

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	Pack	4-in./10-cm	Other	Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
Online*	ABUTILON <i>A. x hybridum</i> (Flowering Maple, Chinese Bell Flower)	Bella F1 Series	☀	8,500 S/oz. (300 S/g)	SED	406-cell or larger	Yes	72-75°F (22-24°C)	3	3-5	4-4.5 in. (10-11 cm), 5 in. (13 cm), 6-6.5 in. (15-16 cm) 2-3 ppp, 8 in. (20 cm) basket 3-4 ppp, 10 in. (25 cm) 4-6 ppp	65-70°F (18-21°C)	60-65°F (16-18°C)	–	6-8 (Spring), 8-10 (Autumn)	7-10 (Spring), 9-12 (Autumn)	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.
Online*	AGERATUM <i>A. houstonianum</i>	High Tide F1 Series	☀	14,000 S/oz. (500 S/g)	PEL	406-cell or larger	No	72-75°F (22-24°C)	3	4	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm)	70-80°F (21-27°C)	58-62°F (14-17°C)	–	7-9	7-9	Using multiple PGR applications of low concentrations are recommended for best leaf appearance.	14-16 in. (35-40 cm)	12 in. (30 cm)			Ideal for pot plant programs and for the landscape.
Online*	ALSTROEMERIA <i>A. x hybrida</i>	Jazze® F1 Series	☀	920 S/oz. (33 S/g)	SED	200-cell or larger	Yes	Week 1: 72-75°F (22-24°C) Weeks 2-4: 42-45°F (5-7°C)	21-28 (radicle emergence)	8-9	6 in. (15 cm) or larger	60-65°F (16-18°C)	52-58°F (11-14°C)	–	–	20-23 (Autumn), 12-17 (Spring)	Follow the Grower Facts germination recommendations closely.	10-16 in. (25-40 cm) (in pot)	8-12 in. (20-30 cm)			
Online*	ALTERNANTHERA <i>A. dentata</i>	Purple Knight	☀	17,400 S/oz. (614 S/g)	SED	288-cell or larger	Yes	72-76°F (22-24°C)	3-4	5-6	Pack, 306 (9 cm), 4 in. (10 cm), 6 in. (15 cm) 3 ppp	65-75°F (18-24°C)	62-65°F (17-18°C)	6-7	6-7	7-8	Growing under high light conditions will result in deeper purple foliage.	18-36 in. (45-90 cm)	24-36 in. (60-90 cm)	✓		Well-suited to both containers and landscape plantings.
Online*	ALYSSUM <i>Lobularia maritima</i>	Clear Crystal® Series	☀	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 (16-24°C)	55-60°F (13-16°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.
	ALYSSUM <i>Lobularia maritima</i>	Easter Bonnet Series	☀	76,500-102,000 S/oz. (2,700-3,600 S/g)	FCS	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	–	–	Multi-sowing is recommended, 3 to 5 seeds per plug cell.	4-10 in. (10-25 cm)	10-12 in. (25-30 cm)	✓		
Online*	ALYSSUM <i>Lobularia maritima</i>	Snow Crystals	☀	70,875-87,885 S/oz. (2,500-3,100 S/g)	SED	512-cell or larger	No	65-70°F (18-21°C)	2-3	4-5	Pack, 4 in. (10 cm)	55-70°F (13-21°C)	50-55°F (10-14°C)	6-7	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)	✓		
	AMMI <i>A. majus</i>	Casablanca		47,500-56,000 S/oz. (1,700-2,000 S/g)		288-cell or larger	Cover lightly	68-72°F (20-22°C)	3-5	4-6	Field grown	54-86°F (12-30°C)			14-18		Uniform, low energy crop; can be grown indoors and outdoors	40-50 in. (1-1.25 m)	8-10 in. (20-25 cm)			Cut flower, field grown
	AMMI <i>A. majus</i>	Graceland		47,500-56,000 S/oz. (1,700-2,000 S/g)		288-cell or larger	Cover lightly	68-72°F (20-22°C)	3-5	4-6	Field grown	54-65°F (12-18°C)			12-16		Uniform, low energy crop; can be grown indoors and outdoors	40-55 in. (1-1.4 m)	8-10 in. (20-25 cm)			Cut flower, field grown
FOR SIROCCO ANEMANTHELE See ColorGrass (pg 10)																						
Online*	ANEMONE <i>A. coronaria</i>	Mona Lisa® Series	☀	52,500 S/oz. (1,850 S/g)	SED	406-cell or larger	Yes	60-65°F (16-18°C)	10-14	8	4 in. (10 cm), 6 in. (15 cm)	60-65°F (15-18°C)	55°F (13°C)	–	12	12	See also Cut Flower section for more details (pg 68).	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 78	ANGELONIA <i>A. angustifolia</i>	Serena® F1 Series	☀	28,500 S/oz. (1,000 S/g)	PEL	288-cell or larger	No	72-76°F (22-25°C)	4-5	5-6	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm) 3 ppp, gallon (15-18 cm) 3 ppp	66-75°F (19-24°C)	64-66°F (18-19°C)	8-9	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).	16-20 in. (40-50 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.

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												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other						
Pg 79	ANGELONIA <i>A. angustifolia</i>	Serenita® F1 Series	☀	28,500 S/oz. (1,000 S/g)	PEL	288-cell or larger	No	72-76°F (22-25°C)	4-5	5-6	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm) 3 ppp, gallon (15-18 cm) 3 ppp	66-75°F (19-24°C)	64-66°F (18-19°C)	8-9	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).	12-14 in. (30-35 cm) (6 in./15 cm taller under FL conditions)	12-14 in. (30-35 cm)	✓		Do not pinch. Pinching will only delay flowering and make plant habit unattractive. It is naturally more compact than Serena and requires less PGR.
FOR SONGBIRD & SWAN SERIES AQUILEGIA See Perennial Culture Chart (pg 48)																						
FOR LOTTI ARABIS See Perennial Culture Chart (pg 50)																						
	ASTER <i>Callistephus chinensis</i>	Meteor Series	☀	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 68).	2.5-3.5 ft. (0.8-1 m)	–			
	ASTER <i>Callistephus chinensis</i>	Pot 'N Patio Series	☀	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 80	BACOPA <i>Sutera cordata</i>	Blutopia® & Snowtopia®	☀	12,675-19,845 MSP/oz. (500-700 MSP/g)	MSP	288 or 128-cell	No	68-73°F (20-23°C)	4	3-4	4.5 in. (10.5 cm), 10 in. (25 cm) baskets (5-6 ppp)	60-75°F (16-24°C)	55-60°F (13-16°C)	–	4-6	8-9	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.
FOR BACOPA, FUSEABLES See Fuseables Bacopa (pg 18)																						
FOR BASIL See Vegetable Culture Chart (pg 74)																						
Pg 80	BEGONIA <i>B. x hybrida</i>	BabyWing® F1 Series	☀	28,550 S/oz. (1,000 S/g)	PEL	288-cell or larger	No	72-80°F (22-27°C)	7-10	7-8	4 in. (10 cm), 4.5 in. (12 cm), 6 in. (15 cm) 1-2 ppp, 6.5 in. (16 cm) 3 ppp, 10-12 in. (25-30 cm) baskets 4 ppp	65-70°F (18-21°C)	60-65°F (16-18°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 81	BEGONIA <i>B. x hybrida</i>	Dragon Wing® F1 Series	☀	28,550 S/oz. (1,000 S/g)	PEL	200-cell or larger	Cover lightly	72-75°F (22-24°C)	7-10	7-8	4-4.5 in. (10-11 cm), 5.5-6 in. (14-15 cm) 1-2 ppp, 6.5-8 in. (16-20 cm) 2-3 ppp, gallon (15-18 cm) 2 ppp, 10-12 in. (25-30 cm) 4 ppp	65-70°F (18-21°C)	60-65°F (16-18°C)	–	7-9	7-11	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 82	BEGONIA <i>B. x hybrida</i>	Gryphon	☀	28,500 S/oz. (1,000 S/g)	PEL	288-cell or larger	No	72-78°F (22-26°C)	10-12	8-9	4.5 in. (11 cm), 6 in. (15 cm) 2 ppp, 8 in. (20 cm) 3ppp, 10-12 in. (25-30 cm) 3-4 ppp	65-75°F (18-25°C)	62-67°F (17-19°C)	–	5-6	7-11	A saturated media and high relative humidity is critical to germinate successfully.	14-16 in. (35-40 cm)	16-18 in. (40-45 cm)	✓		
Online*	BELLIS <i>B. perennis</i>	Bellissima Series	☀	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) 3 ppp	60-65°F (16-18°C)	40-45°F (5-7°C)	6-10 (U.S. Autumn/Spring)	6-10 (U.S. 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.

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												Growing on temperature day	Growing on temperature night	Pack								
	BELLIS <i>B. perennis</i>	Medicis Series		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) 3 ppp	60-65°F (16-18°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.
	A Kieft Seed product																					
Online*	BRAZILIAN FIREWORKS <i>Porphyrocoma pohlana</i>	Maracas		14,971 S/oz. (524 S/g)	SED	288-cell	Yes	65-75°F (18-24°C)	4-5	5-6	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm) 3 ppp, gallon (15-18 cm) 3 ppp	72-80°F (22-27°C)	66-68°F (19-20°C)	7-8	7-8	7-9	Heat-loving crop; crop time is very dependant on temperature.	6-8 in. (15-20 cm)	8-10 in. (20-25 cm)		✓	
	BROWALLIA <i>B. speciosa major</i>	Bells Series		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 (16-18°C)	60-65°F (16-18°C)	–	9-11	11-13	Requires long days to bloom.	10-12 in. (25-30 cm)	12-14 in. (30-35 cm)			
Pg 83, 168	CALIBRACHOA <i>C. x hybrida</i>	Crave Series		25,000 S/oz. (860 S/g)	PEL	288-cell or larger	Op-tional	68-77°F (20-25°C), optimum 73°F (22.5°C) See Grower Facts or online culture spread-sheet for additional important details.	5-7	5-6 (288 cell) 7-8 for larger cell sizes	Quart, 4-6 in. (10-15 cm), 10 in. (25 cm) 3 ppp, 12 in. (30 cm) basket 5 ppp	55-64°F (13-18°C)	55-64°F (13-18°C)	–	7-8	9-11	Min. daylength requirement: 11 hours. Recommended Daily Light Integral (DLI) of ≥10 moles•m ⁻² •d ⁻¹ Daminozide can cause slight chlorotic stippling (See Grower Facts or online culture spreadsheet for details)	10-14 in. (25-35 cm)	12-16 in. (30-40 cm)			Apical dominance results in poor branching. The causes include overgrown and spindly plants, low DLI (keep ≥ of ≥10 moles•m ⁻² •d ⁻¹), excessive plug crop time, inadequate plug height control. Pinching is a good solution to remedy the situation. Pinching can occur in plug trays (shear) or after transplant. Pinch at transplant: soft pinch, leaving 4 basal nodes. Pinch can delay flowering; the extent of the delay depends upon the timing and location of the pinch. Do not pinch if using Limited Inductive Photoperiod.
Pg 84, 165	CALIBRACHOA <i>C. x hybrida</i>	Kabloom Series		25,000 S/oz. (860 S/g)	PEL	288-cell or larger	Op-tional	68-77°F (20-25°C), optimum 73°F (22.5°C) See Grower Facts or online culture spreadsheet for additional important details.	5-7	5-6 (288 cell) 7-8 for larger cell sizes	Quart, 4-6 in. (10-15 cm), 10 in. (25 cm) 3 ppp, 12 in. (30 cm) basket 5 ppp	55-64°F (13-18°C)	55-64°F (13-18°C)	–	7-8	9-11	Min. daylength requirement: 10 hours for Yellow and White, 11 for Deep Blue, 12 for Deep Pink. Recommended Daily Light Integral (DLI) of ≥10 moles•m ⁻² •d ⁻¹ Daminozide can cause slight chlorotic stippling (See Grower Facts or online culture spreadsheet for details)	8-12 in. (20-30 cm)	10-14 in. (25-35 cm)			Apical dominance results in poor branching. The causes include overgrown and spindly plants, low DLI (keep ≥ of ≥10 moles•m ⁻² •d ⁻¹), excessive plug crop time, inadequate plug height control. Pinching is a good solution to remedy the situation. Pinching can occur in plug trays (shear) or after transplant. Pinch at transplant: soft pinch, leaving 4 basal nodes. Pinch can delay flowering; the extent of the delay depends upon the timing and location of the pinch. Do not pinch if using Limited Inductive Photoperiod.
Pg 85	CAMPANULA <i>C. medium</i>	Campana Series		102,000-136,000 S/oz. (3,600-4,800 S/g) Raw; 105,000-122,000 S/oz. (3,700-4,300 S/g) PEL	SED, PEL	288-cell or larger	No	68-72°F (20-22°C)	4-5	7-8		60-70°F (15-21°C)	54-59°F (12-15°C)	–	–	10-14	See also Cut Flower section for more details (pg 68).	30-34 in. (75-85 cm)	–			
FOR CAREX See ColorGrass® (pg 10)																						
	CARTHAMUS <i>C. tinctorius</i>	Grenade Series		700-800 S/oz. (25-30 S/g)	FCS	Direct sown preferred 180-cell or larger	Thick with soil	68-72°F (20-22°C)	2-3	1½-2½	Field grown	54-65°F (12-18°C)				DS to finish: 10-16	Leaf fertilization prevents Mn deficiency	32-40 in. (80-100 cm)	8-10 in. (20-25 cm)		✓	Direct sown advised due to tap root; sensitive to Mn deficiency

