

# Keys To Producing Quality Garden Mums

## Upon Arrival

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

Rooted cuttings trays should be placed in the greenhouse with a minimum temperature of 60 to 62°F (16 to 17°C). Do not let the plants wilt, and try to hold for no more than 2 to 3 days. Unrooted cuttings – please refer to “Propagation of Garden Mums,” page 53.

## Planting & Media

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

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

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

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

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

## Pinching

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

## Spacing

Refer to the chart on page 51 for specific spacing requirements. A key to excellent quality is to space the plants once they start touching. Spacing plants too tightly promotes weak, stretched, poor-quality plants that are more likely to experience disease problems.

## Irrigation & Fertilization

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

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

Fertilizing immediately after planting is very important:

- Feed  $\text{NH}_4 + \text{P}$  (20-10-20, 20-20-20) during the early crop development (weeks 1-4). A rate of 250 to 350 ppm N will usually work well.
- After loading the plant early, you will want to avoid too much  $\text{NH}_4 + \text{P}$ , or stretched plants and soft growth will result. Use  $\text{NO}_3$  and reduced P (17-5-17, 15-4-15, 14-0-14, etc.) to tone the crop and reduce stretch.
- Once plants are at visible bud, slow the fertilizer uptake and monitor the EC to prevent salt damage to the roots.

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

## Premature Budding & Crown Bud Formation

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

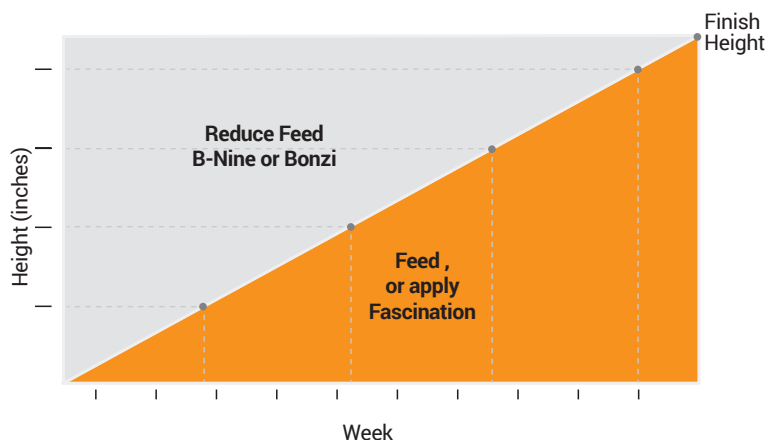
If small buds are visible in the early stages of production, plants will most often still develop normally. This can be minimized by limiting stress, applying adequate fertilizer amounts (fertility levels should be high) and not allowing plants to wilt. Early applications of 500 ppm Florel one week after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

### Success with Florel

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

## Tracking Your Crop

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



## Height Control & Growth Regulators

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

B-Nine foliar spray applications control height and also produce darker, greener leaves and strong stems. Apply 2,500 to 5,000 ppm when breaks are 1 to 2 in. (3 to 5 cm) long to tone the plant and reduce stretch. A second application can be made two weeks later. Remember that B-Nine application after visible bud will delay flowering. Weekly applications of B-Nine up to the time of breaking color will delay the flowering by one week. Once flower color is evident, B-Nine delay is minimum, but application will enhance foliage. In greenhouse-forced Summer crops, an application of B-Nine at 5,000 ppm can be applied 14 to 21 days after pinching to control the more vigorous varieties.

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

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

## Heat Delay

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

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

Suggestions to avoid heat delay for black cloth crops:

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

## Root Rot

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

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

## Pests & Diseases

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

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

## Natural-Season Fall Mums

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

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

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

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# Keys to Producing Quality Garden Mums *cont.*

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

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

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

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

If pinching, pinch once the plant is established.

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

## Fast-Crop Fall Mums

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

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

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

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

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



## Black Cloth

### Controlled flowering of Summer-Fall Garden Mums

Growing Garden Mums using black cloth to shorten the daylength is not difficult. It enables the grower to flower Garden Mums over a longer season and to have the crop ready when desired. The detailed schedule below is a guide to determine the number of short days required.

