

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	Planting density	Growing on temperature day	Growing on temperature night	Weeks from plug to finish	Key tips	Stem length	Other recommendations
Online*	ANEMONE <i>A. coronaria</i>	Mona Lisa™ Series	☀	52,500 S/oz. (1,850 S/g)	SED	406-cell or larger	Yes	65-70°F (18-21°C)	10-14	8	2-4 plants/ft. ² (22 to 44 plants/m ²)	60-65°F (15-18°C)	55°F (13°C)	12	Greenhouse cut flower. Low temperatures (46-54°F/ 8-12°C) promote optimum stem length.	18 in. (45 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.
	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	7 plants/ft. ² (78 plants/m ²)	60-75°F (15-24°C)	50-60°F (10-15°C)	13-16	Greenhouse, shadehouse or field. Soils must be free of pathogens. Provide 1 layer of netting. Fertilize with alternate applications of calcium nitrate and potassium nitrate to supply 125 to 150 ppm N. Decrease nitrogen and increase potassium-containing fertilizers when flower buds appear.	30-40 in. (80-100 cm)	Crop timing is affected by the ratio of long days (LD) to short days (SD). Under SD conditions, increasing LD treatments will increase stem length and shorten time to harvest. LD consists of 16 hours of light. Cyclic lighting of 7.5 min. per half-hour.
	DELPHINIUM <i>D. elatum</i>	Casa Blanca	☀	9,285 S/oz. (325 S/g)	SED	200-cell	Yes	65-70°F (18-21°C)	7-8	6-7	2-4 plants/ft. ² (22-44 plants/m ²)	60-70°F (15-21°C)	60°F (15°C)	20-26 in field	Treat cut stems with an ethylene-inhibiting agent.	42 in. (105 cm)	In temperate areas, such as coastal California, plugs are generally transplanted into the field August through October, and February to early May. Autumn transplants will flower the following Spring (February onward); Spring transplants flower late Spring.
Online*	DELPHINIUM <i>D. elatum</i>	Guardian F1 Series	☀	9,285 S/oz. (325 S/g)	SED	200-cell	Yes	65-70°F (18-21°C)	5-6	5-6	2-4 plants/ft. ² (22-44 plants/m ²)	65-70°F (18-21°C)	60°F (15°C)	11-16 (see Key tips)	Autumn greenhouse: 13 weeks, field: 16 weeks. Spring greenhouse: 11 weeks, field: 13 weeks. Treat cut stems with an ethylene-inhibiting agent.	30-39 in. (75-100 cm)	In temperate areas, such as coastal California, plugs are generally transplanted into the field August through October, and February to early May. Autumn transplants will flower the following Spring (February onward); Spring transplants flower late Spring.
	DELPHINIUM <i>D. x belladonna</i>	Belladonna (Clivedon Beauty)	☀	9,285 S/oz. (325 S/g)	SED	200-cell	Yes	65-70°F (18-21°C)	7-8	6-7	2-4 plants/ft. ² (22-44 plants/m ²)	60-70°F (15-21°C)	50-60°F (10-15°C)	20-26 in field	Treat cut stems with an ethylene-inhibiting agent.	30-36 in. (75-90 cm)	In temperate areas, such as coastal California, plugs are generally transplanted into the field August through October, and February to early May. Autumn transplants will flower the following Spring (February onward); Spring transplants flower late Spring.
	DELPHINIUM <i>D. x belladonna</i>	Bellamosum	☀	9,285 S/oz. (325 S/g)	SED	200-cell	Yes	65-70°F (18-21°C)	7-8	6-7	2-4 plants/ft. ² (22-44 plants/m ²)	60-70°F (15-21°C)	50-60°F (10-15°C)	20-26 in field	Treat cut stems with an ethylene-inhibiting agent.	30-36 in. (75-90 cm)	In temperate areas, such as coastal California, plugs are generally transplanted into the field August through October, and February to early May. Autumn transplants will flower the following Spring (February onward); Spring transplants flower late Spring.
	DELPHINIUM <i>D. x belladonna</i>	Connecticut Yankee	☀	9,285 S/oz. (325 S/g)	SED	200-cell	Yes	65-70°F (18-21°C)	7-8	6-7	2-4 plants/ft. ² (22-44 plants/m ²)	60-70°F (15-21°C)	50-60°F (10-15°C)	20-26 in field	Treat cut stems with an ethylene-inhibiting agent.	36 in. (90 cm)	In temperate areas, such as coastal California, plugs are generally transplanted into the field August through October, and February to early May. Autumn transplants will flower the following Spring (February onward); Spring transplants flower late Spring.
