

SPRING-FLOWERING PROGRAMS

Light/Shade Program

Refer to the chart below for specific requirements and typical 4-in. (10-cm) schedule. This program more accurately controls the size and flowering time than with a No Light/No Shade Program. It is essential to maintain a minimum night temperature of 65°F (18°C). For crops flowering after May 1, shade or black cloth is required for controlled flowering response.

Light/Shade Spring-Flowering Program for 7-Week Response Garden Mums

Long Days

Pot Size	PPP	Crop Time	Plant Rooted Liner*	Pinch**	Light from 10:00pm to 2:00am	Shade	Sale***
4-4.5"	1	9 Weeks	Weeks 2 to 10	1 Week After Planting	Day 0 to 14 After Planting	No	Weeks 11 to 19
4-4.5"	1	9 Weeks	Weeks 11 to 14	1 Week After Planting	Day 0 to 14 After Planting	Start Shade Day 15	Weeks 20 to 23

*5-6.5" containers should be planted, grown under long days, and pinched 1 week earlier.

**Pinch plants when roots hit side of pot and have approximately 1 in. (3 cm) of new shoot growth.

***6-week varieties will have an 8-week crop time; 8-week varieties will have a 10-week crop time.

These are suggestions, production should be adjusted for local growing conditions and treatments.

Ball Mums Rooting Stations

Your Ball Seed Sales Rep works with the most reliable suppliers in North America to provide you with the highest-quality rooted mum cuttings.

Ball Tagawa Growers
Arroyo Grande, California

D.S. Cole Growers
Loudon, New Hampshire

Dickman Farms
Auburn, New York

Genesis Plant Propagation Ltd.
Langley, British Columbia

George Sant & Sons
Kleinburg, Ontario

Green Leaf Plants®
Smoketown, Pennsylvania

Greenstreet Growers, Inc.
Lothian, Maryland

Keepsake Plants
Alva, Florida

Knox Horticulture
Winter Garden, Florida

Kube-Pak
Allentown, New Jersey

Linwell Gardens Ltd.
Beamsville, Ontario

Lucas Greenhouses
Monroeville, New Jersey

Mast Young Plants
Grand Rapids, Michigan

Plantpeddler, Inc.
Cresco, Iowa

Raker-Roberta's
Litchfield, Michigan

Van de Wetering Greenhouses, Inc.
Jamesport, New York



2022 Drops and Substitutions

Dropped Variety	Suggested substitutions for black cloth crops	Suggested substitutions for natural season crops
Emberglow Orange	N/A	Blazing Orange, Avalon Orange
Pizzazz Purple	Stellar Purple, Paintbox Purple	Plumberry Purple, Wicked Purple
Yellowstone	Stellar Yellow, Sunny Day Yellow	Honeyblush Yellow, Zinger Yellow

terms and conditions of sale

VISIT BALLSEED.COM FOR CURRENT TERMS AND CONDITIONS OF SALE.

Note: Ball Terms & Conditions of Sale are country/region specific. The following Terms & Conditions of Sale apply to product sold within the United States and Canada.

ACCEPTANCE OF TERMS

These terms and conditions shall govern orders for seeds, bulbs, plants, supplies and other materials (merchandise) placed with Seller. All negotiations with sales representatives or other agents of Seller are merged herein. No modification of these terms and conditions shall be effective unless in writing signed by Seller. Placement of the order shall constitute Purchaser's acceptance of these terms and conditions. All orders are subject to acceptance by Seller at our offices in West Chicago, Illinois.

LIMITATION OF WARRANTY

Seller warrants, to the extent required by law, that merchandise conforms to the description appearing in Seller's catalog and on container labels, within recognized tolerances. SELLER MAKES NO OTHER OR FURTHER WARRANTY, EXPRESS OR IMPLIED. ALL OTHER OR FURTHER WARRANTIES, INCLUDING ANY WARRANTIES OF MERCHANTABILITY, TITLE, NON-INFRINGEMENT AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED. Certain merchandise may be separately warranted by the manufacturer. Seller does not adopt or ratify any manufacturer warranties, express or implied, and Seller shall have no liability thereunder. Seller does not adopt or ratify any manufacturer warranties, express or implied, made by Purchaser upon resale of the merchandise, and Seller shall have no liability thereunder.

LIMITATION OF REMEDY

PURCHASER'S SOLE AND EXCLUSIVE REMEDY SHALL BE REFUND OF THE PURCHASE PRICE. SELLER'S LIABILITY, WHETHER FOR BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, PRODUCTS LIABILITY OR ANY OTHER THEORY OF LIABILITY, IS LIMITED TO THE AMOUNT OF THE PURCHASE PRICE. UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE, OR FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES.

