



2024-2025

Mums

Ba||Seed®



Ease. Performance. Success.

At Ball Mums, we're always working to provide you with the most relevant and up-to-date cultural info to make growing your mum program **easier and more successful**. Take a look at our newly updated culture sections where you'll find links to Ball® Tech on Demand documents and resources that will help you **grow your best** mum crop ever.

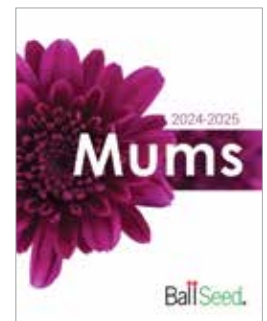
We continue to focus on bringing new mum families to the market, providing new varieties with vibrant colors, well-matched habits and excellent keeping quality for **ease in production scheduling**.



Our goal is to provide varieties that will work well for you in **all stages of production**, from rooting and growing, through shipping and retail. You can count on us to provide the mum varieties that **perform at their best** from start to finish.

Contact your Ball Seed Sales Representative today to start your most successful growing season ever!

Cindy Drumgool
Product Development
Business Manager – Mums

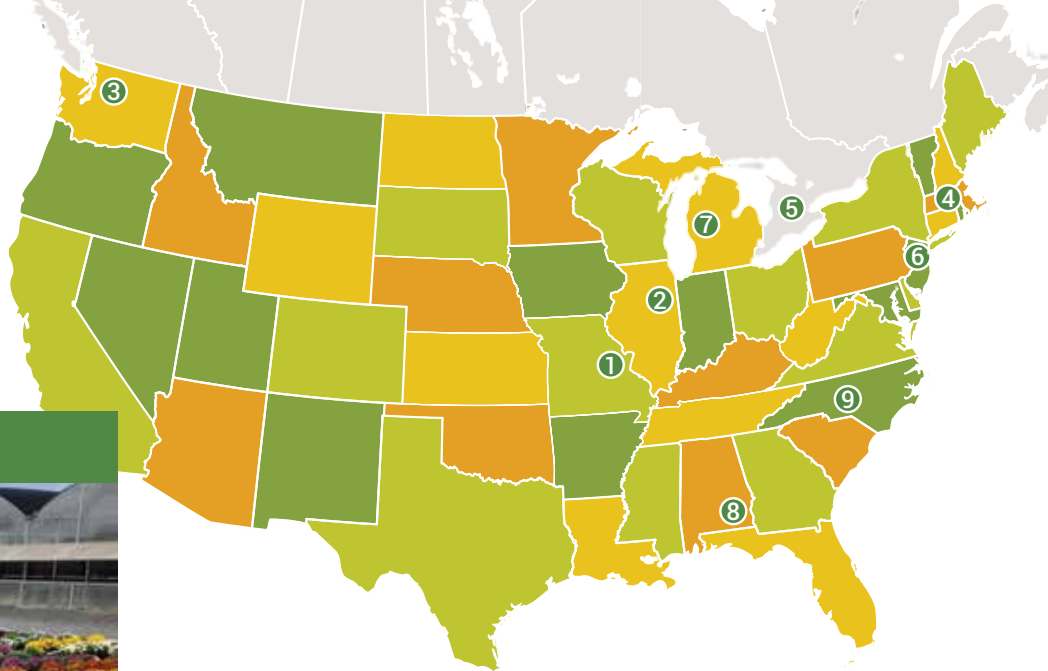


On the cover:
Milkshake
Cherry Purple

Table of Contents

Our Trial Sites	1	Purple	39
Guide to Color Selection	1	Pink	44
Key to Symbols	1	WebTrack	49
A Note on Flower Dates	1	White	50
Natural Season Top Performers	2	Growing Guide	55
New Varieties 2024	2	Natural Season Garden Mums Flowering Sequence	56
Mum Families	4	Garden Mums A-Z Quick Reference	58
Yellow & Green	15	Propagation Guide	64
Orange & Bronze	23	Finishing Guide	66
Landscape	32	Black Cloth Tips	70
Red	33	Rooting Stations	72
Green Netting	38	Terms and Conditions of Sale	73

1. Cahill Family Greenhouses; Saint James, MO
2. Ball Seed; West Chicago, IL
3. DeGoede Brothers, LLC; Sumner, WA
4. Fairview Farms; Whately, MA
5. George Sants & Sons, LTD; Kleinburg, Ontario
6. Lou Davino Jr. Greenhouse; Millstone, NJ
7. Mast Young Plants; Grand Rapids, MI
8. Youngs Plant Farm; Auburn, AL
9. Metrolina Greenhouses; Huntersville, NC



Our Trial Sites



Our trial sites in North America are chosen by region to better evaluate the performance of our products before selection. We base our decisions on propagation and rooting evaluations, and Natural Season and Black Cloth shaded production trials, so you can be confident that you are getting the best-performing varieties for your region.

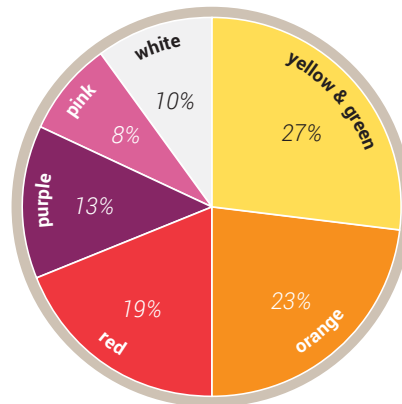
Guide to Color Selection

Getting your ratios right

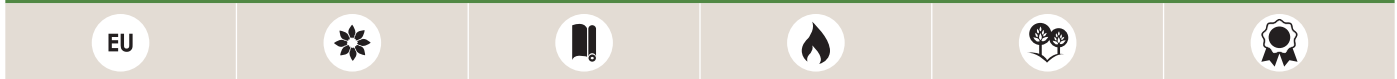
Our customers often wonder what percentage of each color class they should grow to maximize their business. The color chart below reflects Ball's most recent sales nationwide, and we recommend you utilize that same ratio of colors for your annual growing program – to obtain the perfect balance of colors.

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.



Key to Symbols



European (ball-shaped) habit

Performs well in Spring flowerings

Performs well in black cloth flowerings

Heat-tolerant variety (FL/TX)

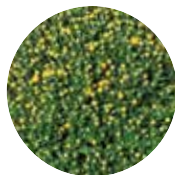
Excellent for landscapes

Top Performer

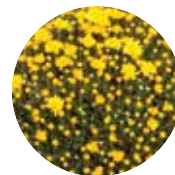
NOTE: Icons in red are suggested uses

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 to ship)



Flower Date (ready to sell)

Natural Season Top Performers



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

ESE: Early Season Extender LSE: Late Season Extender

NEW VARIETIES 2024



PAGE
28

Orange Helios

A very late-season entry, this dazzling bicolor orange stands up to the heat of Summer and stays fresh and full-looking all season.



PAGE
30

Spicy Pumpkin Orange

A standout variety for late-Fall sales, this bold orange is versatile for use in larger pots and landscapes.

Add these sensational new varieties to your program and see sales skyrocket!

PAGE
17



Cosmic Solar Yellow

Golden yellow blooms light up late-Fall baskets.



PAGE
25

Cosmic Meteor Bronze

Blazing bicolor blooms are sensational from Summer through Fall.



PAGE
34

Cosmic Fireball Red

Velvety red, eye-catching color for containers.



PAGE
40

Cosmic Galaxy Purple

Dark and dazzling purple makes a statement in Fall containers.



PAGE
45

Cosmic Lunar Pink

Sweet pink blooms work well in mixed baskets and containers.





Carousel

PAGE
5



Flamingo

PAGE
6



Stellar

PAGE
7



Tribeca

PAGE
8

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.



Paradiso

PAGE
9



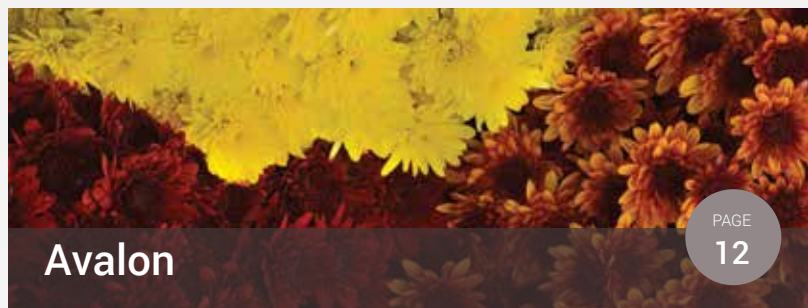
NEW Cosmic

PAGE
10



Morgana

PAGE
11



Avalon

PAGE
12



NEW Milkshake

PAGE
13



Skyfall

PAGE
14

CAROUSEL Family

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

Timing	Flower Date		Black Cloth Response			Habit	Vigor
	North	South	4"	6"	8"		
Mid	9/26	9/30	7 Weeks			Mounded	Medium
			10"	12"	½ Bushel	H.B.	
Natural Season	•	•	•	•	•		•
Black Cloth	•	•	•	•			•



Trio Mix Garden Mum
Glimmer Orange, Pink, White



Glimmer Orange



Blushing Salmon



Pink



White

FLAMINGO Family

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

Timing	Flower Date		Black Cloth Response			Habit	Vigor	
	North	South	4"	6"	8"			
Mid	9/23-25	9/25-28	8 Weeks			European	Medium	
		4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season		●	●	●	●	●	●*	●
Black Cloth								

*except Neon Pink



Mid Season

Trio Mix Garden Mum
Cranberry Red, Neon Pink, Pineapple Pink



Cranberry Red



Neon Pink



Pineapple Pink



Pink

STELLAR Family

- 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
	North	South	4"	6"	8"	10"	12"		
Mid	9/19-22	9/28-30	7 Weeks					European	Medium/Short
Natural Season		●	●	●	●	●	●	★	
Black Cloth		●	●	●	●			●	



Mid Season

Trio Mix Garden Mum
Yellow, Red, Pink



PAGE 21

Yellow



PAGE 38

Red



PAGE 43

Purple



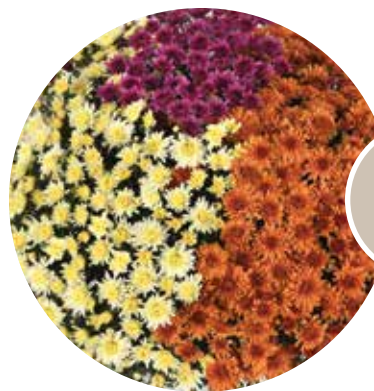
PAGE 48

Pink

TRIBECA Family

- 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
	North	South	4"	6"	8"	10"		
Mid	9/21-23	9/28-30	7 Weeks				Mounded	Medium to Medium/Tall
Natural Season			●	●	●	●	½ Bushel	H.B.
Black Cloth								



Mid Season

Trio Mix Garden Mum
White, Amber Orange, Dark Pink



PAGE 22

Yellow



PAGE 30

Amber Orange



PAGE 49

Dark Pink



PAGE 49

Pink



PAGE 54

White

PARADISO Family

- 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
	North	South	4"	6"	8"	10"		
Late	9/30	10/10	7 Weeks				European	Medium/Short
			4"	6"	8"	10"	12"	½ Bushel
Natural Season			●	●	●	●		H.B. ★
Black Cloth			●	●	●			●



Late Season

Trio Mix Garden Mum
White, Yellow, Pink



PAGE 20

Yellow



PAGE 29

Bronze



PAGE 47

Pink



PAGE 53

White

NEW COSMIC Family

- Very late season
- Excellent color retention
- European habit is great in pots, baskets and containers

Timing	Flower Date		Black Cloth Response				Habit	Vigor
	North	South	4"	6"	8"	10"		
Very Late	10/9	10/9	7 Weeks				European	Medium
Natural Season			•	•	•	•	•	•
Black Cloth			•	•	•	•		•



Very Late Season

Trio Mix Garden Mum
Lunar Pink, Meteor Bronze, Galaxy Purple



NEW Solar Yellow



NEW Meteor Bronze



NEW Fireball Red



NEW Galaxy Purple



NEW Lunar Pink

MORGANA Family

- 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	
	North	South	4"	6"	8"	10"			
Very Late	10/7-9	10/19	8 Weeks				Mounded	Medium/Short to Medium	
			4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season			●	●	●	●	●	●	★
Black Cloth			●	●	●	●	●		



Very Late Season

Trio Mix Garden Mum
Pink, Yellow, White



PAGE 20

Yellow



PAGE 28

Orange



PAGE 36

Red



PAGE 42

Purple



PAGE 47

Pink



PAGE 53

White

AVALON Family

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

Timing	Flower Date		Black Cloth Response				Habit	Vigor
	North	South	4"	6"	8"	10"		
Very Late	10/15-19	10/21	8 Weeks				Mounded	Medium/Short to Medium
Natural Season	●	●	●	●	●	●	●	★
Black Cloth	●	●	●	●				●