Online*	DIANTHUS <i>D. barbatus interspecific</i>	Amazon F1 Series	☀	12,760-14,175 S/oz. (450-500 S/g)	PEL	406-cell	Yes	64-68°F (18-20°C)	3-5	4-5	3-4 plants/ft. ² (30-40 plants/m ²); 1.5 plants/ft. ² (15 plants/m ²) if pinched	60-72°F (15-22°C)	50-60°F (10-15°C)	11-22 (see Key tips)	Late Spring/Summer greenhouse/field: 11-14 weeks. Late Summer/Winter greenhouse: 12-18 weeks. Field: 18-23 weeks	20-36 in. (50-90 cm)	A small percentage of early off-types can be observed at 4-5 weeks from sowing. They should be removed. Can tolerate night temperatures as low as 45°F (7°C). Plants are frost-tolerant although frost will damage the flowers.
Pg 56	DIANTHUS <i>D. barbatus interspecific</i>	Bouquet F1 Series	☀	8,575 S/oz. (300 S/g)	PEL	406-cell	Yes	64-68°F (18-20°C)	3-5	4-5	3-4 plants/ft. ² (30-40 plants/m ²)	60-72°F (15-22°C)	50-60°F (10-15°C)	8-18 (see Key tips)	Late Spring/Summer greenhouse/field: 8-9 weeks. Late Summer/Winter greenhouse: 9-13 weeks. Field: 15-18 weeks	18-30 in. (45-75 cm)	Hardy perennial.
Pg 56	DIANTHUS <i>D. barbatus</i>	Sweet F1 Series	☀	28,550 S/oz. (800-1,600 S/g)	PEL	406-cell	Yes	64-68°F (18-20°C)	3-5	4-5	4-6 plants/ft. ² (42-64 plants/m ²)	60-72°F (15-22°C)	50-60°F (10-15°C)	10 (Summer/ Autumn) 11-15 (Winter/Spring)	Late Spring/Summer greenhouse/field: 8-9 weeks. Later Summer/Winter greenhouse: 9-13 weeks. Field: 15-18 weeks. Greenhouse or full sun. No vernalization required for flower induction.	18-36 in. (45-90 cm)	Taller growth achievable from early Autumn-transplanted, greenhouse-grown plants.
Pg 61	GOMPHRENA <i>G. sp.</i>	Fireworks	☀	14,175 S/oz. (500 S/g)	COT	288-cell or larger	Yes	68-75°F (20-24°C)	3-4	5-6	.75 plants/ft. ² (8 plants/m ²)	65-75°F (18-24°C)	63-66°F (18-25°C)	8-9		18 in. (45 cm)	
	HELIANTHUS <i>H. annuus (Sunflower)</i>	Prado Series	☀	1,135 S/oz. (40 S/g)	SED	72-cell or larger; direct sow recommended	Yes	68-72°F (20-22°C)	2-3 days if sown in plugs and 5-10 days when direct sown in field	3-4	.75 plants/ft. ² (8 plants/m ²)	65-85°F (18-29°C)	50-65°F (10-18°C)	10-12 (from sowing)	At high elevations (5,000 ft+/1,500 m+) and high light levels, Prado Red may produce almost-black ray petals. Very low humidity or very high light levels can reduce stem length.	48-66 in. (1.2 -1.7 m)	Approximately 7-10 flower stems per plant may be harvested when the main stem is pinched at the fifth set of true leaves. Harvest in approximately 10-12 weeks from sow.