### Top Performing Black Cloth Varieties

**Yellow & Green:** Gold Riot Yellow, Moonglow Yellow, Paradiso Yellow, Stellar Yellow, Sunset Yellow, Yellow Tang

**Orange & Bronze:** Copper Coin Bronze, Katelli Bronze, Paradiso Bronze, Petit Orange, Sunset Orange, Twilight Bronze

**Red:** Red Ryder, Stellar Red

**Purple:** Plumberry Purple, Majesty Purple, Stellar Purple

**Pink:** Paradiso Pink, Stellar Pink

**White:** Butter N' Cream White, Paradiso White, Starburst White



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

<b>Summer Controlled-Flowering For 7-Week Response Garden Mums</b> (6 to 6.5-in./15 to 17-cm pots)	<b>Plant Rooted Cuttings</b> Weeks 15 – 27	<ul style="list-style-type: none"> <li>• For 4-in. (10-cm) pot/1 ppp programs, delay the plant and pinch date by 1 week.</li> <li>• For 8-in. (20-cm) pot/2 ppp programs, plant date and pinch date are 1-2 weeks earlier.</li> </ul>
	<b>Pinch</b> 9 Days From Plant Date	<ul style="list-style-type: none"> <li>• Pinch plants when established and have approximately 1 in. (3 cm) of new growth</li> </ul>
	<b>Shade</b> - 12 Days From Pinch Date	
	<b>Sell</b> 7 Weeks From Shade Date	<ul style="list-style-type: none"> <li>• 6-week varieties will flower 1 week earlier; 8-week varieties will flower 1 week later.</li> <li>• Lighting the crop between planting date and shade date is recommended.</li> </ul>

### Typical black cloth greenhouse schedule for suggested medium-vigor varieties with 7-week response times

Pot Size	PPP	Rooting Time in Plug Tray in Weeks	Pinch	Long Day Weeks After Direct Stick or Potting	Variety Response Time in Weeks	Total Crop Time from Liner	Approximate Spread at Finish	Approximate Plant Height at Finish
4 in.	1	Direct Stick	No	3	6.5 to 7	9.5 to 10 from URC	6 in.	5 in.
6 in.	1	Direct Stick	No	4	6.5 to 7	10.5 to 11 from URC	11 to 12 in.	6 to 7 in.
4 in.	1	2.5 to 3	No	1.5	6.5 to 7	8 to 8.5	6 in.	5 in.
6 in.	1	2.5 to 3	No	2.5	6.5 to 7	9 to 9.5	11 to 12 in.	6 to 7 in.
8 in.	1	2.5 to 3	No	4 to 5	6.5 to 7	10.5 to 12	13 to 14 in.	8 to 9 in.
10 in.	1	2.5 to 3	No	8 to 9	6.5 to 7	14.5 to 16	18 to 19 in.	11 to 12 in.
10 in.	3	2.5 to 3	No	5 to 6	6.5 to 7	11.5 to 13	18 to 19 in.	11 to 12 in.
12 in.	3	2.5 to 3	No	8 to 9	6.5 to 7	14.5 to 16	23 to 24 in.	13 to 14 in.

# Propagation of Garden Mums

## Upon Arrival

Stick immediately upon receipt for best results.

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

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

## Media

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

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

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

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

50 to 100-count trays are most common.



The rooting stations for Ball Garden Mums are selected for their ability to produce high-quality rooted liners – here's an example. Every day counts with a Garden Mum crop, so look to Ball for a great start!

## Rooting Hormone

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

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

Recommended for slow or harder-to-root varieties.

## Misting

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

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

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

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

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

## Air Temperature

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

## Light Levels

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

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

## Photoperiod Control

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

## Fertilizer

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

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

*continued on page 54*

# Propagation of Garden Mums *cont.*

## Plant Growth Regulators

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

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

Bonzi is not recommended during propagation.

## After The Cutting Is Rooted

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

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

Any stress at this time will reduce quality and may cause premature budding.

Do not let liners wilt or soil remain saturated, as this can increase disease infection.