Very Late Season

Trio Mix Garden Mum
Orange, Crème White, Yellow



PAGE 16

Golden Yellow



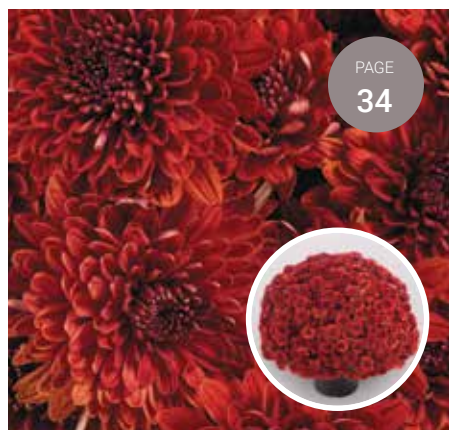
PAGE 16

Sunny Yellow



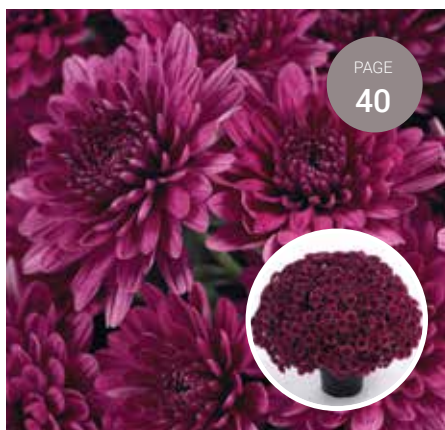
PAGE 24

Orange



PAGE 34

Red



PAGE 40

Purple



PAGE 45

Pink



PAGE 51

Crème White



Orange, Sunny Yellow, Pink



Sunny Yellow, Purple, Crème White

MILKSHAKE Family

- Striking rich colors
- Long bloom time
- Mounded habit is great for pots and hanging baskets

Timing	Flower Date		Black Cloth Response				Habit	Vigor	
	North	South	4"	6"	8"	10"			12"
Very Late	10/21	10/25	9 Weeks				Mounded	Medium	
			4"	6"	8"	10"	12"	½ Bushel	H.B.
Natural Season			•	•	•	•	•		•
Black Cloth			•	•	•	•	•		•



Very Late Season

Trio Mix Garden Mum
Strawberry Red, Banana Yellow, Papaya Orange



Banana Yellow



Kiwi Bronze



Papaya Orange



Strawberry Red



Cherry Purple



Berry Pink



Coconut White



Coconut White, Berry Pink, Cherry Purple



Papaya Orange, Berry Pink, Banana Yellow

SKYFALL Family

- Late season
- Rounded, spreading habit
- Full and stunning in 7 to 11-in. (18 to 20-cm) hanging baskets

Timing	Flower Date		Black Cloth Response			Habit	Vigor
	North	South	4"	6"	8"		
Very Late	10/15-23	10/29	9 Weeks			Spreading	Short
			4"	6"	8"	12"	½ Bushel
Natural Season							★
Black Cloth							●



Very Late Season

White, Pink, Yellow



Lemon Yellow



Red



Purple



Pink



White

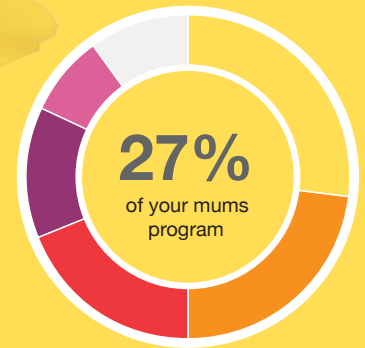


Skyfall family

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



NATURAL SEASON FLOWERING TIME

Variety Name	Status	Timing	30-50% Flower Date (North)	30-50% Flower Date (South)	Vigor	Recommend for Black Cloth	Black Cloth Response	Page
Goldmine Yellow		Very Early	09/09	09/11	Tall	✓	6 weeks	18
Sunrise Yellow	Top Performer Best Seller	Very Early	09/07	09/06	Medium	Suggested	7 weeks	21
Buttercup Yellow		Early	09/13	09/18	Medium		7 weeks	16
Katelli Yellow		Early	09/13	09/13	Medium	✓	6 weeks	19
Kizzmet Golden Yellow		Early	09/17	09/27	Medium	✓	8 weeks	19
Moonglow Yellow		Early	09/17	09/26	Medium	Suggested	7 weeks	20
Cracklin Golden Yellow		Mid	09/24	09/24	Medium/Short	Suggested	7 weeks	17
Honeyblush Yellow	Top Performer Best Seller	Mid	09/19	09/24	Medium		7 weeks	18
Sizzling Fire Yellow		Mid	09/23	09/30	Medium		7 weeks	20
Stellar Yellow		Mid	09/22	09/29	Medium	Suggested	7 weeks	21
Tribeca Yellow		Mid	09/21	09/30	Medium		7 weeks	22
Zinger Yellow	Top Performer	Mid	09/24	09/27	Medium	✓	8 weeks	22
Destiny Yellow		Late	09/29	10/02	Medium	Suggested	7 weeks	17
Gold Cup Yellow		Late	10/02	10/12	Short	✓	7 weeks	18
Paradiso Yellow		Late	09/30	10/10	Medium/Short	Suggested	7 weeks	20
Sundance Yellow	Top Performer Best Seller	Late	09/30	10/11	Medium	✓	8 weeks	21
Sweet Honey Yellow		Late	09/28	10/07	Medium	✓	8 weeks	22
Key Lime		Late	09/27	10/04	Medium/Tall	✓	7 weeks	19
Alpine Yellow		Very Late ESE	10/12	10/14	Medium		8 weeks	16
NEW Cosmic Solar Yellow		Very Late ESE	10/09	10/09	Medium	✓	7 weeks	17
Dove Yellow		Very Late ESE	10/11	10/19	Medium	✓	7 weeks	17
Gold Riot Yellow	Top Performer	Very Late ESE	10/09	10/13	Medium	Suggested	8 weeks	18
Morgana Yellow		Very Late ESE	10/08	10/19	Medium/Short	✓	8 weeks	20
Yellow Tang	Top Performer Best Seller	Very Late ESE	10/09	10/22	Medium	Suggested	7 weeks	22
Avalon Golden Yellow		Very Late LSE	10/15	10/21	Medium/Short	✓	8 weeks	16
Avalon Sunny Yellow	Top Performer Best Seller	Very Late LSE	10/19	10/21	Medium	✓	8 weeks	16
Milkshake Banana Yellow		Very Late LSE	10/21	10/25	Medium	✓	9 weeks	19
Skyfall Lemon Yellow		Very Late LSE	10/15	10/29	Short	✓	9 weeks	14
Sunny Day Yellow	Top Performer Best Seller	Very Late LSE	10/16	10/16	Medium	✓	7 weeks	21

ESE: Early Season Extender
LSE: Late Season Extender



Alpine Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/12 S: 10/14	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.

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



Avalon Golden Yellow (PP 24,020)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/15 S: 10/21	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 12.

	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	N: 10/19 S: 10/21	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 12.

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



Buttercup Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	N: 09/13 S: 09/18	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 Cosmic Solar Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/09 S: 10/09	7 WEEKS	EUROPEAN	MEDIUM

Very late-season, five-color family has bright, vibrant colors that are well-matched in timing and habit. Excellent color retention and European habit make them a great choice for all pot sizes, hanging baskets and mixed containers. For more information on the Cosmic family, see page 10.

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



Cracklin Golden Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/24 S: 09/24	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	●	●					



Destiny Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/29 S: 10/02	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	N: 10/11 S: 10/19	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.

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



Gold Cup Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 10/02 S: 10/12	7 WEEKS	EUROPEAN	SHORT

Golden yellow decorative in the color range of Yellow Tang or Goldmine. Well-petaled 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	N: 10/09 S: 10/13	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	●	●	●	●			●



Goldmine Yellow (PP22,618)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY EARLY	N: 09/09 S: 09/11	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		●	●	●	●	●	●



Honeyblush Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/19 S: 09/24	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	N: 09/13 S: 09/13	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.

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



Key Lime

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/27 S: 10/04	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.

	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	N: 09/17 S: 09/27	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.

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



Milkshake Banana Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/21 S: 10/25	9 WEEKS	MOUNDED	MEDIUM

Very late-season, seven-color family has striking rich colors, dark green foliage and a long bloom time. Flowers open gradually, offering a long shelf life. Mounded plant habit works well in all pot sizes and hanging baskets. The name refers to fruity milkshake flavors, offering a flavor for every occasion. For more information on the Milkshake family, see page 13.

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



Moonglow Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	N: 09/17 S: 09/26	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.

	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	N: 10/08 S: 10/19	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 11.

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



Paradiso Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/30 S: 10/10	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 9.

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



Sizzling Fire Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/23 S: 09/30	7 WEEKS	MOUNDED	MEDIUM

Unique, large, bicolored 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	N: 09/22 S: 09/29	7 WEEKS	EUROPEAN	MEDIUM

Medium-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.

	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	N: 09/30 S: 10/11	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	N: 10/16 S: 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	N: 09/07 S: 09/06	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	N: 09/28 S: 10/07	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	●	●	●	●	●	●	



Tribeca Yellow

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/21 S: 09/30	7 WEEKS	MOUNDED	MEDIUM

Yellow variety within this mid-season, five-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 8.

	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	N: 10/09 S: 10/22	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	●	●	●	●	●		●



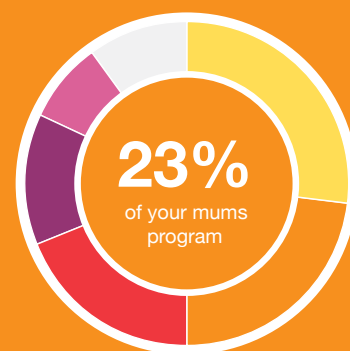
Zinger Yellow (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/24 S: 09/27	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



NATURAL SEASON FLOWERING TIME

Variety Name	Status	Timing	30-50% Flower Date (North)	30-50% Flower Date (South)	Vigor	Recommend for Black Cloth	Black Cloth Response	Page
Autumn Envy Bronze		Very Early	09/08	09/13	Short	✓	6 weeks	24
Hot Spot Bronze		Early	09/18	09/26	Medium	✓	7 weeks	26
Katelli Bronze	Best Seller	Early	09/15	09/16	Short	Suggested	6 weeks	27
Kickin' Spicy Orange		Early	09/15	09/24	Medium/Tall	Suggested	7 weeks	27
Butternut Golden Bronze		Mid	09/26	09/26	Medium/Tall	✓	7 weeks	25
Carousel Glimmer Orange		Mid	09/26	09/30	Medium	✓	7 weeks	25
Fire Halo Orange		Mid	09/24	09/30	Medium/Tall		7 weeks	26
Fireglow Bronze	Top Performer	Mid	09/23	09/29	Medium		8 weeks	26
Orange Zest		Mid	09/25	10/03	Medium		8 weeks	28
Perfectly Orange		Mid	09/21	09/26	Short	✓	7 weeks	29
Petit Orange		Mid	09/25	09/30	Medium	Suggested	7 weeks	29
Tribeca Amber Orange		Mid	09/21	09/28	Medium		7 weeks	30
Trickster Golden Bronze		Mid	09/23	10/04	Medium		8 weeks	31
Zuma Orange	Top Performer	Mid	09/22	09/26	Medium	✓	8 weeks	31
Autumn Glow Bronze		Late	10/02	10/05	Medium	✓	7 weeks	24
Copper Coin Bronze	Top Performer Best Seller	Late	09/30	10/03	Medium	Suggested	7 weeks	25
Hot Sugar Gold Bronze		Late	09/30	09/30	Medium		8 weeks	26
Mumosa Orange	Top Performer	Late	09/28	10/04	Medium	✓	7 weeks	28
Paradiso Bronze		Late	09/30	10/10	Medium/Short	Suggested	7 weeks	29
Sunset Orange	Top Performer Best Seller	Late	09/27	09/26	Medium	Suggested	7 weeks	30
Blazing Orange	Top Performer	Very Late ESE	10/12	10/12	Medium	✓	7 weeks	24
NEW Cosmic Meteor Bronze		Very Late ESE	10/09	10/09	Medium	✓	7 weeks	25
Morgana Orange		Very Late ESE	10/08	10/19	Medium	✓	8 weeks	28
NEW Orange Helios		Very Late ESE	10/07	10/07	Medium/Tall	✓	7 weeks	28
Pop Eye Orange		Very Late ESE	10/06	10/11	Medium	✓	8 weeks	29
Pumpkin Pie Orange	Best Seller	Very Late ESE	10/09	10/11	Medium	✓	7 weeks	30
NEW Spicy Pumpkin Orange		Very Late ESE	10/09	10/09	Medium	✓	7 weeks	30
Avalon Orange	Top Performer Best Seller	Very Late LSE	10/16	10/21	Medium/Short	✓	8 weeks	24
Milkshake Kiwi Bronze		Very Late LSE	10/21	10/25	Medium	✓	9 weeks	27
Milkshake Papaya Orange		Very Late LSE	10/21	10/25	Medium	✓	9 weeks	27

ESE: Early Season Extender
LSE: Late Season Extender



Autumn Envy Bronze (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY EARLY	N: 09/08 S: 09/13	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	N: 10/02 S: 10/05		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	N: 10/16 S: 10/21	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 12.