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												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other							
	CARTHAMUS <i>C. tinctorius</i>	Zanzibar		700-800 S/oz. (25-30 S/g)	FCS	Direct sown preferred 180-cell or larger	Thick with soil	68-72°F (20-22°C)	2-3	1½-2½	Field grown		54-65°F (12-18°C)				DS to finish: 10-16	Leaf fertilization prevents Mn deficiency	32-40 in. (80-100 cm)	8-10 in. (20-25 cm)	✓		Direct sown advised due to tap root; sensitive to Mn deficiency
	CELOSIA <i>C. argentea var. plumosus</i>	Glow Series	☀	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.
Pg 88	CELOSIA <i>C. cristata</i>	Bombay Series	☀☀	21,300-28,350 S/oz. (750-1,000 S/g) Raw; 5,670-7,080 S/oz. (200-250 S/g) PEL; 20,000-27,000 S/oz. (700-950 S/g) FCS	SED, PEL, FCS	288-cell or larger	Cover lightly	68-72°F (20-22°C)	3-4	2-3			Before flower development: 65-75°F (18-24°C) After flower development: 60-61°F (16°C)	Before flower development: 63-65°F (17-18°C) After flower development: 59°F (15°C)	–	–	10-14	See also Cut Flower section for more details (pg 68).	28-40 in. (70-100 cm)	–			
Pg 88	CELOSIA <i>C. plumosa</i>	Arrabona Red	☀	28,350-42,525 S/oz. (1,000-1,500 S/g) Raw; 42,525-62,400 S/oz (1,500-2,200 S/g) FCS	FCS	288-cell or larger	Cover lightly	70 to 72°F (21-22°C)	2-4	3-4	Packs, 4-5 in. (10-13 cm)		65 to 70°F (18 to 21°C)	59 to 61°F (15 to 16°C)	8-10	9-12	–		10-14 in. (25-35 cm)	10-16 in. (25-40 cm)			Keep growing plugs under daylength of 14 hours or longer to prevent premature flowering. Also don't allow media to dry out.
Pg 88	CELOSIA <i>C. plumosa</i>	First Flame Series	☀	28,350-42,525 S/oz. (1,000-1,500 S/g) Raw; 42,525-62,400 S/oz (1,500-2,200 S/g) FCS	FCS	288-cell or larger	Cover lightly	70 to 72°F (21-22°C)	2-4	3-4	Packs, 4-5 in. (10-13 cm)		65 to 70°F (18 to 21°C)	59 to 61°F (15 to 16°C)	8-10	9-12	–		14-25 in. (35-50 cm)	10-16 in. (25-40 cm)			Keep growing plugs under daylength of 14 hours or longer to prevent premature flowering. Also don't allow media to dry out.
Pg 89	CELOSIA <i>C. plumosa</i>	Ice Cream Series	☀	42,000-63,000 S/oz. (1,500-2,400 S/g)	FCS	288-cell or larger	Cover lightly	70 to 72°F (21-22°C)	2-4	3-4	Pack, 4-5 in. (10.5-13 cm)		65 to 70°F (18 to 21°C)	59 to 61°F (15 to 16°C)	8-10	9-12	–	Keep medium moist constantly and do not allow the media dry out.	12 in. (30 cm)	10 in. (25 cm)	✓		Keep growing plugs under daylength of 14 hours or longer to prevent premature flowering. Also don't allow media to dry out.
Pg 90	CELOSIA <i>C. plumosa</i>	Sunday Series	☀☀	42,525-68,040 S/oz. (1,500-2,400 S/g) Raw; 44,000-60,000 S/oz. (1,550-2,100 S/g) FCS	SED, COT	288-cell or larger	Cover lightly	68-72°F (20-22°C)	3-4	2-3			Before flower development: 65-75°F (18-24°C) After flower development: 60-61°F (16°C)	Before flower development: 63-65°F (17-18°C) After flower development: 59°F (15°C)	–	–	12-16	See also Cut Flower section for more details (pg 68).	28-40 in. (70-100 cm)	–			
Pg 90	CELOSIA <i>C. spicata</i>	Kosmo	☀	42,000-63,000 S/oz. (1,500-2,400 S/g)	FCS	288-cell or larger	No	70 to 72°F (21-22°C)	2-4	3-4	3.5-in (9 cm), 4 to 5-in. (10.5-13 cm), gallon (18 cm)		65-68°F (18-20°C)	62-65°F (17-18°C)	9-11	10-12	10-12	Keep medium moist constantly and do not allow the media dry out.	8 in. (20 cm)	8-10 in. (20-25 cm)	✓		
	CELOSIA <i>C. spicata</i>	Spiky Series	☀	39,000-47,000 S/oz. (1,400-1,700 S/g)		406-cell or larger	Cover lightly	68 to 72°F (20-22°C)	3-5	3-4	4 in. (10 cm) 5 in. (13 cm)		65 to 68°F (18- 20°C)	61 to 63°F (16-17°C)		11-14	12-15	Reacts well on Alar; short day reaction	16 in. (40 cm)	8-12 in. (20-30 cm)	✓		
	COBAEA <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)	–			

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
												Growing on temperature day	Growing on temperature night	Pack						
	COLEUS <i>Solenostemon scutellarioides</i>	Black Dragon		100,000 S/oz. (3,500 S/g)	SED	288-cell or larger	Cover lightly	72-75°F (22-24°C)	4-5	5-6	Pack	65-75°F (18-24°C)	57-65°F (14-18°C)	5-6	–	–	12-14 in. (30-35 cm)	10-12 in. (25-30 cm)	✓	
Pg 91	COLEUS <i>Solenostemon scutellarioides</i>	Kong® and Kong Jr. Series		25,650 S/oz. (900 S/g)	PEL	288-cell or larger	Cover lightly	72-75°F (22-24°C)	4-5	5-6	5 in. (13 cm), gallon (15 cm)	65-75°F (18-24°C)	57-65°F (14-18°C)	–	4-5	5-6	18-24 in. (45-60 cm)	15-35 in. (38-90 cm)	✓	Shade is best. Leaf size is maximized in shade. Mosaic can scorch in sun. When using in combination planters, Kong performs best when planted near the outside of the container.
Pg 92	COLEUS <i>Solenostemon scutellarioides</i>	Premium Sun Collection		27,500 S/oz. (970 S/g)	PEL	288-cell or larger	Cover lightly	72-75°F (22-24°C)	4-5	5-6	306 Pack (9 cm), Chocolate Covered Cherry Only); 4 in. (10 cm), 5 in. (13 cm), 6 in. (15 cm) 3 ppp, gallon (15-18 cm) 3 ppp	65-75°F (18-24°C)	57-65°F (14-18°C)	6-8 (Chocolate Covered Cherry only)	6-8	6-8	20-30 in. (50-75 cm) Varies by variety.	10-24 in. (25-60 cm) Varies by variety.	✓	Sun tolerant grown under high humidity. Sun tolerant under low humidity only in low light intensity areas such as northern Europe. Also suited to partial to full shade.
Online*	COLEUS <i>Solenostemon scutellarioides</i>	Wizard® Series		100,000 S/oz. (3,500 S/g)	SED	288-cell or larger	Cover lightly	72-75°F (22-24°C)	4-5	5-6	Pack, 4 in. (10 cm), 5 in. (13 cm)	65-75°F (18-24°C)	57-65°F (14-18°C)	7-9	7-9	–	12-14 in. (30-35 cm)	10-12 in. (25-30 cm)	✓	
FOR COLEUS, FUSEABLES See Fuseables Coleus (pg 18)																				
Pg 78	COLORGRASS® ANEMANTHELE <i>A. lessoniana</i>	Sirocco		4,876 MSP/oz. (172 MSP/g)	MSP	288-cell or larger	No	65-76°F (18-24°C)	5-6	5-6	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 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)	12-14 in. (30-35 cm)	22-24 in. (55-60 cm)		Hardy to USDA Zones 7-10. Light for germination is optional.
Pg 87	COLORGRASS® CAREX <i>C. buchananii</i>	Red Rooster		3,750 msp/oz. (126 msp/g)	MSP	288-cell or larger	Yes	74-79°F (24-26°C)	7-10	6-7	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	8-9	8-9	9-10	20-30 in. (50-75 cm)	12 in. (30 cm)	✓	USDA Hardiness Zones 6 to 9.
Pg 85	COLORGRASS® CAREX <i>C. comans</i> (Leatherleaf Sedge)	Amazon Mist		5,184 MSP/oz. (183 MSP/g)	MSP	288-cell or larger	Yes	68-79°F (20-26°C)	7-10	6-7	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	9-10	9-10	10-11	6-12 in. (15-30 cm)	14 in. (35 cm)	✓	USDA Hardiness Zones 6 to 10.
Pg 86	COLORGRASS® CAREX <i>C. comans</i> (Leatherleaf Sedge)	Bronco		3,860 MSP/oz. (136 MSP/g)	MSP	288-cell or larger	Yes	74-79°F (24-26°C)	7-10	6-7	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	8-9	8-9	9-10	6-12 in. (15-30 cm)	14 in. (35 cm)	✓	USDA Hardiness Zones 6 to 10.
Pg 86	COLORGRASS® CAREX <i>C. comans</i> (Leatherleaf Sedge)	Phoenix Green		2,181 S/oz. (77 S/g)	MSP	288-cell or larger	Yes	74-79°F (24-26°C)	7-10	5-7	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	6-7	6-7	7-8	20-24 in. (50-60 cm)	16-20 in. (40-50 cm)	✓	USDA Hardiness Zones 6 to 10.
Pg 93	COLORGRASS® CORYNEPHORUS <i>C. canescens</i> (Clubawn Grass)	Spiky Blue		9,916 MSP/oz. (350 MSP/g)	MSP	288-cell	Yes	68-79°F (20-26°C)	3-6	6-7	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	6-7	6-7	7-8	6-12 in. (15-30 cm)	8 in. (20 cm)	✓	USDA Hardiness Zones 5 to 9.

