

Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers		Growing on temperature day	Growing on temperature night	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
															Pack	4-in./10-cm	Other						
Online*	<b>Abutilon</b> <i>A. x hybridum</i> (Flowering Maple, Chinese Bell Flower)	<b>Bella F1 Series</b>		8,500 S/oz. (300 S/g)	SED	406-cell or larger	Yes	72-75°F (22-24°C)	1-4	3-5	4 in. (10 cm), 6 in. (15 cm) 3ppp		65-70°F (18-21°C)	60-65°F (15-18°C)	-	6-8	7-9	Space plants adequately to get the best branching and the showiest plants.	14-18 in. (35-45 cm)	14-18 in. (35-45 cm)	✓		Ideal for pot, basket and colour bowl programs year round.
Pg 44	<b>Ageratum</b> <i>A. houstonianum</i>	<b>High Tide F1 Series</b>		14,000 S/oz. (500 S/g)	PEL	406-cell or larger	No	72-75°F (22-24°C)	1-4	1-5	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm)		70-80°F (21-27°C)	58-62°F (14-17°C)	-	7-8	8-9	Using multiple PGR applications of low concentrations are recommended for best leaf appearance. See the Fantastic Flowers plug chart for more details (pg 42).	14-16 in. (35-40 cm)	12 in. (30 cm)			Ideal for pot plant programs and for the landscape.
Online*	<b>Ageratum</b> <i>A. houstonianum</i>	<b>Pearl Blue F1</b>		213,000 S/oz. (7,500 S/g)	SED PEL	406-cell or larger	No	72-75°F (22-24°C)	3-4	4-5	pack		70-80°F (21-27°C)	58-62°F (14-17°C)	5-7	-	-	Plants are responsive to growth regulators.	5-8 in. (13-20 cm)	12 in. (30 cm)			
Online*	<b>Alstroemeria</b> <i>A. x hybrida</i>	<b>Jazze F1 Series</b>		920 S/oz. (33 S/g)	SED	200-cell or larger	Yes	Week 1: 72-75°F (22-24°C) Week 2-4: 42-45°F (5-7°C)	21-28 (radicle emergence)	8-9	6 in. (15 cm) or larger		60-65°F (15-18°C)	52-58°F (11-14°C)	-	-	20-23	Follow the Grower Facts germination recommendations closely.	10-16 in. (25-40 cm) (in pot)	8-12 in. (20-30 cm)			
Pg 44	<b>Alternanthera</b> <i>A. dentata</i>	<b>Purple Knight</b>		17,400 S/oz. (614 S/g)	SED	406-cell or larger	Yes	72-76°F (22-24°C)	3-4	4-5	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm) 3ppp		65-75°F (18-24°C)	62-65°F (17-18°C)	-	7-8	8-9	Growing under high light conditions will result in deeper purple foliage. See the Fantastic Foliage plug chart for more details (pg 40).	18-36 in. (45-91 cm)	2-3 ft. (60-90 cm)	✓		Well-suited to both containers and landscape plantings
Pg 45	<b>Alternanthera</b> <i>A. dentata</i>	<b>Royal Tapestry</b>	 	56,400 S/oz. (1,990 S/g)	SED	406 to 288-cell	No	64-75°F (18-24°C)	2-3	4-5	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm), gallon (6 in./15 cm)		63-72°F (17-22°C)	60-66°F (16-19°C)	6-7	7-8	7-8	Plants grow quite vigorously. B-Nine or Bonzi can reduce internode length and make the foliage a darker purple colour.	10-14 in. (25-35 cm)	20-24 in. (50-60 cm)	✓		Well-suited to both containers and landscape plantings.
Pg 45	<b>Alyssum</b> <i>Lobularia maritima</i>	<b>Clear Crystal™ Series</b>		70,875-87,885 S/oz. (2,500-3,100 S/g)	SED	200 to 288-cell	No	70-72°F (21-22°C)	3-4	4	306 (9 cm), 4 in. (10 cm)		60-75°F (15-24°C)	55-60°F (13-15°C)	4-6	7	-	Cool-season crop can be grown with little or no heat. Grow outdoors or at very cool night temperatures for best color definition.	6-10 in. (15-25 cm)	12-14 in. (30-35 cm)		✓	Fragrant, large-flowered varieties deliver stronger garden performance.
	<b>Alyssum</b> <i>Lobularia maritima</i>	<b>Easter Bonnet Series</b>		76,500-102,000 S/oz. (2,700-3,600 S/g)	SED	512-cell or larger	No	68-72°F (20-22°C)	2-3	4-5	pack		55-70°F (13-21°C)	50-55°F (10-14°C)	5	7	-	Multi-sowing is recommended, 3 to 5 seeds per plug cell.	4-10 in. (10-25 cm)	10-12 in. (25-30 cm)		✓	
	<b>Alyssum</b> <i>Lobularia maritima</i>	<b>Pastel Carpet, Snowdrift</b>		76,500-102,000 S/oz. (2,700-3,600 S/g)	SED	512-cell or larger	No	68-72°F (20-22°C)	2-3	4-5	pack		55-70°F (13-21°C)	50-55°F (10-14°C)	7	-	-	Multi-sowing is recommended, 3 to 5 seeds per plug cell.	3-4 in. (7-10 cm)	8-10 in. (20-25 cm)		✓	
Online*	<b>Alyssum</b> <i>Lobularia maritima</i>	<b>Snow Crystals</b>		70,875-87,885 S/oz. (2,500-3,100 S/g)	SED	512-cell or larger	No	68-74°F (20-24°C)	2-4	4-5	pack, 4 in. (10 cm)		55-70°F (13-21°C)	50-55°F (10-14°C)	6	7	-	Multi-sowing is recommended, 3 to 5 seeds per plug cell.	6-10 in. (15-25 cm)	12-14 in. (30-35 cm)		✓	
Online*	<b>Anemone</b> <i>A. coronaria</i>	<b>Mona Lisa™ Series</b>		52,500 S/oz. (1,850 S/g)	SED	406-cell or larger	Yes	65-70°F (18-21°C)	10-14	1-9	4 in. (10 cm), 6 in. (15 cm)		60-65°F (8-12°C)	55°F (13°C)	-	12	12	See also Cut Flower section (pg 36).	18 in. (45 cm) (stems)	6 in. (15 cm)		✓	Ideally suited for young plant production from a March to June sowing in Northern Hemisphere for October through April season; a September to December sowing in Southern Hemisphere for April through October season.
Pg 46	<b>Angelonia</b> <i>A. angustifolia</i>	<b>Serena™ F1 Series</b>		28,500 S/oz. (1,000 S/g)	PEL	406-cell or larger	No	72-76°F (22-25°C)	4-5	5-6	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm) 3ppp		66-75°F (19-24°C)	64-66°F (18-19°C)	-	9-10	10-11	Light is required for germination. Grow on dry side but do not allow plants to wilt. It grows slowly when temperature is below 64°F (18°C). See the Fantastic Flowers plug chart for more details (pg 42).	10-12 in. (25-30 cm) (2 in./5 cm taller under FL conditions)	12-14 in. (30-35 cm)	✓		Do not pinch. Pinching will only delay flowering and make plant habit unattractive.
	<b>Aquilegia</b> <i>A. x caerulea</i> (Rocky Mountain Columbine)	<b>Dragonfly Mixture</b>		26,900 S/oz. (950 S/g)	SED	406-cell or larger	Yes	70-75°F (21-24°C)	10-14	6-8	6 in. (15 cm)		60-68°F (15-20°C)	55-64°F (13-18°C)	-	-	17-20	Requires daytime temperatures below 60°F (15°C) to initiate flower buds.	18 in. (45 cm)	12-14 in. (30-35 cm)			

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														Pack	4-in./10-cm	Other						
Pg 47	<b>Aquilegia</b> <i>A. x hybrida</i> (Rocky Mountain Columbine)	<b>Songbird F1 Series</b>		26,900 S/oz. (950 S/g)	SED	406-cell or larger	Yes	70-75°F (21-24°C)	10-14	6-8	6 in. (15 cm)	60-68°F (15-20°C)	55-64°F (13-18°C)	-	-	17-20	Requires night temperatures below 55°F (13°C) to initiate flower buds. See Grower Facts for details.	11-18 in. (28-40 cm)	10-14 in. (25-35 cm)		✓	USDA Hardiness Zones 3 to 8.
Pg 47	<b>Aquilegia</b> <i>A. x hybrida</i> (Rocky Mountain Columbine)	<b>Swan F1 Series</b>		26,900 S/oz. (950 S/g)	SED	406-cell or larger	Yes	70-75°F (21-24°C)	10-14	6-9	gallon (6 in./15 cm)	60-68°F (15-20°C)	55-64°F (13-18°C)	-	-	17-20	Requires night temperatures below 55°F (13°C) to initiate flower buds. See Grower Facts for details.	20-24 in. (50-60 cm)	12-14 in. (30-35 cm)		✓	USDA Hardiness Zones 3 to 8.
	<b>Asparagus</b> <i>A. densiflorus Sprengeri</i> <i>Sprengeri</i> <i>A. setaceus Nanus</i>	<b>Sprengeri, Nanus</b>		571-628 S/oz. (20-22 S/g)	SED	512-cell or larger	Yes	78-80°F (26-27°C)	4-6	6-7	4 in. (10 cm)	65-70°F (18-21°C)	60-65°F (16-18°C)	-	-	-	Requires dark for germination.	2-3 ft. (60-90 cm)	2-3 ft. (60-90 cm)			If direct sown into larger liner (72-50 cell tray), cover seed with vermiculite or sowing media. Keep seed on the wet side until after germination.
	<b>Aster</b> <i>Callistephus chinensis</i>	<b>Meteor Series</b>		12,000 S/oz. (420 S/g)	SED	200-cell	Yes	70°F (21°C)	4-8	4-5	Cut flower	60-75°F (15-24°C)	50-60°F (10-15°C)	-	-	13-16	See also Cut Flower section for more details (pg 36).	30-40 in. (80-100 cm)	-			
	<b>Aster</b> <i>Callistephus chinensis</i>	<b>Pot 'N Patio Series</b>		12,000 S/oz. (420 S/g)	SED	288-cell or larger	Yes	70°F (21°C)	4-8	4-5	pack, 4 in. (10 cm)	65-75°F (18-24°C)	55-65°F (13-18°C)	8	8	-	Flowers in just 90 days from sowing during the short days of Winter and early Spring.	6 in. (15 cm)	6 in. (15 cm)			Not recommended for landscape plantings.
Pg 47	<b>Bacopa</b> <i>Sutera cordata</i>	<b>Blutopia™ Blue &amp; Snowtopia™ White</b>		12,675-19,845 MSP/oz. (500-700 MSP/g)	MSP	288 or 128-cell	No	68-74°F (20-23°C)	4	3-4	4.5 in. (10.5 cm), 10 in. (25 cm) baskets (5-6 ppp)	60-75°F (15-24°C)	55-60°F (13-15°C)	-	5	9	Use of PGRs or growing outdoors will give a much more controlled plant. Be sure to water multi-seed pellets thoroughly and give light for best germination.	6 in. (15 cm)	18-24 in. (45-60 cm)			Use primarily in baskets and container applications for best performance.
	<b>Basil</b> <i>Ocimum basilicum</i>	<b>Magical Michael</b>		14,275 S/oz. (500 S/g)	SED	406-cell or larger	Yes	68-74°F (20-23°C)	2-4	4-5	pack, 3.5 in. (9 cm)	62-65°F (17-18°C)	50-60°F (10-15°C)	2-3 green, 4-5 flower	2-3 green, 4-5 flower	-	Seed can be directly sown into finish containers up to 3.5 in. (9 cm).	12-18 in. (30-45 cm)	18-24 in. (45-60 cm)			The use of plant growth regulators on food crops is prohibited by law.
	<b>Basil</b> <i>Ocimum basilicum</i>	<b>Purple Ruffles</b>		14,275 S/oz. (500 S/g)	SED	406-cell or larger	Yes	68-74°F (20-23°C)	2-4	4-5	pack, 3.5 in. (9 cm)	72-75°F (22-24°C)	50-60°F (10-15°C)	2-3 green	2-3 green	-	Seed can be directly sown into finish containers up to 3.5 in. (9 cm).	18-24 in. (45-60 cm)	18-24 in. (45-60 cm)			The use of plant growth regulators on food crops is prohibited by law.
	<b>Basil</b> <i>Ocimum basilicum</i>	<b>Sweet Dani Lemon</b>		14,275 S/oz. (500 S/g)	SED	406-cell or larger	Yes	68-74°F (20-23°C)	2-4	4-5	pack, 3.5 in. (9 cm)	62-65°F (17-18°C)	50-60°F (10-15°C)	2-3 green	2-3 green	-	Seed can be directly sown into finish containers up to 3.5 in. (9 cm).	22-24 in. (55-60 cm)	18-24 in. (45-60 cm)			The use of plant growth regulators on food crops is prohibited by law. Sweet Dani is not a sweet-fruited variety.
Pg 48	<b>Begonia</b> <i>B. x hybrida</i>	<b>BabyWing™ F1 Series</b>		28,550 S/oz. (1,000 S/g)	PEL	406-cell or larger	No	72-80°F (22-27°C)	7-10	7-8	4 in. (10 cm), 6 in. (15 cm)	65-70°F (18-21°C)	60-65°F (15-18°C)	-	5-7	5-7	Keep moisture high until the first true leaf develops. After transplant, if necessary, a very light spray of a tank mix of Cycocel 300 ppm and B-Nine 2,500 ppm can be used. BabyWing is very responsive to Bonzi and Sumagic. Avoid overspray from neighboring plants.	12-15 in. (30-38 cm)	10-12 in. (25-30 cm)		✓	
Pg 49	<b>Begonia</b> <i>B. x hybrida</i>	<b>Dragon Wing™ F1 Series</b>		28,550 S/oz. (1,000 S/g)	PEL	200-cell or larger	No	72-75°F (22-24°C)	7-10	7-8	6 in. (15 cm) 1 ppp; 10-12 in. (25-35 cm) baskets 4 ppp	65-70°F (18-21°C)	60-65°F (15-18°C)	-	-	7-9, 9-11	Keep moisture high until first true leaf develops. After transplant, use Bonzi 3-5 ppm spray for height control.	12-15 in. (30-38 cm)	15-18 in. (38-45 cm)		✓	
Pg 50	<b>Bellis</b> <i>B. perennis</i>	<b>Bellissima Series</b>		21,428 S/oz. (750 S/g)	PEL	406-cell or larger	Yes	65-72°F (18-22°C)	3-5	5	pack, 306 (9 cm), 5 in. (13 cm) 3ppp	60-65°F (15-18°C)	40-45°F (5-7°C)	6-10 (US Autumn/Spring)	6-10 (US Autumn/Spring)	13-15-Spring/ 7-9-Autumn North Europe	Use a medium covering of coarse-grade vermiculite to improve seedling uniformity.	6-10 in. (15-25 cm)	5-8 in. (13-20 cm)		✓	Grow as cool as possible but avoid freezing temperatures. For forcing the crop when grown at these temperatures, grow at 55-58°F (10-12°C) for 4 weeks before sale.
	<b>Bellis</b> <i>B. perennis</i>	<b>Medicis Series</b>		157,000 S/oz. (5,500 S/g)	SED	406-cell or larger	Yes	65-72°F (18-22°C)	3-5	4-5	pack, 306 (9 cm), 5 in. (13 cm) 3ppp	60-65°F (15-18°C)	40-45°F (5-7°C)	14	14	-	Use a medium covering of coarse-grade vermiculite to improve seedling uniformity.	8 in. (20 cm)	5-8 in. (13-20 cm)		✓	Under cooler temperatures, Medicis flowers are more fully double. Best grown as a biennial bedding or pot plant.