	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	N: 10/12 S: 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	●	●	●	●	●		●



Butternut Golden Bronze

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/26 S: 09/26	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	●	●	●	●	●		



Carousel Glimmer Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/26 S: 09/30	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	●	●	●	●			●

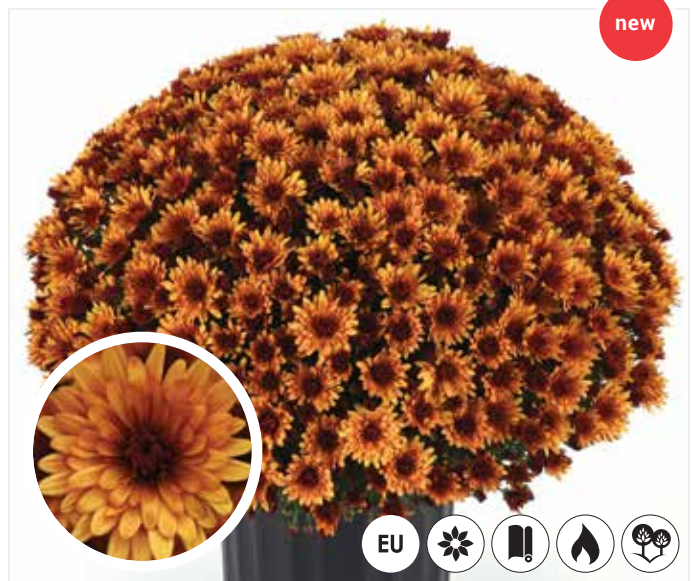


Copper Coin Bronze (PP29,449)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/30 S: 10/03	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	●	●	●				●



New Cosmic Meteor Bronze

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/09 S: 10/09	7 WEEKS	EUROPEAN	MEDIUM

Very late-season, five-color family has bright, vibrant colors that are well-matched in timing and habit. Excellent color retention and European habit make them a great choice for all pot sizes, hanging baskets and mixed containers. For more information on the Cosmic family, see page 10.

	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	N: 09/24 S: 09/30	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	N: 09/23 S: 09/29	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							



Hot Spot Bronze

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	N: 09/18 S: 09/26	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	N: 09/30 S: 09/30	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							

best seller



Katelli Bronze (PP16,674)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	N: 09/15 S: 09/16	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.

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



Kickin' Spicy Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	N: 09/15 S: 09/24	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		●	●	●	●		



Milkshake Kiwi Bronze

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/21 S: 10/25	9 WEEKS	MOUNDED	MEDIUM

Very late-season, seven-color family has striking rich colors, dark green foliage and a long bloom time. Flowers open gradually, offering a long shelf life. Mounded plant habit works well in all pot sizes and hanging baskets. The name refers to fruity milkshake flavors, offering a flavor for every occasion. For more information on the Milkshake family, see page 13.

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



Milkshake Papaya Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/21 S: 10/25	9 WEEKS	MOUNDED	MEDIUM

Very late-season, seven-color family has striking rich colors, dark green foliage and a long bloom time. Flowers open gradually, offering a long shelf life. Mounded plant habit works well in all pot sizes and hanging baskets. The name refers to fruity milkshake flavors, offering a flavor for every occasion. For more information on the Milkshake family, see page 13.

	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	N: 10/08 S: 10/19	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 11.

	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	N: 09/28 S: 10/04	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		●	●	●	●		



New Orange Helios

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/07 S: 10/07	7 WEEKS	MOUNDED	MEDIUM/TALL

Striking bicolor orange is an excellent choice for medium- to large-sized pots for very late-season sales. Features better vigor and a richer color than Pop Eye Orange. Offers very good keeping quality and heat tolerance.

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



Orange Zest

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/25 S: 10/03	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	N: 09/30 S: 10/10	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 9.

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



Perfectly Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/21 S: 09/26	7 WEEKS	MOUNDED	SHORT

Large flowers and great orange color. Provides a welcome burst of color to the late-season landscape. Note: Avoid large containers due to low vigor. Avoid Spring flowerings due to poor uniformity.

	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	N: 09/25 S: 09/30	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	N: 10/06 S: 10/11	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.

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



best seller



Pumpkin Pie Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/09 S: 10/11	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	●	●	●	●	●		



new



New Spicy Pumpkin Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/09 S: 10/09	7 WEEKS	MOUNDED	MEDIUM

A great variety for late-Fall sales. Displays a richer, darker orange color than Pumpkin Pie. Mounded habit works well in medium- to large-sized pots and in the landscape. Offers very good keeping quality and heat tolerance.

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



best seller



Sunset Orange (PP20,475)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/27 S: 09/26	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	●	●	●	●	●	●	●



Tribeca Amber Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/21 S: 09/28	7 WEEKS	MOUNDED	MEDIUM

Orange variety within this mid-season, five-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 8.

	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	N: 09/23 S: 10/04	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							



Zuma Orange

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/22 S: 09/26	8 WEEKS	EUROPEAN	MEDIUM

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

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



Ball Seed Sales Representative Gene Stickley (right) assists visitors from Garden State Growers at Lou Davino Greenhouses during Ball Mums trials.

Landscape

Keeping quality you can count on

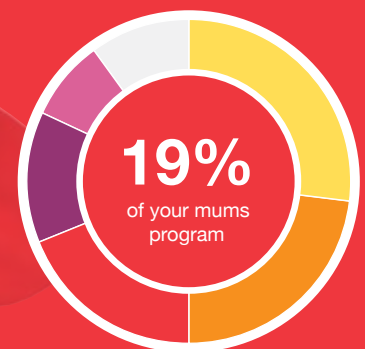
Ball Mums offers a full assortment of mum varieties that have been trialed for and proven their excellence in the landscape. These mums offer vibrant color all season long, as well as superior heat, rain and frost tolerance. They are chosen for their “keeping quality,” which guarantees they will last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



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	New Cosmic Fireball Red
Avalon Golden Yellow	Avalon Orange	Cranbury Red
Avalon Sunny Yellow	Blazing Orange	Eternal Red
New Cosmic Solar Yellow	Carousel Glimmer Orange	Five Alarm Red
Gold Riot Yellow	Copper Coin Bronze	Flamingo Cranberry Red
Goldmine Yellow	New Cosmic Meteor Bronze	Grapeberry Red
Honeyblush Yellow	Hot Sugar Gold Bronze	Majesty Red
Kizzmet Golden Yellow	Katelli Bronze	Milkshake Strawberry Red
Milkshake Banana Yellow	Milkshake Kiwi Bronze	Morgana Red
Morgana Yellow	Milkshake Papaya Orange	Mumma Mia Red
Sundance Yellow	Morgana Orange	Radiant Red
Sunny Day Yellow	New Orange Helios	Red Hots
Sunrise Yellow	Orange Zest	Red Ryder
Tribeca Yellow	Petit Orange	Roaring Red
Yellow Tang	Pumpkin Pie Orange	
Zinger Yellow	New Spicy Pumpkin Orange	
	Tribeca Amber Orange	
	Trickster Golden Bronze	
Purple	Pink	White
Avalon Purple	Avalon Pink	Alpine White
New Cosmic Galaxy Purple	Carousel Blushing Salmon	Avalon Crème White
Grapeberry Neon Purple	Carousel Pink	Butter N' Cream White
Grapeberry Purple	New Cosmic Lunar Pink	Carousel White
Majesty Purple	Flamingo Neon Pink	Celestial White
Milkshake Cherry Purple	Flamingo Pineapple Pink	Milkshake Coconut White
Morgana Purple	Flamingo Pink	Morgana White
Plumberry Purple	Jazzberry Pink	Starburst White
Poppin Purple	Milkshake Berry Pink	Tribeca White
Venus Purple	Morgana Pink	
	Pink Frenzy	
	Skye Pink	
	Tribeca Dark Pink	
	Tribeca Pink	

Ball Mums RED



NATURAL SEASON FLOWERING TIME

Variety Name	Status	Timing	30-50% Flower Date (North)	30-50% Flower Date (South)	Vigor	Recommend for Black Cloth	Black Cloth Response	Page
Cranbury Red		Early	09/17	10/01	Medium	✓	7 weeks	34
Five Alarm Red	Best Seller	Early	09/11	09/15	Medium	✓	6 weeks	35
Flamingo Cranberry Red		Mid	09/25	09/28	Medium		8 weeks	35
Radiant Red	Top Performer Best Seller	Mid	09/25	10/04	Tall	✓	7 weeks	37
Red Hots		Mid	09/23	10/08	Medium	✓	7 weeks	37
Stellar Red		Mid	09/19	09/28	Short	Suggested	7 weeks	38
Maverick Red		Late	10/04	10/10	Medium/Tall		7 weeks	36
Red Ryder	Top Performer Best Seller	Late	09/28	10/07	Medium	Suggested	8 weeks	37
Roaring Red		Late	09/29	10/04	Medium	Suggested	8 weeks	37
NEW Cosmic Fireball Red		Very Late ESE	10/09	10/09	Medium	✓	7 weeks	34
Grapeberry Red		Very Late ESE	10/06	10/10	Medium	✓	8 weeks	35
Majesty Red	Best Seller	Very Late ESE	10/09	10/11	Medium	✓	7 weeks	35
Morgana Red		Very Late ESE	10/08	10/19	Medium	✓	8 weeks	36
Mumma Mia Red	Top Performer Best Seller	Very Late ESE	10/05	10/10	Medium/Tall	✓	8 weeks	36
Avalon Red		Very Late LSE	10/15	10/21	Medium/Short	✓	8 weeks	34
Eternal Red		Very Late LSE	10/14	10/14	Medium/Short	✓	8 weeks	34
Milkshake Strawberry Red		Very Late LSE	10/21	10/25	Medium	✓	9 weeks	36
Skyfall Red		Very Late LSE	10/23	10/29	Short	✓	9 weeks	14

ESE: Early Season Extender
LSE: Late Season Extender



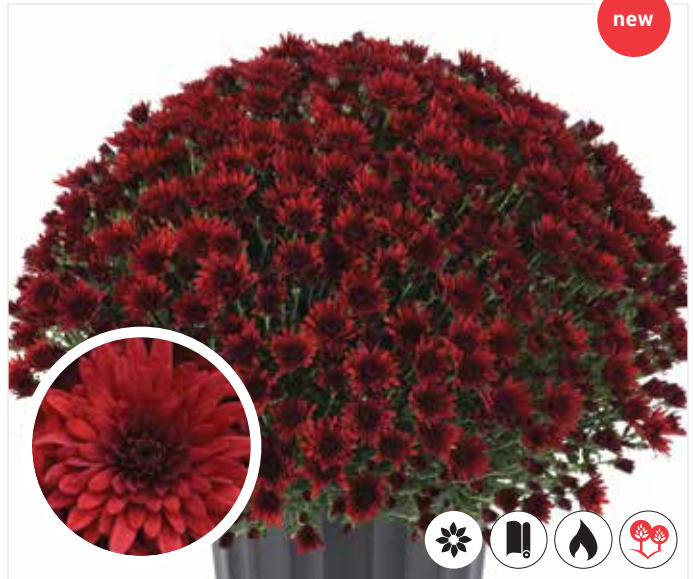
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Avalon Red (PP24,021)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/15 S: 10/21	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 12.

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



New Cosmic Fireball Red

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/09 S: 10/09	7 WEEKS	EUROPEAN	MEDIUM

Very late-season, five-color family has bright, vibrant colors that are well-matched in timing and habit. Excellent color retention and European habit make them a great choice for all pot sizes, hanging baskets and mixed containers. For more information on the Cosmic family, see page 10.

	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	N: 09/17 S: 10/01	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	N: 10/14 S: 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	N: 09/11 S: 09/15	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
MID	N: 09/25 S: 09/28	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 6.

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



Grapeberry Red (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/06 S: 10/10	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. Strong, mounded growth habit and branches freely with strong stems.

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

best seller



Majesty Red

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/09 S: 10/11	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.

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



Maverick Red

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 10/04 S: 10/10	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 Roaring Red. Heat tolerant and suitable for medium to large pots.

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



Milkshake Strawberry Red

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/21 S: 10/25	9 WEEKS	MOUNDED	MEDIUM

Very late-season, seven-color family has striking rich colors, dark green foliage and a long bloom time. Flowers open gradually, offering a long shelf life. Mounded plant habit works well in all pot sizes and hanging baskets. The name refers to fruity milkshake flavors, offering a flavor for every occasion. For more information on the Milkshake family, see page 13.

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



Morgana Red (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/08 S: 10/19	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 11.