Online*	LISIANTHUS, CUT FLOWER <i>Eustoma grandiflorum</i>	ABC F1, 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	Summer: 8 plants/ft. ² (84 plants/m ²) Winter: 6 plants/ft. ² (64 plants/m ²)	68-75°F (20-24°C)	60-65°F (16-18°C)	14-18 Winter, 12-14 Spring/ Autumn, 10-12 Summer	Full-sun plantings of cut flower Lisianthus produce shorter stems than greenhouse-grown Lisianthus.	29-45 in. (75-115 cm)	
Online*	MATRICARIA <i>Tanacetum parthenium</i>	Magic, Vegmo Series	☀	18,650 S/oz. (650 S/g)	PEL	200-cell	No	70-72°F (21-22°C)	4-6	4-5	Summer: 8 plants/ft. ² (80 plants/m ²) Winter: 7 plants/ft. ² (70 plants/m ²)	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)	14-16 Winter, 10-14 Spring/ Autumn, 7-10 Summer	16 hours of lighting is required for flowering; supplemental lighting may be solid or cyclic. Matricaria are not sensitive to ethylene.	28-36 in. (70-90 cm)	
	MATTHIOLA (STOCK), FIELD CUT <i>M. incana</i>	Column Stocks	☀	15,600-20,000 S/oz. (550-700 S/g)	SED	direct sow to field	Yes	65-70°F (18-21°C)	14-21	N/A	2.2 lbs./acre (1kg/4,000m ²)	55-65°F (13-18°C)	55-60°F (13-15°C)	20-22 (from sowing)	Column stocks are non-selectable for doubleness. Supply one layer of support netting. Direct sow seed.	24-30 in. (60-75 cm)	Optimum stem length will be achieved during cool growing periods. High heat can stunt plants or prevent flower spikes from developing.

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	MATTHIOLA (STOCK), GREENHOUSE-GROWN <i>Selectable 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	6 plants/ft. ² (64 plants/m ²)	50-62°F (10-16°C)	50-62°F (10-16°C)	11-12 Winter, 8-9 Spring, 3-5 Summer, 4-7 Autumn	Double-flowering Matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 3-5 days. At this point, double-flowering plants will appear a pale green, while singles remain dark green.	32 in. (80 cm)	After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1-2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable Matthiola plugs.
Online*	MATTHIOLA (STOCK), EXTRA EARLY FLOWERING <i>M. incana</i>	Katz Series	☀	15,300-18,100 S/oz. (540-640 S/g)	SED	512 or 406-cell	Yes	68-72°F (20-22°C)	3-4	4	12 plants/ft. ² (126 plants/m ²)	60-75°F (15-24°C)	45-55°F (7-13°C)	7-11	Crop time is dependent on daylength and light intensity. As a general guide, with daylength of 13 hours or more the crop time will be 10 weeks. Shorter days will slow down the crop time, depending on the temperature, to 15 weeks.	32 in. (80 cm)	Best performance when grown in tunnels.
	SNAPDRAGON, GARDEN F1 <i>Antirrhinum majus</i>	Rocket Series	☀	180,000 S/oz. (6,350 S/g)	SED	406-cell	cover lightly	64-68°F (18-20°C)	4-8	5-6	3-4 plants/ft. ² (30-40 plants/m ²)	65-80°F (18-26°C)	55-60°F (13-15°C)	13-16	Bronze, Golden, Pink, Red and Rose Shades will germinate best with light.	30-36 in. (75-90 cm)	Rocket makes an excellent quality Group 3,4 Spring and Summer-flowering landscape Snapdragon.
	SNAPDRAGON, FORCING F1 <i>Antirrhinum majus</i>	Apollo Series	☀	180,000 S/oz. (6,350 S/g)	SED	512-cell or larger	cover lightly	65-68°F (18-20°C)	4-5	4-5	6-10 plants/ft. ² (64-106 plants/m ²); high-density planting under high-light or field situation.	60-75°F (15-24°C)	52-57°F (11-14°C)	8-18		39-60 in. (1-1.5 m)	Group 2,3: Open-faced series ideal for Autumn and Spring harvests. Refer to the Snapdragon Culture Guide for detailed information.
	SNAPDRAGON, FORCING F1 <i>Antirrhinum majus</i>	Cool Series	☀	180,000 S/oz. (6,350 S/g)	SED	512-cell or larger	cover lightly	65-68°F (18-20°C)	4-5	4-5	6-10 plants/ft. ² (64-106 plants/m ²); high-density planting under high-light or field situation.	55-70°F (13-21°C)	45-55°F (7-13°C)	8-18		39-60 in. (1-1.5 m)	Group 1 to early Group 2: Highly uniform series for germination, plug growth, spike architecture and flowering date.