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															Pack	4-in./10-cm	Other						
Pg 50	<b>Brazilian Fireworks</b> <i>Porphyrocoma pohliana</i>	<b>Maracas</b>		14,971 S/oz. (524 S/g)	SED	406 or 288-cell	Yes	65-74°F (18-24°C)	4-5	5-6	306 (9 cm), 6 in. (15 cm), gallon (15 cm)		72-80°F (22-27°C)	66-68°F (19-20°C)	7-9	9-10	10-14	Heat-loving crop; crop time is very dependant on temperature. See the Fantastic Foliage plug chart for more details (pg 40).	6-8 in. (15-20 cm)	8-10 in. (20-25 cm)	✓		
	<b>Browallia</b> <i>B. speciosa major</i>	<b>Bells Series</b>		124,500 S/oz. (4,400 S/g)	SED	406-cell or larger	Yes	75-80°F (24-26°C)	7-15	5	4 in. (10 cm), 10 in. (25 cm) basket		60-65°F (15-18°C)	60-65°F (15-18°C)	-	9-11	11-13	Requires long days to bloom.	10-12 in. (25-30 cm)	12-14 in. (30-35 cm)			
	<b>Celosia</b> <i>C. argentea var. plumosus</i>	<b>Glow Series</b>		31,200 S/oz. (1,100 S/g)	SED	288-cell or larger	Yes	75°F (24°C)	2-4	4-5	pack, 4 in. (10 cm)		65-70°F (18-21°C)	55-65°F (13-18°C)	6-7	6-7	-	Create a unique pot crop by sowing 10-15 seeds into a 4-in. (10-cm) container. This produces an interesting mini-forest of celosia.	10-12 in. (25-30 cm)	8-10 in. (20-25 cm)	✓		Plant growth regulator treatment may be needed once or twice under longer days for a more compact plant. Under Northwest European conditions, 1 or 2 light treatments with Alar (B-Nine) have shown to be effective.
	<b>Cobaea</b> <i>C. scandens</i>			375 S/oz. (13 S/g)	SED	72-cell or larger	Yes	70°F (21°C)	14-21	6	8 in. (20 cm)		68-75°F (20-24°C)		-	-	-	In North America, plants started in April will bloom in August/September.	Vine, to 25 ft. (7.5 m)	-			
	<b>Coleus</b> <i>Solenostemon scutellarioides</i>	<b>Black Dragon</b>		100,000 S/oz. (3,500 S/g)	SED	512-cell or larger	Yes	70-75°F (21-24°C)	4-5	4-5	pack		72-75°F (22-24°C)	62-65°F (17-18°C)	5-6	-	-		12-14 in. (30-35 cm)	10-12 in. (25-30 cm)			
	<b>Coleus</b> <i>Solenostemon scutellarioides</i>	<b>Carefree Mixture</b>		100,000 S/oz. (3,500 S/g)	SED	512-cell or larger	Yes	70-75°F (21-24°C)	4-5	4-5	pack		72-75°F (22-24°C)	62-65°F (17-18°C)	5-6	-	-		8-10 in. (20-25 cm)	8-10 in. (20-25 cm)			
Pg 51	<b>Coleus</b> <i>Solenostemon scutellarioides</i>	<b>Chocolate Mint</b>		27,500 PEL/oz. (970 PEL/g)	PEL	288-cell or larger	cover lightly	72-75°F (22-24°C)	4-5	5-6	pack, 5 in. (13 cm), gallon (15 cm) 3 ppp		70-75°F (21-24°C)	62-65°F (17-18°C)	6-8	-	6-8		14-20 in. (35-50 cm)	12-14 in. (30-35 cm)	✓		Can take the sun if well watered in most locations.
Pg 51	<b>Coleus</b> <i>Solenostemon scutellarioides</i>	<b>Dark Chocolate</b>		27,500 PEL/oz. (970 PEL/g)	PEL	288-cell or larger	cover lightly	72-75°F (22-24°C)	4-5	5-6	pack, 5 in. (13 cm), gallon (15 cm) 3 ppp		70-75°F (21-24°C)	62-65°F (17-18°C)	6-8	-	6-8		24-30 in. (60-75 cm)	18-24 in. (45-60 cm)	✓		Can take the sun if well watered in most locations.
Pg 51	<b>Coleus</b> <i>Solenostemon scutellarioides</i>	<b>Kong™ Series</b>		25,650 PEL/oz. (900 PEL/g)	PEL	288-cell or larger	Yes	72-75°F (22-24°C)	4-5	5-6	5 in. (13 cm), gallon (15 cm)		72-75°F (22-24°C)	62-65°F (17-18°C)	-	3-4	5-6	Pinching is not needed. It will result in smaller leaves and delay crop time. See the Fantastic Foliage plug chart for more details (pg 40). Note: Salmon Pink might appear dark bronze under some very low light conditions. Later in the season, and in Summer landscape, color will appear Salmon Pink.	18-20 in. (45-50 cm)	15-18 in. (38-45 cm)	✓		When using in combination planters, Kong performs best when planted near the outside of the container.
	<b>Coleus</b> <i>Solenostemon scutellarioides</i>	<b>Rainbow Select Formula Mixture</b>		100,000 S/oz. (3,500 S/g)	SED	512-cell or larger	Yes	70-75°F (21-24°C)	4-5	4-5	pack		72-75°F (22-24°C)	62-65°F (17-18°C)	5-6	-	-		12-15 in. (30-38 cm)	10-12 in. (25-30 cm)			
Online*	<b>Coleus</b> <i>Solenostemon scutellarioides</i>	<b>Wizard™ Series</b>		100,000 S/oz. (3,500 S/g)	SED	512-cell or larger	Yes	72-75°F (22-24°C)	4-5	4-5	pack, 4 in. (10 cm)		72-75°F (22-24°C)	62-65°F (17-18°C)	5-6	6-7	-	Crop times will vary depending on the climate, location, time of year and greenhouse environmental conditions.	12-14 in. (30-35 cm)	10-12 in. (25-30 cm)	✓		
Online*	<b>Coreopsis</b> <i>C. grandiflora</i>	<b>Early Sunrise</b>		10,700 S/oz. (375 S/g)	SED	392-cell or larger	cover lightly	68-72°F (20-22°C)	4-6	5	4 in. (10 cm), 6 in. (15 cm) 3ppp		60-70°F (15-21°C)	55-60°F (13-15°C)	-	9-11	10-12	Cover seed lightly with vermiculite. Coreopsis needs light to germinate.	24 in. (60 cm)	22-24 in. (55-60 cm)	✓		Coreopsis flowers earlier under long days. Provide night interruption lighting (10 p.m. to 2 a.m.) when grown under short days. USDA Hardiness Zones 4 to 9.

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														Pack	4-in./10-cm	Other						
Online*	<b>Coreopsis</b> <i>C. grandiflora</i>	<b>Rising Sun</b>		10,700 S/oz. (375 S/g)	SED	392-cell or larger	cover lightly	68-72°F (20-22°C)	4-6	5	5 in. (13 cm), 6 in. (15 cm) 3ppp	60-70°F (15-21°C)	55-60°F (13-15°C)	-	8-10	9-10	Cover seed lightly with vermiculite. Coreopsis needs light to germinate.	18-30 in. (45-80 cm)	24-26 in. (60-65 cm)	✓		Coreopsis flowers earlier under long days. Provide night interruption lighting (10 p.m. to 2 a.m.) when grown under short days. USDA Hardiness Zones 4 to 9.
Online*	<b>Coreopsis</b> <i>C. grandiflora</i>	<b>Sunfire</b>		10,700 S/oz. (375 S/g)	SED	392-cell or larger	cover lightly	68-72°F (20-22°C)	4-6	5	4 in. (10 cm), 6 in. (15 cm) 3ppp	60-70°F (15-21°C)	55-60°F (13-15°C)	-	8-10	9-10	Cover seed lightly with vermiculite. Coreopsis needs light to germinate.	24 in. (60 cm)	22-24 in. (55-60 cm)	✓		Coreopsis flowers earlier under long days. Provide night interruption lighting (10 p.m. to 2 a.m.) when grown under short days. USDA Hardiness Zones 4 to 9.
	<b>Cosmos</b> <i>C. bipinnatus</i>	<b>Sonata Series</b>		5,100 S/oz. (180 S/g)	SED	406-cell or larger	Yes	66-70°F (19-21°C)	3-4	4-5	4 in. (10 cm), gallon (15 cm) 3ppp	70-80°F (21-26°C)	70-75°F (21-24°C)	-	6-7	7-8	Can treat the plugs at early Stage 1 with Bonzi at 15 ppm applied as a spray to control the early stretch.	24 in. (60 cm)	12-14 in. (30-35 cm)			Cosmos flower faster under short days. Daylength extension in the plug stage may be used to prevent premature flowering.
Online*	<b>Crossandra</b> <i>C. infundibuliformis</i>	<b>Tropic Series</b>		6,180 S/oz. (218 S/g)	SED	406-cell or larger	Yes	(25-28°C)	7-10	6-7	4 in. (10 cm), 6 in. (15 cm) 3ppp	75-80°F (24-26°C)	68-75°F (20-24°C)	-	10-11 in South	10-11 in South	Best in tropical and semi-tropical climates.	10 in. (25 cm)	8 in. (20 cm)	✓		For cooler (Northern) growing areas, add 3 weeks to crop time or grow for Summer sales.
	<b>Cuphea</b> <i>C. ignea</i> (Cigar Plant)	<b>Dynamite</b>		21,300 S/oz. (750 S/g)	SED	392-cell or larger	cover lightly	70-75°F (21-24°C)	4-6	5-6	4 in. (10 cm)	70-75°F (21-24°C)	65-68°F (18-20°C)	-	6-7	-	No pinching required.	8-10 in. (20-25 cm)	10-12 in. (25-30 cm)	✓		
	<b>Cyclamen</b> <i>C. persicum</i>	<b>Butterfly Series</b>		3,428 S/oz. (120 S/g)	SED	288-cell or larger	Yes	62-65°F (17-18°C)	21-28	9-12	6 in. (15 cm)	68-72°F (20-22°C); 62-65°F (17-18°C) for last 8 weeks	60-65°F (16-18°C); 58-62°F (14-17°C) for last 8 weeks	-	-	19-20	Requires dark germination. Do not plant deep. After transplant, keep light level between 2,500-4,000 f.c. (25,000-40,000 Lux).	10 in. (25 cm)	6 in. (15 cm)		✓	
	<b>Dahlia</b> <i>D. x hybrida</i>	<b>Figaro Series</b>		2,800 S/oz. (100 S/g)	SED	288-cell or larger	Yes	66-70°F (19-21°C)	3-7	4-5	pack, 4 in. (10 cm)	52-60°F (11-15°C)	52-60°F (11-15°C)	5-6	5-6	-	If germ chamber is used, move trays to greenhouse at first sign of germination.	14-18 in. (35-45 cm)	10-12 in. (25-30 cm)			Very responsive to B-Nine.
	<b>Delphinium</b> <i>D. elatum, x belladonna, x bellamosum</i>	<b>Casa Blanca, Belladonna, Bellamosum, Connecticut Yankee</b>		9,285 S/oz. (325 S/g)	SED	200-cell	Yes	65-70°F (18-21°C)	7-8	6-7	6 in. (15 cm), 8 in. (20 cm)	60-70°F (15-21°C)	60°F (15°C)	-	-	20-26	See also Cut Flower section for more details (pg 36).	30-72 in. (75-180 cm)	10-12 in. (25-30 cm)		✓	
Online*	<b>Delphinium</b> <i>D. elatum</i>	<b>Guardian F1 Series</b>		9,285 S/oz. (325 S/g)	SED	200-cell	Yes	68-70°F (21-22°C)	7-8	6-7	6 in. (15 cm) and larger 3ppp, gallon	65-70°F (18-21°C)	60°F (15°C)	-	-	16	See also Cut Flower section for more details (pg 36).	30-39 in. (75-100 cm)	10-12 in. (25-30 cm)		✓	USDA Hardiness Zones 4 to 7.
Pg 57	<b>Deschampsia</b> <i>D. elongata</i>	<b>Zephyr</b>		4,876 MSP/oz. (172 MSP/g)	MSP	400 to 288-cell	No	64-75°F (18-24°C)	3-4	4-5	306 (9 cm), 2.5 in. (6 cm), 4 in. (10 cm), 6 in. (15 cm), gallon (18 cm)	62-74°F (17-23°C)	59-64°F (15-18°C)	5-6	5-6	5-6 (3 ppp), 7-8 (1 ppp)	Will perform better if grown in containers. See Fantastic Foliage Plug Chart for more details (pg 40).	6-8 in. (15-20 cm)	10-12 in. (25-30 cm)			Prefers being grown on the humid side. Will dry out very easily. Hardy to USDA Zone 7.
Online*	<b>Dianthus</b> <i>D. barbatus interspecific</i>	<b>Amazon F1 Series</b>		70,850 S/oz. (2,500 S/g)	PEL	406-cell or larger	Yes	64-68°F (18-20°C)	3-5	4-5	8 in. (20 cm) 3ppp	60-72°F (15-22°C)	50-60°F (11-15°C)	-	-	12-13	Responsive to PGRs; PGRs are needed to produce as a bedding plant. See Grower Facts for recommendations. See also Cut Flower section (pg 36).	18-36 in. (45-90 cm)	10-12 in. (25-30 cm)			In low-light conditions (Northern areas), Amazon is best produced as the daylength increases for finishing as an early Summer crop.
Pg 52	<b>Dianthus</b> <i>D. barbatus interspecific</i>	<b>Bouquet F1 Series</b>		70,850 S/oz. (2,500 S/g)	PEL	406-cell or larger	Yes	64-68°F (18-20°C)	3-5	4-5	5 in. (13 cm), 6 in. (15 cm)	60-72°F (15-22°C)	50-60°F (11-15°C)	-	-	8-9	Responsive to PGRs; PGRs are needed to produce as a bedding plant. See Grower Facts for recommendations. See also Cut Flower section (pg 36).	18-24 in. (45-60 cm)	10-12 in. (25-30 cm)		✓	Hardy to USDA Zone 4.
Pg 54	<b>Dianthus, Double</b> <i>D. barbatus interspecific</i>	<b>Dynasty F1 Series</b>		51,400 S/oz. (1,700 S/g)	PEL	406-cell or larger	Yes	64-68°F (18-20°C)	3-5	4-5	4 in. (10 cm), 6 in. (15 cm)	60-72°F (15-22°C)	50-60°F (11-15°C)	-	8-9	8-9		16-20 in. (40-50 cm)	10 in. (25 cm)		✓	Hardy to USDA Zone 6.

Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers		Growing on temperature day	Growing on temperature night	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
															Pack	4-in./10-cm	Other						
Pg 53	<b>Dianthus</b> <i>D. barbatus</i>	<b>Sweet F1 Series</b>		28,550 S/oz. (800-1,600 S/g)	PEL	406-cell or larger	Yes	64-68°F (18-20°C)	7-10	4-5	gallon (15 cm) 3ppp		60-72°F (15-22°C)	50-60°F (11-15°C)	-	-	11 (Spring) 12-16 (Late Autumn/ Winter)	Responsive to PGRs; PGRs are needed to produce as a bedding plant. See Grower Facts for recommendations. See also Cut Flower section (pg 36).	18-36 in. (45-90 cm)	10-12 in. (25-30 cm)		✓	No vernalization required.
Pg 53	<b>Dianthus</b> <i>D. chinensis</i>	<b>Corona Cherry Magic F1</b>		56,680 S/oz. (2,000 S/g)	SED, PEL	406-cell or larger	Yes	64-68°F (18-20°C)	3-5	4-5	pack, 4 in. (10 cm)		60-72°F (15-22°C)	50-60°F (11-15°C)	7 (Spring) 6-7 (Autumn)	8 (Spring) 7-8 (Autumn)	-		8-10 in. (20-25 cm)	8-10 in. (20-25 cm)		✓	Hardy to USDA Zone 5.
Pg 53	<b>Dianthus</b> <i>D. chinensis</i>	<b>Valentine F1</b>		45,360 S/oz. (1,600 S/g)	SED	406-cell or larger	Yes	64-68°F (18-20°C)	3-5	4-5	pack, 4 in. (10 cm)		60-72°F (15-22°C)	50-60°F (11-15°C)	8 (Spring) 7 (Autumn)	8-9 (Spring) 8 (Autumn)	-		8-10 in. (20-25 cm)	8 in. (20 cm)		✓	
Online*	<b>Dianthus</b> <i>D. chinensis x barbatus</i>	<b>Floral Lace F1 Series</b>		31,190 S/oz. (1,100 S/g)	SED, PEL	406-cell or larger	Yes	64-68°F (18-20°C)	3-5	4-5	pack		60-72°F (15-22°C)	50-60°F (11-15°C)	4-5	-	-		8-10 in. (20-25 cm)	8 in. (20 cm)		✓	
Online*	<b>Dianthus</b> <i>D. chinensis x barbatus</i>	<b>Ideal Select F1 Series</b>		31,190 S/oz. (1,100 S/g)	SED, PEL	406-cell or larger	Yes	64-68°F (18-20°C)	3-5	4-5	pack		60-72°F (15-22°C)	50-60°F (11-15°C)	4-5	-	-		8-10 in. (20-25 cm)	8 in. (20 cm)		✓	
Pg 55	<b>Diascia</b> <i>D. barberae</i>	<b>Diamonte F1 Series</b>	 	4,900 MSP/oz. (175 MSP/g)	MSP	406-cell or larger	cover lightly	65-70°F (18-21°C)	4-6	4	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm) 3ppp		60-66°F (15-19°C)	50-60°F (10-15°C)	6-8	7-9	8-10	Plants can be grown on with much cooler temperatures, but crop time will be longer. Do not use growth regulator before radicle emergence as this can delay or stop germination. See Grower Facts for growth regulator details. See Fantastic Flowers plug chart for more details (pg 42).	10-12 in. (25-30 cm)	12-14 in. (30-35 cm)		✓	
Pg 56	<b>Dichondra</b> <i>D. argentea</i>	<b>Silver Falls</b>	 	6,070 S/oz. (214 S/g)	SED	406-cell or larger	cover lightly	72-76°F (22-24°C)	4-5	5	306 (9 cm), 4 in. (10 cm), 10 in. (25 cm) basket		65-75°F (18-24°C)	62-65°F (16-18°C)	-	7-8	8-9	Grows best in warm and dry conditions. Use light feed. Rinse foliage after feeding to avoid salt burn. See Fantastic Foliage plug chart for more details (pg 40).	2-3 in. (5-7 cm)	3-4 ft. (0.9-1.2 m)	✓		Excellent as a groundcover, but requires well-drained soils due to the ground-hugging habit.
Pg 55	<b>Dichondra</b> <i>D. repens</i>	<b>Emerald Falls</b>	 	6,070 S/oz. (214 S/g)	MSP	406-cell or larger	cover lightly	72-76°F (22-24°C)	4-5	5-6	306 (9 cm), 4 in. (10 cm), 10 in. (25 cm) basket		65-75°F (18-24°C)	62-65°F (16-18°C)	-	8-9	9-10	Grows best in warm and dry conditions. Use light feed. Rinse foliage after feeding to avoid salt burn. See Fantastic Foliage plug chart for more details (pg 40).	2-4 in. (5-10 cm)	3 ft. (90 cm)	✓		Excellent as a groundcover, but requires well-drained soils due to the ground-hugging habit.
	<b>Dill, Ornamental</b> <i>Anethum graveolens</i>	<b>Fernleaf</b>		13,850 S/oz. (485 S/g)	SED	288-cell or larger	Yes	60°F (15°C)	5-8	4	4 in. (10 cm)		60-65°F (16-18°C)	55-58°F (13-14°C)	-	4-5	-	The use of plant growth regulators on food crops is prohibited by law.	12-15 in. (30-38 cm)	10-12 in. (25-30 cm)			Plants will flower later, allowing for an extended ornamental period.
	<b>Dusty Miller</b> <i>Cineraria maritima/ Senecio cineraria</i>	<b>Silverdust</b>		90,000 S/oz. (3,175 S/g)	SED	288-cell or larger	Yes	72-75°F (22-24°C)	4-5	4-5	pack, 4 in. (10 cm)		60-65°F (16-18°C)	55-58°F (13-14°C)	7-8	8-9	-		10 in. (25 cm)	10 in. (25 cm)			
Pg 57	<b>Eragrostis</b> <i>E. elliotii</i> (Love Grass)	<b>Wind Dancer</b>		5,670 MSP/oz. (200 MSP/g)	MSP	400 to 288-cell	No	64-75°F (18-24°C)	2-3	3-5	306 (9 cm), 2.5 in. (6 cm), 4 in. (10 cm), 6 in. (15 cm) 3 ppp, gallon (18 cm) 3ppp		62-74°F (17-23°C)	59-64°F (15-18°C)	5-6	5-6	5-6 (3 ppp) 7-8 (1 ppp)	Grows well under outdoor nursery conditions if the temperature permits. If produced in a greenhouse, they should be grown on the dry side with low feed. See Fantastic Foliage Plug Chart for more details (pg 40).	36-48 in. (0.9-1.2 m)	36-48 in. (0.9-1.2 m)	✓		Prefers being grown on the dry side with low feed. Growing too wet or with too much feed will tend to make plants less upright. Hardy to USDA Zone 6.
Pg 56	<b>Erysimum</b> <i>E. species</i>	<b>Citrona™ Series</b>		14,000 S/oz. (500 S/g)	SED	406-cell or larger	Yes	68-72°F (20-22°C)	2-4	4	306 (9 cm), 4 in. (10 cm), gallon (15 cm) 3ppp		65-70°F (18-21°C)	55-60°F (13-16°C)	-	7-9	8-10	Erysimum performs well when grown under cooler temperatures.	10-12 in. (25-30 cm)	10-12 in. (25-30 cm)		✓	Grow like Cheiranthus or Matthiola (Stock).
Online*	<b>Gazania</b> <i>G. rigens</i>	<b>Daybreak F1 Series</b>		14,500 S/oz. (500 S/g)	COT	406-cell or larger	Yes	70°F (21°C)	2-3	4-5	pack		65-68°F (18-20°C)	55-60°F (13-15°C)	8-9	-	-		8-10 in. (20-25 cm)	6-8 in. (15-20 cm)	✓		
	<b>Gazania</b> <i>G. rigens</i>	<b>Tiger F1 Mixture</b>		14,500 S/oz. (500 S/g)	COT	406-cell or larger	Yes	70°F (21°C)	2-3	4-5	pack		65-68°F (18-20°C)	55-60°F (13-15°C)	8-9	-	-		8-10 in. (20-25 cm)	6-8 in. (15-20 cm)	✓		
	<b>Gazania, Tetraploid</b> <i>G. rigens</i>	<b>Sunshine Mixture</b>		14,500 S/oz. (500 S/g)	SED	packet seed item	Yes	70°F (21°C)	2-3	N/A	packet seed item		65-68°F (18-20°C)	55-60°F (13-15°C)	-	-	-		12 in. (30 cm)	6-8 in. (15-20 cm)	✓		

Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers		Growing on temperature day	Growing on temperature night	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
															Pack	4-in./10-cm	Other						
	<b>Geranium, Ivy</b> <i>Pelargonium x peltatum</i>	<b>Summer Showers F1 Series</b>		3,700 S/oz. (130 S/g)	SED	288-cell or larger	Yes	70-75°F (21-24°C)	3-5	4-5	4 in. (10 cm), 10 in. (25 cm) basket		60-65°F (15-18°C)	60-65°F (15-18°C)	-	11-12	13-14		12-15 in. (30-38 cm)	12-15 in. (30-38 cm)			Branches don't interlock on the bench, allowing for tighter spacing.
	<b>Geranium, Open-Pollinated</b> <i>Pelargonium x hortorum</i>	<b>Paintbox Mixture</b>		6,250 S/oz. (220 S/g)	Scarified	packet seed item	Yes	70-75°F (21-24°C)	5-10	N/A	packet seed item		60-65°F (15-18°C)	60-65°F (15-18°C)	-	-	-		18 in. (45 cm)	12-14 in. (30-35 cm)			
Pg 58	<b>Helenium</b> <i>H. amarum</i>	<b>Dakota Gold</b>		5,000 S/oz. (200 S/g)	MSP	288-cell or larger	Yes	65-75°F (18-22°C)	3-5	3-4	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm)		65-70°F (18-21°C)	64-66°F (18-19°C)	-	5-7	6-8	Daylength affects plant growing habit and crop time. See Grower Facts for details. See Fantastic Flowers plug chart for more details (pg 42).	12-14 in. (30-35 cm)	24-28 in. (60-70 cm)	✓		Plants grow slowly under daylengths shorter than 12 hours and become very flat or even rosette when grown under 10 hours. Growing plants under long days (12 hours or more) is recommended.
Pg 59	<b>Helianthus</b> <i>H. annuus</i> (Sunflower)	<b>Ballad F1</b>		2,693 S/oz. (95 S/g)	SED	200-cell or direct sown	Yes	68-72°F (20-22°C)	3-5	2-3	5 in. (13 cm)		65-75°F (18-24°C)	65-68°F (18-20°C)	-	8-9	7-8 Summer/Autumn	Plants grow shorter under short days. Under longer days, plants grow up to 24-30 in. (60-75 cm) without growth regulators. Plants can flower year-round.	24-30 in. (60-75 cm)	6-8 in. (15-20 cm)	✓		
	<b>Helianthus</b> <i>H. annuus</i> (Sunflower)	<b>Prado Series</b>		1,135 S/oz. (40 S/g)	SED	72-cell or larger; direct sow recommended	Yes	68-72°F (20-22°C)	5-10	3-4	Cut flower		65-85°F (18-29°C)	50-65°F (11-18°C)	-	-	10-12 (from sowing)	See also Cut Flower section for more details (pg 36).	4-5 ft. (1.2-1.5 m)	-			
	<b>Helichrysum</b> <i>H. bracteatum</i> (Strawflower)	<b>Chico Series</b>		44,800 S/oz. (1,580 S/g)	SED	288-cell or larger	Yes	78°F (26°C)	5-7	4-5	4 in. (10 cm)		65-70°F (18-21°C)	62-65°F (17-18°C)	-	6-8	-	Requires 14-hour days to flower.	12-15 in. (30-40 cm)	10-12 in. (25-30 cm)			Grow cool and avoid ammonium fertilizer to keep foliage compact.
Pg 60	<b>Helichrysum</b> <i>H. microphyllum</i> ( <i>Plectostachys serphyllifolia</i> )	<b>Silver Mist</b>		22,679 S/oz. (800 S/g)	MSP	406-cell or larger	No	72-76°F (22-24°C)	6-8	6-7	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm) 3ppp		65-75°F (18-24°C)	62-65°F (16-18°C)	-	8-9	9-10	Do not overwater and avoid watering plants late in the day, as constant wet foliage may make the plants susceptible to Botrytis. Does not require pinching. See Fantastic Foliage plug chart for more details (pg 40).	6-8 in. (15-20 cm)	18-24 in. (45-60 cm)	✓		
Pg 60	<b>Hibiscus</b> <i>H. moscheutos</i>	<b>Luna F1 Series</b>		2,835 S/oz. (100 S/g)	SED	200-cell or larger	Yes	68-75°F (18-25°C)	3-5	3-4	quart (13 cm), gallon (15 cm)		70-85°F (21-30°C)	65-70°F (18-21°C)	-	-	10-13	Cover seed with plug media. Grow plants under daily average temperature above 68°F (20°C) and keep media moist to wet. Requires 12 hours or longer daylength for flowering. Does not need pinching.	2-3 ft. (60-90 cm)	2 ft. (60 cm)	✓		Does not require pinching. Hardy to USDA Zone 5.
	<b>Hypoestes</b> <i>H. phyllostachya</i>	<b>Splash Select Series</b>		25,000 S/oz. (880 S/g)	SED	406-cell or larger	Yes	70-75°F (21-24°C)	2-3	4-5	pack, 4 in. (10 cm), 6 in. (15 cm) 3ppp		65-75°F (18-24°C)	62-65°F (16-18°C)	6-7	7-8	8-9	Too much light will cause leaves to curl. Grow under low light conditions (400-500 f.c./4,000-5,000 Lux).	10-18 in. (25-45 cm)	12-14 in. (30-35 cm)			Application of a Cycocel spray will intensify the foliage colour. Crop time can be reduced by planting multiple-sown plugs or direct sowing up to 15 seeds in each pot.
Pg 61	<b>Impatiens, Single</b> <i>I. walleriana</i>	<b>Dazzler™ F1 Series</b>		35,700-61,500 S/oz. (1,250-2,150 S/g)	SED	512-cell or larger	No	72-76°F (22-24°C)	4-5	4-5	pack, 4 in. (10 cm), 10 in. (25 cm) basket		65-75°F (18-24°C)	62-65°F (17-18°C)	3-4	4-5	6-7	Do not cover seed. Impatiens require more than 10 f.c. (100 Lux) of light for optimum germination.	9-11 in. (23-28 cm)	13-15 in. (33-38 cm)			
Pg 61	<b>Impatiens, Single</b> <i>I. walleriana</i>	<b>Expo™ F1 Series</b>		35,700-61,500 S/oz. (1,250-2,150 S/g)	SED	512-cell or larger	No	72-76°F (22-24°C)	4-5	4-5	pack, 4 in. (10 cm), 10 in. (25 cm) basket		65-75°F (18-24°C)	62-65°F (17-18°C)	3-4	4-5	6-7	Do not cover seed. Impatiens require more than 10 f.c. (100 Lux) of light for optimum germination.	8-10 in. (20-25 cm)	12-14 in. (30-35 cm)			
Pg 61	<b>Impatiens, Single</b> <i>I. walleriana</i>	<b>Stardust F1 Series</b>		35,700-61,500 S/oz. (1,250-2,150 S/g)	SED	512-cell or larger	No	72-76°F (22-24°C)	4-5	4-5	pack, 4 in. (10 cm), 10 in. (25 cm) basket		65-75°F (18-24°C)	62-65°F (17-18°C)	3-4	4-5	6-7	Do not cover seed. Impatiens require more than 10 f.c. (100 Lux) of light for optimum germination.	8-10 in. (20-25 cm)	12-14 in. (30-35 cm)			Plants grown from this seed are protected by US Utility Patent 5986188.
Pg 61	<b>Impatiens, Single</b> <i>I. walleriana</i>	<b>Super Elfin™ F1 Series (XP &amp; Standard Varieties)</b>		35,700-61,500 S/oz. (1,250-2,150 S/g)	SED	512-cell or larger	No	72-76°F (22-24°C)	4-5	4-5	pack, 4 in. (10 cm), 10 in. (25 cm) basket		65-75°F (18-24°C)	62-65°F (17-18°C)	3-4	4-5	6-7	Do not cover seed. Impatiens require more than 10 f.c. (100 Lux) of light for optimum germination.	8-10 in. (20-25 cm)	12-14 in. (30-35 cm)			











Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers	Growing on temperature day	Growing on temperature night	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
														Pack	4-in./10-cm	Other						
Pg 61	<b>Impatiens, Single</b> <i>I. walleriana</i>	<b>Swirl F1 Series</b>		35,700-61,500 S/oz. (1,250-2,150 S/g)	SED	512-cell or larger	No	72-76°F (22-24°C)	4-5	4-5	pack, 4 in. (10 cm), 10 in. (25 cm) basket	65-75°F (18-24°C)	62-65°F (17-18°C)	3-4	4-5	6-7	Do not cover seed. Impatiens require more than 10 f.c. (100 Lux) of light for optimum germination.	8-10 in. (20-25 cm)	12-14 in. (30-35 cm)			
	<b>Impatiens, Single F2</b> <i>I. walleriana</i>	<b>Dwarf Mixture</b>		45,000 S/oz. (1,600 S/g)	SED	512-cell or larger	No	72-76°F (22-24°C)	4-5	4-5	packet seed item	65-75°F (18-24°C)	62-65°F (17-18°C)	-	-	-	Do not cover seed. Impatiens require more than 10 f.c. (100 Lux) of light for optimum germination.	8-11 in. (20-28 cm)	12-15 in. (30-38 cm)			
	<b>Impatiens, Fancy-Flowered F1</b> <i>I. walleriana</i>	<b>Fanciful Series F1</b>		45,700-57,000 S/oz. (1,600-2,000 S/g)	SED	512-cell or larger	No	72-76°F (22-24°C)	4-5	4-5	306 (9 cm), 10 in. (25 cm) basket	65-75°F (18-24°C)	62-65°F (17-18°C)	-	5-6	7-8	Do not cover seed. Impatiens require more than 10 f.c. (100 Lux) of light for optimum germination.	10-12 in. (25-30 cm)	14-16 in. (35-40 cm)			
Pg 62	<b>Impatiens, New Guinea</b> <i>I. hawkerii</i>	<b>Divine F1 Series</b>		17,000 S/oz. (600 S/g)	SED	288 to 128-cell	Yes	72-78°F (22-25°C)	6-8	5-6	306 (9 cm), 4-4.5 in. (10-11 cm)	66-75°F (19-24°C)	64-66°F (18-19°C)	7-8	7-8	-	Optimum germination temperature is 78°F (25°C). See Grower Facts for complete plant growth regulator information. Growing-on air temperatures of 65-80°F (18-27°C) will give faster flowering; temperatures of 61-65°F (16-18°C) will give larger flowers.	10-14 in. (25-35 cm)	12-14 in. (30-35 cm)	✓		
	<b>Impatiens, New Guinea</b> <i>I. hawkerii</i>	<b>Tango F1</b>		11,340 S/oz. (400 S/g)	SED	406-cell or larger	cover lightly	72-78°F (22-25°C)	6-8	5-6	4-4.5 in. (10-11 cm)	72-75°F (22-24°C)	64-68°F (18-20°C)	-	8-9	-		12-14 in. (30-35 cm)	14-16 in. (35-40 cm)	✓		
Pg 62	<b>Impatiens, Novelty F1</b> <i>I. auricomma</i>	<b>Jungle Gold F1</b>		20,000-23,000 S/oz. (700-800 S/g)	SED	406-cell or larger	Yes	72-76°F (22-24°C)	6-8	4-5	4.5 in. (11 cm), 6 in. (15 cm), 8 in. (20 cm) 3ppp	72-78°F (22-25°C)	62-68°F (17-20°C)	-	8-9	9-10	Use PGR (Bonzi 3-5 ppm spray) at early stage. Space plants as soon as they begin to touch for best branching and flower show. Pinching is not needed.	15-18 in. (38-45 cm)	12-14 in. (30-35 cm)	✓		
Pg 63	<b>Iresine</b> <i>I. herbstii</i>	<b>Purple Lady</b>		44,800 S/oz. (1,580 S/g)	SED	406-cell or larger	Yes	72-76°F (22-24°C)	3-4	4-5	306 (9 cm), 4 in. (10 cm), 10 in. (25 cm) basket	65-75°F (18-24°C)	62-65°F (16-18°C)	-	6-7	7-8	Reddish foliage indicates plants need more feed. High light, especially with low humidity, results in puckered foliage. See Fantastic Foliage plug chart for more details (pg 40).	6-8 in. (15-20 cm)	3-4 ft. (0.9-1.2 m)	✓		Ideally suited to partial sun/partial shade conditions, it can withstand more sun in humid areas like Florida.
Pg 57	<b>Isolepis</b> <i>I. cernua</i> (Fiber Optic Grass)	<b>Live Wire</b>	 	8,136 MSP/oz. (287 MSP/g)	MSP	400 to 288-cell	No	64-75°F (18-24°C)	6	5-6	306 (9 cm), 2.5 in. (6 cm), 4 in. (10 cm), 6 in. (15 cm), gallon (18 cm)	62-74°F (17-23°C)	59-64°F (15-18°C)	5-6	5-6	5-6 (3 ppp), 7-8 (1 ppp)	Sow uncovered at 65°F (18°C) for fastest and most uniform germination; prefers moist soil. See Fantastic Foliage Plug Chart for more details (pg 40).	6-8 in. (15-20 cm)	18-20 in. (45-50 cm)			Do not allow plants to dry out, as this will cause the foliage to become yellow.
Pg 57	<b>Juncus</b> <i>J. inflexus</i>	<b>Blue Arrows</b>		29,768 MSP/oz. (1,050 MSP/g)	MSP	400 to 288-cell	No	64-75°F (18-24°C)	12	5-6	306 (9 cm), 2.5 in. (6 cm), 4 in. (10 cm), 6 in. (15 cm), gallon (18 cm)	62-74°F (17-23°C)	59-64°F (15-18°C)	6-7	6-7	6-7 (3 ppp), 8-9 (1 ppp)	See Fantastic Foliage Plug Chart for more details (pg 40).	36 in. (90 cm)	12 in. (30 cm)	✓		Well-suited to both containers and landscape plantings. Good for moist and boggy spots or shallow water. Hardy to USDA Zone 5.
Pg 57	<b>Juncus</b> <i>J. pallidus</i>	<b>Javelin</b>		28,237 MSP/oz. (996 MSP/g)	MSP	400 to 288-cell	No	64-75°F (18-24°C)	5-6	5-6	306 (9 cm), 2.5 in. (6 cm), 4 in. (10 cm), 6 in. (15 cm), gallon (18 cm)	62-74°F (17-23°C)	59-64°F (15-18°C)	5-6	5-6	5-6 (3 ppp), 7-8 (1 ppp)	To prevent leaf bending, Bonzi 30 ppm spray can be used. See Fantastic Foliage Plug Chart for more details (pg 40).	48 in. (1.2 m)	18-20 in. (45-50 cm)	✓		Hardy to USDA Zone 7.
Pg 57	<b>Juncus</b> <i>J. tenuis</i>	<b>Blue Dart</b>	 	19,901 MSP/oz. (702 MSP/g)	MSP	400 to 288-cell	No	64-75°F (18-24°C)	7-8	6-7	306 (9 cm), 2.5 in. (6 cm), 4 in. (10 cm), 6 in. (15 cm), gallon (18 cm)	62-74°F (17-23°C)	59-64°F (15-18°C)	6-7	6-7	6-7 (3 ppp), 8-9 (1 ppp)	Excellent substitute for Draecena Spike. See Fantastic Foliage Plug Chart for more details (pg 40).	14-16 in. (35-40 cm)	10-12 in. (25-30 cm)	✓		Well-suited to both containers and landscape plantings. Good for moist and boggy spots or shallow water. Hardy to USDA Zone 5.
Pg 57	<b>Juncus Multi-species</b> Multi-species, multi-pellets include Blue Arrows Juncus and <i>Juncus effusus spiralis</i> (curly juncus)	<b>Twisted Arrows</b>	 	25,515 QK/oz. (900 QK/g)	QK	400 to 288-cell	No	64-75°F (18-24°C)	7-8	5-7	4 in. (10 cm), 6 in. (15 cm), gallon (6 in./15 cm)	62-74°F (17-23°C)	59-64°F (15-18°C)	-	6-7	6-7 (3 ppp)	See Fantastic Foliage Plug Chart for more details (pg 40).	18-36 in. (45-90 cm)	12-18 in. (30-45 cm)	✓	✓	Great for mixed containers. Hardy to USDA Zone 5.
	<b>Juncus</b> <i>J. effusus spiralis</i>	<b>Twister</b>	 	17,700 MSP/oz. (625 MSP/g)	MSP	400 to 288-cell	No	64-75°F (18-24°C)	8-9	5-7	306 (9 cm), 4.5 in. (11 cm) 6 in. (15 cm)	62-74°F (17-23°C)	59-64°F (15-18°C)	-	6-7	6-7		12-14 in. (30-35 cm)	12-14 in. (30-35 cm)	✓		

Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers		Growing on temperature day	Growing on temperature night	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
															Pack	4-in./10-cm	Other						
Pg 57	<b>Koeleria</b> <i>K. glauca</i>	<b>Blue Sprite</b>		7,995 MSP/oz. (282 MSP/g)	MSP	400 to 288-cell	No	64-75°F (18-24°C)	4-5	5-6	306 (9 cm), 2.5 in. (6 cm), 4 in. (10 cm), 6 in. (15 cm), gallon (18 cm)		62-74°F (17-23°C)	59-64°F (15-18°C)	6-7	6-7	6-7 (3 ppp), 8-9 (1 ppp)	See Fantastic Foliage Plug Chart for more details (pg 40).	6-8 in. (15-20 cm)	10-12 in. (25-30 cm)	✓		Hardy to USDA Zone 5.
	<b>Lavender</b> <i>Lavandula angustifolia</i>	<b>Lavender Lady</b>		27,000 S/oz. (950 S/g)	SED	406-cell or larger	Yes	65-75°F (18-24°C)	4-5	6-8	pack, 4 in. (10 cm)		70-75°F (21-24°C)	65-70°F (18-21°C)	14-15	18-20	-	It is very important to cover and give good light as soon as germination occurs. Seedlings get very leggy when grown under low light.	8-10 in. (20-25 cm)	10 in. (25 cm)	✓		First-year flowering.
	<b>Lavender</b> <i>Lavandula angustifolia</i>	<b>Munstead Strain</b>		27,000 S/oz. (950 S/g)	SED	406-cell or larger	Yes	65-75°F (18-24°C)	4-5	6-8	pack, 4 in. (10 cm)		70-75°F (21-24°C)	65-70°F (18-21°C)	17-20	21-23	-		12 in. (30 cm)	12-18 in. (30-45 cm)			USDA Hardiness Zones 4 to 9.
Pg 64	<b>Linaria</b> <i>L. hybrida</i>	<b>Enchantment F1</b>		18,857 S/oz. (660 S/g)	MSP	406-cell or larger	Yes	65-68°F (18-20°C)	2-3	4-5	306 (9 cm), 4 in. (10 cm)		60-70°F (11-21°C)	52-60°F (11-15°C)	-	6-7	-	Stage 1 PGR is very important for avoiding leggy seedlings. See Fantastic Flowers plug chart for more details (pg 42).	14-16 in. (35-40 cm)	12-14 in. (30-35 cm)		✓	
Online*	<b>Lisianthus, Cut Flower</b> <i>Eustoma grandiflorum</i>	<b>ABC F1, Laguna F1 Series</b>		28,500 S/oz. (1,000 S/g)	PEL	406-cell or larger	No	68-72°F (20-22°C)	8-12	8-10	Cut flower		68-75°F (20-24°C)	60-65°F (16-18°C)	-	-	10-18	See also Cut Flower section for more details (pg 36).	29-45 in. (75-115 cm)	-	✓		Cover the plug trays with a medium layer of vermiculite after germination phase.
Online*	<b>Lisianthus, Pot &amp; Bedding F1</b> <i>Eustoma grandiflorum</i>	<b>Florida F1 Series</b>		28,500 S/oz. (1,000 S/g)	PEL	406-cell or larger	No	72-80°F (22-26°C)	8-12	8-10	4 in. (10 cm), 6 in. (15 cm)		68-75°F (20-24°C)	60-65°F (16-18°C)	-	14-16	14-16	Maintain pH above 6.5. Do not allow plugs to become rootbound. Lisianthus are tender seedlings and are recommended as a plug-purchased item.	8-10 in. (20-25 cm)	6-8 in. (15-20 cm)	✓		Resists rosetting when sown in temperatures as high as 88°F (31°C).
Online*	<b>Lisianthus, Pot &amp; Bedding F1</b> <i>Eustoma grandiflorum</i>	<b>Forever F1 Series</b>		28,500 S/oz. (1,000 S/g)	PEL	406-cell or larger	No	68-72°F (20-22°C)	8-12	8-10	4 in. (10 cm)		68-75°F (20-24°C)	60-65°F (16-18°C)	-	13-14	-	Maintain pH above 6.5. Do not allow plugs to become rootbound. Lisianthus are tender seedlings and are recommended as a plug-purchased item.	8-10 in. (20-25 cm)	6-8 in. (15-20 cm)	✓		
Online*	<b>Lisianthus, Pot &amp; Bedding F1</b> <i>Eustoma grandiflorum</i>	<b>Lisa F1 Series</b>		28,500 S/oz. (1,000 S/g)	PEL	406-cell or larger	No	68-72°F (20-22°C)	8-12	8-10	4 in. (10 cm)		68-75°F (20-24°C)	60-65°F (16-18°C)	-	12-13	-	Maintain pH above 6.5. Do not allow plugs to become rootbound. Lisianthus are tender seedlings and are recommended as a plug-purchased item.	6-8 in. (15-20 cm)	4-6 in. (10-15 cm)	✓		
Online*	<b>Lisianthus, Pot &amp; Bedding F1</b> <i>Eustoma grandiflorum</i>	<b>Sapphire F1 Series</b>		28,500 S/oz. (1,000 S/g)	PEL	406-cell or larger	No	68-72°F (20-22°C)	8-12	8-10	4 in. (10 cm)		68-75°F (20-24°C)	55-60°F (13-15°C)	-	12-14	-	Maintain pH above 6.5. Do not allow plugs to become rootbound. Lisianthus are tender seedlings and are recommended as a plug-purchased item.	4-6 in. (10-15 cm)	4-6 in. (10-15 cm)	✓		Well-suited for use as a Lifestyle Plant.
	<b>Lobelia, Compact</b> <i>L. erinus</i>	<b>Cambridge Blue, Cobalt Blue, Crystal Palace, Mrs. Clibran, Rosamund, String of Pearls, White Lady</b>		820,000-1,300,000 S/oz. (29,000-45,000 S/g)	SED, MSP	288-cell or larger	No	70-76°F (21-24°C)	4-6	4-5	pack		66-72°F (19-22°C)	55-60°F (13-15°C)	8-9	-	-	Lighting plants when days are shorter than 12 hours speeds flowering. Light shading helps to produce a better crop when plants are growing under hot weather and long days in late Spring.	5 in. (13 cm)	6-8 in. (15-20 cm)		✓	
Online*	<b>Lobelia, Compact</b> <i>L. erinus</i>	<b>Riveria Series</b>		820,000-1,300,000 S/oz. (29,000-45,000 S/g)	SED, MSP	288-cell or larger	No	70-76°F (21-24°C)	4-6	4-5	pack		66-72°F (19-22°C)	55-60°F (13-15°C)	5-6	-	-	Lighting plants when days are shorter than 12 hours speeds flowering. Light shading helps to produce a better crop when plants are growing under hot weather and long days in late Spring.	5 in. (13 cm)	8 in. (20 cm)		✓	
	<b>Lobelia, Trailing</b> <i>L. erinus</i>	<b>Fountain Series</b>		820,000-1,300,000 S/oz. (29,000-45,000 S/g)	SED, MSP	288-cell or larger	No	70-76°F (21-24°C)	4-6	4-5	10 in. (25 cm) basket		66-72°F (19-22°C)	55-60°F (13-15°C)	-	-	10-12	Lighting plants when days are shorter than 12 hours speeds flowering. Light shading helps to produce a better crop when plants are growing under hot weather and long days in late Spring.	6-8 in. (15-20 cm)	10-12 in. (25-30 cm)		✓	

Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations			
												Pack	4-in./10-cm	Other									
Online*	<b>Lobelia, Trailing</b> <i>L. erinus</i>	<b>Regatta Series</b>		820,000-1,300,000 S/oz. (29,000-45,000 S/g)	SED, MSP	288-cell or larger	No	70-76°F (21-24°C)	4-6	4-5	10 in. (25 cm) basket		66-72°F (19-22°C)	55-60°F (13-15°C)	-	-	8-10	Lighting plants when days are shorter than 12 hours speeds flowering. Light shading helps to produce a better crop when plants are growing under hot weather and long days in late Spring.	6-8 in. (15-20 cm)	10-12 in. (25-30 cm)		✓	
	<b>Lobelia, Trailing</b> <i>L. erinus</i>	<b>Sapphire Pendula</b>		820,000-1,300,000 S/oz. (29,000-45,000 S/g)	SED, MSP	288-cell or larger	No	70-76°F (21-24°C)	4-6	4-5	10 in. (25 cm) basket		66-72°F (19-22°C)	60-62°F (15-17°C)	-	-	10-12	Lighting plants when days are shorter than 12 hours speeds flowering. Light shading helps to produce a better crop when plants are growing under hot weather and long days in late Spring.	6-8 in. (15-20 cm)	10-12 in. (25-30 cm)		✓	
	<b>Marigold, African</b> <i>Tagetes erecta</i>	<b>Lady F1 Series</b>		9,000-10,000 S/oz. (317-352 S/g)	DTL	288-cell or larger	Yes	70-72°F (21-22°C)	3-4	3	4.5 in. (11 cm)		65-68°F (18-20°C)	60-62°F (15-17°C)	-	8-9	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	20 in. (50 cm)	10 in. (25 cm)			
	<b>Marigold, African</b> <i>Tagetes erecta</i>	<b>Marvel F1 Series</b>		9,000-10,000 S/oz. (317-352 S/g)	DTL	288-cell or larger	Yes	70-72°F (21-22°C)	3-4	3	4.5 in. (11 cm)		65-68°F (18-20°C)	60-62°F (15-17°C)	-	7-8	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	18 in. (45 cm)	10 in. (25 cm)			
	<b>Marigold, African</b> <i>Tagetes erecta</i>	<b>Royal F1 Series</b>		9,000-10,000 S/oz. (317-352 S/g)	DTL	288-cell or larger	Yes	70-72°F (21-22°C)	3-4	3	4.5 in. (11 cm)		65-68°F (18-20°C)	60-62°F (15-17°C)	-	9	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	20 in. (50 cm)	10 in. (25 cm)			
Online*	<b>Marigold, African</b> <i>Tagetes erecta</i>	<b>Vanilla F1/ Vanilla Improved F1</b>		9,000-10,000 S/oz. (317-352 S/g)	DTL, COT	288-cell or larger	Yes	70-72°F (21-22°C)	3-4	3	4.5 in. (11 cm)		65-68°F (18-20°C)	60-62°F (15-17°C)	-	7-8	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	16 in. (40 cm)	10 in. (25 cm)			
Online*	<b>Marigold, French Dwarf Anemone</b> <i>Tagetes patula</i>	<b>Durango™ Series</b>		9,500-10,500 S/oz. (335-370 S/g)	DTL, COT	288-cell or larger	Yes	70-72°F (21-22°C)	3-4	3	pack, 4 in. (10 cm)		65-68°F (18-20°C)	60-62°F (15-17°C)	4-5	5-6	-		10-12 in. (25-30 cm)	6-8 in. (15-20 cm)			
	<b>Marigold, French Dwarf Crested</b> <i>Tagetes patula</i>	<b>Bonanza Series</b>		9,500-10,500 S/oz. (335-370 S/g)	DTL, COT	288-cell or larger	Yes	70-72°F (21-22°C)	3-4	3	pack		65-68°F (18-20°C)	60-62°F (15-17°C)	3-4	-	-		10-12 in. (25-30 cm)	6-8 in. (15-20 cm)			
	<b>Marigold, French Dwarf Crested</b> <i>Tagetes patula</i>	<b>Boy Series</b>		9,500-10,500 S/oz. (335-370 S/g)	SED, DTL, COT	288-cell or larger	Yes	70-72°F (21-22°C)	3-4	3	pack		65-68°F (18-20°C)	60-62°F (15-17°C)	5-6	-	-		8-10 in. (20-25 cm)	6-8 in. (15-20 cm)			
	<b>Marigold, French Dwarf Crested</b> <i>Tagetes patula</i>	<b>Honeycomb</b>		9,500-10,500 S/oz. (335-370 S/g)	SED, DTL	288-cell or larger	Yes	70-72°F (21-22°C)	3-4	3	pack		65-68°F (18-20°C)	60-62°F (15-17°C)	5-6	-	-		10-12 in. (25-30 cm)	6-8 in. (15-20 cm)			
	<b>Marigold, French Dwarf Crested</b> <i>Tagetes patula</i>	<b>Jacket Series</b>		9,500-10,500 S/oz. (335-370 S/g)	SED	288-cell or larger	Yes	70-72°F (21-22°C)	3-4	3	pack		65-68°F (18-20°C)	60-62°F (15-17°C)	5-6	-	-		10-12 in. (25-30 cm)	6-8 in. (15-20 cm)			
	<b>Marigold, French Dwarf Crested</b> <i>Tagetes patula</i>	<b>Janie Series</b>		6,800-9,200 S/oz. (240-325 S/g)	DTL, COT	288-cell or larger	Yes	70-72°F (21-22°C)	3-4	3	pack		65-68°F (18-20°C)	60-62°F (15-17°C)	3-4	-	-		8-10 in. (20-25 cm)	6-8 in. (15-20 cm)			
	<b>Marigold, French Dwarf Double</b> <i>Tagetes patula</i>	<b>Aurora Series</b>		9,500-10,500 S/oz. (335-370 S/g)	DTL, COT	288-cell or larger	Yes	70-72°F (21-22°C)	3-4	3	pack		65-68°F (18-20°C)	60-62°F (15-17°C)	4-5	-	-		10-12 in. (25-30 cm)	6-8 in. (15-20 cm)			
	<b>Marigold, French Dwarf Double</b> <i>Tagetes patula</i>	<b>Gate Series</b>		9,500-10,500 S/oz. (335-370 S/g)	SED, DTL	288-cell or larger	Yes	70-72°F (21-22°C)	3-4	3	4 in. (10 cm)		65-68°F (18-20°C)	60-62°F (15-17°C)	-	4-5	-		10-12 in. (25-30 cm)	6-8 in. (15-20 cm)			
	<b>Marigold, French Dwarf Single</b> <i>Tagetes patula</i>	<b>Granada, Red Marietta</b>		9,500-10,500 S/oz. (335-370 S/g)	SED, DTL	288-cell or larger	Yes	70-72°F (21-22°C)	3-4	3	pack		65-68°F (18-20°C)	60-62°F (15-17°C)	4-5	-	-		10 in. (25 cm)	6-8 in. (15-20 cm)			
Online*	<b>Matricaria</b> <i>Tanacetum parthenium</i>	<b>Magic, Vegmo Series</b>		18,650 S/oz. (650 S/g)	PEL	200-cell or larger	No	70°F (21°C)	4-6	3-5	Cut flower		62-65°F (17-18°C)	59-61°F (14-16°C)	-	-	7-16	See also Cut Flower section for more details (pg 36).	28-36 in. (70-90 cm)	-		✓	Recommendation is to have longer days (14 to 16 hours) during plug time.
	<b>Matthiola (Stock), Bedding</b> <i>M. incana</i>	<b>Dwarf Ten-Week Mixture</b>		15,600-20,000 S/oz. (550-700 S/g)	SED	406-cell or larger	Yes	62-68°F (17-20°C)	3-5	4-5	pack, 4 in. (10 cm)		60-70°F (15-21°C)	50-55°F (10-13°C)	5-7	-	-	Maintain 90-100% relative humidity at sowing. Do not overwater. Reduce relative humidity to 50-60% during growing on.	15 in. (38 cm)	10-12 in. (25-30 cm)		✓	
	<b>Matthiola (Stock), Bedding</b> <i>M. incana</i>	<b>Early Giant Imperial Mixture</b>		15,600-20,000 S/oz. (550-700 S/g)	SED	406-cell or larger	Yes	62-68°F (17-20°C)	3-5	4-5	pack, 4 in. (10 cm)		60-70°F (15-21°C)	50-55°F (10-13°C)	5-7	-	-	Maintain 90-100% relative humidity at sowing. Do not overwater. Reduce relative humidity to 50-60% during growing on.	24 in. (60 cm)	24 in. (60 cm)		✓	

Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers	Growing on temperature day	Growing on temperature night	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
														Pack	4-in./10-cm	Other						
Pg 64	<b>Matthiola (Stock), Bedding</b> <i>M. incana</i>	<b>Hot Cakes Series</b>		17,000 S/oz. (600 S/g)	SED	406-cell or larger	Yes	62-68°F (17-20°C)	3-5	4	4 in. (10 cm), 6 in. (15 cm) 3 ppp	60-70°F (15-21°C)	50-55°F (10-13°C)	-	4-7	5-8	Maintain 90-100% relative humidity at sowing. Do not overwater. Reduce relative humidity to 50-60% during growing on.	10-16 in. (25-40 cm)	6-8 in. (15-20 cm)		✓	See Grower Facts for detailed information on how to select Hot Cakes plugs for a reliable fully double product.
	<b>Matthiola (Stock), Bedding</b> <i>M. incana</i>	<b>Legacy Mixture</b>		15,600-20,000 S/oz. (550-700 S/g)	SED	406-cell or larger	Yes	62-68°F (17-20°C)	3-5	4-5	pack, 4 in. (10 cm)	60-70°F (15-21°C)	50-55°F (10-13°C)	5-7	-	-	Maintain 90-100% relative humidity at sowing. Do not overwater. Reduce relative humidity to 50-60% during growing on.	15-20 in. (38-50 cm)	12-14 in. (30-35 cm)		✓	A biennial variety that requires vernalization to bloom.
	<b>Matthiola (Stock), Bedding</b> <i>M. incana</i>	<b>Trysomic Seven-Week Mixture</b>		15,600-20,000 S/oz. (550-700 S/g)	SED	406-cell or larger	Yes	62-68°F (17-20°C)	3-5	4-5	pack, 4 in. (10 cm)	60-70°F (15-21°C)	50-55°F (10-13°C)	5-7	-	-	Maintain 90-100% relative humidity at sowing. Do not overwater. Reduce relative humidity to 50-60% during growing on.	12-15 in. (30-38 cm)	10-12 in. (25-30 cm)		✓	
Online*	<b>Matthiola (Stock), Bedding</b> <i>M. incana</i>	<b>Vintage Series</b>		15,600-20,000 S/oz. (550-700 S/g)	SED	406-cell or larger	Yes	62-68°F (17-20°C)	3-5	4-5	pack, 4 in. (10 cm)	60-70°F (15-21°C)	50-55°F (10-13°C)	7-8	8-9	-	Maintain 90-100% relative humidity at sowing. Do not overwater. Reduce relative humidity to 50-60% during growing on.	15-20 in. (38-50 cm)	12-14 in. (30-35 cm)		✓	
	<b>Matthiola (Stock), Field Cut</b> <i>M. incana</i>	<b>Column Stocks</b>		15,600-20,000 S/oz. (550-700 S/g)	SED	direct sown in field	Yes	65-70°F (18-21°C)	14-21	N/A	Cut flower	55-65°F (13-18°C)	55-60°F (13-15°C)	-	-	20-22 (from sowing)	See also Cut Flower section for more details (pg 36).	24-30 in. (60-75 cm)	-			
	<b>Matthiola (Stock), Greenhouse-Grown Selectable</b> <i>M. incana</i>	<b>Aida, Carmen, Figaro, Opera (Vegmo) Series</b>		17,200 S/oz. (600 S/g)	SED	200-cell	Yes	59°F (15°C)	5	5-6	Cut flower	50-62°F (10-16°C)	50-62°F (10-16°C)	-	-	4-7	See also Cut Flower section for more details (pg 36).	32 in. (80 cm)	-			
Online*	<b>Matthiola (Stock), Greenhouse-Grown Selectable</b> <i>M. incana</i>	<b>Katz Series</b>		15,600 S/oz. (550 S/g)	SED	406-cell	Yes	68-72°F (20-22°C)	5-10	4-6	Cut flower	60-71°F (16-22°C)	60-71°F (16-22°C)	-	-	10-15	See also Cut Flower section for more details (pg 36).	32 in. (80 cm)	-			Best performance when grown in tunnels.
Pg 65	<b>Millet, Ornamental</b> <i>Pennisetum glaucum</i>	<b>Jester F1</b>	 	3,400-4,500 S/oz. (120-160 S/g)	SED	128-cell or larger	Yes	72-78°F (22-25°C)	2-3	2-3	4 in. (10 cm), gallon (15 cm)	68-85°F (20-30°C)	64-66°F (18-19°C)	-	4-5 (green)	5-6, 11-13 (with spike)	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well. See Grower Facts for specific details. See the Fantastic Foliage plug chart (pg 40).	3-4 ft. (0.9-1.2 m)	10-14 in. (25-35 cm)	✓		Well-suited to both containers and landscape plantings.
Pg 65	<b>Millet, Ornamental</b> <i>Pennisetum glaucum</i>	<b>Purple Baron F1</b>	 	3,400-4,500 S/oz. (120-160 S/g)	SED	128-cell or larger	Yes	72-78°F (22-25°C)	2-3	2-3	4 in. (10 cm), gallon (15 cm)	68-85°F (20-30°C)	64-66°F (18-19°C)	-	4-5 (green)	5-6, 11-13 (with spike)	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well. See Grower Facts for specific details. See the Fantastic Foliage plug chart (pg 40).	2.5-3.5 ft. (0.7-1.1 m)	10-14 in. (25-35 cm)	✓		Well-suited to both containers and landscape plantings.
Pg 65	<b>Millet, Ornamental</b> <i>Pennisetum glaucum</i>	<b>Purple Majesty F1</b>	 	3,400-4,500 S/oz. (120-160 S/g)	SED	128-cell or larger	Yes	72-78°F (22-25°C)	2-3	2-3	4 in. (10 cm), gallon (15 cm)	68-85°F (20-30°C)	64-66°F (18-19°C)	-	4-5 (green)	5-6, 11-13 (with spike)	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well. See Grower Facts for specific details. See the Fantastic Foliage plug chart (pg 40).	4-5 ft. (1.2-1.5 m)	8-12 in. (20-30 cm)	✓		Ideal for landscapes and large container plantings.
Pg 67	<b>Myosotis (Forget-Me-Not)</b> <i>M. sylvatica</i>	<b>Mon Amie Blue</b>		56,700 S/oz. (2,000 S/g)	SED	288-cell or larger	No	68-74°F (20-23°C)	3-5	4	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm) 3 ppp	60-70°F (15-21°C)	50-55°F (10-13°C)	5-8	5-9	6-9	Maintain low pH. Myosotis suffer from chlorosis at high pH. Grow like Primula acaulis.	10-12 in. (25-30 cm)	6-9 in. (15-23 cm)		✓	See Grower Facts for details on how to mitigate chlorosis caused by high pH.
	<b>Nasturtium</b> <i>Tropaeolum majus</i>	<b>Whirlybird Series</b>	 	170-226 S/oz. (6-8 S/g)	SED	direct sow	Yes	65-70°F (18-21°C)	2-4	N/A	pack, 4 in. (10 cm), basket	65-68°F (18-20°C)	65-68°F (18-20°C)	8-9 (from sowing)	8-9 (from sowing)	10-12 (from sowing)		12 in. (30 cm)	12 in. (30 cm)			
Pg 67	<b>Nemesia</b> <i>N. foetans</i>	<b>Poetry F1 Series</b>		10,500 S/oz. (375 S/g)	SED	406-cell or larger	Yes	65-70°F (19-21°C)	4-5	4	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm) 3 ppp	62-68°F (17-20°C)	55-62°F (13-17°C)	5-7	7-8	8-9	Seedlings may be more stretchy if germinating under dark conditions. Do not use a growth regulator before radicle emergence as this can delay or stop germination. See the Fantastic Flowers plug chart for more details (pg 42).	12-14 in. (30-35 cm)	10-12 in. (25-30 cm)		✓	

Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers	Growing on temperature day	Growing on temperature night	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
														Pack	4-in./10-cm	Other						
	<b>Nemesia</b> <i>N. strumosa</i>	<b>Sundrops Mixture</b>		170,000 S/oz. (6,000 S/g)	SED	406-cell or larger	No	68-70°F (20-21°C)	3-5	4	pack, 4-6 in. (10-15 cm)	60-65°F (15-18°C)	55-60°F (13-15°C)	8	8-10	-	Grow cool; optimum temperature 55°F (13°C).	10 in. (25 cm)	8-10 in. (20-25 cm)		✓	
	<b>Nicotiana</b> <i>N. alata</i>	<b>Nicki F1 Series</b>		326,000 S/oz. (11,500 S/g)	SED	406-cell or larger	No	70-75°F (21-24°C)	3-5	4-5	306 (9 cm), 4 in. (10 cm)	65-70°F (18-21°C)	60-65°F (15-18°C)	-	4-5	-		16-18 in. (40-45 cm)	10-12 in. (25-30 cm)			
Pg 68	<b>Pansy, Extra Large-Flowered F1</b> <i>Viola x wittrockiana</i>	<b>XXL F1 Series</b>	 	20,000-31,500 S/oz. (700-1,100 S/g)	SED, PRM	288-cell	Yes	68-70°F (20-21°C)	3-4	5	pack, 4 in. (10 cm)	60-70°F (16-21°C)	50-55°F (10-13°C)	9-10 (Spring) 6-9 (Autumn)	9-10 (Spring) 6-9 (Autumn)	-		8-10 in. (20-25 cm)	8-10 in. (20-25 cm)		✓	Bred for robust growth, extra-large flowers and to stand up to extreme heat & PGR stresses for Early Autumn sales. Schedule when using heavy PGRs or growing during periods warmer than what is ideal for pansies. Also withstands low fertility programs.
	<b>Pansy, Large-Flowered F1</b> <i>Viola x wittrockiana</i>	<b>Bingo™ F1 Series</b>	 	20,000-31,500 S/oz. (700-1,100 S/g)	SED, PRM	288-cell	Yes	68°F (20°C)	3-5	5	pack, 4 in. (10 cm)	60°F (15°C)	50-55°F (10-13°C)	6-8 (Spring) 5-6 (Autumn)	7-9 (Spring) 6-7 (Autumn)	-		8 in. (20 cm)	8-10 in. (20-25 cm)		✓	
Pg 68	<b>Pansy, Large-Flowered F1</b> <i>Viola x wittrockiana</i>	<b>Matrix™ F1 Series</b>	 	20,000-31,500 S/oz. (700-1,100 S/g)	SED, PRM	288-cell	Yes	68-70°F (20-21°C)	3-4	5	pack, 4 in. (10 cm)	60-70°F (16-21°C)	50-55°F (10-13°C)	6-8 (Spring) 4-6 (Autumn)	6-8 (Spring) 4-6 (Autumn)	-	Under the stressful conditions and warm temperatures of Autumn production, feed at 200 ppm N to ensure growth of branches. Matrix resists stretching better than other pansies under these conditions, so don't be cautious with fertility.	8 in. (20 cm)	8-10 in. (20-25 cm)		✓	Bred for uniformity of plant architecture across the series. All colors will flower in a 7-day window, covering the soil with superior branching across all environments. Schedule as an all-purpose pansy.
	<b>Pansy, Multiflora F1</b> <i>Viola x wittrockiana</i>	<b>Baby Bingo F1 Series</b>	 	20,000-31,500 S/oz. (700-1,100 S/g)	SED, PRM	288-cell	Yes	68°F (20°C)	3-5	5	pack	60°F (15°C)	50-55°F (10-13°C)	3-4	-	-		6-8 in. (15-20 cm)	8-10 in. (20-25 cm)		✓	
Pg 68	<b>Pansy, Multiflora F1</b> <i>Viola x wittrockiana</i>	<b>Panola™ F1 Series (Xp and standard varieties)</b>	 	20,000-31,500 S/oz. (700-1,100 S/g)	SED, PRM	288-cell	Yes	68-70°F (20-21°C)	3-4	5	pack, 4 in. (10 cm)	60-70°F (16-21°C)	50-55°F (10-13°C)	4-5 (Spring) 3-4 (Autumn)	4-5 (Spring) 3-4 (Autumn)	-		6-8 in. (15-20 cm)	8-10 in. (20-25 cm)		✓	Bred for superior landscape performance & overwintering capabilities. Use in landscapes & retail programs where maximum color & holding capacity in packs is needed.
	<b>Pansy, Medium-Flowered F1</b> <i>Viola x wittrockiana</i>	<b>Rally™ Lilac Cap F1</b>	 	20,000-31,500 S/oz. (700-1,100 S/g)	SED, PRM	288-cell	Yes	68°F (20°C)	3-5	5	pack	60°F (15°C)	50-55°F (10-13°C)	4-5	-	-		8 in. (20 cm)	8-10 in. (20-25 cm)		✓	
Pg 68	<b>Pansy, Ruffled F1</b>	<b>Fizzy Lemonberry</b>	 	20,000-31,500 S/oz. (700-1,100 S/g)	SED	288-cell	Yes	68-70°F (20-21°C)	3-4	5	pack, 4 in. (10 cm)	60-70°F (16-21°C)	50-55°F (10-13°C)	6-8 (Spring) 4-6 (Autumn)	6-8 (Spring) 4-6 (Autumn)	-	For maximum ruffled edge, schedule for late Fall, Winter & Spring programs. Heat reduces the ruffled edge & color contrast.	6-8 in. (15-20 cm)	8-10 in. (20-25 cm)		✓	
	<b>Pansy, Specialty Medium-Flowered F1</b> <i>Viola x wittrockiana</i>	<b>Halloween II</b>	 	20,000-31,500 S/oz. (700-1,100 S/g)	SED, PRM	288-cell	Yes	68°F (20°C)	3-5	5	pack	60°F (15°C)	50-55°F (10-13°C)	2-3 (Autumn)	3-4 (Autumn)	-		6-8 in. (15-20 cm)	8-10 in. (20-25 cm)		✓	Schedule for Halloween programs.
	For <b>Rain F1 Series</b> see Viola page 34																					
	<b>Penstemon</b> <i>P. heterophyllus</i>	<b>Electric Blue</b>		48,000 S/oz. (1,700 S/g)	SED	406-cell or larger	Yes	65-74°F (18-23°C)	8-10	4-5	4 in. (10 cm)	66-70°F (19-21°C)	62-66°F (17-19°C)	-	12-13	-		18 in. (45 cm)	24 in. (60 cm)			No vernalization required. Hardy to USDA Zones 6-8.
	<b>Penstemon</b> <i>P. smallii</i>	<b>Violet Dusk</b>		297,000 S/oz. (10,500 S/g)	PRM	406-cell or larger	No	65-68°F (18-20°C)	6-8	4-5	6 in. (15 cm)	66-70°F (19-21°C)	62-66°F (17-19°C)	-	-	12-15	Do not cover seed. Light is required for germination.	24 in. (60 cm)	18 in. (45 cm)			No vernalization required. Violet Dusk prefers dry conditions and light watering. USDA Hardiness Zones 6-8.

Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers		Growing on temperature day	Growing on temperature night	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
															Pack	4-in./10-cm	Other						
Pg 69	<b>Pentas, F1</b> <i>Pentas lanceolata</i>	<b>Butterfly F1 Series</b>		31,900 S/oz. (1,125 S/g)	PEL	406-cell or larger	No	74-80°F (23-26°C)	6-9	8-10	4 in. (10 cm), 6 in. (15 cm)		72-75°F (22-24°C)	62-65°F (17-18°C)	-	8-10 (South) 10-12 (North)	8-10 (South) 10-12 (North)	Maintain pH at 6.6-7.0 for growing on. At pH levels below 6.6, iron toxicity may develop.	12-22 in. (30-55 cm)	10-18 in. (25-45 cm)	✓		Under high light, long days and warm temperatures (Summer production), Butterfly can be produced in 12-13 weeks from seed.
Pg 70	<b>Pepper, Ornamental</b> <i>Capsicum annuum</i>	<b>Black Pearl</b>		6,850 S/oz. (240 S/g)	SED	288-cell or larger	cover lightly	72-76°F (22-24°C)	5-7	4-5	pack, 4 in. (10 cm), 4.5 in. (11 cm), 6 in. (15 cm), gallon (18 cm)		68-80°F (20-26°C)	65-70°F (18-21°C)	9-10 (no fruit), 16-20 (mature fruit)	9-10 (no fruit), 16-20 (mature fruit)	9-10 (no fruit), 16-20 (mature fruit)	Performs best under high light and warm temperatures. Total crop times can be reduced by 4-5 weeks during Summer production. See the Fantastic Foliage plug chart for more details (pg 40).	14-18 in. (35-45 cm)	12-16 in. (30-40 cm)	✓		
Pg 70	<b>Pepper, Ornamental</b> <i>Capsicum annuum</i>	<b>Calico F1</b>		6,850 S/oz. (240 S/g)	SED	288-cell or larger	cover lightly	72-76°F (22-24°C)	5-7	4-5	pack, 4 in. (10 cm), 4.5 in. (11 cm), 6 in. (15 cm), gallon (18 cm)		68-72°F (20-22°C)	65-70°F (18-21°C)	9-10 (no fruit), 16-20 (mature fruit)	9-10 (no fruit), 16-20 (mature fruit)	9-10 (no fruit), 16-20 (mature fruit)	Performs best under high light and warm temperatures. Total crop times can be reduced by 4-5 weeks during Summer production. See the Fantastic Foliage plug chart for more details (pg 40).	10-12 in. (25-30 cm)	14-16 in. (35-40 cm)	✓		
Pg 71	<b>Pepper, Ornamental</b> <i>Capsicum annuum</i>	<b>Chilly Chili F1</b>		8,000 S/oz. (285 S/g)	SED	288-cell or larger	cover lightly	72-76°F (22-24°C)	5-7	4-5	pack, 4 in. (10 cm), 4.5 in. (11 cm), 6 in. (15 cm), gallon (18 cm)		65-75°F (18-24°C)	60-65°F (15-18°C)	8-12 (no fruit), 12-18 (mature fruit)	8-12 (no fruit), 12-18 (mature fruit)	8-12 (no fruit), 12-18 (mature fruit)	Performs best under high light and warm temperatures. Total crop times can be reduced by 4-5 weeks during Summer production.	9-10 in. (23-25 cm)	13-14 in. (33-35 cm)	✓		
	<b>Pepper, Ornamental</b> <i>Capsicum annuum</i>	<b>Masquerade F1</b>		8,000 S/oz. (285 S/g)	SED	288-cell or larger	cover lightly	72-76°F (22-26°C)	5-7	4-5	4 in. (10 cm)		68-72°F (20-22°C)	65-70°F (18-21°C)	-	12-14 (mature fruit)	-	Performs best under high light and warm temperatures. Total crop times can be reduced by 4-5 weeks during Summer production.	10-12 in. (25-30 cm)	8-10 in. (20-25 cm)	✓		
Pg 71	<b>Pepper, Ornamental</b> <i>Capsicum annuum</i>	<b>Medusa</b>		8,000 S/oz. (285 S/g)	SED	288-cell or larger	cover lightly	72-76°F (22-24°C)	5-7	4-5	pack, 4 in. (10 cm), 4.5 in. (11 cm)		65-75°F (18-24°C)	60-65°F (15-18°C)	8-12 (no fruit), 12-18 (mature fruit)	8-12 (no fruit), 12-18 (mature fruit)	-	Performs best under high light and warm temperatures. Total crop times can be reduced by 4-5 weeks during Summer production.	6-8 in. (15-20 cm)	4-6 in. (10-15 cm)	✓		
Pg 70	<b>Pepper, Ornamental</b> <i>Capsicum annuum</i>	<b>Purple Flash</b>		6,850 S/oz. (240 S/g)	SED	288-cell or larger	cover lightly	72-76°F (22-24°C)	5-7	4-5	pack, 4 in. (10 cm), 4.5 in. (11 cm), 6 in. (15 cm), gallon (18 cm)		68-72°F (20-22°C)	65-70°F (18-21°C)	9-10 (no fruit), 16-20 (mature fruit)	9-10 (no fruit), 16-20 (mature fruit)	9-10 (no fruit), 16-20 (mature fruit)	Performs best under high light and warm temperatures. Total crop times can be reduced by 4-5 weeks during Summer production. See the Fantastic Foliage plug chart for more details (pg 40).	13-15 in. (33-38 cm)	19-21 in. (48-52 cm)	✓		
	<b>Pepper, Ornamental</b> <i>Capsicum annuum</i>	<b>Red Missile F1</b>		8,000 S/oz. (285 S/g)	SED	288-cell or larger	cover lightly	72-76°F (22-26°C)	5-7	4-5	4 in. (10 cm)		68-72°F (20-22°C)	65-70°F (18-21°C)	-	12-14 (mature fruit)	-	Performs best under high light and warm temperatures. Total crop times can be reduced by 4-5 weeks during Summer production.	8-10 in. (20-25 cm)	6-8 in. (15-20 cm)	✓		
Pg 71	<b>Pepper, Ornamental</b> <i>Capsicum annuum</i>	<b>Sangria F1</b>		8,000 S/oz. (285 S/g)	SED	288-cell or larger	cover lightly	72-76°F (22-24°C)	5-7	4-5	pack, 4 in. (10 cm), 4.5 in. (11 cm), 6 in. (15 cm), gallon (18 cm)		65-75°F (18-24°C)	60-65°F (15-18°C)	8-12 (no fruit), 12-18 (mature fruit)	8-12 (no fruit), 12-18 (mature fruit)	8-12 (no fruit), 12-18 (mature fruit)	Performs best under high light and warm temperatures. Total crop times can be reduced by 4-5 weeks during Summer production.	10-12 in. (25-30 cm)	16-18 in. (40-45 cm)	✓		
Pg 72	<b>Petunia, Small-Flowered Spreading F1</b> <i>P. x hybrida</i>	<b>Baby Duck Yellow</b>		33,000 PEL/oz. (1,200 PEL/g)	PEL	406-cell or larger	No	72-76°F (22-24°C)	4-7	4-5	306 (9 cm), 4 in (10 cm), 10 in. (25 cm) basket		61-75°F (16-24°C)	57-65°F (14-18°C)	5-7 (Spring) 3-5 (Summer)	5-7 (Spring) 3-5 (Summer)	5-8 (Spring) 3-6 (Summer)	Lighting is optional during Stage 1. See Grower Facts for rest of lighting recommendation and for plant growth regulator recommendations. Baby Duck Yellow, Easy Wave and Shock Wave petunias can be grown as low as 50°F (10°C). Crop timing (time to flower) is related to average temperature when grown under proper daylength. Plants will take longer to flower when grown in cooler conditions.	10-14 in. (25-35 cm)	3-3.5 ft. (90 cm to 1 m)			Baby Duck Yellow will flower successfully at 10 hours. However, the crop time at 10 hours will be about 10-14 days longer than at 12 hours daylength.

Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers	Growing on temperature day	Growing on temperature night	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
														Pack	4-in./10-cm	Other						
Pg 73	<b>Petunia, Small-Flowered Spreading F1</b> <i>P. x hybrida</i>	<b>Shock Wave™ Series</b>		33,000 PEL/oz. (1,200 PEL/g)	PEL	400 to 288-cell	No	72-76°F (22-24°C)	4	4-6	306 (9 cm), 4 in. (10 cm), 4.5 in. (11 cm), 6 in. (15 cm), 10 in. (25 cm) basket	61-75°F (16-24°C)	57-65°F (14-18°C)	5 (Spring) 4 (Summer)	5 (Spring) 4 (Summer)	6-7 (Spring) 4-5 (Summer)	Lighting is optional during Stage 1. See Grower Facts for rest of lighting recommendation and for plant growth regulator recommendations. Baby Duck Yellow, Easy Wave and Shock Wave petunias can be grown as low as 50°F (10°C). Crop timing (time to flower) is related to average temperature when grown under proper daylength. Plants will take longer to flower when grown in cooler conditions.	7-10 in. (17-25 cm)	2.5-3 ft. (75-90 cm)			Shock Wave petunias are less sensitive to daylength than Wave petunias. All Shock Wave varieties will flower successfully at 10 hours. The crop time for Shock Wave varieties will be shorter with long days, such as 12 hours.
Pg 72	<b>Petunia, Spreading F1</b> <i>P. x hybrida</i>	<b>Easy Wave™ F1 Series</b>		33,000 PEL/oz. (1,200 PEL/g)	PEL	400 to 288-cell	No	72-76°F (22-24°C)	4	4-6	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm), 10 in. (25 cm) basket	61-75°F (16-24°C)	57-65°F (14-18°C)	6 (Spring) 4 (Summer)	6 (Spring) 4 (Summer)	6-7 (Spring) 4-5 (Summer)	Lighting is optional during Stage 1. See Grower Facts for rest of lighting recommendation and for plant growth regulator recommendations. Baby Duck Yellow, Easy Wave and Shock Wave petunias can be grown as low as 50°F (10°C). Crop timing (time to flower) is related to average temperature when grown under proper daylength. Plants will take longer to flower when grown in cooler conditions.	6-12 in. (15-30 cm)	2.5-3.25 ft. (75-100 cm)			Easy Wave Petunias are less sensitive to daylength than Wave Petunias. See the Supplemental Lighting Chart on page 79.
Pg 77, 78	<b>Petunia, Spreading F1</b> <i>P. x hybrida</i>	<b>Tidal Wave™ F1 Series</b>		33,000 PEL/oz. (1,200 PEL/g)	PEL	406-cell or larger	No	72-76°F (22-24°C)	4-7	5-6	8 in. (20 cm)	61-75°F (16-24°C)	57-65°F (14-18°C)	-	-	11-13 (Spring) 9-11 (Summer)	Lighting is optional for Wave Misty Lilac ('PAS3190') and Wave Rose ('PAS3191'), but required for other Wave and Tidal Wave colors during Stage 1. See Grower Facts for rest of lighting recommendations and for plant growth regulator recommendations.	16-22 in. (40-55 cm)	2.5-5 ft. (75-152 cm)			Crop times are based on production during long days (greater than 13 hours) and minimum night temp. of 65°F (18°C). When producing under short days, day extension or night break lighting will reduce crop times.
Pg 75-77	<b>Petunia, Spreading F1</b> <i>P. x hybrida</i>	<b>Wave™ F1 Series</b>		33,000 PEL/oz. (1,200 PEL/g)	PEL	406-cell or larger	No	72-76°F (22-24°C)	4-7	5-6	4 in. (10 cm), 6 in. (15 cm), 10 in. (25 cm) basket	61-75°F (16-24°C)	57-65°F (14-18°C)	-	7-9 (Spring) 4-8 (Summer)	8-10 (Spring) 5-7 (Summer)	Lighting is optional for Wave Misty Lilac ('PAS3190') and Wave Rose ('PAS3191'), but required for other Wave and Tidal Wave colors during Stage 1. See Grower Facts for rest of lighting recommendations and for plant growth regulator recommendations.	4-6 in. (10-15 cm)	3-4 ft. (90-120 cm)			Crop times are based on production during long days (greater than 13 hours) and minimum night temp. of 65°F (18°C). When producing under short days, day extension or night break lighting will reduce crop times.

Online\* **WonderWave F1 Spreading Petunia**  
Find detailed Grower Facts culture at PanAmSeed.com.

<b>Petunia, Single Grandiflora F1</b> <i>P. x hybrida</i>	<b>Daddy™ F1 Series</b>		285,000 S/oz. (10,000 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	4-5	pack, 4 in. (10 cm)		62-65°F (17-18°C)	55-65°F (13-18°C)	5-6	7-8	-		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
<b>Petunia, Single Grandiflora F1</b> <i>P. x hybrida</i>	<b>Dreams F1 Series</b>		285,000 S/oz. (10,000 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	4-5	pack, 4 in. (10 cm)		62-65°F (17-18°C)	55-65°F (13-18°C)	5-6	7-8	-		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
<b>Petunia, Single Grandiflora F1</b> <i>P. x hybrida</i>	<b>Supercascade F1 Series</b>		285,000 S/oz. (10,000 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	4-5	pack, 4 in. (10 cm)		62-65°F (17-18°C)	55-65°F (13-18°C)	5-6	7-8	-		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
<b>Petunia, Single Floribunda F1</b> <i>P. x hybrida</i>	<b>Madness™ F1 Series</b>		285,000 S/oz. (10,000 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	4-5	pack, 4 in. (10 cm)		62-65°F (17-18°C)	55-65°F (13-18°C)	5-6	6-7	-		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
<b>Petunia, Single Multiflora F1</b> <i>P. x hybrida</i>	<b>Carpet F1 Series</b>		285,000 S/oz. (10,000 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	4-5	pack, 4 in. (10 cm)		62-65°F (17-18°C)	55-65°F (13-18°C)	4-5	6-7	-		10-15 in. (25-38 cm)	10-15 in. (25-38 cm)			
<b>Petunia, Single Multiflora F1</b> <i>P. x hybrida</i>	<b>Mirage F1 Series</b>		285,000 S/oz. (10,000 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	4-5	pack, 4 in. (10 cm)		62-65°F (17-18°C)	55-65°F (13-18°C)	4-5	6-7	-		10-12 in. (25-30 cm)	15-18 in. (38-45 cm)			

\*Find online Grower Facts culture at panamseed.com.