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



best seller

Mumma Mia Red

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/05 S: 10/10	8 WEEKS	EUROPEAN	MEDIUM/TALL

Striking vibrant red flowers demonstrate a fantastic European habit with medium-tall vigor. Excellent landscape performance with great 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	N: 09/25 S: 10/04	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	N: 09/23 S: 10/08	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 Ryder

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/28 S: 10/07	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		●	●	●			●



Roaring Red

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/29 S: 10/04	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	N: 09/19 S: 09/28	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 7.

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



Field of mums at Rocket Farms in Salinas, California

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 rising to the top of the canopy; netting remains in the middle and blends well with green foliage.

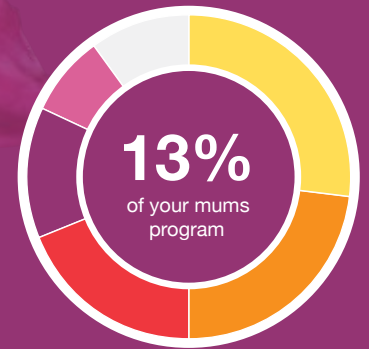
Apply netting at the first visible flower bud, usually when the plant reaches 60 to 70% of its final size, so the netting will be positioned 4 to 5 in. (10 to 13 cm) below the top canopy at the time of cracking color.

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 approximately 2,200 pieces. The 23" x 3,280' size is for use on 12-in. (30-cm) and larger sizes, yielding approximately 1,700 pieces per roll.



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

Ball Mums PURPLE



NATURAL SEASON FLOWERING TIME

Variety Name	Status	Timing	30-50% Flower Date (North)	30-50% Flower Date (South)	Vigor	Recommend for Black Cloth	Black Cloth Response	Page
Gypsy Rose Purple		Mid	09/24	09/27	Medium	✓	8 weeks	41
Poppin Purple	Top Performer Best Seller	Mid	09/24	09/29	Medium	✓	7 weeks	42
Stellar Purple	Best Seller	Mid	09/20	09/30	Medium	Suggested	7 weeks	43
Amphion Lavender Purple		Late	09/27	09/27	Medium	✓	6 weeks	40
Paintbox Purple		Late	10/02	10/07	Medium/Short	✓	7 weeks	42
Plumberry Purple	Top Performer Best Seller	Late	09/30	10/12	Medium	Suggested	7 weeks	42
Prism Purple		Late	09/28	10/03	Medium	✓	8 weeks	43
Venus Purple	Best Seller	Late	10/04	10/18	Medium	✓	7 weeks	43
Wicked Purple	Top Performer	Late	09/30	10/04	Medium	✓	7 weeks	43
NEW Cosmic Galaxy Purple		Very Late ESE	10/09	10/09	Medium	✓	7 weeks	40
Grapeberry Neon Purple		Very Late ESE	10/06	10/10	Medium	✓	7 weeks	40
Grapeberry Purple		Very Late ESE	10/06	10/10	Medium	✓	7 weeks	41
Majesty Purple		Very Late ESE	10/09	10/11	Medium	Suggested	7 weeks	41
Morgana Purple		Very Late ESE	10/09	10/19	Medium/Short	✓	8 weeks	42
Avalon Purple	Top Performer	Very Late LSE	10/16	10/21	Medium/Short	✓	8 weeks	40
Milkshake Cherry Purple		Very Late LSE	10/21	10/25	Medium	✓	9 weeks	41
Skyfall Purple		Very Late LSE	10/17	10/29	Short	✓	9 weeks	14

ESE: Early Season Extender
LSE: Late Season Extender



Amphion Lavender Purple (PP13,271)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/27 S: 09/27	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 Purple features dark foliage, flexible stems and a spherical European habit.

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



Avalon Purple (PP24,024)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/16 S: 10/21	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 12.

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

© Royal Van Zanten



New Cosmic Galaxy Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/09 S: 10/09	7 WEEKS	EUROPEAN	MEDIUM

Very late-season, five-color family has bright, vibrant colors that are well-matched in timing and habit. Excellent color retention and European habit make them ideal for all pot sizes, hanging baskets and mixed containers. Could become the best of all purples in the early October market. For more information on the Cosmic family, see page 10.

	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	N: 10/06 S: 10/10	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.

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



Grapeberry Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 10/06 S: 10/10	7 WEEKS	EUROPEAN	MEDIUM

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	N: 09/24 S: 09/27	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	N: 10/09 S: 10/11	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.

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



Milkshake Cherry Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/21 S: 10/25	9 WEEKS	MOUNDED	MEDIUM

Very late-season, seven-color family has striking rich colors, dark green foliage and a long bloom time. Flowers open gradually, offering a long shelf life. Mounded plant habit works well in all pot sizes and hanging baskets. The name refers to fruity milkshake flavors, offering a flavor for every occasion. For more information on the Milkshake family, see page 13.

	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	N: 10/09 S: 10/19	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 11.

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



Paintbox Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 10/02 S: 10/07	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	●	●	●	●			



Plumberry Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/30 S: 10/12	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	N: 09/24 S: 09/29	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		●	●	●	●		



Prism Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/28 S: 10/03	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	●	●	●	●	●	●	●



best seller



Stellar Purple

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/20 S: 09/30	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 7.

	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	N: 10/04 S: 10/18	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)

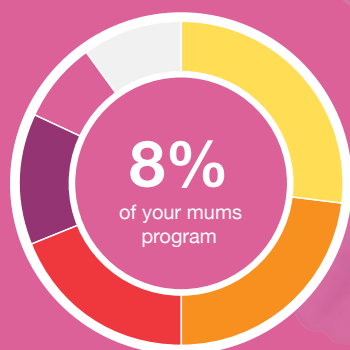
TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/30 S: 10/04	7 WEEKS	MOUNDED	MEDIUM

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. Very grower friendly.

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

Ball Mums

PINK



NATURAL SEASON FLOWERING TIME

Variety Name	Status	Timing	30-50% Flower Date (North)	30-50% Flower Date (South)	Vigor	Recommend for Black Cloth	Black Cloth Response	Page
Misty Lilac Pink	Top Performer	Early	09/18	09/26	Medium	Suggested	6 weeks	47
Carousel Blushing Salmon		Late	09/26	09/30	Medium	✓	7 weeks	45
Carousel Pink	Top Performer	Mid	09/26	09/30	Medium	✓	7 weeks	45
Flamingo Neon Pink	Top Performer	Mid	09/25	09/28	Medium		8 weeks	46
Flamingo Pineapple Pink		Mid	09/23	09/25	Medium		8 weeks	46
Flamingo Pink		Mid	09/25	09/28	Medium		8 weeks	46
Pink Frenzy	Best Seller	Mid	09/26	09/25	Medium/Tall	✓	7 weeks	48
Stellar Pink		Mid	09/21	09/30	Medium	Suggested	7 weeks	48
Temptation Pink		Mid	09/22	09/28	Medium	✓	7 weeks	49
Tribeca Pink		Mid	09/21	09/28	Medium/Tall		7 weeks	49
Tribeca Dark Pink		Mid	09/23	09/30	Medium		7 weeks	49
Paradiso Pink		Late	09/30	10/10	Medium/Short	Suggested	7 weeks	47
Skye Pink	Top Performer	Late	09/30	10/04	Medium		7 weeks	48
NEW Cosmic Lunar Pink		Very Late ESE	10/09	10/09	Medium	✓	7 weeks	45
Jazzberry Pink	Top Performer	Very Late ESE	10/07	10/07	Medium		7 weeks	46
Morgana Pink		Very Late ESE	10/09	10/19	Medium	✓	8 weeks	47
Pop Eye Pink		Very Late ESE	10/06	10/11	Medium	✓	8 weeks	48
Avalon Pink	Top Performer	Very Late LSE	10/16	10/21	Medium/Short	✓	8 weeks	45
Milkshake Berry Pink		Very Late LSE	10/21	10/25	Medium	✓	9 weeks	47
Skyfall Pink		Very Late LSE	10/19	10/29	Short	✓	9 weeks	14

ESE: Early Season Extender
LSE: Late Season Extender



Avalon Pink (PP22,659)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/16 S: 10/21	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 12.

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



Carousel Blushing Salmon

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/26 S: 09/30	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	●	●	●	●			●

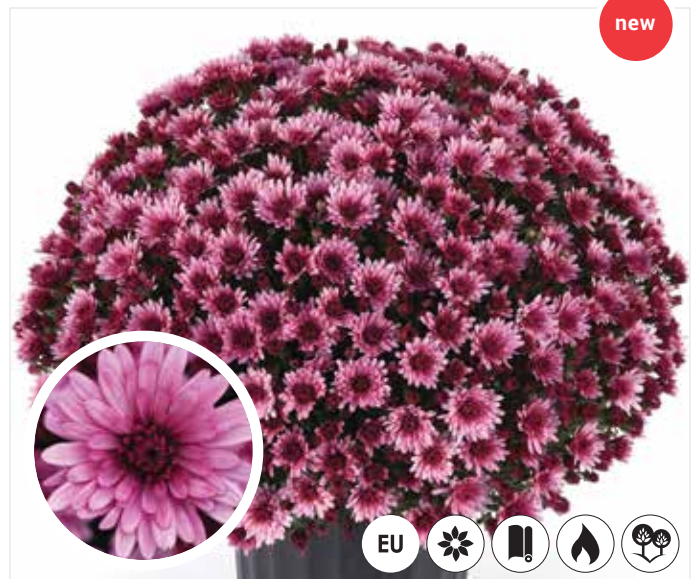


Carousel Pink (PPAF)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/26 S: 09/30	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	●	●	●	●			●



New Cosmic Lunar Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/09 S: 10/09	7 WEEKS	EUROPEAN	MEDIUM

Very late-season, five-color family has bright, vibrant colors that are well-matched in timing and habit. Excellent color retention and European habit make them a great choice for all pot sizes, hanging baskets and mixed containers. For more information on the Cosmic family, see page 10.

	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	N: 09/25 S: 09/28	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. For more information on the Flamingo family, see page 6.

	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	N: 09/23 S: 09/25	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 6.

	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	N: 09/25 S: 09/28	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 6.

	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	N: 10/07 S: 10/07	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							



Milkshake Berry Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/21 S: 10/25	9 WEEKS	MOUNDED	MEDIUM

Very late-season, seven-color family has striking rich colors, dark green foliage and a long bloom time. Mounded plant habit works well in all pot sizes and hanging baskets. The name refers to fruity milkshake flavors, offering a flavor for every occasion. For more information on the Milkshake family, see page 13.

	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	N: 09/18 S: 09/26	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	●	●	●	●	●		



Morgana Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/09 S: 10/18	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 11.

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



Paradiso Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/30 S: 10/10	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 9.

	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	N: 09/26 S: 09/25	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	N: 10/06 S: 10/11	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.

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



Skye Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/30 S: 10/04	7 WEEKS	EUROPEAN	MEDIUM

Produces bright, two-tone dark pink flowers mid-season with a very uniform, mounded growth habit. Flowers open gradually, providing a long bloom time. 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	N: 09/21 S: 09/30	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 7.

	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	N: 09/22 S: 09/28	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		●	●	●	●	●	



Tribeca Dark Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/23 S: 09/30	7 WEEKS	MOUNDED	MEDIUM

Dark pink variety within this mid-season, five-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 8.

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



Tribeca Pink

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/21 S: 09/28	7 WEEKS	MOUNDED	MEDIUM/TALL

Pink variety within this mid-season, five-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 8.

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

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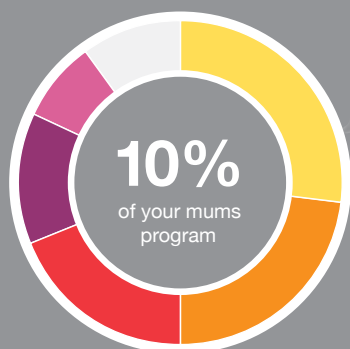


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Ball Mums

WHITE



NATURAL SEASON FLOWERING TIME

Variety Name	Status	Timing	30-50% Flower Date (North)	30-50% Flower Date (South)	Vigor	Recommend for Black Cloth	Black Cloth Response	Page
Aspen White		Early	09/12	09/23	Medium	✓	6 weeks	51
Bridal White	Best Seller	Early	09/15	09/26	Medium/Tall	✓	6 weeks	51
Moonglow White		Early	09/15	09/26	Medium	✓	7 weeks	53
Carousel White		Mid	09/26	09/30	Medium	✓	7 weeks	52
Celestial White	Top Performer Best Seller	Mid	09/20	09/26	Medium	✓	6 weeks	52
Starburst White	Top Performer	Mid	09/20	10/01	Medium/Short	Suggested	7 weeks	54
Tribeca White		Mid	09/23	09/28	Medium		7 weeks	54
Butter N' Cream White	Top Performer Best Seller	Late	09/29	10/02	Medium	Suggested	8 weeks	52
Paradiso White		Late	09/30	10/10	Medium/Short	Suggested	7 weeks	53
Alpine White	Top Performer	Very Late ESE	10/12	10/14	Medium	✓	7 weeks	51
Dove White		Very Late ESE	10/11	10/19	Medium	✓	8 weeks	52
Morgana White		Very Late ESE	10/07	10/19	Medium/Short	✓	8 weeks	53
Avalon Crème White		Very Late LSE	10/19	10/21	Medium	✓	8 weeks	51
Milkshake Coconut White		Very Late LSE	10/21	10/25	Medium	✓	9 weeks	53
Skyfall White		Very Late LSE	10/17	10/29	Short	✓	9 weeks	14

ESE: Early Season Extender
LSE: Late Season Extender



Alpine White (PP30,154)

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/12 S: 10/14	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.