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
												Growing on temperature day	Growing on temperature night	Pack						
Online*	COLORGRASS® ERAGROSTIS <i>E. curvula</i> (Love Grass)	Wind Dancer		5,670 MSP/oz. (200 MSP/g)	MSP	288-cell or larger	No	71-76°F (21-24°C)	2-3	3-4	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	5-6	6-7	7-8	✓		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 97	COLORGRASS® FESTUCA <i>F. cinerea</i> (<i>F. glauca</i>)	Festina		Not available	MSP	288-cell or larger	Yes	64-72°F (18-22°C)	3-6	6-7	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	6-7	6-7	7-8		✓	USDA Hardiness Zones 4 to 10.	
Online*	COLORGRASS® ISOLEPIS <i>I. cernua</i> (Fiber Optic Grass)	Live Wire		13,514 MSP/oz. (473 MSP/g)	MSP	288-cell or larger	No	64-68°F (18-20°C)	6	5	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	6-7	6-7	7-8			Do not allow plants to dry out, as this will cause the foliage to become yellow. USDA Hardiness Zones 8 to 10.	
Online*	COLORGRASS® JUNCUS <i>J. effusus spiralis</i>	Twister		17,700 MSP/oz. (625 MSP/g)	MSP	288-cell or larger	No	70-78°F (21-25°C)	10-13	7-8	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	59-64°F (15-18°C)	6-7	7-8	8-9	✓		Great for mixed containers. USDA Hardiness Zones 5 to 9.	
Pg 105	COLORGRASS® JUNCUS <i>J. ensifolius</i>	Starhead		32,296 MSP/oz. (1,140 MSP/g)	MSP	288-cell or larger	No	64-72°F (18-22°C)	7-10	6-7	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	7-8	7-8	8-9		✓	USDA Hardiness Zones 4 to 10.	
Online*	COLORGRASS® JUNCUS <i>J. inflexus</i>	Blue Arrows		29,768 MSP/oz. (1,050 MSP/g)	MSP	288-cell or larger	No	71-76°F (22-24°C)	7-8	6-7	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	6-7	6-7	7-8		✓	Well-suited to both containers and landscape plantings. Good for moist and boggy spots or shallow water. USDA Hardiness Zones 5 to 9.	
Online*	COLORGRASS® JUNCUS <i>J. pallidus</i>	Javelin		28,237 MSP/oz. (996 MSP/g)	MSP	288-cell or larger	No	71-76°F (22-24°C)	5-6	5-6	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	62-73°F (17-22°C)	59-64°F (15-18°C)	5-6	5-6	6-7		✓	To prevent leaf bending, Bonzi 30 ppm spray can be used. Light for germination is optional. USDA Hardiness Zones 8 to 10.	
Online*	COLORGRASS® JUNCUS <i>J. tenuis</i>	Blue Dart		19,901 MSP/oz. (702 MSP/g)	MSP	288-cell or larger	No	71-76°F (22-24°C)	7-8	6-7	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	62-73°F (17-22°C)	59-64°F (15-18°C)	7-8	7-8	8-9		✓	Excellent substitute for Draecena Spike. Light for germination is optional. Well-suited to both containers and landscape plantings. Good for moist and boggy spots or shallow water. USDA Hardiness Zones 4 to 10.	
Online*	COLORGRASS® KOELERIA <i>K. glauca</i>	Coolio		7,995 MSP/oz. (282 MSP/g)	MSP	288-cell or larger	No	65-74°F (18-23°C)	4-5	6-7	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	6-7	6-7	7-8			Requires light to germinate. First season 6-8 in. (15-20 cm); later 20 in. (50 cm). USDA Hardiness Zones 6 to 8.	
Pg 108	COLORGRASS® LUZULA <i>L. nivea</i>	Lucius		4,335 MSP/oz. (153 MSP/g)	MSP	288-cell or larger	Yes	64-68°F (18-20°C)	10-12	4-7	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	8-9	8-9	9-10		✓	Requires light to germinate. Make sure plants don't get too wet. USDA Hardiness Zones 4 to 9.	

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
												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other						
Pg 108	COLORGRASS® LUZULA <i>L. sylvatica</i>	Starmaker	☀	Not available	MSP	288-cell	Yes	64-68°F (18-20°C)	10-12	4-7	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	9-10	9-10	10-11	Requires light to germinate. Make sure plants don't get too wet.	12-18 in. (30-45 cm)	10 in. (25 cm)		✓	USDA Hardiness Zones 4 to 9.
Online*	COLORGRASS® STIPA <i>S. tenuissima</i> (Mexican Feather Grass)	Pony Tails	☀	4,026 MSP/oz. (142 MSP/g)	MSP	288-cell	No	64-75°F (18-24°C)	4-5	4-5	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 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)	Light for germination is optional.	16-24 in. (40-60 cm)	24 in. (60 cm)			USDA Hardiness Zones 7 to 10.
FOR EARLY SUNRISE, RISING SUN, SUNFIRE & SUN UP COREOPSIS See Perennial Culture Chart (pg 50-52)																						
	COSMOS <i>C. bipinnatus</i>	Antiquity	☀	5,500-7,000 S/oz. (200-250 S/g)	RAW	288-cell or larger	Thick	61-65°F (16-18°C)	3-5	4-5	3.5 in. (9 cm), 4 in. (10 cm), 5 in. (13 cm)	65-75°F (18-24°C)	61-65°F (16-18°C)	-	6-7	6-7		20-30 in. (50-75 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.
	COSMOS <i>C. bipinnatus</i>	Sonata Series	☀	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 (15-18 cm) 3 ppp	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.
	CRASPEDIA <i>C. globosa</i>	Billy Buttons	☀	45,000-50,000 S/oz. (1,600-1,800 S/g)		288-cell or larger	Cover lightly	65-68°F (18-20°C)	10-14	6-7	Field grown			-	-	17-18	Best grown as annual.	16-20 in. (40-50 cm)	10-12 in. (25-30 cm)		✓	Support netting is advised.
Online*	CROSSANDRA <i>C. infundibuliformis</i>	Tropic Series	☀	6,180 S/oz. (218 S/g)	SED	406-cell or larger	Yes	78-82°F (25-28°C)	7-10	6-7	4 in. (10 cm), 6 in. (15 cm) 3 ppp	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.
FOR CUCUMBER See Vegetable Culture Chart (pg 74)																						
	CUPHEA <i>C. ignea</i> (Cigar Plant)	Dynamite	☀	21,300 S/oz. (750 S/g)	SED	288-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)		✓	
	DAHLIA <i>D. x hybrida</i>	Figaro Series	☀	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 (11-16°C)	52-60°F (11-16°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.
FOR DASANTE BLUE, DIAMONDS BLUE & GUARDIAN SERIES DELPHINIUM See Perennial Culture Chart (pg 52)																						
	DESCHAMPSIA <i>D. elongata</i>	Zephyr	☀	4,876 MSP/oz. (172 MSP/g)	MSP	288-cell or larger	No	65-71°F (18-22°C)	4-5	4-5	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm), gallon (15-18 cm)	66-74°F (19-23°C)	64-66°F (18-19°C)	5-7	6-7	6-7	Will perform better if grown in containers.	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*	DIANTHUS <i>D. barbatus interspecific</i>	Amazon F1 Series	☀	12,190-13,890 pellets/oz. (430-490 pellets/g)	PEL	288-cell	Yes	64-68°F (18-20°C)	3-5	4-5	Cut flower. For Container production - 8 in. (20 cm) 3 ppp	60-72°F (16-22°C)	50-60°F (10-16°C)	-	-	11-22	Responsive to PGRs; PGRs are needed to produce as a bedding plant. See Grower Facts for recommendations. See also Cut Flower section for more details (pg 68).	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.
Online*	DIANTHUS <i>D. barbatus</i>	Sweet F1 Series	☀	7,300-9,600 pellets/oz. (260 - 340 pellets/g)	PEL	288-cell or larger	Yes	64-68°F (18-20°C); light optional	3-5	4-5	Cut flower	60-72°F (15-22°C)	50-60°F (10-16°C)	-	-	Weeks from transplant to first flower: 11 (Spring) 12-16 (late Autumn/Winter)	See also Grower Facts for recommendations and Cut Flower section for more details (pg 70).	18-36 in. (45-90 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 93	DIANTHUS <i>D. barbatus</i>	Dash F1 Series	☀	6,520-10,915 pellets/oz. (230-385 pellets/g)	PEL	288-cell or larger	Yes	64-68°F (18-20°C); light optional	3-5	4-5	Quart - 1 ppp, Gallon (15-18 cm) 1-3 ppp	Provide 65 to 75°F (18 to 24°C) day temperatures for the first 2 weeks of greenhouse production to establish the plants. Finish at 60 to 70°F (15 to 21°C) days.	Provide 60°F (15°C) night temperatures for the first 2 weeks of greenhouse production to establish the plants. Finish in the low 50's (11 to 12°C).	–	–	Weeks from transplant to finish: 9 to 10 weeks (Late Spring/Early Summer), 11-12 (late Summer/Winter)	Dash Dianthus has a naturally compact plant habit and has good basal branching when compared to other barbatus type dianthus, making it more suitable for container production.	15-20 in. (38-50 cm)	12-14 in. (30-35 cm)		✓	Avoid using fungicides such as Heritage containing active ingredient Azoxystrobin as they can cause phytotoxic symptoms on Dash Dianthus.
Online*	DIANTHUS <i>D. barbatus interspecific</i>	Bouquet F1 Series	☀	8,900-12,360 pellets/oz. (314-436 pellets/g)	PEL	288-cell or larger	Yes	64-68°F (18-20°C); light required	3-5	4-5	6 in. (15 cm); Gallon (15-18 cm), 1-3 ppp	60-72°F (16-22°C)	50-60°F (10-16°C)			8-9 weeks from transplant	Responsive to PGRs; PGRs are needed to produce as a bedding plant; see Grower Facts for recommendations and Cut Flower section for more details (pg 68).	18-24 in. (45-60 cm)	10-12 in. (25-30 cm)			
Online*	DIANTHUS, DOUBLE <i>D. barbatus interspecific</i>	Dynasty F1 Series	☀	7,370-10,490 pellets/oz. (260-370 pellets/g)	PEL	288-cell or larger	Yes	64-68°F (18-20°C); light required	3-5	4-5	4 in. (10 cm); 6 in. (15 cm)	60-72°F (16-22°C)	50-60°F (10-16°C)			8-9 weeks from transplant		16-20 in. (40-50 cm)	10 in. (25 cm)			
Online*	DIANTHUS <i>D. chinensis x barbatus</i>	Floral Lace F1 Series	☀	31,190 S/oz. (1,100 S/g)	SED, PEL	288-cell or larger	Yes	64-68°F (18-20°C)	3-5	4-5	Pack	60-72°F (16-22°C)	50-60°F (10-16°C)	4-5	–	–		8-10 in. (20-25 cm)	8 in. (20 cm)		✓	
Online*	DIANTHUS <i>D. chinensis x barbatus</i>	Ideal Select F1 Series	☀	31,190 S/oz. (1,100 S/g)	SED, PEL	288-cell or larger	Yes	64-68°F (18-20°C)	3-5	4-5	Pack	60-72°F (16-22°C)	50-60°F (10-16°C)	4-5	–	–		8-10 in. (20-25 cm)	8 in. (20 cm)		✓	
Pg 94	DIANTHUS <i>D. barbatus interspecific</i>	Jolt	☀	12,190-13,890 pellets/oz. (430-490 pellets/g)	PEL	288-cell or larger	Yes	64-68°F (18-20°C)	3-5	4-5	Quart 1 ppp, Gallon (15-18 cm) 1-3 ppp	65-67°F (18-24°C) for first 2 weeks, then 60-70°F (15-21°C)	60°F (15°C) for first 2 weeks then low 50°F (11-12°C)	–	–	12-14 weeks for later Spring through Autumn 14-18 weeks for early Spring	Temperature and light intensity have greater impact on Jolt flowering, especially during Winter and early Spring season.	16-20 in. (40-50 cm)	12-14 in. (30-35 cm)	✓	✓	
Online*	DIASCIA <i>D. barberae</i>	Diamonte Series	☀☀	721,068-33,575 S/oz. (4,590-5,880 S/g)	SED	288-cell or larger (4 seeds per cell)	Cover lightly	65-70°F (18-21°C)	4-6	4	306 Pack (9 cm), 4 in. (10 cm), 6 in. (15 cm) 3 ppp	60-66°F (16-19°C)	50-60°F (10-16°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.	10-12 in. (25-30 cm)	12-14 in. (30-35 cm)		✓	Sow 4 seeds per cell.
Pg 95	DICHONDRA <i>D. argentea</i>	Silver Falls	☀☀	5,950 S/oz. (210 S/g)	SED	288-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 3 ppp	65-75°F (18-24°C)	62-65°F (17-18°C)	–	6-7	7-8	Grows best in warm and dry conditions. Use light feed. Rinse foliage after feeding to avoid salt burn.	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.
Online*	DICHONDRA <i>D. repens</i>	Emerald Falls	☀☀	1,840 MSP/oz. (65 MSP/g)	MSP	288-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 3 ppp	65-75°F (18-24°C)	62-65°F (17-18°C)	–	7-8	8-9	Grows best in warm and dry conditions. Use light feed. Rinse foliage after feeding to avoid salt burn.	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.
FOR DILL See Vegetable Culture Chart (pg 74)																						
	DUSTY MILLER <i>Cineraria maritima/ Senecio cineraria</i>	Silverdust	☀	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)			
FOR POWWOW SERIES AND 'CHEYENNE SPIRIT' ECHINACEA See Perennial Culture Chart (pg 54)																						
Online*	ERYSIMUM <i>E. species</i>	Citrona® Series	☀	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) 3 ppp	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).
A Kieft Seed product																						