USE RESTRICTION

Merchandise is not intended for sale to large-scale commercial growers of herbs or vegetables. Use, transfer and/or acquisition of merchandise constitutes acceptance of a limited right to use the merchandise solely to grow a single crop for food, feed, processing or ornamental purposes. No other use is permitted. Any transfer of merchandise must be accompanied by this use restriction.

MANDATORY ARBITRATION

ANY CLAIM WHICH PURCHASER MAY HAVE AGAINST SELLER ARISING OUT OF OR RELATING TO THE SALE OF THE MERCHANDISE SHALL BE SETTLED BY BINDING ARBITRATION IN ACCORDANCE WITH THE COMMERCIAL ARBITRATION RULES OF THE AMERICAN ARBITRATION ASSOCIATION, SAID ARBITRATION TO BE VENUED IN COOK OR DUPAGE COUNTIES, ILLINOIS. The laws of several states require arbitration, conciliation or mediation of disputes involving allegedly defective seed before legal action may be taken. Purchaser should contact the State Department of Agriculture for information. Such laws typically require that a complaint be filed with the State Department of Agriculture in time to permit inspection of the seed, crops or plants. If such a complaint is filed, a copy must be sent to Seller by registered or certified mail.

GOVERNING LAW, JURISDICTION & VENUE

The laws of the State of Illinois, including but not limited to the Uniform Commercial Code as adopted therein, shall govern all matters arising out of or relating to Seller's sale of merchandise. ANY DISPUTE NOT SUBJECT TO ARBITRATION AND ANY ACTION TO ENFORCE AN ARBITRATION AWARD ARISING OUT OF OR RELATING TO THE SALE OF MERCHANDISE HEREUNDER SHALL BE MAINTAINED IN THE STATE OR FEDERAL COURTS LOCATED IN DUPAGE OR COOK COUNTIES, ILLINOIS, AND PURCHASER SUBMITS TO THE JURISDICTION OF AND VENUE IN SAID COURTS.

INDEMNITY

By accepting merchandise, Purchaser agrees to defend Seller, to hold it harmless and indemnify it from and against any claim or loss asserted by any or all transferees of such merchandise or users of the products of such merchandise who are not notified by Purchaser in writing of Limitation of Warranty, Limitation of Remedy, Mandatory Arbitration, Governing Law Jurisdiction and Venue, and Notice Regarding Seed-Borne Diseases in language substantially equivalent to that contained in these Terms & Conditions of Sale.

PRICES

All prices are subject to change without notice. The price in effect at time of shipment will prevail. Prices do not include installation; Seller takes no responsibility, and shall have no liability for installation. Requests to package seed in unlisted sizes will incur a charge of \$0.75 per packet. Additional processing and handling charges may be added.

PAYMENT

Payment is due in invoiced currency and in accordance with the terms specified on invoice. In the event of default in the payment of any amount when due, and in addition to all other rights and remedies available to Seller, SELLER SHALL BE ENTITLED TO COLLECT A LATE CHARGE OF 2% PER MONTH (24% PER YEAR) OR THE MAXIMUM RATE ALLOWED BY LAW, WHICHEVER IS LESS, ON ALL AMOUNTS PAST DUE FROM THE DATE DUE UNTIL THE DATE PAID.

A FEE OF \$25.00 WILL BE CHARGED FOR ANY RETURNED CHECK, DECLINED EFT TRANSACTION OR DECLINED BANKCARD TRANSACTION.

If paying by Pre-Authorized Debit (PAD), or EFT, please note you have waived your right to receive pre-notification of the amount of the PAD and agreed that you do not require advance notice of the amount of PADs before the debit is processed.

FREIGHT & HANDLING CHARGES, INSPECTION, DAMAGED GOODS

The freight and handling charge on Purchaser's invoice covers shipment of the merchandise to Purchaser's destination, and replacement or credit for damaged merchandise if the steps listed here are followed. PURCHASER WILL NOT REFUSE OR RETURN GOODS, OR THE RIGHT TO FILE A CLAIM IS LOST AND PURCHASER WILL STILL BE LIABLE FOR THE MATERIAL AND THE FREIGHT. When Purchaser receives shipment: 1) Count all cartons. 2) Inspect all cartons for external damage. 3) Check for open or resealed cartons. 4) Note any damages, shortages, open or resealed cartons on the delivery receipt; the carrier's representative must also sign the receipt. 5) Open all boxes immediately and inspect for damage such as scorched, frozen or broken plants; material shortages; etc. NOTIFY SELLER IMMEDIATELY IF A SHIPMENT IS DAMAGED. Call the Ball Traffic Department at **800 879-BALL** to report the damage and receive details on what is needed to file a claim.

CANCELLATION POLICY

Cancellations for unrooted cuttings must be received at least thirty (30) days prior to scheduled ship date. Cancellations for liners or seed-raised plugs must be received prior to stick or sow date.