	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	N: 09/12 S: 09/23	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	N: 10/19 S: 10/21	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 12.

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



Bridal White

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
EARLY	N: 09/15 S: 09/26	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	N: 09/29 S: 10/02	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	●	●	●	●	●		●



Carousel White

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/26 S: 09/30	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	N: 09/20 S: 09/26	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	N: 10/11 S: 10/19	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.

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



Milkshake Coconut White

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
VERY LATE	N: 10/21 S: 10/25	9 WEEKS	MOUNDED	MEDIUM

Very late-season, seven-color family has striking rich colors, dark green foliage and a long bloom time. Flowers open gradually, offering a long shelf life. Mounded plant habit works well in all pot sizes and hanging baskets. The name refers to fruity milkshake flavors, offering a flavor for every occasion. For more information on the Milkshake family, see page 13.

	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	N: 09/15 S: 09/26	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.

	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	N: 10/07 S: 10/19	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 11.

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



Paradiso White

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
LATE	N: 09/30 S: 10/10	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 9.

	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	N: 09/20 S: 10/01	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	●	●	●				●



Tribeca White

TIMING	FLOWER DATE	BLACK CLOTH RESPONSE	HABIT	VIGOR
MID	N: 09/23 S: 09/28	7 WEEKS	MOUNDED	MEDIUM

White variety within this mid-season, now five-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 8.

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



A bird's-eye view of our new variety seedling trials, Cahill Family Greenhouses, Missouri

Natural Season
Garden Mums –
Flowering Sequence 56

Ball Garden Mums A-Z
Quick Reference 58

Growing Guide

Propagation Guide 64

Finishing Guide 66

Black Cloth 70

Rooting Stations 72

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	Starburst White	Decorative	Medium/Short	9/20
					Bridal White	Decorative	Medium/Tall	9/15	Celestial White	Decorative	Medium	9/20
					Moonglow White	Decorative	Medium	9/15	Tribeca White	Decorative	Medium	9/23
									Carousel White	Decorative	Medium	9/26
Yellow/Gold	Sunrise Yellow	Decorative	Medium	9/07	Buttercup Yellow	Decorative	Medium	9/13	Honeyblush Yellow	Decorative	Medium	9/19
	Goldmine Yellow	Decorative	Tall	9/09	Katelli Yellow	Decorative	Medium	9/13	Tribeca Yellow	Decorative	Medium	9/21
					Kizzmet Golden Yellow	Decorative	Medium	9/17	Stellar Yellow	Decorative	Medium	9/22
					Moonglow Yellow	Decorative	Medium	9/17	Sizzling Fire Yellow	Decorative	Medium	9/23
									Cracklin Golden Yellow	Decorative/ Duplex	Medium/Short	9/24
								Zinger Yellow	Decorative	Medium	9/24	
Pink/Lavender/ Coral/Peach					Misty Lilac Pink	Decorative	Medium	9/18	Stellar Pink	Decorative	Medium	9/21
									Tribeca Pink	Decorative	Medium/Tall	9/21
									Temptation Pink	Decorative	Medium	9/22
									Flamingo Pineapple Pink	Decorative	Medium	9/23
									Flamingo Pink	Decorative	Medium	9/25
									Flamingo Neon Pink	Decorative	Medium	9/25
									Carousel Blushing Salmon	Decorative	Medium	9/26
									Carousel Pink	Decorative	Medium	9/26
								Pink Frenzy	Decorative	Medium/Tall	9/26	
Purple/Dark Pink									Stellar Purple	Decorative	Medium	9/20
									Tribeca Dark Pink	Decorative	Medium	9/23
									Gypsy Rose Purple	Decorative	Medium	9/24
									Poppin Purple	Decorative	Medium	9/24
Bronze	Autumn Envy Bronze	Decorative	Short	9/08	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	Decorative	Medium	9/25
									Carousel Glimmer Orange	Decorative	Medium	9/26
Red					Five Alarm Red	Decorative	Medium	9/11	Stellar Red	Decorative	Short	9/19
					Cranbury Red	Decorative	Medium	9/17	Red Hots	Decorative	Medium	9/23
									Radiant Red	Decorative	Tall	9/25
									Flamingo Cranberry	Decorative	Medium	9/25



Grower Ship Date (left) is approximately
7-10 days earlier than Flowering Date
Flowering Date = 30-50% open flowers

Color	Late Sept 27-Oct 4				Early Season Extender Oct 5-11				Late Season Extender Oct 12+			
	Variety	Form	Vigor	Flower Date	Variety	Form	Vigor	Flower Date	Variety	Form	Vigor	Flower Date
White	Butter N' Cream White	Decorative	Medium	9/29	Morgana White	Decorative	Medium/Short	10/07	Skyfall White	Decorative	Short	10/17
	Paradiso White	Decorative	Medium/Short	9/30	Dove White	Decorative	Medium	10/11	Avalon Crème White	Decorative	Medium	10/19
					Alpine White	Decorative	Medium	10/12	Milkshake Coconut White	Decorative	Medium	10/21
Yellow/Gold	Sweet Honey Yellow	Decorative	Medium	9/28	Morgana Yellow	Decorative	Medium/Short	10/08	Avalon Golden Yellow	Decorative	Medium/Short	10/15
	Destiny Yellow	Duplex	Medium	9/29	New Cosmic Solar Yellow	Decorative	Medium	10/09	Skyfall Lemon Yellow	Decorative	Short	10/15
	Sundance Yellow	Decorative	Medium	9/30	Gold Riot Yellow	Decorative	Medium	10/09	Sunny Day Yellow	Decorative	Medium	10/16
	Paradiso Yellow	Decorative	Medium/Short	9/30	Yellow Tang	Decorative	Medium	10/09	Avalon Sunny Yellow	Decorative	Medium	10/19
	Gold Cup	Decorative	Short	10/02	Dove Yellow	Decorative	Medium	10/11	Milkshake Banana Yellow	Decorative	Medium	10/21
				Alpine Yellow	Decorative	Medium	10/12					
Pink/Lavender	Amphion Lavender Purple	Daisy	Medium	9/27	Pop Eye Pink	Decorative	Medium	10/06	Avalon Pink	Decorative	Medium/Short	10/16
	Paradiso Pink	Decorative	Medium/Short	9/30	Jazzberry Pink	Decorative	Medium	10/07	Skyfall Pink	Decorative	Short	10/19
	Skye Pink	Decorative	Short	9/30	New Cosmic Lunar Pink	Decorative	Medium	10/09	Milkshake Berry Pink	Decorative	Medium	10/21
					Morgana Pink	Decorative	Medium	10/09				
Purple/Dark Pink	Prism Purple	Decorative	Medium	9/28	Grapeberry Purple	Decorative	Medium	10/06	Avalon Purple	Decorative	Medium/Short	10/16
	Plumberry Purple	Decorative	Medium	9/30	Grapeberry Neon Purple	Decorative	Medium	10/06	Skyfall Purple	Decorative	Short	10/17
	Wicked Purple	Decorative	Medium	9/30	New Cosmic Galaxy Purple	Decorative	Medium	10/09	Milkshake Cherry Purple	Decorative	Medium	10/21
	Paintbox Purple	Decorative	Medium/Short	10/2	Majesty Purple	Decorative	Medium	10/09				
	Venus Purple	Decorative	Medium	10/4	Morgana Purple	Decorative	Medium/Short	10/09				
Bronze	Copper Coin Bronze	Decorative	Medium	9/30	New Cosmic Meteor Bronze	Decorative	Medium	10/09	Milkshake Kiwi Bronze	Decorative	Medium	10/21
	Paradiso Bronze	Decorative	Medium/Short	9/30								
	Hot Sugar Gold Bronze	Decorative	Medium	9/30								
	Autumn Glow Bronze	Decorative	Medium	10/02								
Orange	Sunset Orange	Decorative	Medium	9/27	Pop Eye Orange	Decorative	Medium	10/06	Avalon Orange	Decorative	Medium/Short	10/16
	Mumosa Orange	Decorative	Medium	9/28	New Orange Helios	Decorative	Medium/Tall	10/07	Milkshake Papaya Orange	Decorative	Medium	10/21
					Morgana Orange	Decorative	Medium	10/08				
					Pumpkin Pie Orange	Decorative	Medium	10/09				
					New Spicy Pumpkin Orange	Decorative	Medium	10/09				
					Blazing Orange	Decorative	Medium	10/12				
Red	Red Ryder	Decorative	Medium	9/28	Mumma Mia Red	Decorative	Medium/Tall	10/05	Eternal Red	Decorative	Medium/Short	10/14
	Roaring Red	Decorative	Medium	9/29	Grapeberry Red	Decorative	Medium	10/06	Avalon Red	Decorative	Medium/Short	10/15
	Maverick Red	Decorative	Medium/Tall	10/04	Morgana Red	Decorative	Medium	10/08	Milkshake Strawberry Red	Decorative	Medium	10/21
					New Cosmic Fireball Red	Decorative	Medium	10/09	Skyfall Red	Decorative	Short	10/23
					Majesty Red	Decorative	Medium	10/09				

Ball Garden Mums A-Z Quick Reference

Variety	Page	Color	Flowering Form	Growth Habit	Vigor	Timing	Flower Date (North)	Flower Date (South)	Top Performer	Heat Tolerance TX/FL	Pacific NW	Coastal CA
Alpine White	51	White	Decorative	European	Medium	Very Late-ESE	10/12	10/14	●	●		●
Alpine Yellow	16	Yellow	Decorative	European	Medium	Very Late-ESE	10/12	10/14		●	●	●
Amphion Lavender Purple	40	Purple	Daisy	European	Medium	Late	09/27	09/27		●	●	●
Aspen White	51	White	Decorative	Mounded	Medium	Early	09/12	09/23		●	●	●
Autumn Envy Bronze	24	Bronze	Decorative	Mounded	Short	Very Early	09/08	09/13		●		
Autumn Glow Bronze	24	Bronze	Decorative	Mounded	Medium	Late	10/02	10/05		★	★	★
Avalon Crème White	51	White	Decorative	Mounded	Medium	Very Late-LSE	10/19	10/21		●	●	●
Avalon Golden Yellow	16	Yellow	Decorative	Mounded	Medium/Short	Very Late-LSE	10/15	10/21		●	●	●
Avalon Orange	24	Orange	Decorative	Mounded	Medium/Short	Very Late-LSE	10/16	10/21	●	●	●	●
Avalon Pink	45	Pink	Decorative	Mounded	Medium/Short	Very Late-LSE	10/16	10/21	●	●	●	●
Avalon Purple	40	Purple	Decorative	Mounded	Medium/Short	Very Late-LSE	10/16	10/21	●	●	●	●
Avalon Red	34	Red	Decorative	Mounded	Medium/Short	Very Late-LSE	10/15	10/21			●	●
Avalon Sunny Yellow	16	Yellow	Decorative	Mounded	Medium	Very Late-LSE	10/19	10/21	●	●	●	●
Blazing Orange	24	Orange	Decorative	Mounded	Medium	Very Late-LSE	10/12	10/12	●	★	●	●
Bridal White	51	White	Decorative	European	Medium/Tall	Early	09/15	09/26		★	★	●
Butter N' Cream White	52	White	Decorative	European	Medium	Late	09/29	10/02	●	★	●	★
Buttercup Yellow	16	Yellow	Decorative	European	Medium	Early	09/13	09/18			★	
Butternut Golden Bronze	25	Bronze	Decorative	European	Medium/Tall	Mid	09/26	09/26		●		
Carousel Blushing Salmon	45	Coral/Salmon	Decorative	Mounded	Medium	Mid	09/26	09/30		●	●	
Carousel Glimmer Orange	25	Orange	Decorative	Mounded	Medium	Mid	09/26	09/30		●	●	
Carousel Pink	45	Pink	Decorative	Mounded	Medium	Mid	09/26	09/30	●	●	●	
Carousel White	52	White	Decorative	Mounded	Medium	Mid	09/26	09/30		●	●	
Celestial White	52	White	Decorative	European	Medium	Mid	09/20	09/26	●		●	★
Copper Coin Bronze	25	Bronze	Decorative	European	Medium	Late	09/30	10/03	●	★	★	★
New Cosmic Fireball Red	34	Red	Decorative	European	Medium	Very Late-ESE	10/09	10/09		●	●	●
New Cosmic Galaxy Purple	40	Purple	Decorative	European	Medium	Very Late-ESE	10/09	10/09		●	●	●
New Cosmic Lunar Pink	45	Pink	Decorative	European	Medium	Very Late-ESE	10/09	10/09		●	●	●
New Cosmic Meteor Bronze	25	Bronze	Decorative	European	Medium	Very Late-ESE	10/09	10/09		●	●	●
New Cosmic Solar Yellow	17	Yellow	Decorative	European	Medium	Very Late-ESE	10/09	10/09		●	●	●
Cracklin Golden Yellow	17	Yellow	Decorative/ Duplex	Mounded	Medium/Short	Mid	09/24	09/24		●	●	●
Cranbury Red	34	Red	Decorative	Mounded	Medium	Early	09/17	10/01		●		
Destiny Yellow	17	Yellow	Duplex	Mounded	Medium	Late	09/29	10/02		●	●	
Dove White	52	White	Decorative	European	Medium	Very Late-ESE	10/11	10/19		●	★	●
Dove Yellow	17	Yellow	Decorative	European	Medium	Very Late-ESE	10/11	10/19		●	●	●
Eternal Red	34	Red	Decorative	Mounded	Medium/Short	Very Late-LSE	10/14	10/14		●		●
Fire Halo Orange	26	Orange	Decorative	Mounded	Medium/Tall	Mid	09/24	09/30			●	●
Fireglow Bronze	26	Bronze	Decorative	European	Medium	Mid	09/23	09/29	●	★	★	●
Five Alarm Red	35	Red	Decorative	Mounded	Medium	Early	09/11	09/15		★	●	●
Flamingo Cranberry Red	35	Red	Decorative	European	Medium	Mid	09/25	09/28			●	●
Flamingo Neon Pink	46	Pink	Decorative	European	Medium	Mid	09/25	09/28	●	●	●	●
Flamingo Pineapple Pink	46	Pink	Decorative	European	Medium	Mid	09/23	09/25			★	●
Flamingo Pink	46	Pink	Decorative	European	Medium	Mid	09/25	09/28		●	★	●
Gold Cup Yellow	18	Yellow	Decorative	European	Short	Late	10/02	10/12		●		●