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	
												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other							
Pg 95	EUPHORBIA <i>E. graminea</i>	Glamour	☀️	18,425-20,553 S./oz (650-725 S./g)	SED	288-cell or larger	Cover lightly	64-72°F (18-22°C)	3-6	3-4	1801 pack, 4-5 in. (10-13 cm) pots, quart, 6 in. (15 cm), gallon (15-18 cm)	65-77°F (18-25°C)	65-68°F (18-20°C)	3-5	4-6	5-7	Avoid temperatures below 62°F (16°C) as cooler temperatures cause foliage yellowing.	15-24 in. (38-60 cm)	15-20 in. (38-50 cm)	✓		Works well in the landscape, as a mix with vigorous growers or solo in large cityscape planters	
Pg 96	EUPHORBIA <i>E. graminea</i>	Glitz	☀️	18,425-21,000 S./oz (650-750 S/g)	SED	288-cell or larger	Optional	65-72°F (18-22°C)	3-6	4-5	4-5 in. (10-13 cm) pots, quart, 6 in. (15 cm), Gallon (15-18 cm), 10 in. (25 cm) HB	65-77°F (18-25°C)	65-68°F (18-20°C)	—	5-8	6-8	Do not grow plant at temperature below 62°F (16°C). Can apply daminozide (B-Nine) 2,500 to 5,000 ppm spray for height control.	10-14 in. (25-35 cm)	12-18 in. (30-45 cm)	✓			
	EUPHORBIA <i>E. marginata</i>	Kilimanjaro	☀️	1,400-1,700 S./oz. (50-60 S/g)	RAW	288-cell or larger	Normal cover	68-72°F (20-22°C)	3-7	4-5	Field grown, 6 in. (15 cm), gallon	61-72°F (16-22°C)	54-61°F (12-16°C)			8-12	Needs LD conditions to reach stemlength of 90-cm. – prechill period of a week could improve germination.	36 in. (90 cm) under LD conditions	8-10 in. (20-25 cm)	✓		Avoid contact with pollen and milky sap to prevent possible allergic reactions.	
Pg 97	FUSEABLES® BACOPA <i>Sutera cordata</i>	Utopia	☀️	Precision Multi-Pellet	PMPL	288 or 128-cell	No	68-73°F (20-23°C)	4	4-5	6 to 8-in. (15 to 20 cm) pots, 10-12 in. (25-30 cm) baskets 4 ppp	59-76°F (15-24°C)	55-60°F (13-16°C)	—	—	6-7 from 288 cells, 5-6 from 105/128 cells, 4-5 from 72 cells		6 in. (15 cm)	18-24 in. (45-60 cm)			Use primarily in baskets and container applications for best performance.	
Pg 98	FUSEABLES® COLEUS <i>Solenostemon scutellarioides</i>	Chocolate Symphony, Under the Sun	☀️☀️	Precision Multi-Pellet	PMPL	288 or 128-cell	Cover lightly	72-75°F (22-24°C)	4-5	5-6	6-8 in. (15-20 cm) pots, 10 in. (25 cm) 1-3 ppp, 12 in. (30 cm) 4-5 ppp	65-76°F (18-24°C)	59-64°F (15-18°C)	—	—	5-7		Varies depending on the mix.	—		✓		
Pg 99	FUSEABLES® JUNCUS <i>Juncus inflexus</i> (Blue Arrows) and <i>Juncus effusus spiralis</i> (curly juncus)	Twisted Arrows	☀️	22,600-25,515 MSP/oz. (800-900 MSP/g)	MSP	288-cell or larger	No	71-76°F (22-24°C)	7-8	7-9	306 (9 cm), 2.5 in. (6 cm), 4 in. (10 cm), 6 in. (15 cm) 1-3 ppp, gallon (15-18 cm) 1-3 ppp	62-73°F (17-22°C)	59-64°F (15-18°C)	6-7	7-8	7-8		18-36 in. (45-90 cm)	12-18 in. (30-45 cm)	✓	✓	Great for mixed containers. USDA Hardiness Zones 5 to 9.	
Pg 99	FUSEABLES® JUNCUS <i>Juncus tenuis</i> (Blue Dart) and <i>Juncus effusus spiralis</i> (curly juncus)	Twisted Dart	☀️☀️	11,300-14,000 MSP/oz. (400-500 MSP/g)	MSP	288-cell or larger	No	71-76°F (22-24°C)	7-8	7-9	306 (9 cm), 2.5 in. (6 cm), 4 in. (10 cm), 6 in. (15 cm) 1-3 ppp, gallon (15-18 cm) 1-3 ppp	62-73°F (17-22°C)	59-64°F (15-18°C)	6-7	7-8	7-8		14-16 in. (35-40 cm)	10-18 in. (25-45 cm)			USDA Hardiness Zones 5 to 9.	
Pg 100	FUSEABLES® MULTI-SPECIES, MULTI-PELLET <i>Petunia x hybrida</i> and <i>Sutera cordata</i> (Bacopa)	Blue Dawn, Cloud N' Sky, Silk N' Satin, Healing Waters	☀️	Precision Multi-Pellet	PMPL	288, 128-cell or larger	No	72-76°F (22-24°C)	4	4-5	6-8 in. (15-20 cm) pots, 10 in. (25 cm) 1-3 ppp, 12 in. (30 cm) 4-5 ppp	61-75°F (16-24°C)	57-65°F (14-18°C)	—	—	6-7 from 288 cells, 5-6 from 105/128 cells, 4-5 from 72 cells	Do not use B-Nine/ Alar or Topflor for height control as they will stunt Bacopa.	Varies depending on the mix.	Varies depending on the mix.				
	FUSEABLES® MULTI-SPECIES, MULTI-PELLET <i>Viola cornuta</i> and <i>Lobularia maritima</i>	Wine Cooler	☀️	Precision Multi-Pellet	PMPL	288, 128-cell or larger	No	65-70°F (18-21°C)	2-4	3-4	6-8 in. (15-20 cm) pots, 10-12 in. (25-30 cm) baskets 4 ppp	60-68°F (16-20°C)	50-60°F (10-16°C)	—	—	5-7 from 288 cell, 4-6 from 128 cell		6-10 in. (15-25 cm)	6-14 in. (15-35 cm)				
Pg 100	FUSEABLES® PETUNIA <i>P. x hybrida</i>	Blueberry Lime Jam, Burgundy Starlight, Lime Coral, Ooh La La, Pleasantly Blue, Strawberry Wine	☀️	Precision Multi-Pellet	PMPL	288, 128-cell or larger	No	72-76°F (22-24°C)	4	5-6	6-8 in. (15-20 cm) pots, 10 in. (25 cm) 1-3 ppp, 12 in. (30 cm) 4-5 ppp	61-75°F (16-24°C)	57-65°F (14-18°C)	—	—	6-7 from 288 cells, 5-6 from 105/128 cells, 4-5 from 72 cells	PGR can use the same regime as that for standard or spreading petunia. Note that Pleasantly Blue responds better to a B-Nine spray than it does to a Bonzi spray or drench. So for this specific Fuseables the use of B-Nine is preferred.	Varies depending on the mix	Varies depending on the mix				

FOR MESA SERIES GAILLARDIA See Perennial Culture Chart (pg 54)

FOR 'SPARKLE WHITE' GAURA See Perennial Culture Chart (pg 54)

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	
												Growing on temperature day	Growing on temperature night	Pack							
Online*	GAZANIA <i>G. rigens</i>	New Day® Series	☀️	4,400-8,500 S/oz. (150-300 S/g)	COT	406-cell or larger	Yes	70-72°F (21-22°C)	3-4	4-5	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm) 3 ppp	65-70°F (18-21°C)	55-60°F (13-16°C)	8-9	8-9	8-9	8-10 in. (20-25 cm)	6-8 in. (15-20 cm)			
	GAZANIA, Tetraploid <i>G. rigens</i>	Sunshine Mixture	☀️	14,500 S/oz. (500 S/g)	SED	packet seed item	Yes	70°F (21°C)	2-3	4-5	Packet seed item	65-68°F (18-20°C)	55-60°F (13-16°C)	–	–	–	12 in. (30 cm)	6-8 in. (15-20 cm)	✓		
	GERANIUM, IVY <i>Pelargonium x peltatum</i>	Summer Showers F1 Series	☀️	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 (16-18°C)	60-65°F (16-18°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.	
Pg 143	GERBERA, F1 <i>Gerbera jamesonii</i> A Kieft Seed product	Revolution Series	☀️	8,550-11,400 S/oz. (300-400 S/g)	PEL	144 to 128-cell	Cover lightly	68-70°F (20-21°C)	4-7	6-7	Micro: 3 in. (8 cm) Mini: 3.5-4 in. (9-10 cm) Midi: 3.5-4 in. (9-11 cm) Standard: 4.5-5.5 in. (11-14 cm) Mega: 6 in. and larger (15 cm and larger)	66-68°F (19-20°C)	62-66°F (17-19°C)	8-10	8-10	8-10	When transplanting, do not pot too deep as this may result in crown rot. Space plants when the leaves of the plants are touching each other, generally 5 to 6 weeks after transplanting.	Micro/Mini: 8-10 in. (20-25 cm) Midi: 10-12 in. (25-30 cm) Standard/Mega: 12-16 in. (30-40 cm)		Crop Schedule is dependent on sowing date, available light and required pot/plant ratio. Total crop time is approx. 14-15 weeks from sowing to 50% flowering. 100% color will appear 10-14 days later.	
Pg 101	GOMPHRENA <i>G. sp.</i>	Fireworks	☀️	14,175 S/oz. (500 S/g)	COT	406-cell or larger	Yes	68-75°F (20-24°C)	2-3	5-6	5 in. (13 cm), gallon (15-18 cm) 2-3 ppp	65-75°F (18-24°C)	63-66°F (18-25°C)	–	–	8-9	4 ft. (1.2 m)	4 ft. (1.2 m)	✓		
Online*	HELENIUM <i>H. amarum</i>	Dakota Gold	☀️	5,000 MSP/oz. (200 MSP/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.	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.
Online*	HELIANTHUS <i>H. annuus</i> (Sunflower)	Ballad F1	☀️	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), gallon (15-18 cm) 1-3 ppp	64-72°F (18-22°C)	61-64°F (16-18°C)	–	8-9	7-8 (Summer/ Autumn)	Plants grow shorter under short days. Under longer days, plants grow taller without growth regulators. Plants can flower year-round.	24-30 in. (60-75 cm)	6-8 in. (15-20 cm)	✓	PGR treatments will delay flowering about 1 week.
Online*	HELIANTHUS <i>H. annuus</i> (Sunflower)	Jua F1 Series	☀️	482-567 S/oz. (17-20 S/g)	SED	Direct sow recommended; 200-cell	Yes	68-75°F (20-24°C)	2-3 if plug; 3-5 if direct sown	2-2.5	Cut flower	65-85°F (18-29°C)	50-65°F (10-18°C)	–	–	8.5-10.5 (from sowing)	See also Cut Flower section for more details (pg 70).	3-5 ft. (0.9-1.5 m) depending on culture	–		
Online*	HELIANTHUS <i>H. annuus</i> (Sunflower)	Miss Sunshine F1	☀️	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), gallon (15-18 cm) 1-3 ppp	64-72°F (18-22°C)	61-64°F (16-18°C)	–	7-8	6-7 (Summer/ Autumn)		10-16 in. (25-40 cm)	6-8 in. (15-20 cm)	✓	PGR treatments will delay flowering about 1 week.
	HELIANTHUS <i>H. annuus</i> (Sunflower)	Prado Series	☀️	1,135 S/oz. (40 S/g)	SED	Direct sow recommended; 200-cell	Yes	68-75°F (20-24°C)	3-5	2-3	Cut flower	65-85°F (18-29°C)	50-65°F (10-18°C)	–	–	10-12 (from sowing)	See also Cut Flower section for more details (pg 70).	4-5.5 ft. (1.2-1.7 m)	–		
Online*	HELICHRYSUM <i>H. microphyllum</i> (<i>Plectostachys serphyllifolia</i>)	Silver Mist	☀️	22,679 MSP/oz. (800 MSP/g)	MSP	288-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) 3 ppp	65-75°F (18-24°C)	62-65°F (17-18°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 <i>Botrytis</i> . Does not require pinching.	6-8 in. (15-20 cm)	18-24 in. (45-60 cm)	✓	
FOR LUNA SERIES HIBISCUS See Perennial Culture Chart (pg 56)																					
Pg 102	HIBISCUS <i>H. acetosella</i>	Mahogany Splendor	☀️	2,350 S/oz. (83 S/g)	SED	200-cell or larger	Yes	71-76°F (21-24°C)	2-3	2-3	4.5 in. (11 cm), 6 in. (15 cm), gallon (15-18 cm), 8 in. (20 cm)	65-70°F (18-21°C)	62-67°F (17-19°C)	–	5-6	6-8	Light for germination is optional.	3-5 ft. (0.9-1.5 m)	24-30 in. (60-75 cm)	✓	
	HYPOESTES <i>H. phyllostachya</i>	Splash Select Series	☀️	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) 3 ppp	65-75°F (18-24°C)	62-65°F (17-18°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.