Do not allow the liners to become root bound and transplant as soon as appropriate.

If left in the trays too long, the liners can become hard and may not take-off uniformly when planted.

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

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

## Disease Management

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

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

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

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

## Insect Management

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

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

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

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

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

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



## Green Netting

### *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.

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

Two sizes of netting are offered. The 17" x 3,280' size is for use on 10-in. (25-cm) and smaller sizes, with each roll yielding approx. 2,200 pieces. The 23" x 3,280' size is for use on 11-in. (28-cm) and larger sizes, yielding approx. 1,700 pieces per roll.

**For more information, contact your Ball Seed Sales Rep, or order at [ballseed.com/webtrack](http://ballseed.com/webtrack) or 800 879-BALL.**

**Green mum netting helps you make the most of your mums.**

# Spring-Flowering Programs

See the chart below for suggested Spring Garden Mum schedules, including Light & Shade recommendations. Variety suggestions are on pages 44-49.

## No Light/No Shade Program

Best results are realized with smaller containers, such as packs to 3-in. (8-cm) pots with 1 cutting per pot.

Crop time is in the 7-week range.

Do not attempt to flower after May 1.

A minimum night temperature of 60°F (16°C) is required for uniform growth and flowering.

Typical No Light/No Shade schedule for 3-in. (8-cm) containers:

- Plant rooted cuttings in mid-February.
- Pinch when ready, 10 to 14 days after planting.
- Plants flower 6 to 8 weeks after planting.

## Light/Shade Program

Refer to the chart below for specific Light/Shade requirements.

This program enables the grower to more accurately control the size and flowering time than with a No Light/No Shade program.

Larger-sized plants may be produced.

It is essential to maintain a minimum night temperature of 60°F (16°C).

Typical Light/Shade Spring schedule for 4-in. (10-cm) containers:

- Plant rooted cuttings in February.
- Pinch when ready, 10 to 14 days after planting.
- Light for 2 weeks after planting.
- Plants flower in mid-April, 6 to 8 weeks after the start of short days, depending on the response group.
- For crops flowering after May 1, shade or black cloth is required for controlled flowering response.

Artificial long days are achieved by lighting the crop from 10 p.m. to 2 a.m. each day for the number of days required.

## Light/Shade Spring-Flowering Program for 7-Week Response Garden Mums (4 to 4.5-in./10 to 11-cm pots)

Plant Rooted Cuttings*	Pinch** (one week after plant date)	Light From (same day as plant date)	Light To (14 days from plant date)	Start Shade	Sale***
Week 2	Week 3	Week 2	Week 4	No	Week 11
Week 3	Week 4	Week 3	Week 5	No	Week 12
Week 4	Week 5	Week 4	Week 6	No	Week 13
Week 5	Week 6	Week 5	Week 7	No	Week 14
Week 6	Week 7	Week 6	Week 8	No	Week 15
Week 7	Week 8	Week 7	Week 9	No	Week 16
Week 8	Week 9	Week 8	Week 10	No	Week 17
Week 9	Week 10	Week 9	Week 11	No	Week 18
Week 10	Week 11	Week 10	Week 12	No	Week 19
Week 11	Week 12	Week 11	Week 13	Week 13	Week 20
Week 12	Week 13	Week 12	Week 14	Week 14	Week 21
Week 13	Week 14	Week 13	Week 15	Week 15	Week 22
Week 14	Week 15	Week 14	Week 16	Week 16	Week 23

\* 5 to 6.5-in. (13 to 17-cm) containers should be planted and pinched 1 week earlier for the desired flowering date.

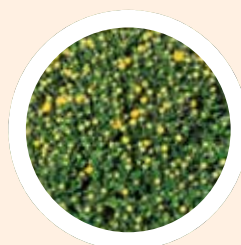
\*\* Pinch plants when established and have approximately 1 in. (3 cm) of new growth.

\*\*\* 6-week varieties will flower 1 week earlier; 8-week varieties will flower 1 week later.

## A Note on Flower Dates

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

Cracking Color  
(ready for ship)



Flower Date  
(ready for sell)