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

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

Variety	Page	Color	Flowering Form	Growth Habit	Vigor	Timing	Flower Date (North)	Flower Date (South)	Top Performer	Heat Tolerance TX/FL	Pacific NW	Coastal CA
Gold Riot Yellow	18	Yellow	Decorative	European	Medium	Very Late-ESE	10/09	10/13	●	★		★
Goldmine Yellow	18	Yellow	Decorative	European	Tall	Very Early	09/09	09/11		★	★	●
Grapeberry Neon Purple	40	Purple	Decorative	European	Medium	Very Late-ESE	10/06	10/10		●	●	●
Grapeberry Purple	41	Purple	Decorative	European	Medium	Very Late-ESE	10/06	10/10		●	●	●
Grapeberry Red	35	Red	Decorative	European	Medium	Very Late-ESE	10/06	10/10		●	●	●
Gypsy Rose Purple	41	Purple	Decorative	European	Medium	Mid	09/24	09/27			●	●
Honeyblush Yellow	18	Yellow	Decorative	European	Medium	Mid	09/19	09/24	●	★	●	★
Hot Spot Bronze	26	Bronze	Decorative	Mounded	Medium	Early	09/18	09/26				
Hot Sugar Gold Bronze	26	Bronze	Decorative	Mounded	Medium	Late	09/30	09/30				
Jazzberry Pink	46	Pink	Decorative	European	Medium	Very Late-ESE	10/07	10/07	●	★		●
Katelli Bronze	27	Bronze	Decorative	European	Short	Early	09/15	09/16		★	●	●
Katelli Yellow	19	Yellow	Decorative	European	Medium	Early	09/13	09/13		●	●	
Key Lime	19	Green	Decorative	European	Medium/Tall	Late	09/27	10/04		●	●	
Kickin' Spicy Orange	27	Orange	Decorative	Mounded	Medium/Tall	Early	09/15	09/24		●	●	
Kizzmet Golden Yellow	19	Yellow	Decorative	European	Medium	Early	09/17	09/27				
Majesty Purple	41	Purple	Decorative	European	Medium	Very Late-ESE	10/09	10/11		●	●	★
Majesty Red	35	Red	Decorative	European	Medium	Very Late-ESE	10/09	10/11		●	●	★
Maverick Red	36	Red	Decorative	Mounded	Medium/Tall	Late	10/04	10/10		●	●	
Milkshake Banana Yellow	19	Yellow	Decorative	Mounded	Medium	Very Late-LSE	10/21	10/25		●	●	●
Milkshake Berry Pink	47	Pink	Decorative	Mounded	Medium	Very Late-LSE	10/21	10/25		●	●	●
Milkshake Cherry Purple	41	Purple	Decorative	Mounded	Medium	Very Late-LSE	10/21	10/25		●	●	●
Milkshake Coconut White	53	White	Decorative	Mounded	Medium	Very Late-LSE	10/21	10/25		●	●	●
Milkshake Kiwi Bronze	27	Bronze	Decorative	Mounded	Medium	Very Late-LSE	10/21	10/25		●	●	●
Milkshake Papaya Orange	27	Orange	Decorative	Mounded	Medium	Very Late-LSE	10/21	10/25		●	●	●
Milkshake Strawberry Red	36	Red	Decorative	Mounded	Medium	Very Late-LSE	10/21	10/25		●	●	●
Misty Lilac Pink	47	Pink	Decorative	Mounded	Medium	Early	09/18	09/26	●	●	●	●
Moonglow White	53	White	Decorative	European	Medium	Early	09/15	09/26		★	●	●
Moonglow Yellow	20	Yellow	Decorative	European	Medium	Early	09/17	09/26		●	●	●
Morgana Orange	28	Orange	Decorative	Mounded	Medium	Very Late-ESE	10/08	10/19		●		●
Morgana Pink	47	Pink	Decorative	Mounded	Medium	Very Late-ESE	10/09	10/19		●	●	●
Morgana Purple	42	Purple	Decorative	Mounded	Medium/Short	Very Late-ESE	10/09	10/19		●		●
Morgana Red	36	Red	Decorative	Mounded	Medium	Very Late-ESE	10/08	10/19		●		●
Morgana White	53	White	Decorative	Mounded	Medium/Short	Very Late-ESE	10/07	10/19		●		●
Morgana Yellow	20	Yellow	Decorative	Mounded	Medium/Short	Very Late-ESE	10/08	10/19		●		●
Mumma Mia Red	36	Red	Decorative	European	Medium/Tall	Very Late-ESE	10/05	10/10	●	●		
Mumosa Orange	28	Orange	Decorative	European	Medium	Late	09/28	10/04	●	●		
New Orange Helios	28	Orange	Decorative	European	Medium/Tall	Very Late-ESE	10/07	10/07		●	●	●
Orange Zest	28	Orange	Decorative	Mounded	Medium	Mid	09/25	10/03		★		●
Paintbox Purple	42	Purple	Decorative	Mounded	Medium/Short	Late	10/02	10/07		★		★
Paradiso Bronze	29	Bronze	Decorative	European	Medium/Short	Late	09/30	10/10			●	●
Paradiso Pink	47	Pink	Decorative	European	Medium/Short	Late	09/30	10/10			●	●
Paradiso White	53	White	Decorative	European	Medium/Short	Late	09/30	10/10		●	●	●
Paradiso Yellow	20	Yellow	Decorative	European	Medium/Short	Late	09/30	10/10			●	●

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
●		●	●	●	●	●	●	★	●	8 Wk	★	●	●	●	●		●
●			●	●	●	●	●	●	●	6 Wk	●		●	●	●	●	●
●		●	●	●	●	●	●	●	●	7 Wk	●	●	●	●			●
★		●	●	●	●	●	●	●	●	7 Wk	●	●	●	●			●
★		●	●	●	●	●		●	●	8 Wk	●	●	●	●			●
		●	●	●	●	●	●	●	●	8 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						
●	●	●	●	●	●	●		●	●	9 wk	●	●	●	●	●	●	●
●	●	●	●	●	●	●		●	●	9 wk	●	●	●	●	●	●	●
●	●	●	●	●	●	●		●	●	9 wk	●	●	●	●	●	●	●
●	●	●	●	●	●	●		●	●	9 wk	●	●	●	●	●	●	●
●	●	●	●	●	●	●		●	●	9 wk	●	●	●	●	●	●	●
●	●	●	●	●	●	●		●	●	9 wk	●	●	●	●	●	●	●
		●	●	●	●	●				6 Wk	★	●	●	●	●	●	
		●	●	●	●	●	●	●		7 Wk	●	●	●	●	●		●
		●	●	●	●	●	●	●		7 Wk	★	●	●	●	●		●
●	●	●	●	●	●	●	●	★	●	8 Wk	●	●	●	●	●	●	
●	●	●	●	●	●	●	●	★	●	8 Wk	●	●	●	●	●	●	
●	●	●	●	●	●	●	●	★	●	8 Wk	●	●	●	●	●	●	
●	●	●	●	●	●	●	●	★	●	8 Wk	●	●	●	●	●	●	
●	●	●	●	●	●	●	●	★	●	8 Wk	●	●	●	●	●	●	
●	●	●	●	●	●	●	●	★	●	8 Wk	●	●	●	●	●	●	
●			●	●	●	●	●		●	8 Wk	●	●	●	●	●		
●			●	●	●	●	●		●	8 Wk	●	●	●	●	●		
●			●	●	●	●	●		●	7 Wk	●	●	●	●	●		
●			●	●	●	●	●			7 Wk	●	●	●	●	●	●	
★		●	●	●	●	●	●	●		8 Wk	NO						
		●	●	●	●	●		★		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 (North)	Flower Date (South)	Top Performer	Heat Tolerance TX/FL	Pacific NW	Coastal CA
Perfectly Orange	29	Orange	Decorative	Mounded	Short	Mid	09/21	09/26		●	●	●
Petit Orange	29	Orange	Decorative/ Duplex	European	Medium	Mid	09/25	09/30		●	●	●
Pink Frenzy	48	Pink	Decorative	Mounded	Medium/Tall	Mid	09/26	09/25		★		★
Plumberry Purple	42	Purple	Decorative	Mounded	Medium	Late	09/30	10/12	●	●	●	●
Pop Eye Orange	29	Orange	Duplex	Mounded	Medium	Very Late-ESE	10/06	10/11		●		●
Pop Eye Pink	48	Pink	Decorative/ Duplex	Mounded	Medium	Very Late-ESE	10/06	10/11		●		●
Poppin Purple	42	Purple	Duplex	European	Medium	Mid	09/24	09/29	●	●		
Prism Purple	43	Purple	Decorative	European	Medium	Late	09/28	10/03			●	●
Pumpkin Pie Orange	30	Orange	Decorative	European	Medium	Very Late-ESE	10/09	10/11		●	●	★
Radiant Red	37	Red	Decorative	European	Tall	Mid	09/25	10/04	●	★		●
Red Hots	37	Red	Decorative	Mounded	Medium	Mid	09/23	10/08		★	★	●
Red Ryder	37	Red	Decorative	European	Medium	Late	09/28	10/07	●	★	★	★
Roaring Red	37	Red	Decorative	Mounded	Medium	Late	09/29	10/04		●	●	
Sizzling Fire Yellow	20	Yellow	Decorative	Mounded	Medium	Mid	09/23	09/30		●	●	
Skye Pink	48	Pink	Decorative	European	Medium	Late	09/30	10/04	●			
Skyfall Lemon Yellow	14	Yellow	Decorative	Spreading	Short	Very Late-LSE	10/15	10/29		●	●	●
Skyfall Pink	14	Pink	Decorative	Mounded	Short	Very Late-LSE	10/19	10/29		●		●
Skyfall Purple	14	Purple	Decorative	Mounded	Short	Very Late-LSE	10/17	10/29		●		●
Skyfall Red	14	Red	Decorative	Mounded	Short	Very Late-LSE	10/23	10/29		●		●
Skyfall White	14	White	Decorative	Mounded	Short	Very Late-LSE	10/17	10/29		●		●
New Spicy Pumpkin Orange	30	Orange	Decorative	Mounded	Medium	Very Late-LSE	10/09	10/09		●		●
Starburst White	54	White	Decorative	European	Medium/Short	Mid	09/20	10/01	●	★		●
Stellar Pink	48	Pink	Decorative	European	Medium	Mid	09/21	09/30		★	●	●
Stellar Purple	43	Purple	Decorative	European	Medium	Mid	09/20	09/30		★	★	●
Stellar Red	38	Red	Decorative	European	Short	Mid	09/19	09/28		●	●	●
Stellar Yellow	21	Yellow	Decorative	European	Medium	Mid	09/22	09/29		●	●	●
Sundance Yellow	21	Yellow	Decorative	European	Medium	Late	09/30	10/11	●	★	★	●
Sunny Day Yellow	21	Yellow	Decorative	European	Medium	Very Late-LSE	10/16	10/16	●	●	●	★
Sunrise Yellow	21	Yellow	Decorative	Mounded	Medium	Very Early	09/07	09/06	●	★		★
Sunset Orange	30	Orange	Decorative	European	Medium	Late	09/27	09/26	●	●	★	●
Sweet Honey Yellow	22	Yellow	Decorative	European	Medium	Late	09/28	10/07				
Temptation Pink	49	Pink	Decorative	European	Medium	Mid	09/22	09/28		●		
Tribeca Amber Orange	30	Orange	Decorative	Mounded	Medium	Mid	09/21	09/28		●	●	
Tribeca Dark Pink	49	Pink	Decorative	Mounded	Medium	Mid	09/23	09/30		●	●	
Tribeca Pink	49	Pink	Decorative	Mounded	Medium/Tall	Mid	09/21	09/28		●	●	
Tribeca Yellow	22	Yellow	Decorative	Mounded	Medium	Mid	09/21	09/30		●	●	
Tribeca White	54	White	Decorative	Mounded	Medium	Mid	09/23	09/28		●	●	
Trickster Golden Bronze	31	Bronze	Decorative	Mounded	Medium	Mid	09/23	10/04		●		
Venus Purple	43	Purple	Decorative	European	Medium	Late	10/04	10/18		●	●	●
Wicked Purple	43	Purple	Decorative	Mounded	Medium	Late	09/30	10/04	●			
Yellow Tang	22	Yellow	Decorative	European	Medium	Very Late-ESE	10/09	10/22	●	★	★	★
Zinger Yellow	22	Yellow	Decorative	Mounded	Medium	Mid	09/24	09/27	●	●		
Zuma Orange	31	Orange	Decorative	European	Medium	Mid	09/22	09/26	●	●		