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						
FOR WHITEOUT IBERIS See Perennial Culture Chart (pg 56)																						
Online*	IMPATIENS, SINGLE F1 <i>I. walleriana</i>	Dazzler Series	☀️	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	Packs, 4 in. (10 cm) pots, 10 in. (25 cm) basket 5 ppp	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 103	IMPATIENS, SINGLE F1 <i>I. walleriana</i>	Impreza Series	☀️	35,714-61,428 S/oz. (1,250-2,150 S/g)	SED	512-cell or larger	No	72-76°F (22-24°C)	3-5	4-5	Packs, 4 in. (10 cm) pots, 10 in. (25 cm) basket 5 ppp	65-75°F (18-24°C)	62-65°F (17-18°C)	3-4	5-6	6-7	Do not cover seed. Impatiens require more than 10 f.c. (100 Lux) of light for optimum germination.	6-8 in. (15-20 cm)	12-14 in. (30-35 cm)			
Online*	IMPATIENS, SINGLE F1 <i>I. walleriana</i>	Super Elfin® Series (XP & standard varieties)	☀️	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	Packs, 4 in. (10 cm) pots, 10 in. (25 cm) basket 5 ppp	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 104	IMPATIENS, NEW GUINEA <i>I. hawkeri</i>	Divine F1 Series	☀️	15,800 S/oz. (558 S/g)	SED	288 to 128-cell	No	74-77°F (23-25°C)	5-8 Watch for 80% radicle emergence before removal from stage 1	5-6	306 Pack (9 cm), 1801 flats, 4-6 in. (10-15 cm) pots, baskets	68-76°F (20-24°C), see Key tips section	65-68°F (18-20°C)	6-7	7-8	8-9	Feed plants moderately. Overfeeding leads to lush, leafy plants at the expense of flowers. See Grower Facts for complete information.	10-14 in. (25-35 cm)	12-14 in. (30-35 cm)			
Pg 156	INCARVILLEA <i>I. sinensis</i> A Kieft Seed product	Cheron Series	☀️	38,275-52,445 S/oz. (1,350-1,850 S/g)	SED	288-cell or larger (2-3 seeds per cell)	Yes, lightly	65-68°F (18-20°C)	4-6	4-6	4-5 in. (10-13 cm) pots	67-70°F (19-21°C)	63-65°F (17-18°C)	–	7-8	8-9	Plant final height does not respond to growth regulators very well. Avoid using B-Nine/Alar in later application as it could significantly delay flowering.	10-20 in. (25-50 cm)	6-8 in. (15-20 cm)	✓	Pink takes approximate 7 to 10 days longer crop time compared to White.	
Online*	IREesine <i>I. herbstii</i>	Purple Lady	☀️	44,800 S/oz. (1,580 S/g)	SED	288-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 (17-18°C)	–	5-6	6-7	Reddish foliage indicates plants need more feed. High light, especially with low humidity, results in puckered foliage.	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 105	ISOTOMA <i>I. hybrida</i> (laurentia)	Gemini Series	☀️	280,000-340,000 S/oz. (10,000-12,000 S/g)	PEL	288-cell or larger (2-4 seeds per cell)	No	68-72°F (20-22°C)	5-8	4-5	4-5 in. (10-13 cm), gallon (15-18 cm) with 3 ppp	60-66°F (16-18°C)	54-57°F (12-14°C)	9-10	9-12	14-16	Prefers to grow in cooler conditions. Warmer temperature above 70°F (21°C) could delay or inhibit flowering.	8 in. (20 cm)	10-14 in. (25-35 cm)		✓	
	ISOTOMA <i>I. hybrida</i> (laurentia)	Tristar Series	☀️	252,000-308,000 S/oz. (9,000-11,000 S/g)	PEL	288-cell or larger	No	68-72°F (20-22°C)	4-7	4-5	4 in. (10 cm), 5 in. (13 cm)	61-65°F (16-18°C)	57-61°F (14-16°C)		9-10			8-10 in. (20-25 cm)	10-12 in. (25-30 cm)			
	LAVATERA <i>I. trimestris</i>	Twins Series	☀️	3,500-4,200 S/oz. (125-150 S/g)	RAW	288-cell or larger	Normal cover	68-72°F (20-22°C)	3-7	3-5	Field grown, gallon	65-68°F (18-20°C)	61-65°F (16-18°C)			8-10	Reacts well to Cycocel; plant stays more compact in containers.	12-20 in. (30-50 cm)	12-20 in. (30-50 cm)			
FOR LAVENDER See Perennial Culture Chart (pg 56-58)																						
Pg 106	LEYCESTERIA <i>L. formosa</i>	Jealousy	☀️	Not available	MSP	288-cell or larger	Cover lightly	65-70°F (18-21°C)	9-12	7-8	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm) 3 ppp, gallon (15-18 cm) 3 ppp	68-75°F (20-24°C)	65-67°F (18-19°C)	6-7	6-7	7-8	Requires light to germinate.	36-60 in. (90 cm-1.5 m)	18-20 in. (45-50 cm)	✓	Sensitive to spider mites.	
Online*	LINARIA <i>L. hybrida</i>	Enchantment F1	☀️	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 (16-21°C)	52-60°F (11-15°C)	–	6-7	–	Stage 1 PGR is very important for avoiding leggy seedlings.	14-16 in. (35-40 cm)	12-14 in. (30-35 cm)		✓	
Online* Flare, pg 107	LISIANTHUS, CUT FLOWER <i>Eustoma grandiflorum</i>	ABC F1, Flare, Laguna F1 Series	☀️	28,500 S/oz. (1,000 S/g)	PEL	406-cell	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 70).	29-45 in. (75-115 cm)	–	✓	Cover the plug trays with a medium layer of vermiculite after germination phase.	

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	
												Growing on temperature day	Growing on temperature night	Pack							4-in./10-cm
Online*	LISIANTHUS, POT & BEDDING F1 <i>Eustoma grandiflorum</i>	Florida F1 Series	☀	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*	LISIANTHUS, POT & BEDDING F1 <i>Eustoma grandiflorum</i>	Forever F1 Series	☀	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*	LISIANTHUS, POT & BEDDING F1 <i>Eustoma grandiflorum</i>	Sapphire F1 Series	☀	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 (13-16°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.	5-6 in. (12-15 cm)	4-6 in. (10-15 cm)	✓	Well-suited for use as a Lifestyle Plant.
	LOBELIA, COMPACT <i>L. erinus</i>	Cambridge Blue, Cobalt Blue, Crystal Palace, Mrs. Clibran, Rosamund, String of Pearls, White Lady	☀	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 (13-16°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*	LOBELIA, COMPACT <i>L. erinus</i>	Riviera Series	☀	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 (13-16°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)	✓	
	LOBELIA, TRAILING <i>L. erinus</i>	Fountain Series	☀	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 (13-16°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)	✓	
Online*	LOBELIA, TRAILING <i>L. erinus</i>	Regatta Series	☀	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 (13-16°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)	✓	

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		
												Growing on temperature day	Growing on temperature night	Pack								
	LOBELIA, TRAILING <i>L. erinus</i>	Sapphire Pendula	☀	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 (16-17°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)		✓	
	MARIGOLD, AFRICAN <i>Tagetes erecta</i>	Garland Orange F1	☀	7,000-7,600 S/oz. (250-270 S/g)	EZ-Flow Seed	128 to 394-cell	Yes	70-72°F (21-22°C)	3-4		4.5 in. (11 cm)	65-68°F (18-20°C)	60-62°F (16-17°C)	-	7-8	-	Higher temperatures inhibit germination, shorten crop time and cause stretching.	Short day 28-34 in. (70-85 cm) Long day 48-60 in. (1.2-1.5 m)	N/A			
	MARIGOLD, AFRICAN <i>Tagetes erecta</i>	Lady F1 Series	☀	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 (16-17°C)	-	8-9	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	20 in. (50 cm)	10 in. (25 cm)			
	MARIGOLD, AFRICAN <i>Tagetes erecta</i>	Marvel F1 Series	☀	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 (16-17°C)	-	7-8	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	18 in. (45 cm)	10 in. (25 cm)			
Online*	MARIGOLD, AFRICAN <i>Tagetes erecta</i>	Vanilla F1	☀	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 (16-17°C)	-	7-8	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	16 in. (40 cm)	10 in. (25 cm)			
Online*	MARIGOLD, DWARF AFRICAN <i>Tagetes erecta</i>	Taishan® F1 Series	☀	9,200-10,600 S/oz. (325-375 S/g)	DTL, COT	288-cell or larger	Yes	70-72°F (21-22°C)	2-3	3	306 (9 cm), 4 in. (10 cm), 4.5 in. (11 cm)	65-68°F (18-20°C)	60-62°F (16-17°C)	-	4-6 (Spring), 7-8 (Summer)	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	10-12 in. (25-30 cm)	8-10 in. (20-25 cm)		✓	
Pg 108	MARIGOLD, FRENCH DWARF <i>Anemone Tagetes patula</i>	Durango® Series	☀	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 (16-17°C)	4-5	5-6	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	10-12 in. (25-30 cm)	6-8 in. (15-20 cm)			
Pg 108	MARIGOLD, FRENCH DWARF CRESTED <i>Tagetes patula</i>	Bonanza Series	☀	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 (16-17°C)	3-4	-	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	10-12 in. (25-30 cm)	6-8 in. (15-20 cm)			
	MARIGOLD, FRENCH DWARF CRESTED <i>Tagetes patula</i>	Boy Series	☀	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 (16-17°C)	5-6	-	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	8-10 in. (20-25 cm)	6-8 in. (15-20 cm)			
	MARIGOLD, FRENCH DWARF CRESTED <i>Tagetes patula</i>	Honeycomb	☀	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 (16-17°C)	5-6	-	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	10-12 in. (25-30 cm)	6-8 in. (15-20 cm)			
	MARIGOLD, FRENCH DWARF CRESTED <i>Tagetes patula</i>	Jacket Series	☀	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 (16-17°C)	5-6	-	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	10-12 in. (25-30 cm)	6-8 in. (15-20 cm)			
Pg 108	MARIGOLD, FRENCH DWARF CRESTED <i>Tagetes patula</i>	Janie Series	☀	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 (16-17°C)	3-4	-	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	8-10 in. (20-25 cm)	6-8 in. (15-20 cm)			
	MARIGOLD, FRENCH DWARF SINGLE <i>Tagetes patula</i>	Red Marietta	☀	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 (16-17°C)	4-5	-	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	10 in. (25 cm)	6-8 in. (15-20 cm)			
	MARIGOLD, FRENCH FULLY DOUBLE <i>Tagetes patula</i>	Gate Series	☀	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 (16-17°C)	-	4-5	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	10-12 in. (25-30 cm)	6-8 in. (15-20 cm)			
Pg 108	MARIGOLD, FRENCH <i>Tagetes patula</i>	Hot Pak Series	☀	9,500-10,500 S/oz. (335-370 S/g)	DTL	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 (16-17°C)	3-4	5-6	-	Maintain soil pH of 6.2-6.5 to avoid iron toxicity.	6-7 in. (15-18 cm)	6-8 in. (15-20 cm)		✓	Stay compact and continue to flower reliably even in locations with high temperature and high humidity nights.
Online*	MATRICARIA <i>Tanacetum parthenium</i>	Vegmo Series	☀	18,650 S/oz. (650 S/g)	PEL	200-cell	No	70-72°F (21-22°C)	4-6	4-5	Cut flower	Winter: 55-58°F (13-14°C); Summer: 72-74°F (22-24°C)	Winter: 55-58°F (13-14°C); Summer: 60-65°F (16-18°C)	-	-	7-16	See also Cut Flower section for more details (pg 70).	28-36 in. (70-90 cm)	-		✓	Recommendation is to have longer days (14 to 16 hours) during plug time.