	SNAPDRAGON, FORCING F1 <i>Antirrhinum majus</i>	Maryland Series	☀	180,000 S/oz. (6,350 S/g)	SED	512-cell or larger	cover lightly	65-68°F (18-20°C)	4-5	4-5	6-10 plants/ft. ² (64-106 plants/m ²); high-density planting under high-light or field situation.	55-70°F (13-21°C)	45-55°F (7-13°C)	8-18	Dark Orange germinates best with light.	39-60 in. (1-1.5 m)	Group 1,2
	SNAPDRAGON, FORCING F1 <i>Antirrhinum majus</i>	Monaco Series	☀	180,000 S/oz. (6,350 S/g)	SED	512-cell or larger	cover lightly	65-68°F (18-20°C)	4-5	4-5	6-10 plants/ft. ² (64-106 plants/m ²); high-density planting under high-light or field situation.	60-75°F (15-24°C)	52-57°F (11-14°C)	8-18		39-60 in. (1-1.5 m)	Group 2,3: Well suited to difficult "transition" periods, such as Group 3,4 (Summer) to Group 1,2 (Autumn/Winter). Tolerates warm Autumn conditions, perfect for Winter production in warmer climates, performs well all year in moderate temperatures.
	SNAPDRAGON, FORCING F1 <i>Antirrhinum majus</i>	Early Potomac, Potomac Series	☀	180,000 S/oz. (6,350 S/g)	SED	512-cell or larger	cover lightly	65-68°F (18-20°C)	4-5	4-5	6-10 plants/ft. ² (64-106 plants/m ²); high-density planting under high-light or field situation.	70-85°F (21-30°C)	Potomac: 60°F (15°C), Early Potomac: 55-60°F (13-15°C)	8-18	Appleblossom and Dark Orange germinate best with light.	39-60 in. (1-1.5 m)	Group 3,4: Ideal for production during periods of high light, long days and warm temperatures. Can be grown year-round with supplemental high-intensity lighting.
	SNAPDRAGON, FORCING F1 <i>Antirrhinum majus</i>	Trumpet Tangerine	☀	180,000 S/oz. (6,350 S/g)	SED	392, 408 or 512-cell	cover lightly	65-68°F (18-20°C)	4-7	4-5	6-10 plants/ft. ² (64-106 plants/m ²); high-density planting under high-light or field situation.	60-75°F (15-24°C)	45-55°F (7-13°C)	8-18		39-60 in. (1-1.5 m)	
	STATICE, ANNUAL <i>Limonium sinuatum</i>	Fortress Series	☀	10,000 S/oz. (350 S/g)	SED	200-cell or larger	Yes	70°F (21°C)	3-8	4-5	1-2 plants/ft. ² (10-20 plants/m ²)	55-60°F (13-15°C)	50-55°F (10-13°C)	18-24 (12-15 with vernalization)	Plants flower more rapidly and uniformly if subjected to a cold treatment of 50-55°F (10-13°C) for 3-8 weeks following germination while still in a 72 or 93-cell plug tray.	24-30 in. (60-75 cm)	Most popular series for both fresh and preserved cut flower production. Stiff stems do not require netting.
	STATICE, ANNUAL <i>Limonium sinuatum</i>	Sunset	☀	14,000 S/oz. (500 S/g)	SED	200-cell or larger	Yes	70°F (21°C)	5-12	4-5	1-2 plants/ft. ² (10-20 plants/m ²)	55-60°F (13-15°C)	50-55°F (10-13°C)	18-24 (12-15 with vernalization)		30 in. (75 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	6-8 plants/ft. ² (64-84 plants/m ²)	62-68°F (16-20°C)	60°F (15°C)	10-18	Plug Temperatures - Stages 2 & 3: 70-72°F (21-22°C) days and 65°F (18°C) nights. Stage 4: 65°F (18°C) days and 55-60°F (13-15°C) nights. Cooler temperatures at Stage 4 produce well-toned plants. Trachelium needs 16-hour daylengths for faster flowering.	30-42 in. (75-105 cm)	Should be transplanted Autumn to early Winter for flowering in mid-Winter to early Spring.
	VERONICA <i>V. x hybrida</i>	Blue Bouquet F1	☀	25,500 S/oz. (900 S/g)	PEL	406-cell or larger	Yes	65-75°F (18-24°C)	6-9	5-6	6-8 plants/ft. ² (64-84 plants/m ²)	65°F (18°C)	55-65°F (13-18°C)	14-16		12 in. (30 cm)	Blooms the first year from sowing.