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
		●	●	●	●			●		7 Wk	●	●	●				●
★		●	●	●	●	●	●	●		7 Wk	★	●	●	●	●	●	●
●			●	●	●	●	●			7 Wk	●		●	●	●	●	●
★		●	●	●	●	●	●	●		7 Wk	★	●	●	●	●	●	
	●	●	●	●	●	●		●	●	8 Wk	●	●	●	●			
	●	●	●	●	●	●		●	●	8 Wk	●	●	●	●			
★			●	●	●	●			●	7 Wk	●		●	●	●	●	
		●	●	●	●	●	●	●		8 Wk	●	●	●	●	●	●	●
●			●	●	●	●	●		●	7 Wk	●	●	●	●	●	●	
★			●	●	●	●	●			7 Wk	●		●	●	●	●	●
★		●	●	●	●	●	●	●	●	7 Wk	●	●	●	●	●		●
★		●	●	●	●	●	●		★	8 Wk	★		●	●	●		●
●		●	●	●	●	●	●	●	●	8 Wk	★	●	●	●	●	●	●
		●	●	●	●	●		●		7 Wk	NO						
●		●	●	●	●	●	●	●	●	7 Wk	NO						
	●								★	9 Wk	●	●	●	●	●	●	●
	●								★	9 Wk	●	●	●	●	●	●	●
	●								★	9 Wk	●	●	●	●	●	●	●
	●								★	9 Wk	●	●	●	●	●	●	●
	●								★	9 Wk	●	●	●	●	●	●	●
●			●	●	●	●	●			7 Wk	●		●	●	●	●	●
●		●	●	●	●	●	●	●		7 Wk	★	●	●	●			●
	★	●	●	●	●	●	●	●	★	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	★	●	●	●	●	●	●
★			●	●	●	●				8 Wk	●		●	●	●		
		●	●	●	●	●	●	●		8 Wk	●		●	●	●		

Propagation Guide

UPON ARRIVAL

Inspect

- Open boxes immediately and inspect cuttings.

Stick

- Use well-drained media with good aeration and moisture retention.
- Stick as soon as possible into moist media (4 on a 1-5 scale) and water in, so soil is in contact with stems.
- Using bottom heat, maintain media temperature between 70-74°F (21-23°C). Air temperature of 70-80°F (21-26°C) is important to prevent flower initiation during rooting.



Lindsay Vogt of Dickman Farms displays a tray of mum liners.

Optional rooting hormone recommended for slow or harder-to-root varieties. If desired, spray 100 to 200 ppm KIBA on cuttings the morning after stick or conduct a pre-stick basal dip of 1,000 to 1,500 ppm IBA.

GROW TIP

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

Mist

- During the first 24 hours, apply sufficient mist after sticking to rehydrate cuttings until leaves are no longer limp.
- After first 24 hours, use the minimum mist that will prevent wilting.

Reduce mist as soon as possible, beginning with a reduction during the night and pre-dawn period. Once callus starts to form, apply only enough mist to wet foliage and slightly increase soil moisture. Saturated soil will slow rooting due to excess callus formation.

GROW TIP

Light

- During hot, high-light periods, reduce light intensity to 1,500-2,500 foot-candles (fc) during first 2 days to help rehydrate cuttings.
- Night interruption lighting of 10 fc (100 lux) from 10 p.m.-2 a.m. is recommended to keep cuttings vegetative and reduce premature budding.

Fertilize

- Feed 2-3 times per week, 1-3 days after stick, at 200 to 250 ppm N or use a constant liquid feed of 100 ppm N.
- Monitor pH and EC (electrical conductivity of fertilizer salts) to maintain appropriate ranges of each for good plant growth.



ROOTING OUT TO FINISH

Discontinue Mist

- Discontinue mist after 10-14 days, when roots reach containers' edges/bottoms.

Maintain Light

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

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 can be made on Day 14.
- Florel can be applied at 350 to 500 ppm during propagation at Day 10 and 17. Results vary and can help prevent premature budding.

GROW TIP



Manage Diseases

- Botrytis is a serious problem when excess humidity is present. A fungicide application within 48 hours of sticking provides excellent disease control and promotes more uniform rooting.
- Application of a pre-transplant soil drench to liners to manage Pythium and other soil-borne diseases can enhance rapid establishment in final containers.

Plant by Day 21

- If you need to hold liners after finish, continue normal feeding practices and avoid drought stress to reduce the chance of premature budding.



Cutting 7 days after stick



Cutting 14 days after stick



Box of cuttings



Cutting 21 days after stick

Finishing Guide



Visit **TECH ON DEMAND** for more garden mums grower tips.
BALL **TECH ON DEMAND**

Rooted Liners

- Keep trays of rooted cuttings in a greenhouse with a minimum temperature of 65°F (20°C). Low temperatures can trigger premature flowering.
- Fertilize liners prior to planting with 300-400 ppm N from 20-10-20 (or similar) to ensure strong growth after transplant.

Do not stress. Avoid wilting or keeping too wet.

GROW TIP

Planting

- A lighter, well drained media is recommended.
- Media pH in a soilless mix should be 5.8-6.4, a mineral field soil-based mix 6.0-6.5.
- Fertilize immediately with 300-400 ppm N from 20-10-20 (or similar) to encourage rapid establishment.
- If outdoor temps are cool (50-59°F/10-15°C), start plants in a greenhouse with night temperatures maintained between 60-69°F (15-20°C), with

65°F/18°C being ideal. Low night temperatures at planting can promote premature flower initiation.

Pinching

Modern varieties do not require pinching in natural season fall crops.

See **BALL TECH ON DEMAND Grower Tip: To Pinch or Not to Pinch.**

Irrigation

Drip irrigation reduces the chance of developing foliar diseases, making it the best choice when growing garden mums.

- When irrigating, apply enough water to thoroughly wet the soil mass and allow water to drip from the container.

Never allow the plant to wilt during the early stages of production. Wilting can limit growth and reduce the overall plant size.

GROW TIP



Rob Noodelijck, breeder, walks the mum trials at Cahill Family Greenhouses in Missouri.



Fertilization

Mums are heavy feeders, and early feeding is critical for their strong growth. Regular growing media testing is the best guide to determine the optimum fertilization program.

- If substrate EC is low when moderate-to-high fertilizer rates are being used, this indicates that plants are actively taking up nutrients. Only increase feed rate/frequency if plants show symptoms of nutrient deficiency.
- If substrate EC is high, this indicates that plants are not actively taking up fertilizer. Reduce fertilizer rates or application frequency and check roots for damage or disease symptoms.

Feeding with Water-Soluble Fertilizers (WSF)

- Apply ammonia (NH₄)-based fertilizers with elevated phosphorous (P; 20-10-20, 20-20-20) during early crop development (weeks 1-4) at a rate of 250-350 ppm N. Replenish fertility reserves in the growing media during periods of persistent rain with high doses (300+ ppm N) of WSF as soon as possible once the rains let up.
- Once established, avoid overapplication of NH₄ and P, which will result in stretched plants and soft growth.
- When plants are approximately two-thirds to three-fourths of the desired finished size, switch to a nitrate (NO₃)-based fertilizer with reduced P (17-5-17, 15-4-15, 14-0-14) to tone and minimize stretch.

Feeding with Controlled-Release Fertilizers (CRF)

- Supplemental applications of WSF might be needed to maintain fertility levels.
- During high temperatures, CRFs can release rapidly, causing salt levels to spike and damage roots.

See **BALL TECH ON DEMAND** Grower Tip: *Mum Nutrition*.

See *e-GRO Alert on Garden Mums: Upper Leaf Yellowing and Necrosis* by Dr. Brian Whipker, North Carolina State University.

HEIGHT CONTROL AND GROWTH REGULATORS

Note: Initial trials with all growth regulators are recommended.

B-Nine

- B-Nine foliar spray applications control height and produce darker, greener leaves and strong stems.
- Apply 2,500-5,000 ppm when breaks are 1-2 in. long, to tone the plant and reduce stretch. A second application can be made 2 weeks later.
- B-Nine application after visible bud will delay flowering. Weekly application of B-Nine up to the time of breaking color will delay the flowering by 1 week.
- In greenhouse-forced summer crops, apply at 5,000 ppm, 14-21 days after pinching, to control more vigorous varieties.

Paclobutrazol

- Paclobutrazol drenches of 1-4 ppm can provide very effective growth control. Apply the correct volume so that stunting does not occur.
- Early crop applications require less ppm than later applications to get the same level of control.
- Bonzi can also be sprayed with rates ranging from 30-50 ppm.

See **BALL TECH ON DEMAND** Grower Tip: *Paclobutrazol*.



Head Grower Michael DiGenova at Louis Davino Greenhouses' mum trials in New Jersey

Florel

Florel can be used to promote branching, prevent premature budding and delay flowering. Apply early in the crop cycle at a rate of 300-500 ppm. Effectiveness varies by variety.

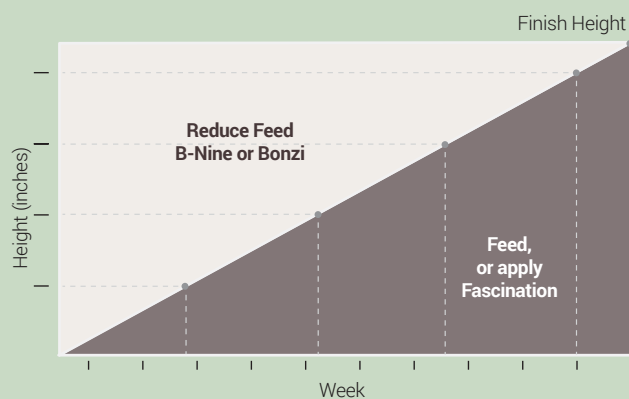
- Spray early or late-day, as slow dry time maximizes uptake and response.
- Use low alkalinity (<60 ppm) water or increase Florel rate.
- Reduce spray solution to pH <4 before adding Florel.
- Don't pour Florel directly into tank. Use a funnel or put Florel in bag and empty into tank.
- "Sprench" to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

Track Your Crop

It is important to keep your crop on schedule. Fortunately, mums are an easy crop to track.

Graph a straight line between initial plant height and desired height at finish. Each week, measure 5 plants in the primary block.

- If they are below the line, feed them or use Fascination.
- If they are above the line, use a PGR to slow them down.



See **BALL TECH ON DEMAND** Grower Tip: *Are my mums on track? (Your Best Mum Crop Ever – Part 3)*

See **BALL TECH ON DEMAND** Grower Tip: *Using Gibberellins to Enhance Garden Mum Height.*

BALL TECH ON DEMAND™

Visit **TECH ON DEMAND** for more garden mums grower tips.



GROW TIP

COMMON GROWING ISSUES

Premature Budding & Crown Bud Formation

Several occurrences of cool nights (colder than 60°F/15°C) in late Spring and early Summer can trigger premature bud formation. This is not desirable and can cause plants to finish too small.