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
												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other						
Pg 109	MATTHIOLA (STOCK), BEDDING <i>M. incana</i>	Hot Cakes Series	☀	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 (16-21°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.
Online*	MATTHIOLA (STOCK), BEDDING <i>M. incana</i>	Vintage Series	☀	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	Pack, 4 in. (10 cm)	60-70°F (16-21°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)		✓	
	MATTHIOLA (STOCK), FIELD CUT <i>M. incana</i>	Column Stocks	☀	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 (13-16°C)	–	–	20-22 (from sowing)	See also Cut Flower section for more details (pg 70).	24-30 in. (60-75 cm)	–			
	MATTHIOLA (STOCK), GREENHOUSE-GROWN SELECTABLE <i>M. incana</i>	Aida, Carmen, Figaro, Opera (Vegmo) Series	☀	15,600-20,000 S/oz. (550-700 S/g)	SED	200-cell	Yes	59°F (15°C)	5	5-6	Cut flower	50-62°F (10-17°C)	50-62°F (10-17°C)	–	–	4-12	See also Cut Flower section for more details (pg 70).	32 in. (80 cm)	–			
	A Kieft Seed product																					
Online*	MATTHIOLA (STOCK), GREENHOUSE-GROWN SELECTABLE <i>M. incana</i>	Katz Series	☀	15,300-18,100 S/oz. (540-640 S/g)	SED	406-cell	Yes	68-72°F (20-22°C)	3-4	4	Cut flower	60-75°F (15-24°C)	45-55°F (7-13°C)	–	–	8-13	See also Cut Flower section for more details (pg 70).	32 in. (80 cm)	–			Best performance when grown in tunnels.
Pg 110	MILLET, ORNAMENTAL <i>Pennisetum glaucum</i>	Jade Princess F1	☀☀	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), 4.5 in. (11 cm), gallon (15-18 cm) 1-2 ppp	68-85°F (20-30°C)	64-66°F (18-19°C)	–	4-5	5-6	12-14 weeks in a gallon to flower.	24-30 in. (60-75 cm)	18-24 in. (45-60 cm)		✓	Well-suited to both container and landscape plantings.
Pg 111	MILLET, ORNAMENTAL <i>Pennisetum glaucum</i>	Jester F1	☀☀	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 (15-18 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.	36-48 in. (90-120 cm)	10-14 in. (25-35 cm)		✓	Well-suited to both containers and landscape plantings.
Pg 111	MILLET, ORNAMENTAL <i>Pennisetum glaucum</i>	Purple Baron F1	☀☀	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 (15-18 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.	30-42 in. (75-110 cm)	10-14 in. (25-35 cm)		✓	Well-suited to both containers and landscape plantings.
Pg 111	MILLET, ORNAMENTAL <i>Pennisetum glaucum</i>	Purple Majesty F1	☀☀	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 (15-18 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.	4-5 ft. (1.2-1.5 m)	8-12 in. (20-30 cm)		✓	Ideal for landscapes and large container plantings.
FOR MULTI-SPECIES, MULTI-PELLET SIMPLYSALAD See Vegetable Culture Chart (pg 74)																						
Online*	MYOSOTIS (Forget-Me-Not) <i>M. sylvatica</i>	Mon Amie Blue	☀	48,195-59,535 S/oz. (1,700-2,100 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 (16-21°C)	50-55°F (10-13°C)	5-9	5-9	5-9	Maintain low pH. Myosotis suffer from chlorosis at high pH. Grow like <i>Primula acaulis</i> .	8-10 in. (20-25 cm)	6-8 in. (15-20 cm)		✓	See Grower Facts for details on how to mitigate chlorosis caused by high pH.
	A Kieft Seed product																					
Online*	NEMESIA <i>N. foetans</i>	Poetry F1 Series	☀	44,086-71,650 S/oz. (6,700-8,530 S/g)	SED	288-cell or larger (4 seeds per cell)	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.	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	Weeks from plug to finish (Spring unless specified)					Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations
												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other						
	NEMESIA <i>N. strumosa</i>	Sundrops Mixture	☀️	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 (16-18°C)	55-60°F (13-16°C)	8	8-10	—	Grow cool; optimum temperature 55°F (13°C).	10 in. (25 cm)	8-10 in. (20-25 cm)		✓	
	NICOTIANA <i>N. alata</i>	Nicki F1 Series	☀️	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 (16-18°C)	-	4-5	—		16-18 in. (40-45 cm)	10-12 in. (25-30 cm)			
	NIEREMBERGIA <i>N. coerulea</i>	Robe Series	☀️	190,000-210,000 S/oz. (6,800-7,500 S/g)	RAW	288-cell or larger	No	68-72°F (20-22°C)	3-5	4	Packs, 3.5 in. (9 cm), 4 in. (10 cm)	61-68°F (16-20°C)	59-61°F (15-16°C)	3-4 (green)	8-10	—	Reacts well to Alar, B9	8 in. (20 cm)	8-10 in. (20-25 cm)		✓	
Pg 112	OSTEOSPERMUM <i>O. ecklonis</i>	Akila® Series	☀️	1,980-2,830 S/oz. (70-100 S/g)	SED	288-cell or larger	Yes	65-68°F (18-20°C)	5-6	4-5	306 (9 cm), 4 in. (10 cm)	60-70°F (16-21°C)	50-55°F (10-13°C)	10-12 (Spring), 7-9 (Autumn)	10-12 (Spring), 7-9 (Autumn)	—		16-20 in. (40-50 cm)	16-20 in. (40-50 cm)			
Pg 116	PANSY, LARGE-FLOWERED F1 <i>Viola x wittrockiana</i>	Spring Matrix Series	☀️☀️	18,575-24,280 S/oz. (650-850 S/g)	SED, PRM	288-cell	Yes	65-70°F (18-21°C)	3-4	5	Pack, 4 in. (10 cm)	60-70°F (16-21°C)	50-55°F (10-13°C)	6-7 (Spring), 4-5 (Autumn)	6-7 (Spring, annual culture), 16-20 (Spring, overwinter culture), 4-5 (Autumn)	—		8 in. (20 cm)	8-10 in. (20-25 cm)		✓	Bred for uniformity of plant architecture across the series. All colours will flower together in Spring production covering the soil with superior branching across all environments. Schedule as an all-purpose pansy for Spring finish or short day growing conditions.
Pg 116	PANSY, LARGE-FLOWERED F1 <i>Viola x wittrockiana</i>	Matrix® Series	☀️☀️	18,575-24,280 S/oz. (650-850 S/g)	SED, PRM	288-cell	Yes	65-70°F (18-21°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)	—	Matrix resists stretching better than other pansies under stressful conditions and warm temperatures of Autumn production, 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 colours will flower together in Autumn production, covering the soil with superior branching across all environments. Schedule as an all-purpose pansy for Autumn finish or long day growing conditions.
	PANSY, LARGE-FLOWERED <i>Viola x wittrockiana</i>	Promise Series	☀️☀️	18,575-24,280 S/oz. (650-850 S/g)	SED, PRM	288-cell	Yes	65-70°F (18-21°C)	3-4	5	Pack, 4 in. (10 cm)	60-70°F (16-21°C)	50-55°F (10-13°C)	6 (Spring), 4 (Autumn)	6-7 (Spring, annual culture), 16-20 (Spring, overwinter culture), 4-5 (Autumn)	—		8-12 in. (20-30 cm)	8-12 in. (20-30 cm)		✓	Bred for a compact plant, early Spring production in Northern Europe perfect for high density production.
Pg 116	PANSY, MULTIFLORA F1 <i>Viola x wittrockiana</i>	Panola® Series (XP & standard varieties)	☀️☀️	18,425-31,200 S/oz. (650-1,100 S/g)	SED, PRM	288-cell	Yes	65-70°F (18-21°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 and overwintering capabilities. Use in landscapes and retail programs where maximum color and holding capacity in packs is needed.
Pg 116	PANSY, RUFFLED F1 <i>Viola x wittrockiana</i>	Fizzy & Frizzle Sizzle Series	☀️☀️	20,000-31,500 S/oz. (700-1,100 S/g)	SED, PRM	288-cell	Yes	65-70°F (18-21°C)	3-4	5	Pack, 4 in. (10 cm)	60-70°F (16-21°C)	50-55°F (10-13°C)	Fizzy 8-9 Frizzle Sizzle 6-8 (Spring), 4-6 (Autumn)	Fizzy 8-9 Frizzle Sizzle 6-8 (Spring), 4-6 (Autumn)	—	For maximum ruffled edge, schedule for late Fall, Winter and Spring programs. Heat reduces the ruffled edge and color contrast.	6-8 in. (15-20 cm)	8-10 in. (20-25 cm)		✓	
	PANSY, SPECIALTY MEDIUM-FLOWERED F1 <i>Viola x wittrockiana</i>	Halloween II	☀️☀️	18,425-31,200 S/oz. (650-1,100 S/g)	SED, PRM	288-cell	Yes	65-70°F (18-21°C)	3-5	5	Pack	60°F (16°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.
Pg 113	PANSY, TRAILING F1 <i>Viola x wittrockiana</i>	Cool Wave® Series	☀️	28,000-40,000 S/oz. (1,000-1,400 S/g)	PRM	288 or 128-cell	Yes	65-70°F (18-21°C)	2-3	4-5	4 1/2 in. (10.5-cm), Quart, 10-12 in. (25-30 cm) baskets 3-4 ppp	62-70°F (17-21°C)	50-65°F (10-18°C)	6-7 (Spring), 4-5 (Autumn)	6-7 (Spring), 4-5 (Autumn)	8-10 (Spring), 6-8 (Autumn)	Total crop time to finish can be 10-14 days longer when grown from a smaller size plug such as a 288-cell size.	6-8 in. (15-20 cm)	24-30 in. (60-75 cm)		✓	Regular scouting for powdery mildew and preventative measures are recommended.

FOR PARSLEY See Vegetable Culture Chart (pg 74)

FOR ELECTRIC BLUE PENSTEMON See Perennial Culture Chart (pg 62)

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
												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other						
Pg 116	PENTAS, F1 <i>Pentas lanceolata</i>	Butterfly F1 Series	☀	31,900 S/oz. (1,125 S/g)	PEL	288-cell or larger	No	75°F (24°C)	6-9	8-10	4 in. (10 cm), 6 in. (15 cm), gallon (15-18 cm)	72-80°F (22-27°C)	62-65°F (17-18°C)	–	8-10 (South), 10-12 (North)	8-10 (South), 10-12 (North)	Maintain pH at 6.5-6.8 for growing on. At pH levels below 6.5, iron toxicity and calcium/magnesium deficiency 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.
FOR PEPPER, HOT See Vegetable Culture Chart (pg 74)																						
Pg 118	PEPPER, ORNAMENTAL <i>Capsicum annuum</i>	Black Pearl	☀	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 (15-18 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. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control.	14-18 in. (35-45 cm)	12-16 in. (30-40 cm)	✓		
Pg 118	PEPPER, ORNAMENTAL <i>Capsicum annuum</i>	Calico F1	☀	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 (15-18 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. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied 2 weeks after sowing for height control.	10-12 in. (25-30 cm)	14-16 in. (35-40 cm)	✓		
	PEPPER, ORNAMENTAL <i>Capsicum annuum</i>	Cappa Series	☀	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 (15-18 cm)	68-72°F (20-22°C)	65-70°F (18-21°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. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied 2 weeks after sowing for height control.	32-40 in. (80 cm-1 m)	12-16 in. (30-40 cm)	✓		
Pg 119	PEPPER, ORNAMENTAL <i>Capsicum annuum</i>	Chilly Chili F1	☀	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 (15-18 cm)	65-75°F (18-24°C)	60-65°F (16-18°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. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied 2 weeks after sowing for height control.	9-10 in. (23-25 cm)	13-14 in. (33-35 cm)	✓		
	PEPPER, ORNAMENTAL <i>Capsicum annuum</i>	Masquerade F1	☀	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. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied 2 weeks after sowing for height control.	10-12 in. (25-30 cm)	8-10 in. (20-25 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	Weeks from plug to finish (Spring unless specified)					Key tips	Mature height	Plant spread	Heat tolerant	Cool crop	Other recommendations	
												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other							
Pg 119	PEPPER, ORNAMENTAL <i>Capsicum annuum</i>	Medusa	☀	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 (16-18°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 118	PEPPER, ORNAMENTAL <i>Capsicum annuum</i>	Purple Flash	☀	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 (15-18 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. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied 2 weeks after sowing for height control.	13-15 in. (33-38 cm)	19-21 in. (48-52 cm)	✓			
	PEPPER, ORNAMENTAL <i>Capsicum annuum</i>	Red Missile	☀	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. if necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied 2 weeks after sowing for height control.	8-10 in. (20-25 cm)	6-8 in. (15-20 cm)	✓			
Pg 119	PEPPER, ORNAMENTAL <i>Capsicum annuum</i>	Sangria F1	☀	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 (15-18 cm)	65-75°F (18-24°C)	60-65°F (16-18°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. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied 2 weeks after sowing for height control.	10-12 in. (25-30 cm)	16-18 in. (40-45 cm)	✓			
FOR PEPPER, SWEET See Vegetable Culture Chart (pg 76)																							
Pg 127	PETUNIA, SMALL-FLOWERED SPREADING F1 <i>P. x hybrida</i>	Shock Wave® F1 Series	☀	33,000 S/oz. (1,200 S/g)	PEL	288-cell or larger	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) 2-3 ppp, 10 in. (25 cm) basket 3-4 ppp	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. 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. See Supplemental Lighting Chart on page 123.