NOTICE & RETURN

Seller shall have no liability for any defect unless notice is given promptly, not to exceed thirty (30) days after such a defect is or should have been discovered. The buyer is limited to six months from the ship date to report issues. Issues that arise past six months will not be considered for credit. No merchandise may be returned without the Seller's prior written authorization. Requests to return merchandise must be made within ten (10) days after delivery. All returns must be in accordance with Seller's shipping instructions with freight paid by Purchaser. All requestsss for return of merchandise must be made to Ball at **800 879-BALL**. The Purchaser will also be asked to provide a letter stating the reason for the return.

The order number or invoice number must accompany the return in order to expedite the credit. NOTE: No seed will be accepted without prior notification to Ball at **800 879-BALL**. Effective immediately, seed that is returned without authorization will not be accepted and credit will not be issued. For all Purchasers in the United States, a FedEx call tag will be issued upon authorization of return. There is a \$10.00 freight charge for the FedEx return. Seed must be returned in the original condition within thirty (30) days of the ship date for full credit. No open packages will be accepted. If seed is returned within thirty-one (31) to sixty (60) days after

ship date, full credit will be given but a 15% restocking charge will be assessed. No credit or replacement will be given for seed returned after sixty-one (61) days from our ship date. Because Ball® Controlled Growth seed is perishable and has a shorter shelf life, no returns of these products will be accepted.

DELAYS, SHORTAGES & SUBSTITUTIONS

Seller shall not be responsible for delays in delivery or for losses resulting from such delays. Seller reserves the right to make partial shipment. In the event of shortages, Seller may substitute such other, similar merchandise as is available.

PLANT PROTECTION

Varieties described herein may be protected by United States Plant Variety Protection, United States Plant Patents, Utility Patents, and/or Plant Breeders' Rights. Many of the varieties are also protected by the Flowering-Only License Agreement as well as registered with the Canadian Ornamental Plant Foundation. These varieties may not be reproduced without authorization. The breeder or authorized representative has the right to inspect Purchasers' nurseries during normal business hours to assess compliance with the restrictions on use of protected varieties.

TRADEMARKS

® denotes a U.S. registered trademark and ™ denotes a trademark of Ball Horticultural Company, unless otherwise indicated.

SALES LIMITATIONS

EXPORT CONTROL. THE COMPANY'S PRODUCTS MAY NOT BE SOLD, DIVERTED, TRANSFERRED OR RE-EXPORTED, DIRECTLY OR INDIRECTLY, TO ANY INDIVIDUAL, ENTITY, OR DESTINATION THAT IS SUBJECT TO UNITED STATES OR UNITED NATIONS SANCTIONS PROGRAMS OR EMBARGOES (INCLUDING BUT NOT LIMITED TO OFAC SANCTIONS PROGRAMS AND THOSE LISTED ON OFAC'S "SPECIALLY DESIGNATED NATIONALS" LIST) WITHOUT AN APPROPRIATE EXPORT LICENSE.

FOREIGN CORRUPT PRACTICES ACT.

EACH PARTY REPRESENTS AND WARRANTS TO THE OTHER PARTY THAT IT WILL TAKE NO ACTION IN RELATION TO THIS TRANSACTION THAT WOULD BE IN VIOLATION OF THE APPLICABLE LAWS AND REGULATIONS OF ANY COUNTRY AND THE UNITED STATES OF AMERICA. NO PAYMENTS OF MONEY OR ANYTHING OF VALUE WILL BE OFFERED, PROMISED OR PAID, DIRECTLY OR INDIRECTLY, TO ANY OFFICIALS TO INFLUENCE THE ACTS OF SUCH OFFICIALS TO INDUCE THEM TO USE THEIR INFLUENCE WITH A GOVERNMENT OR AN INSTRUMENTALITY THEREOF, OR TO OBTAIN AN IMPROPER ADVANTAGE.

NOTICE REGARDING SEED-BORNE DISEASES

Seller makes no representation regarding the freedom from seed-borne diseases of the seed sold and disclaims any liability relating to such diseases, whether previously known to exist or not identified until this seed is grown.

FAST, CONVENIENT, 24/7 ONLINE ACCESS



ORDER NOW
using WebTrack® and the
WebTrack To Go® mobile app,
which can be downloaded for FREE
from the App Store or Google
Play. Scan the QR Code below
to learn more.



Scan to visit
WebTrack

Order at ballseed.com/webtrack

Talk to us.
Ball Seed: 800 879-BALL
Ball ColorLink®: 800 686-7380

Visit ballseed.com for current
Terms & Conditions of Sale.

BallSeed®

©2021 Ball Horticultural Company 21221304

™ denotes a trademark of and ® denotes a registered trademark of Ball Horticultural Company in the U.S., unless otherwise noted. They may also be registered in other countries.