If small buds are visible in the early stages of production, plants usually can still develop normally. Premature bud set 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 or immediately prior to a cold front passing through your area can help minimize premature bud set by helping to promote vegetative growth but does not abort buds once formed.

See **BALL TECH ON DEMAND** Grower Tip: *Crown Budding.*



Heat Delay

Average daily temperature dictates the rate of development of a crop, but high night temperatures can cause heat delay. When night temperatures exceed 85°F/30°C, flowering cannot be initiated.

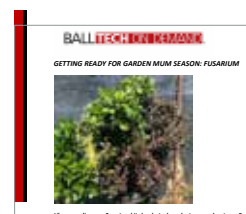
Heat delay can affect the bloom date by up to 3 weeks. Night temperatures from July 20 until August 5 are the most critical for natural season mums. Some varieties are more sensitive than others.

Root Rots

Healthy roots are the first line of defense against rootzone diseases. 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 or high salt levels will damage the roots, making them more susceptible to disease infection. Failure to control root rot can result in stunted plants.

Preventive treatment for Pythium and other root diseases is recommended every 4 weeks.



GROW TIP

Manage irrigation carefully, allowing thorough wet-to-dry cycles between watering/feeding events, to encourage development of a healthy, white and fuzzy root system.

See **BALL TECH ON DEMAND** Grower Tip: *Fusarium and Pythium.*



GARDEN MUM SCHEDULING – Natural Season

Natural Season Flower Timing

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

Pests and Diseases

Integrated pest management (IPM) is the best defense against pests and diseases that affect mums. Scout crops daily for signs of pests or pathogens when assessing daily watering and feeding needs and review weekly bug counts to assess changes in pressure over time. Preventive management, early detection and swift reaction to pest and disease presence will minimize risk and subsequent crop losses.

Visit *GrowerTalks: Insecticide, Miticide, & Fungicide Guide* for the latest list of IPM tools to help manage pests and diseases.

Growers should also scout for foliar diseases, including bacterial leaf spot and botrytis. Chrysanthemum white rust (CWR) is a USDA quarantinable pathogen and preventative fungicides should be applied to crops grown in higher-risk areas.

See *BALL TECH ON DEMAND Grower Tip: Chrysanthemum White Rust Awareness*.

See *BALL TECH ON DEMAND Grower Tip: Bacterial Leaf Spot and Botrytis*.



Media pH

Track pH throughout production using a 2:1, SME or PourThru method.

- Low pH can cause iron (Fe) and/or manganese (Mn) to become overly available to plants in the growing media. Plants will take up excessive amounts of both, resulting in Fe/Mn toxicity. Typical symptoms include discoloration, dark splotching and necrosis on older growth. Correct low pH using a flowable lime product and adjust feed program to include a more basic fertilizer to help buffer media pH changes.
- High pH reduces availability of Fe and Mn and can result in deficiency symptoms, including chlorosis, stunting of young shoots and necrosis (in severe cases) on upper foliage.

See *BALL TECH ON DEMAND Grower Tip: Mum Low pH Correction*.

- Avoid planting all the flower timing classes in the same week for best crop uniformity
 - Week 1: Plant the early varieties.
 - Week 2: Plant the mid varieties.
 - Week 3: Plant the late and very late varieties.
- Chrysanthemums are short-day plants and will naturally initiate flowering in mid-July.

Traditional Fall Planting Schedule

Pot Size	Plants per Pot (ppp)	Planting Date	Final Spacing (on center)
4"	1	Mid July	4 to 6"
6"	1	Early July	12 to 16"
8 to 9"	1	Between first and fourth weeks of June	18 to 24"
8 to 9"	3	Plant 2 to 3 weeks later than 1PPP	18 to 24"
12 to 16"	3 to 4	Between first and fourth weeks of June	Approx 2x container diameter

Fast Crop Fall Planting Schedule

- Allows a later than normal start for a 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.

Pot Size	Plants per Pot (ppp)	Planting Date
4"	1	Last week of July until August 12
6"	1	Mid July until late July
8 to 9"	2	July 10 until July 20

Black Cloth

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



BLACK CLOTH TIPS

Controlled Flowering of Summer-Fall Garden Mums

Using black cloth to shorten the daylength enables the grower to flower mums over a longer season and have the crop ready when desired.

- After transplanting, plants require approximately 3 weeks of long days to establish before beginning shade. The number of weeks needed to establish depends on pot size. For example, 2.5 to 3 weeks is required for 6-inch pots; 4 to 5 weeks is required for 8-inch pots. (See chart, below.)
- Plants can be pinched approximately 9 days after planting once plants have approximately 1 inch (3 cm) of new growth.
- The number of weeks of required shade time depends on the response time of the mum. For example, mums with a 7-week response time will flower 7 weeks after shading and will be ready for sale.
- Black cloth, or 4 to 6 mil of reflective plastic, can be used to shade crops. Place shade cloth at least 2 ft. above plants to avoid heat delay. Continue to pull black cloth until buds are well formed and show color.
- Heat build-up over 78°F (26°C) can delay flowering. To reduce heat build-up, use reflective shade cloth and pull shade from 7 p.m. to 7 a.m.

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.

2024 BLACK CLOTH/SHADED PROGRAM RECOMMENDATIONS

Color	6 Week				7 Week				8 Week				9 Week			
	SUGGESTED ASSORTED	Vigor	Pot Size	Hanging Basket	COSMIC FAMILY	Vigor	Pot Size	Hanging Basket	MORGANA FAMILY	Vigor	Pot Size	Hanging Basket	MILKSHAKE FAMILY	Vigor	Pot Size	Hanging Basket
Bronze	Katelli Bronze	S	4"-8"	HB	Cosmic Meteor Bronze	M	4"-12"	HB					Milkshake Kiwi Bronze	Med	4"-12"	HB
Orange					Kickin' Spicy Orange	M/T	6"-12"		Morgana Orange	M	4"-12"		Milkshake Papaya Orange	Med	4"-12"	HB
Yellow	Goldmine Yellow	M/T	6"-12"	HB	Cosmic Solar Yellow	M	4"-12"	HB	Morgana Yellow	M/S	4"-12"		Milkshake Banana Yellow	Med	4"-12"	HB
Red	Five Alarm Red	M	4"-12"		Cosmic Fireball Red	M	4"-12"	HB	Morgana Red	M	4"-12"		Milkshake Strawberry Red	Med	4"-12"	HB
Purple	Amphion Lav Purple	M	4"-12"	HB	Cosmic Galaxy Purple	M	4"-12"	HB	Morgana Purple	M	4"-12"		Milkshake Cherry Purple	Med	4"-12"	HB
Pink	Misty Lilac Pink	M	4"-12"		Cosmic Lunar Pink	M	4"-12"	HB	Morgana Pink	M	4"-12"		Milkshake Berry Pink	Med	4"-12"	HB
White	Bridal White	M/T	4"-12"		Moonglow White	M	4"-10"	HB	Morgana White	M/S	4"-12"		Milkshake Coconut White	Med	4"-12"	HB
					STELLAR FAMILY	Vigor	Pot Size	Hanging Basket	AVALON FAMILY	Vigor	Pot Size	Hanging Basket	SKYFALL FAMILY	Best for Baskets		
Bronze					Copper Coin Bronze	M	4"-8"	HB								
Orange					Sunset Orange	M	4"-12"	HB	Avalon Orange	M/S	4"-10"	HB				
Yellow					Stellar Yellow	M	4"-10"	HB	Avalon Sunny Yellow	M	4"-10"	HB	Skyfall Lemon Yellow	S	4"-12"	HB
Red					Stellar Red	S	4"-10"	HB	Avalon Red	M/S	4"-10"	HB	Skyfall Red	S	4"-12"	HB
Purple					Stellar Purple	M	4"-10"	HB	Avalon Purple	M/S	4"-10"	HB	Skyfall Purple	S	4"-12"	HB
Pink					Stellar Pink	M	4"-10"	HB	Avalon Pink	M/S	4"-10"	HB	Skyfall Pink	S	4"-12"	HB
White					Starburst White	M/S	4"-8"	HB	Avalon Crème White	M	4"-10"	HB	Skyfall White	S	4"-12"	HB
					PARADISO FAMILY	Best for Small Pots			SUGGESTED ASSORTED	Vigor	Pot Size	Hanging Basket				
Bronze					Paradiso Bronze	M/S	4"-8"	HB								
Orange					Perfectly Orange	S	4"-6"	HB	Zuma Orange	M	6"-10"					
Yellow					Paradiso Yellow	M/S	4"-8"	HB	Gold Riot Yellow	M	4"-10"	HB				
Red					Red Hots	M	4"-10"	HB	Red Ryder	M	6"-10"	HB				
Purple					Grapeberry Neon Purple	M/S	4"-8"	HB	Gypsy Rose Purple	M	4"-12"	HB				
Pink					Paradiso Pink	M/S	4"-8"	HB	Pop Eye Pink	M	4"-8"					
White					Paradiso White	M/S	4"-8"	HB	Butter N' Cream White	M	4"-12"	HB				
					SUGGESTED ASSORTED	Vigor	Pot Size	Hanging Basket								
Bronze					Autumn Glow Bronze	M	4"-12"	HB								
Orange					Petit Orange	M	4"-12"	HB								
Yellow					Sunrise Yellow	M	4"-8"	HB								
Red					Majesty Red	M	4"-12"	HB								
Purple					Majesty Purple	M	4"-12"	HB								
Pink					Carousel Pink	M	4"-10"	HB								
White					Carousel White	M	4"-10"	HB								

For complete listing of varieties and timings for black cloth see the A-Z Quick Reference on page 58.

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

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

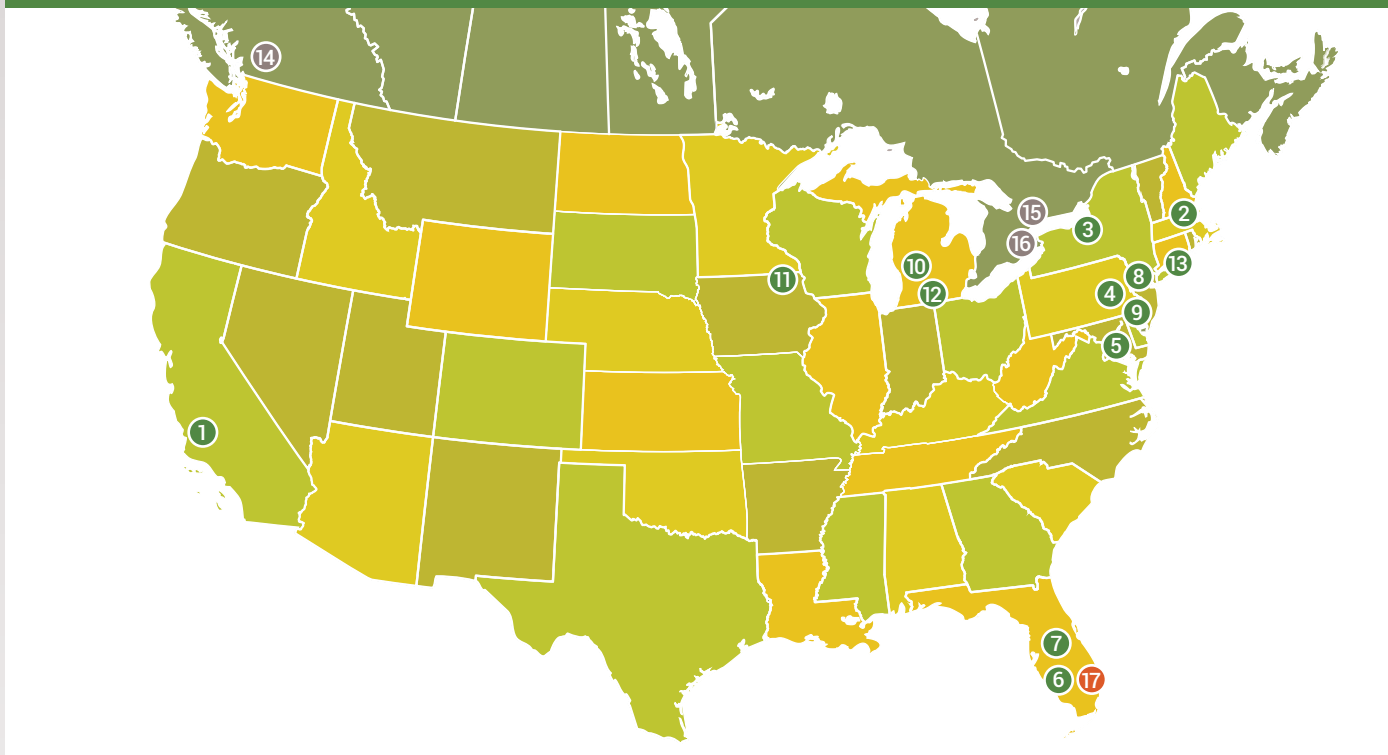
*5-6.5" containers should be planted, grown under long days, and pinched 1 week earlier.

**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



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