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
												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other						
Pg 126	PETUNIA, SPREADING F1 <i>P. x hybrida</i>	Easy Wave® F1 Series	☀	33,000 S/oz. (1,200 S/g)	PEL	288-cell or larger	No	72-76°F (22-24°C)	4	4-6	306 (9 cm), 4 in. (10 cm), 6 in. (15 cm) 1-3 ppp, 10 in. (25 cm) basket 3-4 ppp	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. 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 123.
Pg 131	PETUNIA, SPREADING F1 <i>P. x hybrida</i>	Tidal Wave® F1 Series	☀	33,000 S/oz. (1,200 S/g)	PEL	288-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 required for Tidal Wave 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 interruption will reduce crop times. See Supplemental Lighting Chart on page 123.
Pg 128	PETUNIA, SPREADING F1 <i>P. x hybrida</i>	Wave® F1 Series	☀	33,000 S/oz. (1,200 S/g)	PEL	288-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	7-9 (Spring), 4-7 (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.	5-7 in. (12-18 cm)	3-4 ft. (90 cm-1.2 m)			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 interruption will reduce crop times. See Supplemental Lighting Chart on page 123.
	PETUNIA, SINGLE FLORIBUNDA F1 <i>P. x hybrida</i>	Madness Series	☀	285,000 S/oz. (10,000 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	5-6	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)			
Pg 122	PETUNIA, SINGLE FLORIBUNDA F1 <i>P. x hybrida</i>	Pretty Flora Series	☀	33,000 S/oz. (1,200 S/g)	PEL	288-cell or larger	No	72-76°F (22-24°C)	4	5-6	804 pack, 10 in. (25 cm) basket 3-4 ppp	61-75°F (16-24°C)	57-65°F (14-18°C)	5-6	–	6-7	Genetically compact and needs less to no PGR after transplant	7-10 in. (17-25 cm)	8-12 in. (20-30 cm)			
	PETUNIA, SINGLE GRANDIFLORA F1 <i>P. x hybrida</i>	Daddy® Series	☀	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)			
	PETUNIA, SINGLE GRANDIFLORA F1 <i>P. x hybrida</i>	Dreams Series	☀	285,000 S/oz. (10,000 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	5-6	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)			
Pg 121	PETUNIA, SINGLE F1 GRANDIFLORA <i>P. x hybrida</i>	Ez Rider® Series	☀	33,000 S/oz. (1,200 S/g)	PEL	288-cell or larger	No	72-76°F (22-24°C)	4	5-6	804 pack, 10 in. (25 cm) basket 3-4 ppp	61-75°F (16-24°C)	57-65°F (14-18°C)	5-6	–	6-7	Genetically compact and needs less to no PGR after transplant	6-10 in. (15-25 cm)	8-12 in. (20-30 cm)			
Pg 124	PETUNIA, SINGLE F1 GRANDIFLORA <i>P. x hybrida</i>	Pretty Grand Series	☀	33,000 S/oz. (1,200 S/g)	PEL	288-cell or larger	No	72-76°F (22-24°C)	4	5-6	804 pack, 10 in. (25 cm) Basket 3-4 ppp	61-75°F (16-24°C)	57-65°F (14-18°C)	5-6	–	6-7	Genetically compact and needs less to no PGR after transplant	6-10 in. (15-25 cm)	8-12 in. (20-30 cm)			
Pg 125	PETUNIA, SINGLE GRANDIFLORA F1 <i>P. x hybrida</i>	Sophistica® Collection	☀	33,000 S/oz. (1,200 S/g)	PEL	288-cell	No	72-76°F (22-24°C)	4	4-6	4 in. (10 cm), 5 in. (13 cm), 6 in. (18 cm) 1-3 ppp, 10 in. (25 cm) basket 3-4 ppp	61-75°F (16-24°C)	57-65°F (14-18°C)	–	5-7 (Spring), 3-5 (Summer)	5-8 (Spring), 3-6 (Summer)	Avoid using B-Nine on Lime Bicolor and Blackberry as this may impact flower color. Options include Bonzi or Topflor.	10-15 in. (25-38 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
												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other						
	PETUNIA, SINGLE GRANDIFLORA F1	Supercascade Series	☀	285,000 S/oz. (10,000 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	5-6	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)			
	PETUNIA, SINGLE MULTIFLORA F1	Carpet Series	☀	285,000 S/oz. (10,000 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	5-6	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)	10-15 in. (25-38 cm)			
Pg 120	PETUNIA, SINGLE MULTIFLORA F1	Debonair Collection	☀	33,000 S/oz. (1,200 S/g)	PEL	288-cell	No	72-76°F (22-24°C)	4	4-6	4 in. (10 cm), 5 in. (13 cm), 6 in. (15 cm) 1-3 ppp, 10 in. (25 cm) basket 3-4 ppp	61-75°F (16-24°C)	57-65°F (14-18°C)	–	5-7 (Spring), 3-5 (Summer)	5-8 (Spring), 3-5 (Summer)	Avoid using B-Nine on Black Cherry as this may impact flower color. Options include Bonzi or Topflor.	10-15 in. (20-38 cm)	10-12 in. (25-30 cm)			
Pg 122	PETUNIA, SINGLE MULTIFLORA F1	Lo Rider® Series	☀	33,000 S/oz. (1,200 S/g)	PEL	288-cell or larger	No	72-76°F (22-24°C)	4	5-6	804 pack, 10 in. (25 cm) basket 3-4 ppp	61-75°F (16-24°C)	57-65°F (14-18°C)	5-6	–	6-7	Genetically compact and needs less to no PGR after transplant	7-10 in. (17-25 cm)	8-12 in. (20-30 cm)			
	PETUNIA, SINGLE MULTIFLORA F1	Mirage Series	☀	285,000 S/oz. (10,000 S/g)	SED, PEL	512-cell or larger	No	72-76°F (22-24°C)	3-5	5-6	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)	10-12 in. (25-30 cm)			
	PETUNIA, DOUBLE FLORIBUNDA F1	Double Madness Series	☀	265,000 S/oz. (9,300 S/g)	SED, PEL	288-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)	–	5-6	7-8		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
	PETUNIA, DOUBLE GRANDIFLORA F1	Double Cascade Series	☀	270,000 S/oz. (9,500 S/g)	SED, PEL	288-cell or larger	No	72-76°F (22-24°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)	–	6-7	8-9		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
	PETUNIA, DOUBLE GRANDIFLORA F1	Valentine, Glorious Mixture	☀	270,000 S/oz. (9,500 S/g)	SED, PEL	288-cell or larger	No	72-76°F (22-24°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)	–	6-7	8-9		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
	PETUNIA, DOUBLE GRANDIFLORA F1	Pirouette Series	☀	270,000 S/oz. (9,500 S/g)	SED, PEL	288-cell or larger	No	72-76°F (22-24°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)	–	6-7	8-9		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
	PETUNIA, DOUBLE MULTIFLORA F1	Duo Series	☀	265,000 S/oz. (9,300 S/g)	SED, PEL	288-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)	–	5-6	7-8		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
	PETUNIA, DOUBLE MULTIFLORA F1	Bonanza Mixture	☀	265,000 S/oz. (9,300 S/g)	SED, PEL	288-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)	–	5-6	7-8		10-15 in. (25-38 cm)	10-12 in. (25-30 cm)			
Online*	PHLOX F1	21st Century Series	☀	14,000-24,000 S/oz. (500-850 S/g)	PRM	406-cell or larger	Yes	65-70°F (18-21°C)	3-5	4-5	306 (9 cm), 4 in. (10 cm), gallon (15-18 cm) 3 ppp	55-60°F (13-16°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.
	PHLOX F1	Ethnie Series	☀	16,800-18,200 S/oz. (600-650 S/g)	RAW	406-cell or larger	Normal	65-68°F (18-20°C)	3-5	4-5	Pack, 3.5 in. (9 cm), 4 in. (10 cm)	61-68°F (16-20°C)	57-61°F (14-16°C)	5-6	6-7	–	No PGRs needed.	8 in. (20 cm)	8 in. (20 cm)	✓		
	PHLOX F1	Grammy Pink & White	☀	14,000-24,000 S/oz. (500-850 S/g)	PRM	406-cell or larger	Yes	65-70°F (18-21°C)	3-5	4-5	306 (9 cm), 4 in. (10 cm), gallon (15-18 cm) 3 ppp	55-60°F (13-16°C)	50-55°F (10-13°C)	–	6	7-8	Cover thoroughly with coarse vermiculite. Darkness is required for germination.	8-10 in. (20-25 cm)	10 in. (25 cm)	✓		Ideal for Spring and southern Autumn sales.
	PHLOX F1	Promise Series	☀	19,600-22,400 S/oz. (700-800 S/g)	RAW	406-cell or larger	Normal	65-68°F (18-20°C)	3-5	4-5	Pack, 4 in. (10 cm)	61-68°F (16-20°C)	57-61°F (14-16°C)	6-7	7-8		Strong outdoor performance.	8 in. (20 cm)	8 in. (20 cm)	✓		
Pg 133	PLECTRANTHUS	Silver Crest	☀☀	85,000 S/oz. (3,000 S/g)	SED	288-cell or larger	No	64-72°F (20-22°C)	4-5	5-6	306 (9 cm), 4 in. (10 cm), 4.5 in. (11 cm), 10 in. (25 cm) basket 3 ppp	64-80°F (18-27°C)	61-68°F (16-20°C)	–	4-6	6-7	Due to directional stem arching, it is advisable to position Silver Crest plugs with the growing shoot facing outward, toward the outside of the container.	8-10 in. (20-25 cm)	18-24 in. (46-61 cm)	✓		Ideal as a cascading plant in mixed containers or hanging baskets as well as the edge of rockwalls.
Pg 133	PLECTRANTHUS	Silver Shield	☀☀	21,200 S/oz. (1,100 S/g)	PEL	288-cell or larger	No	64-72°F (20-22°C)	5-7	5-6	306 (9 cm), 4 in. (10 cm), gallon (15-18 cm) 2 ppp	70-75°F (21-24°C)	64-68°F (18-20°C)	–	8-9	9-10	Requires light to germinate. Does not need pinching.	24-30 in. (60-75 cm)	24-30 in. (60-75 cm)	✓		Stress tolerant and very vigorous. Ideal for containers or garden beds.

FOR CHAMPAGNE BUBBLES SERIES ICELAND POPPY See Perennial Culture Chart (pg 62)

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
												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other						
Pg 134	PORTULACA F1 <i>P. grandiflora</i>	Happy Hour F1 Series	☀	257,000 S/oz. (9,000 S/g)	SED, MSP	288-cell	No	71-79°F (22-26°C)	2-3	4-5	Pack, 4 in. (10 cm)	68-76°F (20-25°C)	65-67°F (18-19°C)	5	5-6	–	See Grower Facts for important photoperiod information.	8-10 in. (20-25 cm)	10-12 in. (25-30 cm)	✓		May be sown at 10 hour 30 minute daylength without rosetting. Daylength must be maintained from sowing to finish.
Pg 134	PORTULACA F1 <i>P. grandiflora</i>	Happy Trails F1 Series	☀	257,000 S/oz. (9,000 S/g)	SED, MSP	288-cell	No	71-79°F (22-26°C)	2-3	4-5	Pack, 4 in. (10 cm)	68-76°F (20-25°C)	65-67°F (18-19°C)	6	7	–	See Grower Facts for important photoperiod information.	6-9 in. (15-23 cm)	14-18 in. (35-45 cm)	✓		May be sown at 10-hour daylength without rosetting. Daylength must be maintained from sowing to finish.
Pg 135	PRIMULA <i>P. acaulis</i>	Primlet® Series	☀☀	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	See Grower Facts	–	15-17	–		5-6 in. (13-15 cm)	5-7 in. (13-18 cm)	✓		
Pg 136	PURSLANE <i>P. oleracea</i>	Toucan Series	☀	88,000-107,000 S/oz. (3,100-3,780 S/g)	SED	288-cell (4 seeds per cell)	No	68-74°F (20-24°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)	✓		Sow 4 seeds per cell.
Pg 136	RUELLIA <i>R. brittoniana</i> <i>(R. tweediana)</i>	Southern Star Series	☀	13,850 S/oz. (488 S/g)	SED	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 (15-18 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.
FOR SAGE See Vegetable Culture Chart (pg 76)																						
	SALVIA <i>S. splendens</i>	Flare	☀	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)	✓		
	SALVIA <i>S. splendens</i>	Lighthouse Series	☀	7,500 S/oz. (256 S/g)	SED	406-cell or larger	Yes	70-75°F (21-24°C)	4-6	4-5	1801 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.	24-30 in. (60-75 cm)	10-12 in. (25-30 cm)	✓		Versatile for landscapes and large mixed containers
	SALVIA <i>S. splendens</i>	Scarlet King	☀	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)	✓		
	SALVIA <i>S. splendens</i>	Scarlet Queen	☀	7,500 S/oz. (256 S/g)	SED	406-cell or larger	Yes	70-75°F (21-24°C)	4-6	4-6	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. (23 cm)	8 in. (20 cm)	✓		
	SALVIA <i>S. splendens</i>	Vista Series	☀	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)	✓		
Online*	SCUTELLARIA <i>S. javanica</i>	Veranda	☀☀	39,057 S/oz. (1,367 S/g)	SED	288-cell	No	70-75°F (21-24°C)	6-10	406: 6 288: 7	306 (9 cm), 6 in. (15-18 cm), gallon (15-18 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 dependent on temperature.	10 in. (25 cm)	10-12 in. (25-30 cm)	✓		
FOR SIMPLYSALAD See Vegetable Culture Chart (pg 74)																						
Online*	SNAPDRAGON, DWARF GARDEN F1 <i>Antirrhinum majus</i>	Snapshot F1 Series	☀	171,000 S/oz. (6,000 S/g)	SED	288-cell	Cover lightly	64-68°F (18-20°C)	4-6	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)	✓		
	SNAPDRAGON, FORCING F1 <i>Antirrhinum majus</i>	Trumpet Series	☀	180,000 S/oz. (6,350 S/g)	SED	512-cell or larger	Cover lightly	64-68°F (18-20°C)	4-6	4-5		60-75°F (16-24°C)	45-55°F (7-13°C)			8-19	See also Cut Flower section for more details (pg 72).	39-60 in. (1-1.5 m)				
	SNAPDRAGON, GARDEN F1 <i>Antirrhinum majus</i>	Rocket F1 Series	☀	180,000 S/oz. (6,350 S/g)	SED	288-cell	Cover lightly	65-68°F (18-20°C)	4-8	5-6	Gallon (15-18 cm) 3 ppp	65-80°F (18-26°C)	55-60°F (13-16°C)	–	–	13-16	See also Cut Flower section for more details (pg 72).	2.5-3 ft. (75-90 cm)	16-18 in. (40-45 cm)	✓		Rocket makes an excellent Spring and Summer-flowering landscape snapdragon.
Online*	SNAPDRAGON, GARDEN F1 <i>Antirrhinum majus</i>	Solstice F1 Series	☀	180,000 S/oz. (6,350 S/g)	SED	288-cell	Cover lightly	64-68°F (18-20°C)	4-8	5-6	306 (9 cm), 4 in. (10 cm), gallon (15-18 cm) 3 ppp	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)	✓		Group 1 winter-flowering snapdragon. Necessary to have cool temperatures and short days for crop production. Northern hemisphere: recommend sowing September to January. Southern hemisphere: sow March to July.