\*\*Approximate plug cell diameter: 128-cell (3.25 cm), 288-cell (2 cm), 406-cell (1.75 cm), 512-cell (1.25 cm)

Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers	Growing on temperature day	Growing on temperature night	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
														Pack	4-in./10-cm	Other						
	<b>Petunia, Double Floribunda F1</b> <i>P. x hybrida</i>	<b>Double Madness F1 Series</b>		265,000 S/oz. (9,300 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	4-5	5 in. (13 cm), 10 in. (25 cm) basket	62-65°F (17-18°C)	55-65°F (13-18°C)	-	8-9	10-11		10-15 in. (25-38 cm)	15-18 in. (38-45 cm)			
	<b>Petunia, Double Multiflora F1</b> <i>P. x hybrida</i>	<b>Duo F1 Series</b>		265,000 S/oz. (9,300 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	4-5	5 in. (13 cm), 10 in. (25 cm) basket	62-65°F (17-18°C)	55-65°F (13-18°C)	-	8-9	10-11		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
	<b>Petunia, Double Multiflora F1</b> <i>P. x hybrida</i>	<b>Tart Bonanza Mixture F1</b>		265,000 S/oz. (9,300 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	4-5	5 in. (13 cm), 10 in. (25 cm) basket	62-65°F (17-18°C)	55-65°F (13-18°C)	-	8-9	10-11		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
	<b>Petunia, Double Grandiflora F1</b> <i>P. x hybrida</i>	<b>Double Cascade F1 Series</b>		270,000 S/oz. (9,500 S/g)	SED, PEL	512-cell or larger	No	70-74°F (21-23°C)	4-6	4-5	5 in. (13 cm), 10 in. (25 cm) basket	62-65°F (17-18°C)	55-65°F (13-18°C)	-	9-10	11-12		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
	<b>Petunia, Double Grandiflora F1</b> <i>P. x hybrida</i>	<b>Duet, Sonata, Valentine, Glorious Mixture</b>		270,000 S/oz. (9,500 S/g)	SED, PEL	512-cell or larger	No	70-74°F (21-23°C)	4-6	4-5	5 in. (13 cm), 10 in. (25 cm) basket	62-65°F (17-18°C)	55-65°F (13-18°C)	-	9-10	11-12		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
	<b>Petunia, Double Grandiflora F1</b> <i>P. x hybrida</i>	<b>Pirouette F1 Series</b>		270,000 S/oz. (9,500 S/g)	SED, PEL	512-cell or larger	No	70-74°F (21-23°C)	4-6	4-5	5 in. (13 cm), 10 in. (25 cm) basket	62-65°F (17-18°C)	55-65°F (13-18°C)	-	9	11-12		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
Online*	<b>Phlox F1</b> <i>P. drummondii</i>	<b>21st Century F1 Series</b>		14,000-24,000 S/oz. (500-850 S/g)	PRM	406-cell or larger	No	65-70°F (18-21°C)	3-5	4-5	306 (9 cm), 4 in. (10 cm), gallon (15 cm) 3ppp	55-60°F (13-15°C)	50-55°F (10-13°C)	-	6	7-8	Cover thoroughly with coarse vermiculite. Darkness is required for germination.	10 in. (25 cm)	10 in. (25 cm)		✓	Ideal for Spring and southern Autumn sales.
Pg 80	<b>Plectranthus</b> <i>P. argentatus</i>	<b>Silver Shield</b>	 	21,200 S/oz. (1,100 S/g)	PEL	406-cell or larger	No	68-75°F (20-24°C)	5-7	5-6	306 (9 cm), 4 in. (10 cm), gallon (15 cm) 2ppp	70-75°F (21-24°C)	64-68°F (18-20°C)	-	8-9	9-10	Requires light to germinate. Does not need pinching. See the Fantastic Foliage plug chart for more details (pg 40).	24-30 in. (60-75 cm)	24-30 in. (60-75 cm)	✓		Stress tolerant and very vigorous. Ideal for containers or garden beds.
Pg 80	<b>Plectranthus</b> <i>P. oertendahlil</i>	<b>Emerald Lace</b>		46,919 S/oz. (1,655 S/g)	SED	406 to 288-cell	Yes	68-74°F (20-24°C)	6-9	5-6	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm), gallon (6 in./15 cm)	66-72°F (17-23°C)	64-66°F (18-19°C)	5-6	5-6	5-6		6-8 in. (15-20 cm)	8-10 in. (20-25 cm)	✓		
Online*	<b>Plumbago</b> <i>P. auriculata</i>	<b>Escapade F1 Series</b>		2,400 S/oz. (85 S/g)	SED	406-cell or larger	Yes	72-75°F (22-24°C)	4-6	4-5	4 in. (10 cm), gallon (15 cm)	70-75°F (21-24°C)	64-68°F (18-20°C)	-	6-9 (South) 10-13 (North)	8-12 (South) 12-16 (North)	Prefers high light and warm temperatures. A hard pinch at about 15-leaf stage plus Florel at 1,000 ppm spray will result in bushier plants.	12-18 in. (30-45 cm); up to 6 ft. (1.8 m) in the South.	18-24 in. (45-60 cm)	✓		Perfect choice for the warm South. In the North, best suited to patio planters.
	<b>Poppy, Iceland</b> <i>Papaver nudicaule</i>	<b>Champagne Bubbles F1 Series</b>		142,000 S/oz. (5,000 S/g)	PRM, SED	288-cell or larger	cover lightly	64-68°F (18-20°C)	7-12	4-5	4 in. (10 cm), 6 in. (15 cm) 3ppp	50-55°F (10-13°C)	40-45°F (5-7°C)	-	5-6	6-7		15 in. (38 cm)	6 in. (15 cm)	✓		Good Winter item in Florida and comparable climates. USDA Hardiness Zones 6-8.
Pg 80	<b>Portulaca F1</b> <i>P. grandiflora</i>	<b>Margarita F1 Series</b>		142,000 MSP/oz. (500 MSP/g)	SED, MSP	406-cell or larger	No	74-80°F (24-27°C)	2-4	4-5	pack, 4 in. (10 cm)	68-75°F (20-24°C)	65-68°F (18-20°C)	5	6	-	See Grower Facts for important photoperiod information.	8-15 in. (20-40 cm)	10-12 in. (25-30 cm)	✓		
Pg 80	<b>Portulaca F1</b> <i>P. grandiflora</i>	<b>Tequila™ F1 Series</b>		SED: 228,000-286,000 S/oz. (8,000-10,000 S/g)	SED, MSP	406-cell or larger	No	74-80°F (24-27°C)	2-4	4-5	pack, 4 in. (10 cm)	68-75°F (20-24°C)	65-68°F (18-20°C)	6	7	-	See Grower Facts for important photoperiod information.	2 in. (5 cm)	14-18 in. (35-45 cm)	✓		
	<b>Portulaca F2</b> <i>P. grandiflora</i>	<b>Calypso Mixture</b>		312,000 S/oz. (11,000 S/g)	SED	406-cell or larger	No	74-80°F (24-27°C)	2-4	4-5	pack, 4 in. (10 cm)	68-75°F (20-24°C)	65-68°F (18-20°C)	6-7	7-8	-		8-15 in. (20-38 cm)	10-12 in. (25-30 cm)	✓		
Pg 81	<b>Primula</b> <i>P. acaulis</i>	<b>Primlet™ Series</b>	 	28,000 S/oz. (1,300 S/g)	SED	512-cell or larger	cover lightly	64°F (17°C)	7-10	512/406: 5-6 288: 6-7	4 in. (10 cm)	See Grower Facts, pg 94.	See Grower Facts, pg 94.	-	15-17	-		5-6 in. (13-15 cm)	5-7 in. (13-17 cm)		✓	
Pg 82	<b>Purslane</b> <i>P. oleracea</i>	<b>Toucan Series</b>		7,260 MSP/oz. (256 MSP/g)	MSP	288-cell	No	68-74°F (20-23°C)	3-4	4-5	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm), 10 in. (25 cm) basket	68-75°F (20-24°C)	65-68°F (18-20°C)	6-7	6-7 (3 ppp)	8-9 (4 ppp)		3-4 in. (7-10 cm)	14-16 in. (35-40 cm)	✓		
Pg 83	<b>Ruellia</b> <i>R. brittoniana</i> <i>(R. tweediana)</i>	<b>Southern Star Series</b>		13,850 S/oz. (488 S/g)	SED	406 or 288 cell	Yes	72-76°F (22-25°C)	5-6	5-6	pack, 4 in. (10 cm), 4.5 in. (11 cm), 6 in. (15 cm), gallon (15 cm)	68-75°F (20-24°C)	65-68°F (18-20°C)	10 (Spring) 8 (Summer)	10 (Spring) 8 (Summer)	10 (Spring) 3 ppp 8 (Summer) 3 ppp		10-12 in. (25-30 cm)	16-18 in. (40-45 cm)	✓		Perfect choice for the warm South.

Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers	Growing on temperature day	Growing on temperature night	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
														Pack	4-in./10-cm	Other						
	<b>Salvia, Annual</b> <i>S. splendens</i>	<b>Blue Ribbon</b>		7,500 S/oz. (256 S/g)	SED	406-cell or larger	Yes	70-75°F (21-24°C)	4-6	4-5	306 (9 cm), 6 in. (15 cm) 3ppp	68-74°F (20-23°C)	64-68°F (18-20°C)	-	5-6	5-6	Salvia is very sensitive to high salt during the early plug stages.	13-15 in. (33-38 cm)	9-10 in. (23-25 cm)	✓		
	<b>Salvia, Annual</b> <i>S. splendens</i>	<b>Flare</b>		7,500 S/oz. (256 S/g)	SED	406-cell or larger	Yes	70-75°F (21-24°C)	4-6	4-5	pack, 4 in. (10 cm)	68-74°F (20-23°C)	64-68°F (18-20°C)	4-5	4-5	-	Salvia is very sensitive to high salt during the early plug stages.	14 in. (35 cm)	8 in. (20 cm)	✓		
	<b>Salvia, Annual</b> <i>S. splendens</i>	<b>Scarlet King</b>		7,500 S/oz. (256 S/g)	SED	406-cell or larger	Yes	70-75°F (21-24°C)	4-6	4-5	pack	68-74°F (20-23°C)	64-68°F (18-20°C)	4-5	-	-	Salvia is very sensitive to high salt during the early plug stages.	11 in. (28 cm)	8 in. (20 cm)	✓		
	<b>Salvia, Annual</b> <i>S. splendens</i>	<b>Scarlet Queen</b>		7,500 S/oz. (256 S/g)	SED	406-cell or larger	Yes	70-75°F (21-24°C)	4-6	4-5	pack	68-74°F (20-23°C)	64-68°F (18-20°C)	4-5	-	-	Salvia is very sensitive to high salt during the early plug stages.	9 in. (25 cm)	8 in. (20 cm)	✓		
	<b>Salvia, Annual</b> <i>S. splendens</i>	<b>Red Hot Sally Improved, Vista Series</b>		7,500 S/oz. (256 S/g)	SED	406-cell or larger	Yes	70-75°F (21-24°C)	4-6	4-5	pack, 4 in. (10 cm)	68-74°F (20-23°C)	64-68°F (18-20°C)	4-5	4-5	-	Salvia is very sensitive to high salt during the early plug stages.	10-12 in. (25-30 cm)	8 in. (20 cm)	✓		
	<b>Schizanthus</b> <i>S. x wisetonensis</i>	<b>Royal Pierrot F1 Mixture</b>		55,300 S/oz. (1,950 S/g)	SED	406-cell or larger	Yes	60-70°F (15-21°C)	1-3	4-5	4 in. (10 cm), 6 in. (15 cm)	60-65°F (15-18°C)	50-55°F (10-13°C)	11-13	9-10	9-10	Prefers cool temperatures.	10-12 in. (25-30 cm)	8-10 in. (20-25 cm)		✓	
Pg 84	<b>Scutellaria</b> <i>S. javanica</i>	<b>Veranda</b>		39,057 S/oz. (1,367 S/g)	SED	406 or 288-cell	No	70-75°F (21-24°C)	6-10	406: 6 288: 7	306 (9 cm), 6 in. (15 cm), gallon (15 cm), hanging basket	72-78°F (22-26°C)	66-68°F (19-20°C)	7-10	8-11	9-12	Heat-loving crop; crop time is very dependant on temperature. See the Fantastic Flowers plug chart for more details (pg 44).	10 in. (25 cm)	10-12 in. (25-30 cm)	✓		
Pg 84	<b>Snapdragon, Dwarf Garden F1</b> <i>Antirrhinum majus</i>	<b>Snapshot F1 Series</b>		171,000 S/oz. (6,000 S/g)	SED	406-cell or larger	cover lightly	64-68°F (18-20°C)	4-8	5-6	pack, 4 in. (10 cm)	55-70°F (13-21°C)	45-55°F (7-13°C)	6	6	-		6-10 in. (15-25 cm)	10-12 in. (25-30 cm)		✓	
	<b>Snapdragon, Forcing F1</b> <i>Antirrhinum majus</i>	<b>Trumpet Series</b>		180,000 S/oz. (6,350 S/g)	SED	392, 408 or 512-cell	cover lightly	65-68°F (18-20°C)	4-7	4-5		60-75°F (15-24°C)	45-55°F (7-13°C)			8-18	See also Cut Flower section for more details (pg 36).	39-60 in. (1-1.5 m)				
	<b>Snapdragon, Garden F1</b> <i>Antirrhinum majus</i>	<b>Rocket F1 Series</b>		180,000 S/oz. (6,350 S/g)	SED	200-cell or larger	cover lightly	64-68°F (18-20°C)	4-8	5-6	gallon (15 cm) 3ppp	65-80°F (18-26°C)	55-60°F (13-15°C)	-	-	13-16	See also Cut Flower section for more details (pg 36).	30-36 in. (75-90 cm)	16-18 in. (40-45 cm)		✓	Rocket makes an excellent Spring and Summer-flowering landscape snapdragon.
Online*	<b>Snapdragon, Garden F1</b> <i>Antirrhinum majus</i>	<b>Solstice F1 Series</b>		180,000 S/oz. (6,350 S/g)	SED	406-cell or larger	cover lightly	64-68°F (18-20°C)	4-8	5-6	306 (9 cm), 4 in. (10 cm), gallon (15 cm) 3ppp	55-70°F (13-21°C)	45-55°F (7-13°C)	-	9-10 (Oct-early Jan sow) 4-6 (Sept & mid Jan sow)	9-10 (Oct-early Jan sow) 4-6 (Sept & mid Jan sow)	Performs best under cool temperatures (lower than 55°F/13°C), producing optimum stem strength.	16-20 in. (40-50 cm)	10-14 in. (25-35 cm)		✓	Northern hemisphere: recommend sowing September to January. Southern hemisphere: sow March to July.
	<b>Snapdragon, Cut Flower F1</b> <i>Antirrhinum majus</i>	<b>Apollo, Cool, Maryland, Monaco, Early Potomac, Potomac F1 Series</b>		180,000 S/oz. (6,350 S/g)	SED	512-cell or larger	Yes	64-68°F (17-20°C)	4-5	4-5	Cut flower	See Cut Flower section, pg 36.	See Cut Flower section, pg 36.	-	-	8-18	See also Cut Flower section for more details (pg 36).	39-60 in. (1-1.5 m)	-			
Pg 85	<b>Spilanthes</b> <i>Acmella oleracea</i>	<b>Peek-A-Boo</b>		116,200 S/oz. (4,100 S/g)	COT	406-cell or larger	cover lightly	72-76°F (22-24°C)	4	4-5	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm) 3ppp	65-75°F (18-24°C)	62-65°F (16-18°C)	-	7-8	7-8	Requires light to germinate. See the Fantastic Foliage plug chart for more details (pg 40).	12-15 in. (30-38 cm)	24-30 in. (60-76 cm)	✓		Plants have a tendency to grow to one side at first, especially if well spaced. Plants can be grown pot tight to produce more upright growth. Pinching encourages earlier branching and better-shaped plants.
Online*	<b>Stachys</b> <i>S. lanata</i>	<b>Fuzzy Wuzzy</b>		15,000 S/oz. (516 S/g)	SED	406 or 288-cell	No	65-74°F (18-24°C)	5-6	4-5	306 (9 cm), 6 in. (15 cm), gallon (15 cm)	66-70°F (19-21°C)	64-68°F (18-19°C)	7-8	8-9	8-9	Grown for its silvery-gray foliage.	14-16 in. (35-40 cm)	18-20 in. (45-50 cm)			Hardy in USDA Zones 4-7.
	<b>Statice, Annual</b> <i>Limonium sinuatum</i>	<b>Fortress Series</b>		10,000 S/oz. (350 S/g)	SED	200-cell or larger	Yes	70°F (21°C)	3-8	4-5	4 in. (10 cm), 6 in. (15 cm)	55-60°F (13-15°C)	50-55°F (10-13°C)	-	18-22 (12-15 with vernalization)	18-22 (12-15 with vernalization)	See also Cut Flower section for more details (pg 36).	24-30 in. (60-75 cm)	12 in. (30 cm)			

Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers	Growing on temperature day	Growing on temperature night	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
														Pack	4-in./10-cm	Other						
	<b>Statice, Annual</b> <i>Limonium sinuatum</i>	<b>Sunset</b>		14,000 S/oz. (500 S/g)	SED	200-cell or larger	Yes	70°F (21°C)	5-12	4-5	4 in. (10 cm), 6 in. (15 cm)	55-60°F (13-15°C)	50-55°F (10-13°C)	-	18-22 (12-15 with vernalization)	18-22 (12-15 with vernalization)	Plants flower more rapidly and uniformly if subjected to a cold treatment of 50-55°F (10-13°C) for 3-8 weeks following germination while still in a 72 or 93-cell plug tray. See also Cut Flower section for more details (pg 36).	30 in. (75 cm)	12 in. (30 cm)			
Pg 57	<b>Stipa</b> <i>S. arundinacea</i>	<b>Sirocco</b>		4,876 MSP/oz. (172 MSP/g)	MSP	400 to 288-cell	No	64-75°F (18-24°C)	5-6	5-6	306 (9 cm), 2.5 in. (6 cm), 4 in (10 cm), 6 in. (15 cm), gallon (18 cm)	62-74°F (17-23°C)	59-64°F (15-18°C)	6-8	6-8	6-8 (3 ppp), 8-10 (1 ppp)	Colour is better under cool and high light conditions. If temperature permits, it is best to produce Sirocco in outdoor conditions. See Fantastic Foliage Plug Chart for more details (pg 40).	12-14 in. (30-35 cm)	22-24 in. (55-60 cm)	✓		Hardy to USDA Zone 7.
Pg 57	<b>Stipa</b> <i>S. lessingiana</i>	<b>Capriccio</b>		4,026 MSP/oz. (142 MSP/g)	MSP	400 to 288-cell	No	64-75°F (18-24°C)	4-5	4-5	306 (9 cm), 2.5 in. (6 cm), 4 in (10 cm), 6 in. (15 cm), gallon (18 cm)	62-74°F (17-23°C)	59-64°F (15-18°C)	6-7	6-7	6-7 (3 ppp), 8-9 (1 ppp)	See Fantastic Foliage Plug Chart for more details (pg 40).	14-16 in. (35-40 cm)	24-28 in. (60-70 cm)	✓		Hardy to USDA Zone 7.
	<b>Strawberry</b> <i>Fragaria x ananassa</i>	<b>Fresca</b>		60,000 S/oz. (2,100 S/g)	SED	288-cell	cover lightly	65°F (18°C)	7-14	4-5	4 in. (10 cm), 10 in. (25 cm) basket	60-64°F (15-18°C)	60-64°F (15-18°C)	-	12-13	13-15	Strawberry is sensitive to high salts, especially during germination. Strawberry is also susceptible to mildew.	3-4 in. (7-10 cm)	10-12 in. (25-30 cm)			
Pg 86	<b>Talinum</b> <i>T. paniculatum</i>	<b>Limón</b>		26,479 PEL/oz. (934 PEL/g)	PEL	406 to 288-cell	Yes	68-74°F (20-24°C)	4-5	5	306 (9 cm), 4 in (10 cm), 6 in. (15 cm)	66-74°F (19-23°C)	62-66°F (17-19°C)	4-5 (foliage); add 2 weeks for flower	4-5 (foliage); add 2 weeks for flower	4-5 (foliage); add 2 weeks for flower		28-32 in. (70-80 cm)	16-18 in. (40-45 cm)	✓		Well-suited to both containers and landscape plantings.
Pg 86	<b>Tecoma</b> <i>T. stans</i>	<b>Mayan Gold</b>		1,050 S/oz. (37 S/g)	COT	200-cell or larger	No	68-74°F (20-24°C)	3-5	5-6	4.5 in. (11 cm), 6 in. (15 cm), gallon (18 cm)	68-75°F (20-24°C)	65-68°F (18-20°C)	-	9 (Spring) 7-8 (Summer)	9 (Spring) 3 ppp 7-8 (Summer) 3 ppp		24-36 in. (60-90 cm)	21-23 in. (52-58 cm)	✓		Hardy to USDA Zone 8.
	<b>Thunbergia</b> <i>T. alata</i>	<b>Susie Series</b>		1,100 S/oz. (40 S/g)	SED	200-cell or larger	cover lightly	70-75°F (21-24°C)	6-12	4-5	4 in. (10 cm), gallon (15 cm)	62-68°F (17-20°C)	60-62°F (15-17°C)	-	4-5	8-10	Pre-soak seed overnight for faster germination.	Vine: 6-8 ft. (2 m)	-			
	<b>Tomato, F1 Container</b> <i>Lycopersicon esculentum</i>	<b>Micro-Tom F1</b>		9,000 S/oz. (315 S/g)	SED	406 to 288-cell	cover lightly	70-75°F (21-24°C)	3-7	4-5	3-4 in. (9-10 cm)	62-65°F (17-18°C)	62-65°F (17-18°C)	-	6-8	-		12-16 in. (30-40 cm)	-	✓		
	<b>Tomato, F1 Container</b> <i>Lycopersicon esculentum</i>	<b>Tumbler F1</b>		9,000 S/oz. (315 S/g)	SED	406 to 288-cell	cover lightly	70-75°F (21-24°C)	3-7	4-5	8-10 in. (20-25 cm) basket	62-65°F (17-18°C)	62-65°F (17-18°C)	-	-	6-8	Produces cherry-type tomatoes. Extra-early, 49-day variety is very sweet and tasty.	3-6 ft. (90-180 cm)	-	✓		A superior variety for hanging baskets and containers with its cascading habit.
	<b>Torenia</b> <i>T. fournieri</i>	<b>Clown™ F1 Series</b>		28,500-35,700 S/oz. (1,000-1,250 S/g)	PEL	406-cell or larger	No	72-75°F (22-24°C)	4-7	4-5	pack, 4 in. (10 cm)	65-70°F (18-21°C)	62-64°F (17-18°C)	8-9	9-10	-	Light is required for germination.	8-10 in. (20-25 cm)	10-12 in. (25-30 cm)	✓		
	<b>Trachelium, Cut Flower Type</b> <i>T. caeruleum</i>	<b>Lake Forest, Lake Michigan, Lake Louise Series</b>		21,500 S/oz. (750 S/g)	PEL	200-cell	No	72°F (21°C)	7-10	7-9	Cut flower	62-68°F (16-20°C)	60°F (15°C)	-	-	10-18	See also Cut Flower section for more details (pg 36).	30-42 in. (75-105 cm)	-			
Online*	<b>Trachelium, Pot &amp; Bedding Type</b> <i>T. caeruleum</i>	<b>Devotion Series</b>		21,500-34,200 S/oz. (750-1,200 S/g)	PEL	200-cell or larger	No	72°F (21°C)	7-10	7-9	gallon (15 cm) 3ppp	68-72°F (20-22°C)	60°F (15°C)	-	-	9-11	See Grower Facts for important plug information.	12-24 in. (35-70 cm)	12-14 in. (30-35 cm)			Needs 16-hour daylengths for faster flowering. Ideal for backyard cutflower garden programs.
	<b>Verbascum</b> <i>V. x hybrida</i>	<b>Southern Charm F1</b>		28,350 S/oz. (1,000 S/g)	SED	200-cell or larger	Yes	65-68°F (18-20°C)	3-7	4-5	gallon (15 cm)	64-67°F (18-19°C)	62-65°F (17-18°C)	-	-	12-13	Plants require long days to flower.	24-30 in. (60-75 cm)	12-18 in. (30-45 cm)			First year-blooming perennial does not need vernalization. Hardy to USDA Zone 5.
	<b>Verbena</b> <i>V. x hybrida</i>	<b>Crystal Ball Mixture</b>		11,900 S/oz. (420 S/g)	SED, PRM	406-cell or larger	Yes	72-75°F (22-24°C)	3-7	5-6	pack, 4 in. (10 cm)	65-70°F (18-21°C)	60°F (15°C)	7-9 (Spring) 6-7 (Summer)	7-9 (Spring) 6-7 (Summer)	-	Avoid excessive moisture in plug media during germination Stage 1.	10-12 in. (25-30 cm)	12-14 in. (30-35 cm)			
Pg 87	<b>Verbena</b> <i>V. x hybrida</i>	<b>Quartz Series (XP varieties)</b>		11,900 S./oz. (420 S./g)	SED, PRM	406-cell or larger	Yes	72-75°F (22-24°C)	4-6	4	pack, 4 in. (10 cm)	65-70°F (18-21°C)	60°F (15°C)	6-8 (Spring) 5-7 (Summer)	6-8 (Spring) 5-7 (Summer)	-	Avoid excessive moisture in plug media during germination Stage 1.	8-10 in. (20-25 cm)	10-12 in. (25-30 cm)			

Grower Facts	Class	Series/Variety	Exposure	Seeds per oz. (g)	Seed form	Recommended plug size**	Cover seed	Germination temperature	Days to germinate	Plug crop weeks	Recommended containers		Growing on temperature day	Growing on temperature night	Weeks from plug to finish (Spring unless specified)			Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
															Pack	4-in./10-cm	Other						
Pg 87	<b>Verbena</b> <i>V. x hybrida</i>	<b>Quartz Blue &amp; Waterfall Mixture</b>		11,900 S/oz. (420 S/g)	SED, PRM	406-cell or larger	Yes	72-75°F (22-24°C)	4-6	5	pack, 4 in. (10 cm)		65-70°F (18-21°C)	60°F (15°C)	7-9 (Spring) 6-7 (Summer)	7-9 (Spring) 6-7 (Summer)	-	Avoid excessive moisture in plug media during germination Stage 1.	10-12 in. (25-30 cm)	12-14 in. (30-35 cm)			
	<b>Veronica</b> <i>V. x hybrida</i>	<b>Blue Bouquet F1</b>		25,500 S/oz. (900 S/g)	PEL	406-cell or larger	Yes	65-75°F (18-24°C)	6-9	5-6	4 in. (10 cm), 6 in. (15 cm)		65°F (18°C)	55-65°F (13-18°C)	-	14-16	14-16	See also Cut Flower section for more details (pg 36).	12 in. (30 cm)	12 in. (30 cm)			Blooms first year from sowing. Hardy to USDA Zone 5.
	<b>Vinca</b> <i>Catharanthus roseus</i>	<b>Cooler Series</b>		12,200-24,100 S/oz. (430-850 S/g)	SED	406-cell or larger	Yes	75-78°F (24-25°C)	3-5	5	pack, 4 in. (10 cm)		75°F (24°C) or above	65-68°F (18-20°C)	6-7	7-8	-		12-14 in. (30-35 cm)	6-8 in. (15-20 cm)	✓		
	<b>Vinca</b> <i>Catharanthus roseus</i>	<b>Pacifica Series (Xp &amp; standard varieties)</b>		12,200-24,100 S/oz. (430-850 S/g)	SED	406-cell or larger	Yes	75-78°F (24-25°C)	3-5	5	pack, 4 in. (10 cm)		75°F (24°C) or above	65-68°F (18-20°C)	5-6	6-7	-		10-14 in. (25-35 cm)	6-8 in. (15-20 cm)	✓		
	<b>Vinca</b> <i>Catharanthus roseus</i>	<b>Stardust Series</b>		12,200-24,100 S/oz. (430-850 S/g)	SED	406-cell or larger	Yes	75-78°F (24-25°C)	3-5	5	pack, 4 in. (10 cm)		75°F (24°C) or above	65-68°F (18-20°C)	6-7	7-8	-		10-12 in. (25-30 cm)	6-8 in. (15-20 cm)	✓		
Pg 88	<b>Vinca F1</b> <i>Catharanthus roseus</i>	<b>Titan F1 Series</b>		18,500 S/oz. (650 S/g)	SED	406-cell or larger	Yes	75-78°F (24-25°C)	3-5	5	306 (9 cm), 4 in. (10 cm)		75°F (24°C) or above	65-68°F (18-20°C)	8-6	4-5	-		14-16 in. (35-40 cm)	10-12 in. (25-30 cm)	✓		
Online*	<b>Vinca, Trailing</b> <i>Catharanthus roseus</i>	<b>Mediterranean Series (Xp &amp; standard varieties)</b>		12,200-24,100 S/oz. (430-850 S/g)	SED	406-cell or larger	Yes	75-78°F (24-25°C)	3-5	5	4 in. (10 cm), 10 in. (25 cm) basket		75°F (24°C) or above	65-68°F (18-20°C)	8-6	7-8	11-13	Bottom heat during production can increase Yield Potential and decrease crop time.	4-6 in. (10-15 cm)	20-30 in. (50-75 cm)	✓		Trailing habit begins 12-15 weeks after sowing.
Pg 88	<b>Viola F1</b> <i>V. cornuta</i>	<b>Sorbet™ F1 Series</b>	 	37,000-40,000 S/oz. (1,300-1,400 S/g)	SED, PRM	406-cell or larger	Yes	68°F (20°C)	3-4	4	pack, 4 in. (10 cm)		60°F (15°C)	50-55°F (10-13°C)	3-5	4-6	-	Delaying shipment of violas until 3 or more flowers are open provides more colour at retail.	6-8 in. (15-20 cm)	10 in. (25 cm)		✓	
	<b>Viola, Open-Pollinated</b> <i>V. cornuta</i>	<b>Princess Series</b>	 	42,500 S/oz. (1,500 S/g)	SED	406-cell or larger	Yes	68°F (20°C)	3-4	4	pack, 4 in. (10 cm)		60°F (15°C)	50-55°F (10-13°C)	4-7	5-8	-		6-8 in. (15-20 cm)	10 in. (25 cm)		✓	
Online*	<b>Viola, Small-Flowered Spreading F1</b> <i>V. x wittrockiana, V. cornuta</i>	<b>Rain F1 Collection</b>	 	21,650 S/oz. (765 S/g)	SED, PRM	288-cell	Yes	68°F (20°C)	3-5	5	4 in. (10 cm), 10 in. (25 cm) basket		60°F (15°C)	50-55°F (10-13°C)	-	4-5 (Autumn)	7-8 baskets (Autumn)	Will stretch under high heat & humidity, control night temps or apply PGRs appropriately.	10-12 in. (25-30 cm)	10-16 in. (25-40 cm)		✓	Use in baskets & in the landscape to take advantage of the mounding, spreading habit.
	<b>Zinnia</b> <i>Z. angustifolia</i>	<b>Star Series</b>		65,710 S/oz. (2,300 S/g)	SED	288-cell or larger	Yes	70-72°F (21-22°C)	2-5	4-5	pack, 4 in. (10 cm)		65-70°F (18-21°C)	65-70°F (18-21°C)	5-6	6-7	-		14 in. (35 cm)	8 in. (20 cm)	✓		
Pg 89	<b>Zinnia</b> <i>Z. maritima</i>	<b>Solcito</b>		73,710 S/oz. (2,600 S/g)	COT	406 to 288-cell	Yes	70-75°F (21-24°C)	3-4	4-5	306 (9 cm), 4 in (10 cm), 6 in. (15 cm), gallon (6 in./15 cm), baskets		64-72°F (19-22°C)	60-66°F (16-19°C)	6-8	6-7	6-7	Do not cover the seeds. Needs light to germinate.	10-12 in. (25-30 cm)	18-20 in. (45-50 cm)	✓		Very heat-tolerant plant.
Pg 90	<b>Zinnia</b> <i>Z. marylandica</i>	<b>Zahara Series</b>		11,300-17,000 S/oz. (400-600 S/g)	COT	288-cell or larger	cover lightly	68-72°F (20-22°C)	2-3	3	pack, 4 in. (10 cm)		65-70°F (18-21°C)	60-65°F (16-18°C)	8-9 (Spring) 5-6 (Summer)	8-9 (Spring) 5-6 (Summer)	-	Avoid excessive moisture on plants & flowers. Monitor for Botrytis.	12-18 in. (30-45 cm)	12-18 in. (30-45 cm)	✓		
	<b>Zinnia</b> <i>Z. violaceae (syn. elegans)</i>	<b>State Fair Mixture F1</b>		2,000 S/oz. (67 S/g)	SED	200-cell or larger	Yes	70-72°F (21-22°C)	2-5	4-5	4 in. (10 cm), 6 in. (15 cm)		65-70°F (18-21°C)	65-70°F (18-21°C)	-	6-7	7-8		3-4 ft. (90-120 cm)	12-14 in. (30-35 cm)	✓		