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	
												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other							
	SNAPDRAGON, CUT FLOWER F1 <i>Antirrhinum majus</i>	Apollo, Cool, Maryland, Monaco, Early Potomac, Potomac Series, Purple Twist, Red Delilah	☀	180,000 S/oz. (6,350 S/g)	SED	512-cell or larger	Cover lightly	64-68°F (18-20°C)	4-5	4-5	Cut flower	See Cut Flower section, pg 46-48.	See Cut Flower section, pg 46-48.	–	–	8-18	See also Cut Flower section for more details (pg 46-48).	39-60 in. (1-1.5 m)	–				
Online*	SPILANTHES <i>Acmella oleracea</i>	Peek-A-Boo	☀	116,200 S/oz. (4,100 S/g)	COT	288-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) 3 ppp	65-75°F (18-24°C)	62-65°F (17-18°C)	–	7-8	7-8	Requires light to germinate.	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.	
FOR SQUASH See Vegetable Culture Chart (pg 76)																							
	STATICE (LIMONIUM), ANNUAL <i>Limonium sinuatum</i>	QIS Series	☀	10,000 S/oz. (350 S/g)	SED	200-cell or larger	Yes	70°F (21°C)	3-8	4-5		55-60°F (13-16°C)	50-55°F (10-13°C)	–		18-24 (12-15 with vernalization)	See also Cut Flower section for more details (pg 70).	24-35 in. (60-90 cm)	12 in. (30 cm)				Popular series for both fresh and preserved cut flower production. Stiff stems do not require netting.
FOR STRAWBERRY See Vegetable Culture Chart (pg 76)																							
Online*	TALINUM <i>T. paniculatum</i>	Limón	☀	56,698 S/oz. (2,000 S/g)	SED	288-cell or larger	Yes	68-74°F (20-23°C)	4-5	5	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm) 3 ppp	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.	
Online*	TALINUM <i>T. paniculatum</i>	Verde	☀	56,698 S/oz. (2,000 S/g)	SED	288-cell or larger	Yes	68-74°F (20-23°C)	6	5	306 (9 cm), 4-4.5 in. (10-11 cm), 6-6.5 in. (15-16 cm) 3 ppp	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		32 in. (80 cm)	24 in. (60 cm)	✓		Well-suited to both containers and landscape plantings.	
	THUNBERGIA <i>T. alata</i>	Susie Series	☀	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 (15-18 cm)	62-68°F (17-20°C)	60-62°F (16-17°C)	–	4-5	8-10	Pre-soak seed overnight for faster germination.	Vine: 6-8 ft. (2 m)	–				
FOR THYME See Vegetable Culture Chart (pg 76)																							
FOR TOMATO See Vegetable Culture Chart (pg 76)																							
Pg 138	TORENIA <i>T. fournieri</i>	Kauai Series F1	☀☀	28,400-32,600 S/oz. (1,000-1,150 S/g)	PEL	288-cell or larger	No	71-76°F (22-24°C)	4-6	5-6	Pack, 4 in. (10 cm)	65-70°F (18-21°C)	62-64°F (17-18°C)	5-6	6-7	–	Light is required for germination.	8 in. (20cm)	8 in. (20 cm)	✓			
	TRACHELIUM, CUT FLOWER TYPE <i>T. caeruleum</i>	Lake Forest, Lake Michigan, Lake Louise Series	☀☀	21,500 S/oz. (750 S/g)	PEL	200-cell	No	72°F (21°C)	7-10	7-9	Cut flower	62-68°F (17-20°C)	60°F (16°C)	–	–	10-18	See also Cut Flower section for more details (pg 72).	2.5-3.5 ft. (75-105 cm)	–				
FOR SOUTHERN CHARM VERBASCUM See Perennial Culture Chart (pg 66)																							
Pg 138	VERBENA <i>V. x hybrida</i>	Quartz Series (XP varieties)	☀	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 (16°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)				
Pg 138	VERBENA <i>V. x hybrida</i>	Quartz Blue & Waterfall Mixture	☀	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 (16°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)				
FOR BLUE BOUQUET VERONICA See Perennial Culture Chart (pg 66)																							

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
												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other						
Online*	VINCA <i>Catharanthus roseus</i>	Jams 'N Jellies Series	☀	12,200-24,100 S/oz. (430-850 S/g)	SED	288-cell	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	–	Plant growth regulators may not be necessary for this series. Negative DIF can be used to control height. Note: Phytotoxicity has been reported on <i>Catharanthus roseus</i> with Bonzi, Sumagic and Topflor. B-Nine and A-Rest can be used for height control if needed.	14-16 in. (35-40 cm)	10-12 in. (25-30 cm)	✓		
Online*	VINCA <i>Catharanthus roseus</i>	Pacifica XP Series	☀	12,200-24,100 S/oz. (430-850 S/g)	SED	288-cell	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	–	Plant growth regulators may not be necessary for this series. Negative DIF can be used to control height. Note: Phytotoxicity has been reported on <i>Catharanthus roseus</i> with Bonzi, Sumagic and Topflor. B-Nine and A-Rest can be used for height control if needed.	10-14 in. (25-35 cm)	6-8 in. (15-20 cm)	✓		
Pg 139	VINCA <i>Catharanthus roseus</i>	Titan® F1 Series	☀	18,500 S/oz. (650 S/g)	SED	288-cell	Yes	75-78°F (24-25°C)	3-5	5	Pack, 306 (9 cm), 4 in. (10 cm)	75°F (24°C) or above	65-68°F (18-20°C)	3-4	4-5	–	Plant growth regulators may not be necessary for this series. Negative DIF can be used to control height. Note: Phytotoxicity has been reported on <i>Catharanthus roseus</i> with Bonzi, Sumagic and Topflor. B-Nine and A-Rest can be used for height control if needed.	14-16 in. (35-40 cm)	10-12 in. (25-30 cm)	✓		
Pg 139	VINCA <i>Catharanthus roseus</i>	Valiant F1 Series	☀	18,500 S/oz. (650 S/g)	SED	288-cell	Yes	75-78°F (24-25°C)	3-5	5	Pack, 306 (9 cm), 4 in. (10 cm)	75°F (24°C) or above	65-68°F (18-20°C)	3-4	4-5	–	Plant growth regulators may not be necessary for this series. Negative DIF can be used to control height. Note: Phytotoxicity has been reported on <i>Catharanthus roseus</i> with Bonzi, Sumagic and Topflor. B-Nine and A-Rest can be used for height control if needed.	14-20 in. (35-50 cm)	10-12 in. (25-30 cm)	✓	Valiant has intermediate resistance to <i>Phytophthora</i> as determined by the International Seed Federation guidelines	
Online*	VINCA, TRAILING <i>Catharanthus roseus</i>	Mediterranean Series (XP & standard varieties)	☀	12,200-24,100 S/oz. (430-850 S/g)	SED	288-cell	Yes	75-78°F (24-25°C)	3-5	5	4.5 in. (11 cm), 10 in. (25 cm) basket 7 ppp, 12 in. (30 cm) basket 9 ppp	75°F (24°C) or above	65-68°F (18-20°C)	–	8-9 (Spring), 5-6 (Summer)	12-14 (Spring), 8-10 (Summer)	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 140	VIOLA F1 <i>V. cornuta</i>	Sorbet® Series (XP & Standard Varieties), Pierrot	☀	37,000-40,000 S/oz. (1,300-1,400 S/g)	SED, PRIM	288-cell or larger	Yes	68°F (20°C)	3-4	4	Pack, 4 in. (10 cm)	60°F (16°C)	50-55°F (10-13°C)	3-5	4-6	–	Delaying shipment of violas until 3 or more flowers are open provides more color at retail.	6-8 in. (15-20 cm)	6-8 in. (15-20 cm)		✓	
	ZINNIA <i>Z. angustifolia</i>	Star Series	☀	65,710 S/oz. (2,300 S/g)	SED	288-cell or larger	Yes	70-73°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)	✓		
	ZINNIA <i>Z. marylandica</i>	UpTown Series	☀	10,000-17,000 S/oz. (350-600 S/g)	COT	288-cell or larger	Cover lightly	68-73°F (20-22°C)	2-3	3	4 in. (10 cm), gallon (15-18 cm) 3ppp	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 and flowers. Monitor for <i>Botrytis</i> .	18-24 in. (45-60 cm)	18-24 in. (45-60 cm)	✓	More vigor than traditional type.	

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	
												Growing on temperature day	Growing on temperature night	Pack	4-in./10-cm	Other							
Pg 140	ZINNIA <i>Z. marylandica</i>	Zahara® Series	☀	11,3000-17,000 S/oz. (400-600 S/g)	COT	288-cell or larger	Cover lightly	68-73°F (20-22°C)	2-3	3	Pack, 4 in. (10 cm) , gallon (15-18 cm) 3ppp	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 and flowers. Monitor for <i>Botrytis</i> .	12-18 in. (30-45 cm)	12-18 in. (30-45 cm)	✓			
Pg 141	ZINNIA <i>Z. marylandica</i>	Zahara XL Series	☀	10,000-17,000 S/oz. (350-600 S/g)	COT	288-cell or larger	Cover lightly	68-73°F (20-22°C)	2-3	3	4 in. (10 cm) , gallon (15-18 cm) 3ppp	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 and flowers. Monitor for <i>Botrytis</i> .	18-24 in. (45-60 cm)	18-24 in. (45-60 cm)	✓			
Pg 142	ZINNIA, DOUBLE <i>Z. marylandica</i>	Double Zahara Series	☀	10,000-17,000 S/oz. (350-600 S/g)	COT	288-cell or larger	Yes	68-73°F (20-22°C)	2-3	3	Pack, 4 in. (10 cm), gallon (15-18 cm) 3 ppp	65-70°F (18-21°C)	59-64°F (15-17°C)	–	8-9 (Spring), 5-6 (Summer)	8-9 (Spring), 5-6 (Summer)		16-20 in. (40-50 cm)	16-20 in. (40-50 cm)	✓			
	ZINNIA <i>Z. violaceae</i> (syn. <i>Z. elegans</i>)	State Fair Mixture F1	☀	2,000 S/oz. (67 S/g)	SED	200-cell or larger	Yes	70-73°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)	✓			